

CENTRAL-WEST ANATOLIA AT THE  
END OF 7<sup>TH</sup> AND BEGINNING OF 6<sup>TH</sup>  
MILLENNIUM BCE  
IN THE LIGHT OF POTTERY FROM  
ULUCAK (İZMİR)

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## Foreword

The subject matter of this study is the analytical results of research conducted on the pottery from Ulucak IV-V, a prehistoric mound in the vicinity of İzmir in Central-West Turkey discovered by David French. The occupational levels IV and V at Ulucak, systematically excavated since 1995, correspond to 7-6<sup>th</sup> millennia cal. BCE, or more concretely, to the era of the early food-producing communities in the region.

Until recently, there was virtually no problem-oriented research, neither surveys nor excavations, in the area which aimed to focus on the evidence of the early farming societies. Thus, long-term excavations at Ulucak functioned as a pioneering project aiming to expose large areas belonging to the Neolithic period. The lengthy depositional sequence of the mound enabled archaeologists to reveal the intra-site culture-historical sequence, as well as define local characteristics of the Neolithic material culture. Thanks to the research at Ulucak it has become possible to discuss the origins, relationships, and development of Neolithic culture in Western Anatolia. Subsequent excavations at other contemporary sites in the area surrounding Ulucak, namely at Ege Gübre, Yeşilova, Çukuriçi and Dedecik-Heybelitepe, turned Central-West Anatolia, specifically the İzmir Region, to one of the best researched regions in Turkey with respect to the Neolithic period. Besides, the material culture unearthed at these sites enabled the prehistorians to acknowledge the intra-regional homogeneity as well as diversity and led them to consider possibilities regarding the multiple origins and diverse social-cultural connections of early the food-producing groups in Central-West Anatolia. Most of the previous assumptions related to the cultural origins and relations of İzmir Region have been abandoned or re-formulated. Specifically the assumption that the earliest farmers arrived in the region as late as 6400 cal. BCE has to be abandoned in the light of carbon dates from Ulucak and Yeşilova. In short, rapidly accumulating data from the region has the potential to falsify many of the hypotheses but also endorse others which came to be discussed in the last 30-40 years of Neolithic research in Turkey.

The increasing amount of Neolithic material culture recovered from sites like Ulucak brings great responsibility to the excavators. The new insights into Neolithic culture which the excavated material provides have to be disseminated in a timely manner via academic publications. Yet the detailed analysis and process of publication takes long time. Every season of excavation brings new and unexpected material to light and may easily contradict previously published statements. It is my hope that this study will

provide a broad spatio-temporal understanding to prehistorians who are interested in new research on early farmers in Central-West Anatolia. It is obvious that the upcoming studies will change the current picture obtained through the material analyzed for this study. Hopefully, with the upcoming research we will be able to obtain a high-resolution picture of the life during the 7-6<sup>th</sup> millennia BCE in the area. With this study, I have tried to lay the culture-historical foundations for late 7<sup>th</sup>-early 6<sup>th</sup> millennia BCE for Central-West Anatolia using archaeological material from Ulucak and other sites. The most important purpose of this study is to embed the ceramic data from Ulucak IV-V into the greater culture-historical context of Anatolia, Aegean and Southeastern Europe both temporally and spatially.

It was my father Prof. Dr. Altan Çilingiroğlu and the late Prof. Dr. Dr. h.c. Manfred Korfmann who persuaded me to study the ceramic material from Ulucak levels IV-V. Unfortunately M. Korfmann, my initial advisor, did not live to see the fruits of this study. To him I would like to express my eternal gratitude and respect for supporting me and many other young Turkish scholars in Tübingen. His enormous and multi-faceted contributions to Turkish archaeology will always be remembered and appreciated.

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Sinan Ünlüsoy deserves definitely more than this one sentence in which I would like to express my sincere gratitude for all the understanding, concern, help and perpetual support he so selflessly provided since the very day I arrived in Tübingen.

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This dissertation is humbly dedicated to the legacy of *Charles Darwin* on his 200<sup>th</sup> birth anniversary.



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## Abbreviations

Abb.	Abbildung
BAR	British Archaeological Reports
BBW	Brown Burnished Ware
BCE	Before the Common Era
Bld.	Building
BP	Before Present
CSBW	Cream Slipped and Burnished Ware
cal.	Calibrated
cm	Centimeter
DFBW	Dark Faced Burnished Ware
EBA	Early Bronze Age
EC	Early Chalcolithic
Ed.	Edited by
EN	Early Neolithic
Fig.	Figure
km	Kilometer
LN	Late Neolithic
m	Meter
mm	Millimeter
MN	Middle Neolithic
Pl.	Plate
PN	Pottery Neolithic
PPN	Pre-Pottery Neolithic
RGZM	Römisch-Germanisches Zentral Museum
Res.	Resim
RSBW	Red Slipped Burnished Ware
Tab.	Table
Taf.	Tafel
TAY	Türkiye Arkeolojik Yerleşmeleri
TÜBA-AR	Türkiye Bilimler Akademisi- Arkeoloji Dergisi
TTK	Türk Tarih Kurumu
Unid.	Unidentifiable

### General Research Outline

#### **A. Theoretical Framework and Research Goals**

The core substance of this study encompasses the presentation of the pottery analysis from Levels IV-V at Ulucak Mound in İzmir, Turkey, in order to reveal the site's culture-historical and chronological position in the greater Neolithic context in Turkey and the Aegean. Trigger (2006: 313) holds that culture-historical archaeology's main advantage is "*its ability to trace historical relation through time and space.*" However, the current implementations of culture-historical approach does not aim merely to catalogue finds and bring them in a temporal order in order to invent culture names and write regional histories. The 'New Culture-Historical Archaeology' has the great advantage of using and applying analytical tools and theoretical perspectives developed by a variety of viewpoints within processual and post-processual archaeologies, and thus to provide firm answers related to the long-term cultural-social changes as reflected by the archaeological record (Trigger 2006: 491). Current writings of prehistory in a long-term perspective are motivated by the ever-growing knowledge on the past societies enabled through the multitude of methods developed by the natural sciences on the one hand, and archaeological application of various theoretical perspectives of the natural and social sciences as well as of humanities on the other. Following the view promoted by B. Trigger (1998), in my opinion, archaeologists who maintain an ontologically materialist and epistemologically realist position<sup>1</sup>, now have the unique chance to

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<sup>1</sup> Ontologically material view, as contrast to the ontologically idealist view, holds that the human body evolved as a form of adaptation to the outside world and it only exists and acts in this material world. Realist epistemology is contrasted to positivist and idealist epistemologies in the sense that it aims to produce knowledge by acknowledging the significance of both appearances (positivist view) and imperceptible entities and processes (idealist view). When applied to archaeology, these concepts implies that the quest for understanding the human

interpret the long-term historical development of past societies more accurately, with multiple perspectives and with great detail.

In line with the theoretical viewpoint described above, the culture-historical approach of the study was a conscious choice, but also adapting it was an inevitable outcome of the poor research status in the Central-West Anatolia where research concentrating on 7-6<sup>th</sup> millennia BCE sites is still in its incipiency. The inadequate nature of archaeological research on the early prehistory of the region caused scholars to either ignore this section of Anatolia or to develop models that did not rely on firm archaeological evidence. As a result, Central-West Anatolia emerged as a missing link in the ongoing discussions on the origins and development of the Neolithic way of life in Anatolia, its cultural interactions with neighboring regions, as well as the possible impact of these cultures on the neolithization of Southeast Europe (Çilingiroğlu and Çilingiroğlu 2007). Therefore, the priority of this study is to lay the culture-historical and chronological foundations for the period in question on a regional scale by implementing the insights gained through the pottery analysis. In the absence of such a temporal and spatial framework it is not possible to organize and interpret the rapidly accumulating archaeological data from various projects conducted in the area and embed them into the already established chronologies of the surrounding regions, or to address other relevant questions.

As already mentioned, research for understanding the early farmer-herder societies in Central-West Anatolia has been a very recent undertaking. The Ulucak Project is the first systematic and long-term excavation in the region that aims to recover archaeological data on early sedentary farming groups. Luckily, several other mounds in the region with archaeological deposits that correspond to Ulucak IV-V were also excavated. Excavations at Ege Gübre (Sağlamtimur 2007) and Dedecik-Heybelitepe (Lichter and Meriç 2007) are completed, whereas to date, research continues at Çukuriçi Höyük (Horejs 2008) and Yeşilova (Derin 2007). Despite a number of overview articles presenting the discoveries made at these sites and a monograph on Ulucak excavations between 1995-2002 (Çilingiroğlu *et al.* 2004), detailed analyses on various material cultural components discovered during these excavations has not been published yet. Likewise, comprehensive analysis of pottery from other Central-West Anatolian sites and the assessment of their culture-historical and relative chronological positions are in

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past has to embrace multiple intertwined aspects of human existence such as biological processes, ecological adaptation, social organization, economical, psychosocial, and ideological factors. For details on both of these concepts see Trigger 1998.

progress. In this respect, this study becomes the first to cover 7-6<sup>th</sup> millennia BCE pottery from Central-West Anatolia in such a detailed manner with an intra-regional and inter-regional perspective and in an attempt to understand the origins, development, long-distance relations, and the termination of the Neolithic culture in the region.

The suggestions made and conclusions drawn in the study rely on archaeological material that covers the end of the 7th and the beginning of 6th millennium BCE (6300/6200-5700/5600 cal. BCE). In other words, our analysis will demonstrate the local development in the pottery types and shapes for more than half a millennium, encompassing Late Neolithic and Early Chalcolithic periods according to Anatolian terminology. This same period would cover the Early Neolithic period and the beginning of the Middle Neolithic in Thessaly. In the Macedonian Plain and Bulgaria this time range corresponds to the Early Neolithic period. None of the excavated sites in Central-West Anatolia contain cultural sequences as long and continuous as at Ulucak Mound. For instance, the deposits at Dedecik-Heybelitepe cover only one or two centuries and do not contain information on the long-term cultural processes. Similarly, with the termination of research at Ege Gübre, we are not in a position to infer knowledge on the possible earlier occupational levels at the site. Ulucak's already exposed, more than four meter deep cultural deposits<sup>2</sup> which belong to early food-producing societies and cover 1000 years, serves to enlighten us about the periods that are not unearthed on other mounds in the region.

One of the advantages of studying archaeological material from Ulucak results from the relatively well-preserved nature of Neolithic deposits in the mound. These largely undisturbed deposits provide us with both an immense knowledge on the successive settlements and relatively secure contexts to rely on. As it is known, well-defined architectural remains dating to the 7<sup>th</sup> millennium BCE are especially scarce in West Anatolia and Southeast Europe. For instance, the earliest deposits at Bademağacı are almost entirely void of architectural features, except for the hardened lime floor in ENI-8 (Duru 2007: 344). Likewise, Thessalian and Bulgarian EN sites are poor in terms of their architectural elements. Exceptional preservation conditions at Ulucak IV-V provide us with a unique chance to understand both the continuity and change in the settlement plans, architectural techniques, inner organization of the houses, and activities executed in and outside of the houses at an early food-producing village. Moreover, the project

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<sup>2</sup> As of 2008, the southern profile of Grid L13 contains Ulucak IV-V deposits between elevations 218.00-213.73 m above sea level.

team involves specialists who analyze botanical, zoological, lithic, and wood remains, which allowed us to gain insights into the daily life of the community and their interactions with the natural environment. The contribution of archaeobiological and archaeometrical analyses, in combination with such well-preserved remains, is enormous for our goal of reconstructing the 7-6<sup>th</sup> millennia BCE lifeways at Ulucak.

The cultural deposits from Ulucak are dated with the help of conventional radiocarbon and AMS dating techniques, which provide reliable new dates for the period in question. For instance, some of the carbon dates obtained during old excavations, such as Hacilar, are problematic and archaeologists need to be cautious when working with these dates (Cessford 2002: 28). Yet many other sites, like Agio Gala or Demircihöyük, do not even have well-stratified deposits and carbon dates. The presence of 26 recently analyzed carbon samples from Ulucak gives us the opportunity to construct accurate temporal sequences and determine the precise chronological position of the settlements exposed on the mound, in relation to other well-dated sites such as Çatalhöyük, Ilıpınar, Aşağı Pınar and Menteşe. In light of consistent carbon determinations from these major sites, it is now possible to have a firm basis for reconstructing the chronological development of Central and West Anatolia together.

The earliest layers currently excavated at Ulucak are dated to the first half of the 7<sup>th</sup> millennium BCE (Beta-250265: 7950±50 BP; Beta-250266: 7770±50 BP). Both samples were small charcoal pieces found in deposits identified as VIa. The samples do not stem from structural wood but they may belong to long-lived tree species and thus the possibility of old wood effect should be kept in mind. Yet this information forces us to reconsider the neolithization models for West Anatolia and the Aegean. Until recently, 6600 cal. BCE, relying on one radiocarbon date from Bademağacı, was considered as the earliest possible date for the emergence of farming villages in West Anatolia and 6400 cal. BC for mainland Greece (Schoop 2005a: 49; Reingruber 2008: 618). The presence of red-colored lime floors at Ulucak and their dating to 7910±50 BP (7000-6650 cal. BCE at one sigma range) undermines the suggestion that early sedentary farming villages did not appear prior to the second half of 7<sup>th</sup> millennium BC in West Anatolia, or that they appeared around the same time along both sides of the Aegean Sea. In particular, a feature like red-painted lime floors serves to connect the early inhabitants of Ulucak to PPN communities in Central Anatolia and the Levant, where such floors are one of the typical features of the settlements (Özbaşaran 2003; see also Bentur *et al.*

1991). These early dates imply that the earliest sedentary and farming villages were founded in the İzmir Region before such settlements existed in Southeast Europe. Such new knowledge is extremely important in terms of reconsidering models concerned with the explanation of the neolithization process in Southeast Europe. Although the earliest building phases (Vc-f and VIa) are not treated in this study in detail, archaeological material from Ulucak's early deposits has great potential to shed light on the nature of early farming settlements and their development from the beginning of the 7th millennium until the beginning of the 6th millennium BCE. In an area, where until the mid-nineties nothing was known about the early farming settlements, the contribution of Ulucak, with its long continuous sequence, is more than welcome. Additionally, the amount of data provided by the excavations is nearly overwhelming. For the first time, archaeologists have the chance to construct models and test previous ones concerning the Neolithic period of Central-West Anatolia by using the secure archaeological material provided by the excavations at Ulucak and other excavated sites.

Until recently, Central-West Anatolian pottery was generally described as red-slipped fine ware. Tubular lugs and thick flattened rims were associated with this pottery and dated to the Late Neolithic-Early Chalcolithic period by comparing them to Hacilar IX-VI pottery (Lichter 2006; Erdoğan 2003). Up until the 1990's, knowledge concerning Neolithic pottery from the region relied completely on David French's (1965) and Recep Meriç's (1993) extensive surveys. Therefore, archaeologists were not in a position to construct a temporal development schema for the pottery wares and shapes, in order to learn when certain features appeared and disappeared or whether they should be dated to Late Neolithic or Early Chalcolithic periods. A lack of reliable archaeological data from the region inevitably led scholars to construe the Neolithic of Central-West Anatolia as a static cultural unit which was, in ceramic terms, very similar to the Lake District. More insight into the period could not have been gained as survey material would not allow such an intention (for more details on research status, see Chapter II).

Studies conducted on the ceramic containers from Ulucak IVa-Vb revealed many unknown aspects of the development of pottery technology, ware types and vessel shapes at Ulucak. Now we are able to observe the duration and depth of the different developmental stages, continuities, discontinuities, and transformations in the pottery production from the late 7<sup>th</sup> into the early 6<sup>th</sup> millennium BCE. Moreover, it is now possible to compare and contrast this sequence with other sites and reveal the matching



and contrasting local characteristics of pottery in Central-West Anatolia. This study will aim to demonstrate that Central-West Anatolian sites have their own peculiarities, in terms of pottery tradition and production, which are different from the neighboring regions. Comparing pottery groups and shapes, more than any other archaeological material, enables us to detect the analogous features among different regions and assess the level of contact and relationships among these areas. This study should function as a basic source of reference for readers who are interested in gaining an initial understanding of the early farming communities of Central-West Anatolia. The major themes which will be covered by the study are as follows:

1. Presentation of pottery from Ulucak IV-V according to building phases.
2. Presentation of the pottery sequence at Ulucak and interpretation of the continuity and change between the levels.
3. Discussion on pottery technology and production at Ulucak.
4. Discussion of the evidence for specialization in pottery production.
5. Functional interpretation of Ulucak pottery.
6. Intra-regional and inter-regional comparison of Ulucak pottery and construction of a relative chronology.
7. Presentation of early ceramic sequences of Central, West and North Anatolia, Bulgaria and Thessaly and comparison of these sequences with the sequence established for Central-West Anatolia.
8. Discussion of the analogous and non-analogous features of Ulucak IV-V pottery with sites from other regions.

Although the study aims to provide information on pottery tradition at Ulucak IV-V, substantial information on the site, its stratigraphy, architecture, settlement layout, subsistence strategy, and material culture is provided in Chapter III. This is done in order to make readers familiar with the architectural and archaeological material recovered from Ulucak Mound. Much of the material culture recovered at Ulucak displays strong similarities to contemporary sites in the entire Anatolia and Southeast Europe and

demonstrates how culturally embedded the population was in the complex social and cultural network mechanisms that were operating in this huge geographical region.

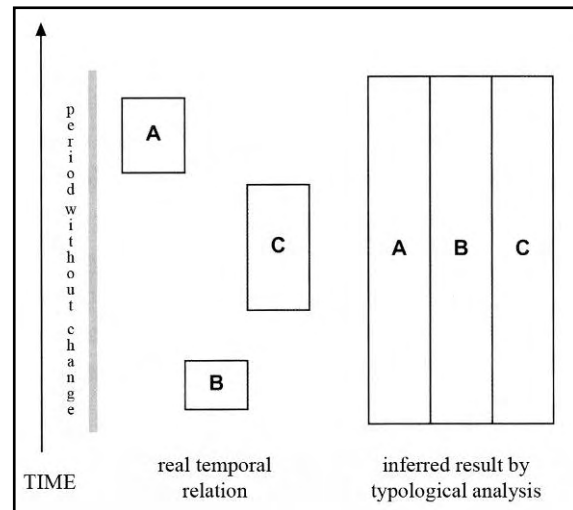
The design and methodology of the pottery analysis is provided in the beginning of Chapter IV. Chapter IV will also present the results of the pottery analysis according to the building phases which include, apart from detailed reports on ceramics, information on the preservation and the nature of architectural features assigned to single building phases. Ceramics from each building phase will be treated in two major headlines: *Fabrics* and *Morphology*. Also, the continuity and discontinuity observed from Level V to IV will be presented at the end of this chapter.

Chapter V seeks to provide information on the technological aspects of pottery production at Neolithic Ulucak, which is vital to our understanding of the organizational aspects of the production and its role in the society's daily life. It will also discuss the possibility of specialization in the pottery production and functions of Ulucak IV-V pottery, and how it might have changed through time. The aim here is to try to reconstruct the various production stages from clay mining to firing at the site by invoking observations made on Ulucak pottery, ethnoarchaeological case studies and research on ceramic technology. Hopefully, Chapter V will provide insights about the social context of pottery production at the site by embedding our ceramic data into the current theories on ceramic production and organization in non-industrialized small-scale societies (e.g. Kramer 1985; Arnold 1989); independent from all the concerns about the relative chronology.

The final chapter (Chapter VI) will present the comparative analysis of Ulucak pottery. Following an intra-regional comparison, Ulucak and Central-West Anatolian pottery will be compared and contrasted to 41 key sites from 14 geographical-cultural entities. The comparisons are in part based on the data obtained from the pottery analysis and established sequence for Ulucak, as well as upon the available data from the selected key sites. The developmental sequence established for Ulucak pottery encompasses certain typical elements that can be associated with fixed temporal horizons. Following Parzinger (1993) and Schoop (2005a), horizons are understood as certain points in time, not as time ranges. The presence of multiple traits in closed contexts enables us to define a single horizon. This horizon can be used to compare and contrast with other key sites in order to infer relative-chronological statements. However, identification of a horizon does not imply contemporaneity of an entire sequence but contemporaneity in the certain

point in time. Another potential analytical tool in relative chronological studies is the so-called “Chain Dating.” Chain dating is practiced to date an assemblage “A,” which cannot be directly correlated with one site “B,” but can be dated with the help of a third assemblage “C” because the latter shares common components with A and B (Schoop 2005a: 27). It goes without saying that temporal correlations of A and B, by using C, is more reliable if multiple components can be included in the analysis.

One of the problematic notions in studies dealing with relative chronologies raises from using elements that have long-term continuity without any changes in the morphology or style (Schoop 2005a: 25). Unfortunately, one often comes across this problematic assumption in archaeological studies, as many material elements in Neolithic assemblages continue to occur for centuries without remarkable morphological changes. Sling missiles,



**Figure 1.1: Three fictional assemblages which in reality do not intersect temporally but are interpreted as contemporary by using criteria that do not change over a long period of time (modified after Schoop 2005a: Abb. 1.2)**

certain forms of projectile points, figurines, various bone objects, stamps, and some lithic production techniques or tools are present in Neolithic assemblages and most of them even continue into the Chalcolithic and Bronze Ages. Trying to infer high-precision correlations using such criteria is extremely problematic and may be very misleading (Fig. 1.1).

Yet another potentially problematic correlation may occur when components like architectural techniques and material, which are partially dependent on the ecological conditions, are implemented as tools for chronology building. Differences or similarities of architectural techniques do not tell anything conclusive about the temporal relationship between two sites. Again, multiple common elements, preferably ceramics and small finds, can offer us firm grounds with which to base suggestions and correlations upon.

The next step in constructing chronologies is to combine the absolute dates which allows us to present our relative-chronological results with reference to absolute years (Eggert

2005: 149-151). For instance, at Ulucak, chaff temper, large storage jars and double-knobs are associated with Level IV, and these multiple traits can be treated as representing one time horizon at the site. By comparing and contrasting these traits to other sites in Central-West Anatolia, where a similar development to Ulucak is most probable, and by integrating available carbon dates, we were able to synchronize the chronological relations of the excavated material from these settlements in relative and absolute terms. At this point, it is fundamental to our analysis that we are critical about the non-absolute nature of the carbon data. It must be mentioned that chronological tables and periods or boundaries defined within them are not static and real-time reflections of the prehistorical events. The fluidity of chronological synchronizations stems both from the nature of the relative chronological method and from the interpretation of absolute dates (Buck, Litton and Scott 1994; Campbell 2007). As Campbell (2007) emphasizes, chronological tables should be implemented to bring an order to the past, not to interpret or explain it.

The current study makes both comparisons on ceramic fabrics and vessel morphology, as well as in some cases other archaeological material. This is carried out in order to comment on the possible contemporaneity of the sites in different regions. It is clear that random analogies between material cultures of sites in different regions are not necessarily implications for contemporaneous occurrences, and statements relying on a single trait or find should be made with utmost caution (Eggert 2005: 259). Therefore, in some cases ceramic analogies are tested against the non-ceramic archaeological data and absolute dates from both regions.

It is relatively easy to find strong analogies between geographically close regions where the statements on chronological relations can be made with certain security. However, in regions that are far apart from one another, it is difficult to make correlations despite several analogies between their ceramic assemblages. It proved, for instance, to be difficult to comment on the timely relation between some assemblages from Northeast Bulgaria and Ulucak, despite the presence of similar ceramic traits. It also proved challenging to match a defined horizon from Ulucak (with multiple traits) with that of specific Bulgarian assemblages. The absence of carbon dates from the Bulgarian sites also made correlation in a real time scale difficult. In the absence of matching multiple time-specific traits, one is left with the information provided by the absolute dates.

Chapter VI will cover sites and ceramic data available from West Anatolia, North Anatolia, Central Anatolia, Bulgaria, Macedonia, and Thessaly. Each of these regions will be introduced in terms of their geographical features, history of Neolithic research and evidence of pre-Neolithic occupation. Following this introduction, we will separately present the key sites located in this region. The sites that are selected for comparison with Ulucak pottery are treated as key sites that provide representative and reliable information on the pottery sequence of a certain region. Information on single sites will cover the location of the site, status of research, available carbon dates, important material cultural elements associated with Neolithic levels, architectural features, and when available, archaeobotanical and archaeozoological data. The introductory section will be followed by the presentation of the ceramic data, where fabrics and forms will be introduced. For instance, Çatalhöyük, with its long sequence from Early Neolithic to Early Chalcolithic, presents us with ceramic material that is representative for Konya Plain. Together, Hoca Çeşme, Karanovo, Rakitovo, and Aşağı Pınar, form well-established cultural sequence for Thrace, which chronologically corresponds to Ulucak IV-V. It should be noted that not every excavated and published site was treated in the study. We have consciously chosen sites with well-constructed cultural sequences and detailed publications.

By comparing and contrasting the contemporary sites from these regions we are able to construct relative chronologies and assess Ulucak's relative chronological position by combining ceramic data with absolute dates. Moreover, such a comparative analysis enables us to define the culture-historical position of Ulucak in the greater context of Anatolia and the Aegean. Inclusion of areas like the Bor-Melendiz Plain, Konya Plain, Thrace, Northeast Bulgaria, Struma Valley, Macedonian Plain, and Thessaly are especially important because pottery sequences from these regions have never been compared to Central-West Anatolian sites before. This means that their relations and cultural affiliations, as well as their contrasting features to Central-West Anatolia, have never been discussed before. Chapter VI will present early ceramic sequence for all the regions included and position Ulucak in the greater framework of the Neolithic. It goes without saying that the inferences and suggestions made in this study can be, and should be, subjected to further testing and examination. More data and different approaches are needed to solve the problems we encountered while interpreting some of the issues related to change and discontinuity in ceramic types across Anatolia and Southeast Europe.

## B. Geographical Framework

As already mentioned above, this study will cover ceramic material from various geographical regions. Placing the large areas covered in this research into separate cultural-geographical regions was absolutely necessary to present our analysis in a comprehensible way. For instance, the Aegean coast of Turkey and its hinterland cover large areas from modern Çanakkale to Muğla. I intend to follow Meriç's (1993) suggestion here, that the Aegean coastal regions can be divided into three sub-regions, as North, Central and South. Northwestern Anatolia includes Troas, the Bay of Ayvalık and Midilli Island (Lesbos). Southwestern Anatolia is defined by the Beşparmak Mountains and the littoral areas of modern Muğla.

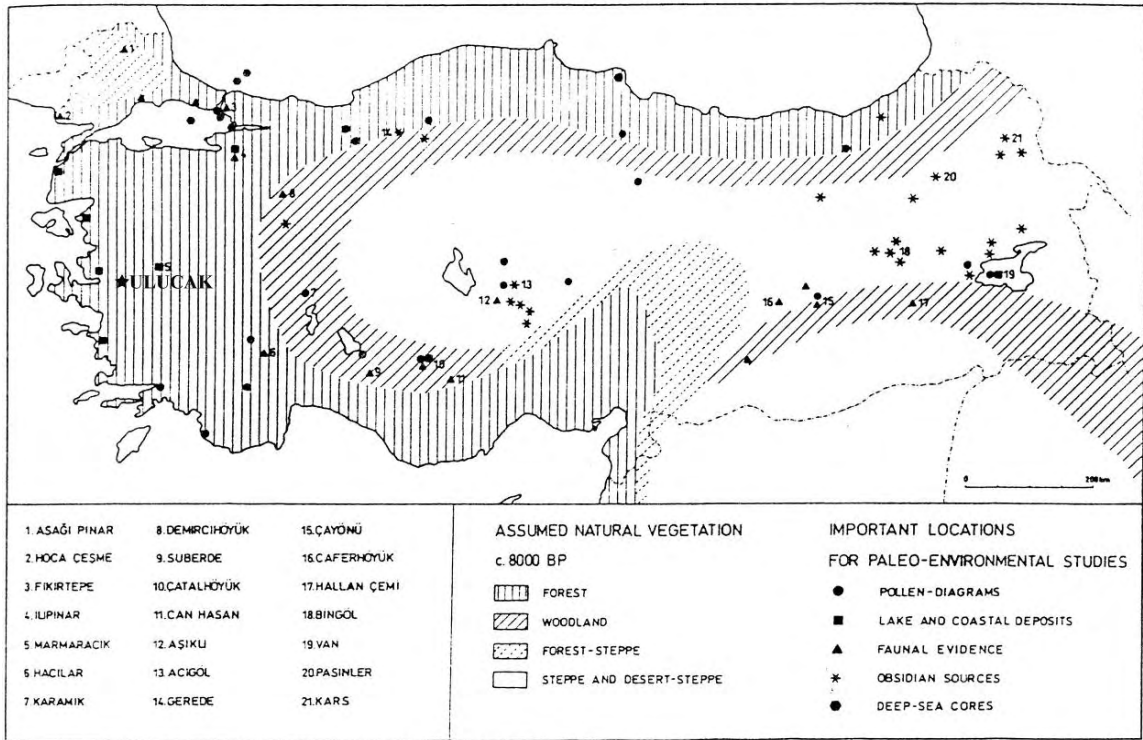


Figure 1.2: Major ecological zones in Turkey around 6000 BCE (modified after Özdoğan 1998a: Fig. 2).

According to division we are implementing in this study, Ulucak is located in Central-West Anatolia. This region basically covers the modern cities of İzmir and Manisa. Central-West Anatolia begins with Bakırçay Stream in the north and covers the Gediz and Küçük Menderes basins in the south. Additionally, two natural harbors, İzmir and Nemrut, as well as the Bay of Kuşadası and the Karaburun Peninsula are included in this region. Due to the proximity of Sakız Island (Chios) to the mainland, it is also considered to belong to this geographical region. In terms of geographical features, Central-West Anatolia encapsulates the Gediz River Valley together with the major

mountain ranges of Bozdağlar and Mount Spil. In contrast, the upper Büyük Menderes Valley is part of Inner-West Anatolia.

In antiquity, Central-West Anatolia was strictly known as “Ionia” (Akurgal 1978: 114), however, as we have included the whole Gediz Valley within Central-West Anatolia, western portions of “Lydia” are also covered by Central-West Anatolia. One of the most crucial characteristics of Central-West Anatolia is the presence of major river valleys (i.e. horst-graben formations) that offer passages from inner to coastal regions. Therefore, it is highly likely that these East-West oriented river valleys provided the major communication routes between the inner and coastal areas. Ulucak is connected to one of these valleys through the Nif Stream, which is a tributary of the Gediz River (ancient Hermos).

In this study, Central-West Anatolia will be treated as the region with which the inter-regional comparisons will be made. The results obtained from pottery analysis at Ulucak will be compared and contrasted with settlements from Central-West Anatolia as well as with sites from neighboring regions. Contemporary sites from non-neighboring regions like Konya Plain, Northwest Anatolia, Thrace, and mainland Greece will also be included in the comparisons. These locales are included because the most intensively researched Neolithic settlements are located within them, and therefore present perfect cases for relative chronological comparisons.

The pottery comparisons that are made in this study stem from sites which are largely not directly related to Central-West Anatolia. The borders of the regions we identified in this study are defined both ecologically and culturally. Ecological circumstances play a major role in the emergence of different cultural zones in any given period. Neolithic Turkey was composed of multiple ecological zones that ranged from steppe environments to open woodlands and forested landscapes (Roberts and Kuzucuoğlu 1997; Fig. 1.2). In general, within these large ecological zones, major alluvial plains, river valleys or lake basins constituted one single cultural region during the Neolithic period. Central-West Anatolia, Troas, Northwest Anatolia, Inner-West Anatolia, and the Lake District remained in the woodland zone, which were presumably thickly covered with forests. All these regions, except the Lake District and Inner-West Anatolia, had direct access to littoral areas, namely to the Aegean and Marmara Sea. The Konya Plain and Suğla Basin were part of the open woodland, which consisted of lakes and marshy areas without any access to the sea (Roberts and Kuzucuoğlu 1997: Fig. 4). The Bor and

Melendiz Plains were situated in a volcanic and dry steppe environment which was however, drained by rivers. Such a variety of ecological zones during the Neolithic in Anatolia might have been one of the major reasons for the diversity that emerged among early farmers and herders (Schoop 2005b).

Information on the major geographical features in each region included in this study will be presented in Chapter VI. From east to west the following geographical entities and key sites are treated in the comparative Chapter VI:

- 1) Melendiz and Bor Plains (Aksaray and Niğde)
  - a) Musular
  - b) Tepecik-Çiftlik
  - c) Köşk Höyük
- 2) Beyşehir-Suğla Basin and Konya Plain
  - a) Suberde
  - b) Erbaba
  - c) Çatalhöyük (East and West Mounds)
  - d) Can Hasan
- 3) Lake District (Burdur)
  - a) Hacılar
  - b) Kuruçay
  - c) Bademağacı
  - d) Höyücek
- 4) Central-West Anatolia (İzmir and Manisa)
  - a) Yeşilova
  - b) Ege Gübre
  - c) Çukuriçi
  - d) Dedecik-Heybelitepe
- 5) Elmalı Plain (Antalya): survey data
- 6) Southwestern Anatolia (Muğla and Aydın): survey data
- 7) Porsuk-Sakarya Basin (Eskişehir and Kütahya)
  - a) Demircihöyük
  - b) Sites investigated through surveys
- 8) Eastern Marmara Region (İzmit Lake Basin and Istanbul)
  - a) Fikirtepe
  - b) Pendik
  - c) Yarımburgaz
  - d) Ilıpınar
  - e) Menteşe
  - f) Barcın Höyük
  - g) Aktopraklık
- 9) Troas and Gökçeada (Çanakkale)
  - a) Coşkuntepe



- b) Uğurlu
- 10) Thrace
  - a) Hoca Çeşme
  - b) Karanovo
  - c) Aşağı Pınar
  - d) Rakitovo
- 11) Northeast Bulgaria
  - a) Polyanitsa-Platoto
  - b) Koprivets
- 12) Struma River Valley and Sofia Basin
  - a) Kovačevo
  - b) Krainitsi
  - c) Sofia-Slatina
- 13) Macedonian Plain (including FYROM and northern Greece)
  - a) Nea Nikomedeia
  - b) Anzabegova
  - c) Yannitsa B
- 14) Thessaly (Larissa and Karditsa Plains)
  - a) Sesklo
  - b) Argissa
  - c) Achilleion

### ***C. Temporal Framework***

The Southwest Asian Neolithic covers many millennia, beginning almost with the onset of the Holocene and following a relatively short Epi-Paleolithic period that was characterized by semi-permanent to permanent open-air or cave settlements. Transition to sedentism in Southwest Asia is realized during the Natufian Period, 12000-10000 BCE (Bar-Yosef and Valla 1992). Food production appears only after the onset of favorable climatic conditions in the Holocene, and sedentism as a result of long-term interactions between human groups and their natural environment (Diamond 1997; Mithen 2003). The Neolithic period in Southwest Asia is distinguished by two major eras: Pre-pottery Neolithic (PPN) and Pottery Neolithic (PN). This distinction was first made by K. Kenyon and has remained valid since then (Schmidt 2007: 28). PPN is further divided into at least two sub-periods which are called PPNA and PPNB. Archaeological evidence suggests that the socio-economic stability created during the PPN period comes to an end around 8000 cal. BCE when many settlements are abandoned and the so-called 'Mega-Sites' appear, where population aggregation is assumed (Sherratt 2006: 59). Some scholars term this event the 'Neolithic Collapse' and

link the Neolithic dispersal from the so-called core regions along the Fertile Crescent to this socio-culturally unstable period (Özdoğan 1997: 13-15).

Around 7000 BCE, ceramic containers emerge in Southwest Asia and Central Anatolia which marks the beginning of PN (Thissen 2007: 219). In areas where PPN is not attested, this era is also referred to as the Early Neolithic. The PN period covers around 1000 years (in rough terms, 7000-6000 BCE). Conventionally, 7000-6500 BCE refers to the Early Neolithic era in Central and West Anatolia. Yet another 500 years is allotted to the Late Neolithic period in Central and West Anatolia, which is characterized by *Tell-*settlements with substantial mudbrick architecture and light-colored, burnished fine pottery. In Northwest Anatolia, Neolithic sites are treated under the name 'Fikirtepe Culture,' which is characterized by dark burnished pottery and round huts in littoral Marmara (Özdoğan 2007b). Current evidence indicates that the earliest farming groups arrived in Northwest Anatolia in the mid 7<sup>th</sup> millennium BCE (Roodenberg *et al.* 2003).

Following the PN in Anatolia, the Early Chalcolithic period begins. It is marked with the appearance of painted wares that parallel the pre-Halaf painted pottery in Southwest Asia from the turn of the 6<sup>th</sup> millennium BCE. The historical background of these, partly arbitrary, definitions can be found in Mellaart's publications. He claimed that (Mellaart 1964b: 5):

“In Anatolia, ‘Neolithic’ is used to describe the cultures of the seventh and first half of the sixth millennium BCE, preceding those with painted pottery (and metal, however rare) termed Early Chalcolithic.”

What Mellaart actually was trying to prove was that the Anatolian Plateau was, as he puts it, not a “*mere backwater*” in prehistory (Mellaart 1964b: 7). He probably reasoned that this could only be possible if Anatolian cultures would be directly related to the “high cultures” of Mesopotamia. This state of mind led him to evaluate Anatolian cultures only in terms of their affiliations to Mesopotamian cultures. Painted pottery, in this sense, gained extraordinary significance in his conceptualization of Anatolian prehistory. His efforts did work and the main criterion to identify Chalcolithic in Anatolia became (and still is) the painted pottery. The Early Chalcolithic period comes to an end around 5000 BCE in Central, western and northwestern Anatolia, although the precise development of populations can not be reconstructed in all these regions due to the poor state of research (see Özdoğan and Başgelen 2007: Chronological Chart).

Similar argumentations can also be made concerning the Greek and Bulgarian Neolithic periodization. On mainland Greece, specifically on the Thessalian Plain, plain fine-medium burnished wares are considered typical for the Early Neolithic period (6500/6400-5800/5700 cal. BCE); which is also typified by *Tell*-sites on alluvial plains and rectilinear mudbrick architecture (Perlés 2001). The appearance of painted pottery marks the beginning of the Middle Neolithic period, also known as the “Sesklo Culture” after the eponym site. The Middle Neolithic period covers circa 500 years from 5800 to 5300 cal. BCE (Gallis 1996a: 120).

In Bulgaria, white-on-red painted pottery is the most significant characteristic of Early Neolithic material culture, which covers 6000-5450 cal. BCE (Krauß *in press*). In Thrace, the Early Neolithic period is referred to as the Karanovo I and Karanovo II periods. In the Struma Valley, the Early Neolithic is also known as “West Bulgarian Painted Culture” or Kremikovči Culture (Gaul 1948). The Early Neolithic period covers several centuries (6000-5700 BCE) in the Macedonian Plain. The Middle Neolithic is another long period, corresponding to 5700-5000 BCE, and the Late Neolithic covers the entire 5<sup>th</sup> millennium BCE (Mitrevski 2003). Current evidence suggests that sedentary farming villages appeared in the Vardar/Aixos Valley later than in Thessaly and the Struma Valley (Perlés 2001: 99).

This study will concentrate on the time period between 7000-5500 cal BCE. This time range corresponds to the Early Neolithic, Late Neolithic and initial Early Chalcolithic period, according to conventional Anatolian chronology (see Özdoğan and Başgelen 2007: Chronological Chart). In Southeast Europe, these dates correspond to the Late Mesolithic and Early Neolithic periods. In Southwest Asia, these dates mark various periods including the early PN period, Hassuna-Samarra horizons, transitional Halaf, and finally, the early 6<sup>th</sup> millennium BCE corresponds to the Early Halaf period (Nieuwenhuyse 2007: Tab. 8.4.1).

## **Chapter II**

# **History of Neolithic Research in Turkey and West Anatolia**

### ***A. History of Neolithic Research in Turkey***

Before the research status in the western parts of Anatolia is presented, it is necessary to evaluate the Neolithic research history as well as the current research situation in modern day Turkey.<sup>3</sup> Neolithic research starts in Turkey in the 1950's. As Özdoğan underlines in several articles (Özdoğan 1995; 1997; 1999), there was a strong prejudice among scholars who worked in Southwest Asia until the 1960's that in Anatolia, no Neolithic settlement could be identified due to the harsh climate and marginal environmental conditions. One such example of this prejudice was seen in Seton Lloyd's book, "Early Anatolia," published in 1956 and frequently cited by various authors. (Özdoğan 1997; Matthews 2002; Hodder 2006: 14). Although eleven years later Lloyd admitted that his book "*has to be almost completely re-written*" (Lloyd 1965: 8), his following astonishing statement lasted as the symbol of what status was given to prehistoric Anatolia before the 1960's (Lloyd 1956: 53-54):

"the region more correctly described as Anatolia, shows no sign whatever of habitation during the Neolithic period..."

This state of mind was shared at that time by the majority of archaeologists, when carbon dating had not yet entered the world of archaeology and the oldest cultures from Anatolia were given a date of no more than 3000 BCE (Özdoğan 1997). There are a

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<sup>3</sup> Alternative reports on the Neolithic of Anatolia can be found in Özdoğan 1995; Balkan-Atlı 1997 and Esin 1999.

number of very important points in Anatolian Neolithic research history that turned around several individuals whose work, in turn, dispelled everyone else's long-standing biases. Unfortunately, this perspective change took some time – some 20 years until the results from these various projects were published and digested by the academic world. These works include the excavations at Çatalhöyük, the “*Joint Prehistoric Research Project in Southeast Anatolia*,” dominated by the excavations at Çayönü, and the “*Lower Euphrates Project*.” The first of these events began with the start of an excavation headed by James Mellaart, a young passionate archaeologist, who was working at the British Institute of Archaeology in Ankara. Mellaart started digging at Çatalhöyük in 1961, having already finished his excavations at Hacılar between 1957-1960, whose astonishing finds opened the old debate of neolithization of Europe through Anatolia. Until then, this debate was found unreliable because of the lack of hard evidence (Mellaart 1958: 153). On the other hand, the possibility of earlier Neolithic sites in Anatolia was still missing. It was exactly for this reason that Mellaart started to excavate at Çatalhöyük: “*to complete the sequence [of Hacilar] and throw further light on Hacilar*” (Mellaart 1963: 41). However, as excavations started on the 17th of May, 1961, nobody at that time (including Mellaart himself) expected such extraordinary results; results that would make Çatalhöyük one of the most famous archaeological sites in the whole world ever to be revealed.

Although Hacılar was already known at that time and its earliest levels were labeled as “Aceramic Neolithic” and “Late Neolithic,” proving a Neolithic occupation in Anatolia, the situation at Çatalhöyük was much different. The site extended to 13.5 hectares and had unusual good preservational conditions. Its earlier date, extraordinary finds and Mellaart's lively reconstruction and interpretation of its contents, together with his detailed publications in the journal “*Anatolian Studies*” every year, added considerable information and attracted attention to the prehistory of Anatolia from all over the world (Hodder 1999). Nevertheless, we should mention the fact that the biases continued to exist, but in a changed way. Çatalhöyük was interpreted as an exception, probably a colony settlement of the people from the Levant who came to the area in order to exploit obsidian or salt (Özdoğan 1997).

The second event that marks another significant turning point in understanding Anatolian prehistory is mainly shaped around two individuals, who shared the common research objective in their minds: *Were there any early village-farming communities*

*along the foothills of Taurus, in the Upper Tigris Basin?* (Özdoğan A. 1999: 37). In 1962, a joint project between the University of Istanbul and of Chicago founded and was lead by Robert Braidwood and Halet Çambel. The project started with a survey in the northern parts of the Diyarbakır, Urfa and Siirt provinces, during which the site called Çayönü was located. Among sixty sites that were visited in Diyarbakır province Çayönü was chosen to be excavated, mainly because of the favorable logistics provided by the local school (Çambel and Braidwood 1980: 5, 42). As with the continuing excavations at the site, it became more and more clear that Çayönü presented an unbroken sequence from the PPNA to the PN period and perhaps more importantly, as astonishing results as Çatalhöyük. This is especially made clear with its architecture and “special buildings,” like Grill, Flagstone or Skull (see Özdoğan A. 1999). However, despite these sensational data from Çayönü, similar to Çatalhöyük, with the impact of strong Levant-centric views it was considered as yet another “odd case;” this was justified with its position on the way to obsidian sources (Özdoğan 1996; 1997).

By 1968, another important project in Southeast Anatolia was started, called “*The Lower Euphrates Project.*” One of the main aims of this huge project was to locate and save as many archaeological sites as possible that would be inundated upon the completion of the Keban Dam. From the 38 mounds that were found in the Altınova Plain, twelve of them could be excavated. These excavations were mainly made possible with two million Turkish liras that were provided by the Turkish government at that time and by a collaboration of Turkish, American, German, and British teams (Kurdaş 1970). The lively spirit that was created in the late 1960’s lasted until the 1980’s and subsequent dam building projects were also provided with archaeological teams. Dam projects in Turkey triggered many sites to be discovered in areas that were previously virtually unknown. During these projects a young generation of Turkish archaeologists was also trained and took part in the international and interdisciplinary collaborations (Özdoğan 2006). While these dam projects caused enormous damage, not only to the archaeological sites but also to the environment, they also contributed to Neolithic studies by introducing the newly found sites and the excavations through reports that were published regularly. Among the significant PPN and PN sites that were excavated in conjunction with the dam constructions in the 1980’s, Cafer Höyük, Grittille, Nevali Çori, Kumar Höyük, and Hayaz Höyük can be mentioned (Roodenberg 1988). The surprisingly unusual nature of the initial Neolithic in Southeast Anatolia came to be recognized during the course of the 1980’s.

Since the late 1980's, research on the Neolithic in Turkey has increased. The unbalanced interest in the Southeast Anatolian Neolithic has also shifted to other parts of the country. One of the most important projects in the 1990's was the Aşıklı excavations by Ufuk Esin. The excavations at this site presented invaluable information on the nature of a 9th millennium BCE site in Central Anatolia (Esin and Harmankaya 1999). Simultaneously, in the first half of the 1990's, sites like Hallan Çemi, Hoca Çeşme, Höyücek, Köşk Höyük, Göbeklitepe, and Ilıpınar, each of which has added enormously to our knowledge, were excavated. In 1993, excavations at Çatalhöyük were resumed. Similarly, a number of surface surveys that were carried out in this era (Özdoğan 1986; 1990; Efe 1995; Meriç 1993) have also shown how widespread the Neolithic sites in today's Turkey are. These surveys have stretched from east to west, south to north, excluding only the areas north of Elazığ to the east of the Black Sea region. When we consider the large number of Neolithic sites spotted on the other side of the border, in Georgia and Armenia, the absence of Neolithic in these "marginal" areas could well be related to the lack of research conducted in these regions. Since the second half of the 1990's, new projects have been undertaken almost all over Turkey. Although altogether their numbers do not reach a dozen, the data available today is large in amount when compared to the early 1960's. With every passing year excavations at the Kaletepe obsidian workshop, Mentеше Höyük, Tepecik-Çiftlik, and Göbeklitepe present more and more information on the lifeways during different stages of the Neolithic period (see Özdoğan and Başgelen 1999).

However, this relatively optimistic view, which underlines the increasing research and interest in Neolithic studies, seems very naive when it is compared to the research status in neighboring areas. In Anatolia, there are still huge "empty" regions, where no surveys or excavations have been undertaken. It is astonishing to consider that Turkey covers an area of roughly 800,000 km<sup>2</sup> and has only 55 excavated sites that yielded Neolithic material.<sup>4</sup> By 2006, there were 18 excavations projects that were being carried out on Neolithic find spots. In shocking comparison, we note that in Greece, with its geographic size of around 132,000 km<sup>2</sup>, more than 200 Neolithic excavations were carried out; and in Thessaly alone, around 120 Early Neolithic sites were found, with 35 of them having been systematically excavated (Alram-Stern 1996; Wijnen 1982; Gallis 1996). This causes the scholars who work on the Anatolian Neolithic to compare sites that have

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<sup>4</sup> This information basically relies on the TAY Database (Harmankaya, Tanındı and Özbaşaran 1997). Other excavated sites that do not appear in the 1997 version are also included here.

enormous distances between them. We see that in 1979, for example, when M. Özdoğan submitted his PhD thesis on Fikirtepe, which included comparisons from Anatolia, he had to use Mersin-Yumuktepe, Hacilar and Çatalhöyük data because nothing else was available. Huge geographical gaps between these sites had to be ignored because the linking settlements were simply missing! Today, the picture is much better but some large geographical loci still remain unresearched.

## **B. Neolithic Studies in West Anatolia**

Where does West Anatolia stand in this brief history of Neolithic research in Turkey since the 1950's? The pioneering figure in this story is David French, who aimed to discover West Anatolian Neolithic sites in order to fill the enormous gap between the Anatolian Plateau and Southeast Europe. One of the earliest surveys in this area that was undertaken by him in the early 1960's revealed sites from the 6<sup>th</sup> millennium BCE. After his surveys in Northwest Anatolia, covering the İznik area (French 1967a), French also surveyed in West Anatolia with the goal of finding "*connections between the early pottery cultures of Anatolia, e.g. Hacilar, and those of Thessaly, e.g. Sesklo.*" These surveys were executed precisely in the Balıkesir and Manisa/Akhisar regions, where he visited eight sites and collected pottery (French 1965: 15-16). Of those sites, Karakurt revealed only body sherds and at Kavaklıkahve only one red-slipped rimsherd was found. Most of the pottery (90%) he collected came from two sites: Moralı and Ulucak (French 1965: 18). A few years later, French made another survey in the same area and he tried to document all the prehistoric sites. This time he classified the pottery, which was collected according to the periods they possibly represented. Among them "plain burnished" and "early painted" came to represent the Hacilar type pottery for the 6<sup>th</sup> millennium BCE. He also mentions seven sites with plain burnished and painted pottery, including two which were not mentioned in the previous report. However, from one of them, Çerkestevfikiye, there is no "plain burnished sherd," but only one painted sherd to which French refers to as "doubtful" (French 1969: 58). If one excludes the doubtful cases of Çerkestevfikiye and Kavaklıkahve, this makes up a total of eight sites that were discovered during French's surveys. Until the late 1980's, French's surveys remained as the only attempts to research the Neolithic or Early Chalcolithic presence in Western Anatolia.



Site Name	Province	Surveyor(s)
Araptepe-Bekirlertepe	Menemen-İzmir	Şenyürek <i>et al.</i> 1950; Lichter 2002; 2005
Alibeyli	Saruhanlı-Manisa	French 1965;1969
Kayışlar	Saruhanlı-Manisa	French 1965; 1969
Moralı (mentioned as Moralılar by Dinç)	Akhisar-Manisa	French 1965; 1969; Dinç 1997; Takaoğlu 2004
Nuriye	Saruhanlı-Manisa	French 1965; 1969
Ulucak	Kemalpaşa-İzmir	French 1965; 1969
Arpalı II	Saruhanlı-Manisa	French 1969
Çerkestevfikiye	Manisa	French 1969
Mersinli	Alaşehir-Manisa	Meriç 1993
Nemrut	Kemalpaşa-İzmir	Meriç 1993
Küçük Yamanlar	Bornova-İzmir	Meriç 1993
Çaltıdere	Çandarlı-İzmir	Meriç 1993
Tepeköy	Torbalı-İzmir	Meriç 1993
Höyücek II	Menemen-İzmir	Meriç 1993
Yenmiş	İzmir	Meriç 1993
Çukuriçi Höyük	Efes-İzmir	Evren-İçten 1997; Evren 1999; Horejs 2008
Arvalya (Gül Hanım)	Efes-İzmir	Evren-İçten 1997
Gökçealan Köyü Höyük	Selçuk-İzmir	Evren-İçten 1997
Tepeüstü-Barbaros	Urla-İzmir	Erkanal-Günel 1996; Erdoğan 2000
Paşaköy	Bergama-İzmir	Erdoğan 2000
Yeşilova	Bornova-İzmir	Derin 2007
Yassitepe Höyüğü	Bornova-İzmir	Derin 2007
Çakallar Tepesi	Urla-İzmir	Derin 2007
Ege Gübre	Aliağa-İzmir	Erdoğan 2000; Sağlamtimur 2007
Dedecik-Heybelitepe	Torbalı-İzmir	Lichter 2005; Lichter-Meriç 2007
Tepeköy	Torbalı-İzmir	Lichter-Meriç 2007
Kuşçuburun	Torbalı-İzmir	Lichter-Meriç 2007
Çeşme-Bağlararası	Çeşme-İzmir	Erkanal (pers. comm.)

**Table 2.1: List of the sites dated to 7-6th millennia BCE in Central-West Anatolia.**

Another contribution to West Anatolian Neolithic studies comes from the Northwest part of Western Anatolia, in other words, from Troas. In 1990, J. Seeher published a late Neolithic site called Coşkuntepe. The site had pottery similar to early levels of Hacılar in the south and Fikirtepe sites in the north (Seeher 1990). Since 2004, Coşkuntepe has been further investigated by T. Takaoğlu, who suggests that the site was settled due to its proximity to basalt sources (Takaoğlu 2005).

In 1986 and 1987, a team led by R. Meriç conducted important surveys in the Bakırçay, Gediz, Küçük Menderes, and Büyük Menderes valleys of West Anatolia, during which 10 new 7-6<sup>th</sup> millennia sites were recorded (Meriç 1993). The results of a survey executed by Akdeniz, who identified some of the finds from Tavşan Adası as Neolithic,

were also very important. Unfortunately, he could not find anything older than Early Bronze Age at Saplıadası, which had previously been dated as earlier by Voigtländer (Akdeniz 1997). It is known that during some excavations, like at Miletos and Aphrodisias, Neolithic finds were also recovered in the surrounding landscape (Voigtländer 1983; Joukowsky 1986). During the surveys that were carried out around Miletos, seven late Neolithic-Chalcolithic settlements were found, some of which are interpreted as “*Fischer camps*” (Lohmann 1995: 304). In 2002, C. Lichter gathered together all the identified sites in West Anatolia to review the existing Neolithic- Early Chalcolithic archaeological record for West Anatolia. In analyzing these sites, he took a special interest in the Araptepe-Bekirlertepe material (Lichter 2002); this site had already been visited in the 1950’s when it was identified as an Early Bronze Age site because of its red-slipped wares that were similar to those from Troia II (Şenyürek *et al.* 1950: 492-493). Amazingly, Lichter (2002; 2005) reports that the red-slipped wares from this site are of Neolithic age, which is clearly indicated by their characteristic morphological features.

Naturally, Şenyürek and his team could not know this at the time when they visited the site because Hacılar was still unknown. Lichter also mentions Kömür Adası as a Neolithic site (Lichter 2002), but Akdeniz reports that here only Early Bronze Age and second millennium BCE pottery were found (Akdeniz 1997). New sites are constantly being discovered in the region, mainly during construction activities such as those at Ege Gübre, Yeşilova and Torbalı. At these sites, salvage excavations are being carried out in order to bring as much data as possible to our “data pool” (Tab. 2.1).

The southwest part of the region is also being investigated by various scholars. In particular, Peschlow-Bindokat’s discovery of numerous rock paintings stands out as one of the most significant contributions to the general archaeological picture for the region. Although the dating of the rock paintings remains by and large unclear, some of the painted pottery sherds found associated with them and geometric motifs that are seen on the human figures are closely reminiscent of Hacılar Early Chalcolithic pottery. This evidence suggests a date of around the end of the 7<sup>th</sup> to the early 6<sup>th</sup> millennium BCE (Peschlow-Bindokat 2003). There are also other various find spots in the area where an assortment of possibly Late Neolithic-Early Chalcolithic finds were discovered (Yaylalı 2006).

In West Anatolia, urbanization and industrialization continue at a great speed. Sadly, it is unknown just how much of the archaeological record is lost. It is really tragic that in such an area, where there is a great potential for Neolithic studies, the sites are either covered with thick alluvium deposits or are subject to constant damage. With great insight, French pointed out 40 years ago:

“precise data ...are lacking [in the area] and until a great deal more is discovered in fields other than ceramics, theorizing will largely be speculative and groundless”  
(French 1969: 75).

Unfortunately, this statement was valid only until recent years. In total, there are four excavations being conducted at 7-6<sup>th</sup> millennia sites in Central-West Anatolia. Additionally, there are the short-term excavations conducted at Dedecik-Heybelitepe by R. Meriç and C. Lichter. Although this number seems to be very low, every single piece of information provided by these projects is more than welcomed. In an area where virtually nothing was known about the cultures of the 7<sup>th</sup> and 6<sup>th</sup> millennia BCE, except that there was a presence of red-slipped wares, data obtained through systematic and goal-oriented excavations has an immense value. In this respect, excavations at Ulucak, Ege Gübre, Yeşilova, and Çukuriçi Höyük have already fundamentally affected our view of the West Anatolian Neolithic. There is now good reason to hope that these projects will contribute to the Anatolian and Aegean Neolithic studies enormously and change the way prehistorians perceive the culture-historical development in the area.

### ***C. What Distinguishes Late Neolithic from Early Chalcolithic in Anatolia?***

The main criterion for Mellaart in the transition from Late Neolithic to Early Chalcolithic was the appearance and gradual increase of painted pottery. Since then, the appearance of painted wares is considered as the beginning of the Early Chalcolithic period in Anatolia. Although Mellaart makes it clear that the transition from monochrome to painted wares at Hacilar was gradual and there was no evidence of a cultural break or a substantial change from Level VI to V, he *had* to draw a line in order to separate the two traditions.<sup>5</sup> The Levels IX-VI at Hacilar were called “Late Neolithic” while Levels V-I designated “Early Chalcolithic;” the latter was explicitly described as “*the period of the first painted pottery cultures*” (Mellaart 1970: 94). This arbitrary

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<sup>5</sup> It is known that although Hacilar VI ended with a fire, which can be observed everywhere in the settlement, it did not cause a break in the occupation. A new village was built immediately on top of the burnt village (Mellaart 1970).

division of Late Neolithic from Early Chalcolithic at Hacilar, where material cultural elements fail to display any changes (except the gradual increase of painted pottery), is a point where confusion arises among scholars when they realize the cultural continuity in the archaeological record. This problematic notion in the terminology was already pointed out by Eslick (1992: xviii), which is quoted below completely:

“The conventional terms, Early and Late Neolithic and Chalcolithic, used to designate the various cultures of southwestern Anatolia are far from satisfactory, for they do not reflect the basic divisions in the cultural sequence but have resulted from comparison of individual parts of the sequence with culture sequences in different parts of Anatolia. In particular, the equation of the beginning of the Chalcolithic with the use of painted designs on pottery takes no account of the basic continuity of culture at this point”.

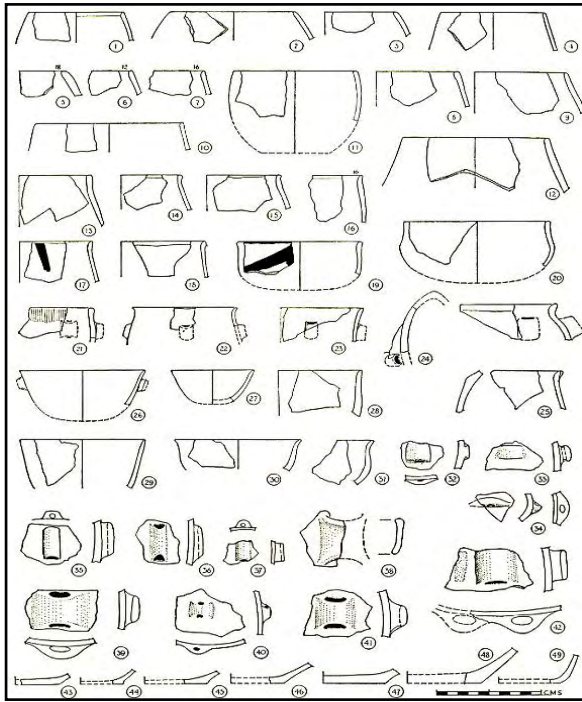
As Eslick makes it clear, cultural stability observed in the archaeological data from the Early Neolithic to the Early Chalcolithic is hampered by arbitrary terminological divisions. As mentioned above, the division between Late Neolithic and Early Chalcolithic is based on the appearance of painted pottery. It should not be forgotten that as Mellaart distinguished these periods 45 years ago, the only relatively reliable chronology was the Mesopotamian sequence, which itself relied on the change in pottery types. At that time, the appearance of painted wares, meaning the Halaf wares, was considered to be the markers for the beginning of the Chalcolithic period, whereas “monochrome ware” was immediately associated with the Neolithic period (Campbell 2007). Mellaart did adapt the Mesopotamian scheme without adequately questioning its applicability to the Anatolian Plateau. It can be rightly argued that at that time there were no investigations conducted in Central and West Anatolia focusing on the Neolithic except for Mellaart and French’s work. What else could have been done? The Mesopotamian, especially Mersin, chronology provided at least a reference point for these pioneering scholars. Although these arguments are valid and should not be underestimated, what Mellaart and especially his successors probably should have done was to be cautious and critical. Today, this seemingly trivial decision that took place at some point in the history of archaeology poses a significant problem which needs to be solved one way or the other.

Yet another question deserving attention is defining how the Early Neolithic is defined in West Anatolia. The answer is again hidden in Mellaart’s publications. He identified three sites during his 1958 survey with pottery, which according to him, predated Hacilar IX-VI and Mersin XXVI-XXV, and thus should be deemed as part of the Early Neolithic. These sites were Alan Höyük, Çatalhöyük [East] and Kızılkaya (Mellaart

1961). Kızılkaya, the only Early Neolithic site from the Lake District, is now known in the literature as Bademağacı. A good number of the ceramic traits from Kızılkaya pottery, such as tubular lugs, red slip, oval forms, disc bases, and painted decoration, have exact parallels at Hacılar IX-VI. However, despite this fact and since they look technologically inferior to Hacılar IX-VI pottery, Mellaart dated these to the Early Neolithic period (Fig. 2.1). As a result, in 1958 everything that *seemed* to be preceding fine monochrome pottery of Hacılar IX-VI was called Early Neolithic. No definition whatsoever was provided for the term, as if it were self-evident.

More recently, Duru applied substantial changes to the Lake District chronology which was triggered by his excavations at Bademağacı. He (1996: 796) states on his *first* Bademağacı preliminary report that Mellaart's dating of the site as Early Neolithic was correct. However, it is unclear what Duru conceptualizes by the term Early Neolithic.<sup>6</sup>

Duru's additional input into the chronology of Lake District, terms such as "Early



**Figure 2.1: Pottery from Bademağacı that is dated to "Early Neolithic" by Mellaart. Note the existence of fine monochrome and painted wares, 's'-shaped profiles as well as tubular lugs (after Mellaart 1961b: Fig. 6).**

Neolithic I" and "Early Neolithic II" remain by and large vaguely defined. He (2007: 352-353) asserts that Early Neolithic I should cover a period from 8200 to 6500 BCE and Early Neolithic II should range from 6500 to 6100 BCE. The culture-historical or social transformations that occur during these millennia play seemingly no role in the definition of these terms. Moreover, this suggestion leaves two centuries for the Late Neolithic period (6100-6000 BCE) because he clings to 6000 BCE as the beginning of the Early Chalcolithic in the region. In contrast to Duru's suggestion, a date as early as the late 9<sup>th</sup> millennium BCE for the

beginning of the Neolithic period in the Lake District is not currently supported by the

<sup>6</sup> Duru (1996: 796) states that "We think that the lowest settlement in Grid A1 dates to the middle of the 7th millennium and to the Early Neolithic period, as J. Mellaart previously stated." (Original quotation: "A1 plankaresinin en alt düzeyindeki yerleşmenin, J. Mellaart'ın daha önce söylediği döneme, ENÇ'ye ait olduğunu ve 7. binyılın ortalarına tarihlenmesinin doğru olacağını düşünüyoruz.")

data. Duru's suggestion that EN-I should cover 8200-6500 BCE relies solely on an old carbon date from Hacilar's "Aceramic" phases (BM-127: 8700±180 BP). Duru himself considers this specific carbon date from Hacilar to be wrong (Duru 2007: 352) and the only carbon date from Bademağacı ENI-8 provides a date range of between 7000-6700 cal. BCE. Under these circumstances, is it possible to suggest that the earliest farming villages occur in the Lake District at the end of 9<sup>th</sup> millennium BCE? The issue is open to debate.

To summarize our points until here, the Early Neolithic of Central and Southwest Anatolia was once defined loosely as everything that pre-dates Hacilar IX-VI and Mersin XXVI-XXV. Excavations at Çatalhöyük made it clear that yet an earlier Neolithic ceramic horizon existed in Central Anatolia, which undermined the initial dating of surface pottery from Çatalhöyük East, Alan Höyük and Kızılkaya as Early Neolithic. More correctly, it became clear that the early Neolithic pottery in Anatolia covers at least half a millennium from 7000 to 6500 BCE. Mellaart abandons using a two-staged division for the Neolithic in his later publications, making his chronological estimations based on absolute dates. Nevertheless, misunderstanding caused by his earlier publications seems to have their long-lasting impact on Anatolian prehistory. Recently, Duru introduced new concepts into the already existing chronological scheme without adequately clarifying his criteria. He also relied on carbon data that he himself considers doubtful, thereby making the issue only more complicated. Lake District chronology still relies on ceramics while other transformations and changes in the material culture remain irrelevant to the chronological sequence.

It would be unfair here not to mention a proposal by Özbaşaran and Buitenhuis (2002), who defined five successive developmental stages for Central Anatolia with definitions based on the changes observed in the general way of living of prehistoric communities. However, its implementation by a greater circle of archaeologists could not be realized thus far. Özbaşaran and Buitenhuis (2002: 69) formulated five developmental stages from the 9<sup>th</sup> to 5<sup>th</sup> millennium BC and named them as Early Central Anatolian I-V (ECA I-V). ECA I corresponds to the Epi-Paleolithic stratum whereas ECA II is PPN, ECA III PN and ECA IV is the Early Chalcolithic period. ECA V corresponds to 5500-4000 BC and covers the Middle Chalcolithic period. Each stage is defined through various criteria such as subsistence strategies, architectural techniques, settlement layout, settlement pattern, social organization of local groups and the material culture.

As discussed above, Central Anatolia and the Lake District have their own chronological problems which are partly related to initial work by Mellaart and partly to new problematic approaches. Unfortunately, these problematic notions experienced in neighboring regions directly affect Central-West Anatolia and are very challenging for scholars who work in this area. It is because current terminology is borrowed from these regions, especially from the Lake District, where the cultural-historical development do not necessarily match with that of Central-West Anatolia. This is most obvious in terms of the plain-painted pottery transition. Even if it is accepted for a moment that the transition from monochrome to painted wares constitutes the end of the Late Neolithic period in Central-West Anatolia, this transition cannot be detected. The surveys and excavated sites revealed only a handful of painted sherds which are not enough to suggest a well-established painted pottery tradition in this region. Thus, the most intrinsic criterion which divides the Late Neolithic from the Early Chalcolithic cannot be found in Central-West Anatolia. Besides, as already mentioned, periods based on pottery changes are likewise problematic and do not correspond to our current understanding of the prehistory. The social-cultural stability must be recognized and other criteria must be included when constructing chronologies. The definition of the Early Neolithic in West Anatolia should also be carefully delineated using the data obtained from Ulucak' early phases, which date to the first half of the 7<sup>th</sup> millennium BCE.

Another type of puzzlement is created when archaeologists working in Western Anatolia implement the Aegean chronology, which is constructed on completely different grounds from the Anatolian chronology. For instance, what is Early Neolithic in the Aegean and mainland Greece is conventionally Late Neolithic in Anatolia. The Aegean scheme was first applied by Korfmann (1989) when he labeled Kumtepe and Beşiktepe as Late Neolithic sites by using the Aegean (Greek) chronological system instead of the Anatolian. Recently, Takaoğlu (2005) designated Coşkuntepe as an Early Neolithic site using the Aegean sequence instead of the Late Neolithic, as Seeher (1990) previously did. It can be argued that the coastal West Anatolian sites are geographically and culturally more related to the Aegean cultures, and that this obviously led Korfmann to use the Aegean labels. However, recent archaeological data gathered from West Anatolian sites demonstrate that West Anatolian sites are culturally more related to Anatolian (i.e. Central Anatolian, Lake District) sites than the Aegean ones. Moreover, the implementation of Aegean chronological terms without even discussing their meaning and relevance, as well as their relationship to contemporary Anatolian cultures,

proves to be nothing but confusing, especially for people who were unaware of these regional distinctions. Utta Gabriel, a doctoral candidate at Tübingen who works on Kumtepe pottery, found the solution in avoiding using these terms by relying on the absolute dates and designating the early levels of Kumtepe as a “fifth millennium site.”<sup>7</sup>

It is useful to repeat here that this text is not opposing the use of any of these terms as long as they *enhance* scholarly communication and help in constructing chronological systems that are based on current reliable archaeological evidence. Too many terms with multiple meanings or too many concepts with no meaning are what our generation should try to avoid.

All of the above mentioned complications prevent us from having a clear mind about the prehistory of Anatolia. It is especially hard for scholars who work in Central-West Anatolia to build on a reasonable ground. As it was pointed out earlier in the text, what needs to be done for the time being is to be *explicit*. The scholars should explain what they mean by Early Neolithic, Late Neolithic or Early Chalcolithic, be they defined only by painted pottery, subsistence or architectural tradition, and so forth. It is the healthiest way to develop the language of our discipline, and thus our communication.

#### ***D. Is Ulucak IV a Neolithic or Chalcolithic Site?***

It is clear that Ulucak was settled without any breaks from at least around 6800 to 5700 cal. BCE. According to the conventional chronology, this means the Early Neolithic, Late Neolithic and Early Chalcolithic periods are found at the site (see the chronological chart Özdoğan and Başgelen 2007). In other words, given that 6000 BCE is a valid date for the transition from Late Neolithic to Early Chalcolithic, Ulucak has both Late Neolithic and Early Chalcolithic settlements. It is true that one spots a number of differences in architecture, pottery or subsistence strategy in the course of the occupation. For instance, it is tempting to argue that Ulucak IV, which is dated to around 6000-5700 cal. BCE, represents the Early Chalcolithic stage, whereas Ulucak V a-f, dated roughly to 6400-6000 cal. BCE, the Late Neolithic. Ulucak VIa with its red painted floors would be placed in the Early Pottery Neolithic according to the Anatolian and Southwest Asian terminology. In this sense, Ulucak data do not contradict with the conventional chronology and would enable us to apply 6000 BCE without any major problems. Nevertheless, I still hesitate to draw this line which would artificially separate

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<sup>7</sup> I would like to thank Utta Gabriel for providing me with the background information on this issue.



one stage from the other, as if there was a discontinuity or dramatic socio-economical transformations. The way of life reflected by the archaeological remains seems to have developed gradually from Level V to IV. Building techniques, settlement organization, pottery technology, or modes of subsistence present no cases of abrupt changes or long-term abandonments of the site. Therefore, in this study, as long as Ulucak is discussed in itself, simply two subsequent levels at Ulucak (Levels IV and V) and the changes that occur in these levels will be discussed. Whether they are Neolithic or Chalcolithic is irrelevant in this process. What is important is to find out what kind of developments occurred in the history of settlement.

When it comes to making intra-regional and/or inter-regional comparisons, there are two main sources that one can benefit from: the absolute dates from Ulucak and other comparable sites, and the inter-regional comparisons of various find groups. In this work, the already available chronology for these comparisons will be utilized and Ulucak will be referred to as a “Late Neolithic-Early Chalcolithic” (LN-EC) site. This would mean that at Ulucak, there is evidence from both periods, including the transitional stage. The presence of deposits dating to the first half of the 7<sup>th</sup> millennium BCE at Ulucak indicates that Early Neolithic period is also represented on the mound. Nevertheless, these labels are used only as a necessity to classify Ulucak in the general chronological sequence. In this respect, I choose not to load any connotations to this term, except its pure chronological meaning. Since the Neolithic research in the region continues and new data bring new insights into the cultural-historical sequence it would be unwise to propose a new terminology for the region. In my opinion, one needs to wait until the sequence is fully established and we have a firm picture of the local development. Until then, absolute dates can be used to make inter-regional synchronizations.

### Introducing Ulucak Höyük

#### A. Geographical and Ecological Information

The mound is located 25 km east of the center of the harbor city of İzmir (ancient Smyrna) and close to the highway from İzmir to Ankara at an elevation of 220.86 m above sea level (Fig. 3.1). (lat=38.465455, lon=27.351654). Today it is within the precincts of the small town of Ulucak, which is itself only slightly bigger than a village (although the population is growing as a result of migration).

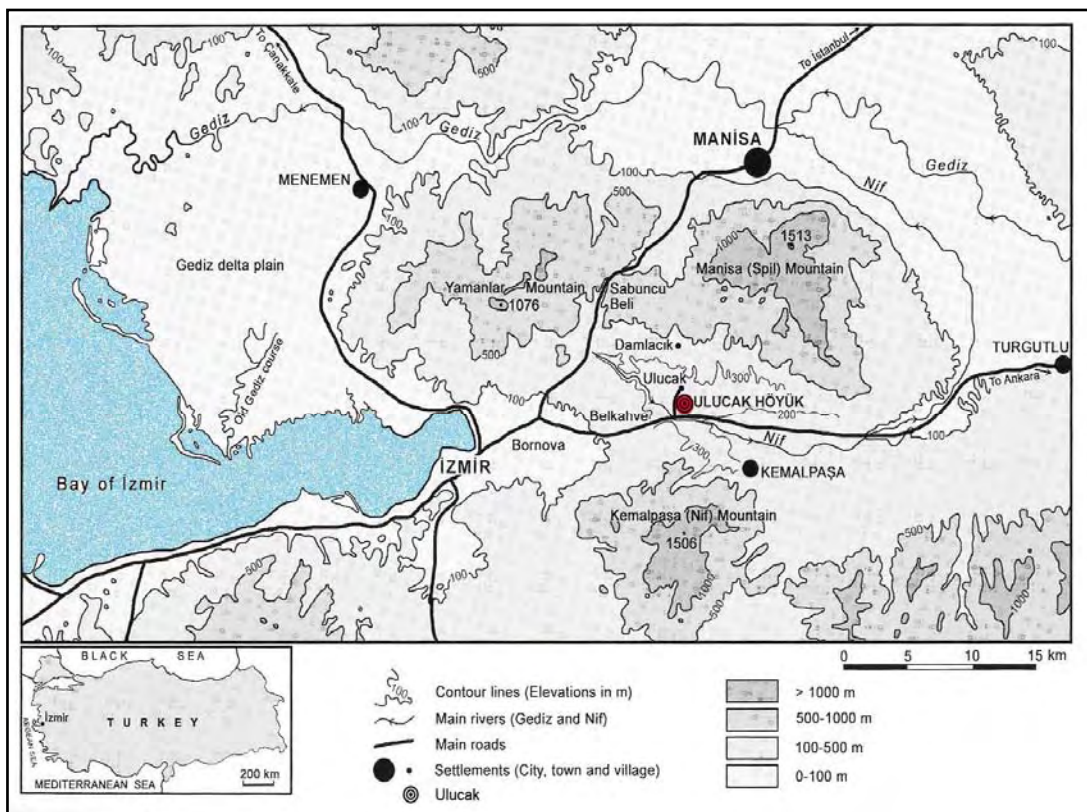
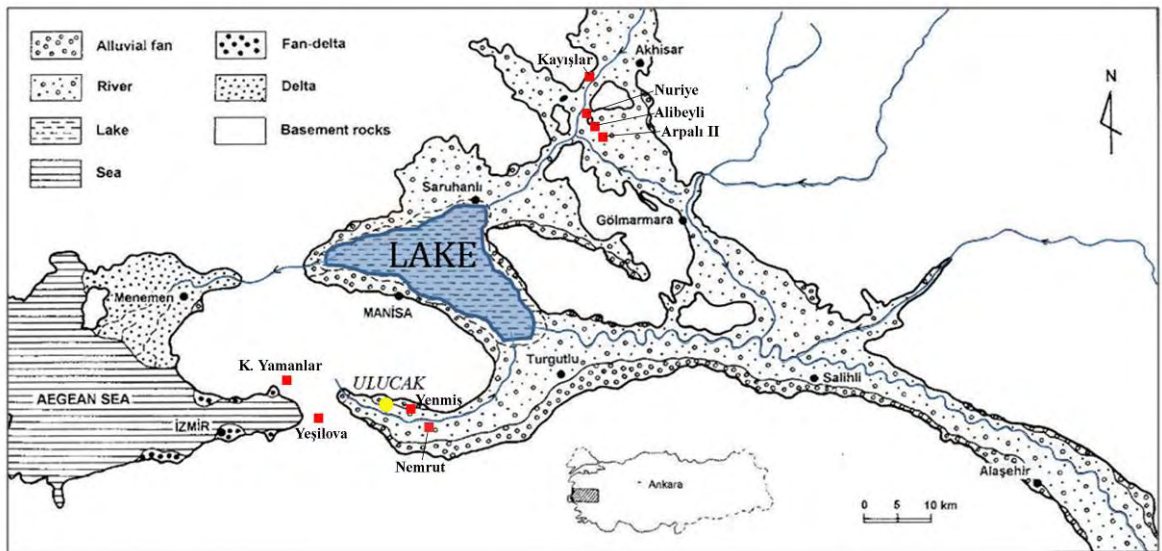


Figure 3.1: Contour map showing the location of the mound at Ulucak along with the main geographical features (modified after Kayan 2004: Fig. 1)

It is well known that the geomorphology of West Anatolia is a function of tectonic movements that took place during the Middle Miocene and created four major horst-graben formations in the area which were subject to sedimentary fill starting with Late Pliocene (Kayan 2004: 4; Hakyemez, Erkal and Göktaş 1999: 549). Ulucak Höyük is located in one of these grabens (İzmir-Kemalpaşa-Turgutlu), on the Kemalpaşa plain. Manisa (Spil) and Nif mountains comprise the horst areas. In the Middle Miocene the depression area was filled with lakes, all of which disappeared towards the end of Miocene, perhaps due to the arid climate (Kayan 2004: 3-4). During the Pliocene, the depression area was filled with sedimentation brought down by the rivers. New fault lines were formed during the Pleistocene due to new tectonic movements. Additionally, the river systems developed and started to form valleys (Kayan 1999: 4; Kara 1997: 33-35).



**Figure 3.2: Gediz Valley during the Early Holocene according to Hakyemez *et al.* (1999). The area between Manisa and Saruhanlı was occupied by a large lake and Nif Stream discharges into this lake (modified after Hakyemez *et al.* 1999: Fig. 1).**

A recent study in the region showed that Gediz Valley experienced dynamic geomorphological transformations also during the Late Pleistocene into the Holocene due to tectonic movements, and the area immediately North of Mount Spil was covered by a large lake which, as a result of continuing tectonic movements, erosion and incision, discharged into the Aegean Sea and disappeared during the Middle Holocene, leaving the area to the domination of fluvial formations and accumulations (Hakyemez, Erkal and Göktaş 1999: 550). Hakyemez maintains that during the occupation at Ulucak

IV-VI, a shallow lake continued to exist in the area.<sup>8</sup> Interestingly, none of the known Neolithic sites are located in the area where the lake was presumably situated (Fig. 3.2).

In line with Mediterranean climatic conditions precipitation is mainly confined to the winter months and springtime with the summer months extremely dry. Average precipitation in the area is around 950 mm. The distribution and amount of rainfall in a given year is also an important factor affecting rivers, which in this region has highest rainfall values in winter. According to current measurements the coldest month of the year is January and the warmest is July. The average temperature is around 16 C° (Kara 1997: 36). In other words, the winters are mild, the summers hot, and the number of days with frost relatively low. Current measurements also show that the wind speed and frequency are low on the Kemalpaşa plain (around 2.5 m/sec). July and August are the months recording most wind, which usually blows from the south (Kara 1997). This accounts for current climatic conditions in the area. However, investigations carried out in the eastern Mediterranean on pollen records and marine cores suggest that early Holocene climatic conditions were warmer and more humid than current ones. This is indicated by the presence of deciduous oak and *Pistacia* in the palynological data as well as by higher sea-surface temperatures (Tonkov *et al.* 2002; Allen 2003: 367-370). Palynological analyses from two different areas in Southwest Turkey has also revealed a high presence of deciduous oak in the Early Holocene, indicating a switch from open-steppe vegetation to arboreal woodlands of oak, pine and juniper, again indicating increased humidity (Eastwood *et al.* 1999; Vermoere *et al.* 1999). Roberts *et al.* (2001: 733) suggest, however, that the maximum level of humidity was not reached until 8000-6500 cal BP. Another recent study based on paleoclimatic data extracted from Greenland ice cores suggests that the collapse of the Laurentine ice sheet around 8200 cal BP caused abrupt and rapid climate change, resulting in extremely cold and arid conditions globally (Rohling and Pälike 2005). Some researchers connect this climatic event with the abandonment of many Neolithic settlements in Southwest Asia (such as Çatalhöyük) as well as the sudden appearance in Southeast Europe of settlements founded by communities who had fully-developed Neolithic economies (Weninger *et al.* 2005). The suggestions tabled by these studies can be summarized as follows: The early stages of the Holocene provided warmer and more humid climatic conditions for human populations than did the arid and inclement conditions of the Younger Dryas (11000-10000 BP). It is highly possible that there was an abrupt climatic change around 8200

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<sup>8</sup> Personal communication with Y. Hakyemez.

BP, heralding a period of high aridity and low temperatures. Ulucak seems to be abandoned around 5900-5800 cal. BCE, i.e. 100 years after the 8200 cal. BP climatic event that induced aridity in the eastern Mediterranean. Further research is needed to set the climatic event in relation to the simultaneous abandonment of contemporary settlements in Central-West Anatolia.

The vegetation around the mound is dominated by evergreen shrubs (*maquis*) up to 300 m and by red pine (*Pinus brutia*) and oak (*Quercus aegylops*) forests, which occur at altitudes of 300-900 m (Hütteroth and Höhfeld 2002; Kayan 1996). Black pine (*Pinus nigra*) grows at around 1000 m. In areas higher than 1000 m the vegetation consists only of various grasses and bushes (Kayan 1999: 11). Today's agricultural production has a typical Mediterranean character, dominated by vineyards (40%) and olives (27%). Kara maintains that agricultural production might have been confined to the plain in pre-modern times (Kara 1997).

The main soil types on the slopes of Mount Nif are typical red and reddish-brown Mediterranean soils (*Terra Rosa*) containing ferric material. At higher elevations brown woodland soil is found due to underlying limestone formations. The major soil type on the surface of the plain is alluvial-colluvial; this extremely fertile (Kayan 1998) soil was created by surface material that was washed from the slopes down to the plain. Today there is a considerable incidence of ongoing deforestation in the region due to industrialization, urbanization and over-exploitation. In view of vegetation studies, suggesting that 70% of Turkey could potentially be covered with forests, one can suggest that the prehistoric forest coverage in Central-West Anatolia was denser and more extensive (Kürschner, Raus and Venter 1997).

Another point which is debated is the scale of the anthropogenic impact on the vegetation during the Neolithic period. Palynological studies undertaken at Gölhisar Gölü in the Burdur province of Southwest Turkey do not demonstrate any anthropogenic effects on vegetation during the early Holocene, including the Neolithic era (Eastwood *et al.* 1999: 691). Similarly, based on the palynological evidence from Southeast Europe (e.g. Bulgaria, Greece, Slovenia, and Croatia), Willis and Bennett argue that anthropogenic impact on the landscape can be seen at ca. 4000 BCE onwards and not prior to this date. According to these scholars, even if Neolithic farmers and herders did have an impact on the vegetation by causing soil erosion or less soil fertility, they must have only affected small areas (Willis and Bennett 1994: 327-329). On the contrary,

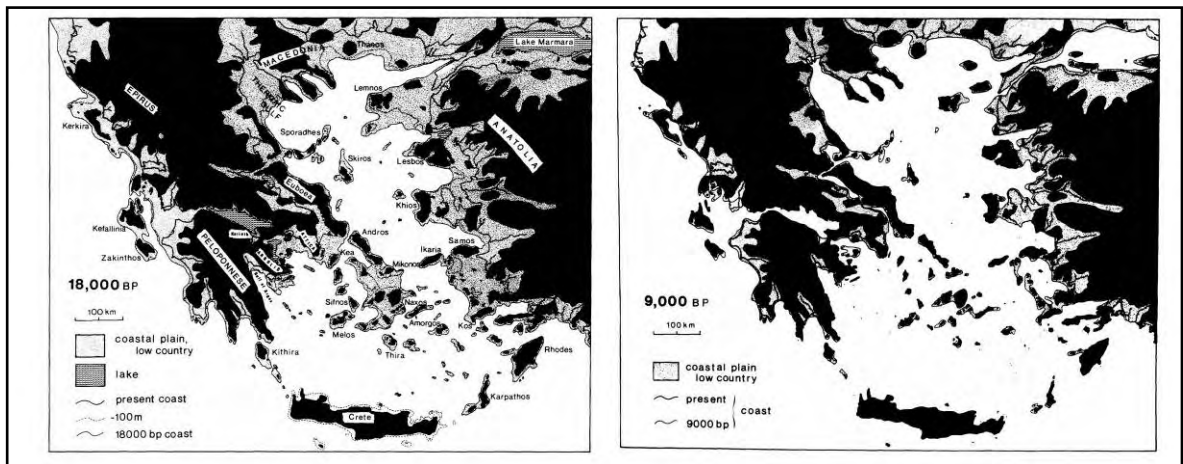
Fuchs, Lang and Wagner (2004) who were able to date colluvial sediments in northeast Peloponnese, Greece, argue that sudden increase in the soil erosion was indeed caused by the Neolithic farmers. It is probable that where soil and vegetation were more vulnerable to external pressures, a decrease in the soil fertility might have been seen prior to 4000 BCE. It is difficult to ascertain whether cultivated areas around Ulucak mound became infertile or salinized after thousands of years of continuous agricultural cultivation by the community. Such a process naturally depends on the population size on the one hand, and the form and intensity of the crop cultivation on the other.

The plain surrounding Ulucak was formed by the Nif Stream (ancient Krios) which continues to flow just to the west and south of the mound, forming an arc. The mound itself rises on Pliocene flood material, colluvial soils washed down from the slopes and alluvium brought by Nif Stream. This stream continued to carry material during and after the habitation at the mound (Kayan 2004). It is worth noting that natural and cultural accumulation occurred simultaneously at and around the site. For this reason, four meters of the cultural deposit is now buried under the present surface of the Kemalpaşa plain. According to Kayan, the earliest occupation appeared on the edge of the flood plain of Nif Stream. However, this did not threaten the settlement due to its distance to areas inundated during the flood season.

Geomorphological features like the East-West orientation of the horst-graben formations in this region also provide natural passes for people who want to move between littoral and inner regions. Ulucak mound is situated on an important spot, namely on the way to the natural pass (Belkahve threshold) situated between the Mount Nif, western most section of Boz Dağlar (Tmolos) Range, and Spil Mountain; both ranges are higher than 1500 m. Belkahve Pass leads to the Bornova Plain and the Aegean Sea. Ulucak was connected to the Gediz Basin via Nif Stream; the former being one of the major river valleys of west Turkey, having 401 km length and a catchment area of ca. 17,000 km<sup>2</sup> (Maddy *et al.* 2007: 2866).

It must be noted that Ulucak has never been a coastal site, on the contrary, the distance between the site and the coast might have been even greater in the 7th millennium BCE. Evidence shows that globally the lowest sea levels were reached during the Late Glacial Maximum (LGM) around 30000-19000 BP. After this date the ice sheets began to constantly melt as the temperatures continuously rose between 19000-7000 BP; this resulted in globally raising sea levels by ca. 130 m (Lambeck, Esat and Potter 2002).

Figures indicated by Fairbanks (1989) and Lambeck *et al.* (2002) are in accordance with the models constructed by van Andel and Shackleton (1982) for the Mediterranean region. It is indicated that at the peak of LGM (ca. 18000 BP), most of the Aegean islands were either connected to the mainland or were substantially closer to it (Fig. 3.3). With the onset of Holocene, coastal geography experiences substantial changes, namely the rapid rise of the sea level and insularity process, which continue until around 7000 BP (see also Kayan 1996; Kraft *et al.* 2003; Brückner 2003). These major transformations of the geomorphological features, inundation of coastal settlements and



**Figure 3.3: Sea level changes in the Aegean between in 18,000 BP and 9000 BP (after van Andel and Schackleton 1982: Figs. 2-3).**

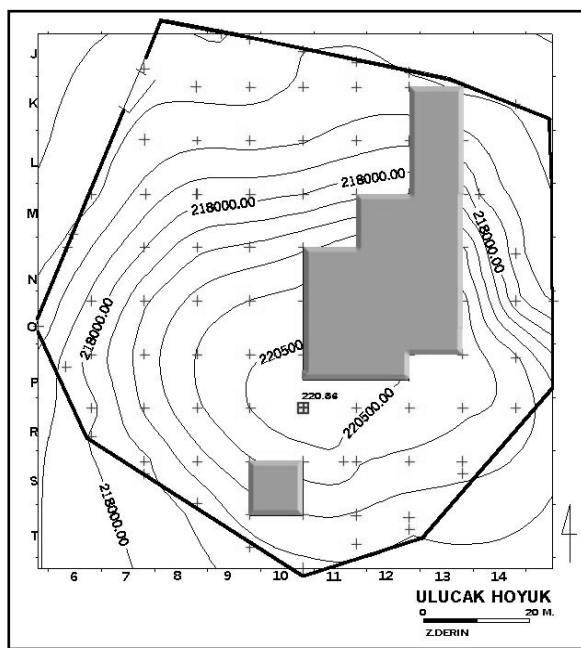
creation/loss of islands as well as the reaction of the flora and fauna to the environmental changes are significant factors which had enormous impact on the human presence of the area (Cherry 1990). Ulucak was settled as the sea level rise was already in progress around 7000-6800 cal. BCE. During the ca. 1000 years of occupation at Ulucak, the mound became constantly closer to the coast. Whether the inhabitants of the region were able to observe the change in the sea level will remain unknown to us.

Lastly, one of the most crucial features about the Kemalpaşa plain is its rich natural springs which are particularly noted on the north side of the Nif Mountain (Kara 1997). It is highly likely that the ancient name of Kemalpaşa, e.g. “Nymphaion” which through time became Nif, owes its origin to the existence of these springs.

It should be mentioned that the climatic and vegetational conditions seen today in the region do not necessarily correspond to the conditions 8000 years ago. In this respect, palynological, climatic and geomorphological analyses conducted in the Eastern

Mediterranean and Southeast Europe assist us in reconstructing the Neolithic environmental conditions in the region. Palynological studies in the İzmir region are absolutely necessary in order to obtain a high-resolution picture of the paleo-climatic and vegetational conditions for the region. The mound's location at the edge of an extremely suitable plain for agriculture and to a natural pass that runs towards the littoral areas, as well as the mild climate, proximity to rich water sources and to forest products like timber should serve as major reasons why the first inhabitants chose to settle down in this place.

### **B. Status of Research**



**Figure 3.4: Excavated areas on the mound.**

The first systematic excavation of a Neolithic mound in Central-West Anatolia began in 1995 at Ulucak which was directed by Altan Çilingiroğlu of İzmir Ege University until 2009. Starting with 2009 season, the supervision of the excavation will be carried out by Özlem Çevik of University of Thrace in Edirne. As it was mentioned before, the mound was discovered by David French in 1960 (French 1965) and was once again visited by Recep Meriç in the late 1980's (Meriç 1993). Both researchers

have suggested that the mound contains, among others, Neolithic deposits. This is based upon the abundance of red-slipped pottery which occurs on the surface of the mound.

The excavations at Ulucak Höyük originally started, not because of the potential it held for the West Anatolian Neolithic period, but because it was under threat by construction activities undertaken by the adjacent tobacco factory. It was also a good field training opportunity for students from the Department of Protohistory and Near Eastern Archaeology of Ege University in İzmir. Excavations in the first two years were carried out under this impetus. In these first two seasons however, it became clear that this mound contained substantial information on the pre-Bronze Age periods – of which happen to be very well-preserved at the site.



Since 1999, the excavations at the site were intensified. The main aim was to reveal the Neolithic settlement in a wide area. For this reason, the excavations were carried out mainly on a horizontal axis. Through this strategy a good deal of the Early Chalcolithic settlement –with thirteen structures, two open areas and two courtyards – could be exposed.

Since 2003, the cultural remains that are older than the exposed settlement (Level IV) are under investigation. For this reason, at some selected areas (N11 and L13) the remains of Level IV were removed. Earlier remains were uncovered in both grids, especially at trench L13 where these deposits were excavated in an area of ca. 100 m<sup>2</sup>, which provides us with a good idea of how earlier buildings look like. As of 2006 approximately 900 m<sup>2</sup> of the mound had been exposed (Fig. 3.4).

Several preliminary reports have appeared in *Kazı Sonuçları Toplantısı* booklets (Derin and Öner 1996; Abay, Sağlamtimur and Özkan 1999; Derin, Abay and Özkan 2001; Derin and Çilingiroğlu 2002; Derin, Çilingiroğlu and Taşhıalan 2004; Çilingiroğlu and Dedeoğlu 2007). Additionally, the initial results that were obtained between 1995 and 2002 were published in 2004 as a monograph (Çilingiroğlu *et al.* 2004) with special emphasis on Level IV. The monograph also contains a chapter on the paleogeography written by İlhan Kayan which includes crucial information on the geographical, botanical and climatic characteristics of the region where Ulucak is located. Another very significant study undertaken at Ulucak Höyük by Kayan and his team was core drilling, whose results are also presented in the monograph. With the help of core drilling the height of the archaeological accumulation, geographical sedimentation and clues on settlement history could be obtained.

A number of archaeometrical analyses were conducted by Greek colleagues, as a joint project, whose results were published collectively in the fifth issue of the journal *Mediterranean Archaeology and Archaeometry*. The articles include preliminary results for zoological, malacological and botanical studies, as well as for chemical analyses carried out on pottery sherds with an ED-X-Ray Fluorescence analyzer and for obsidian hydration analyses (Trantaloudi 2005; Karali 2005; Megaloudi 2005; Liritzis 2005). The same issue also contains an article on the updated information on the excavations at Ulucak with information on Level Va (Çilingiroğlu and Abay 2005).

Additionally, archaeozoological and archaeomalacological remains from Chalcolithic and EBA levels were studied by a team from the University of Tübingen under the supervision of H.P. Uerpmann. Archaeozoological, archeogenetical and -botanical studies as well as studies on lithic material from Ulucak continue to date.

### **C. Excavation Techniques**

Before the actual excavations took place at the site the mound and its surrounding areas were measured, drawn and finally divided into grids, each of which measure 10 x 10 meters. These grids are named on the “x” axis from A until TT and on the “y” axis from 1 to 25.

The borders of the cultural deposits were far better understood after core drillings were carried out at the site in 1997. Nevertheless, the excavations are concentrated on the center of the mound where the best preservation was detected.

The actual excavation area at Ulucak measures 9 x 9 meters and almost all of the trenches have an area of 100 m<sup>2</sup>, which includes 50 cm thick grid walls on each side. Each trench is divided into four grids which are named with letters in lowercase from “a” until “d,” starting from the Northwest corner going clockwise. Each grid in a trench represents an area of approximately 20 m<sup>2</sup>.

During the excavation pottery, small finds, samples for archaeometrical analysis, and animal remains that originate from the same context are documented on a so-called “*buluntu fişi*” and each context receives a unique code referring to one excavation unit. The name of the find, date, trench name, elevation(s), grid name, location of the find, and the name of the excavator can be found on this sheet. The pottery, or same types of finds that are thought to appear in the same features, is collected in the same plastic bags. When a change in the color of the soil or in the feature is recognized a new bag is opened and a new “*buluntu fişi*” is filled out which corresponds to a new context. The excavator has the initiative to provide as much detailed information as he/she wishes. He/she also has to keep a daily report and a sketch of the trench. The trench supervisor is also responsible for taking photos.

The excavation at the site is normally carried out with the use of small picks and brushes by experienced workers whose work is under the constant supervision of the archaeologists. Mud-brick walls, storage bins, hearths or ovens are excavated by the

archaeologists. It is also the trench supervisor's decision to take soil samples for various analyses as well as to let soil samples to be sieved in some cases. During the excavation the soil is not regularly sieved.

The final processes concerning the finds take place at the excavation house. Here the finds receive a so-called "excavation code" which is made upon three letters that are written in uppercase, starting from AAA and lasting until ZZZ. Finds which were recovered in the same context or that were collected together receive one common code representing one single excavation unit. For example, in trench N12c the finds (pottery, flint tools, bones, etc.) that were found in and around the oven would receive one code. The information that belongs to this code is entered into a notebook and into the File Maker Pro database which was developed in the 1990's. Unique finds, such as a whole vessel, a figurine or a stamp, receive their own individual code independent of the related finds. The associated finds for these pieces can be found in the database or in the diaries. By making a query of an excavation code in the databank one can reach information concerning one excavation unit including the date, the find categories, the elevations, grid name and notes.

The pottery also receives a unique numerical code. Each diagnostic sherd that was drawn has an excavation code and a drawing number, both of which can be found written on the sherd. The information about each sherd is provided by the illustrator and entered into the database. This information contains the color, surface treatment(s), firing, inclusions, and dimensions. However, since many people take part in this process, the data provided about the sherds are not always reliable. In this study this information is not included in any of the analyses.

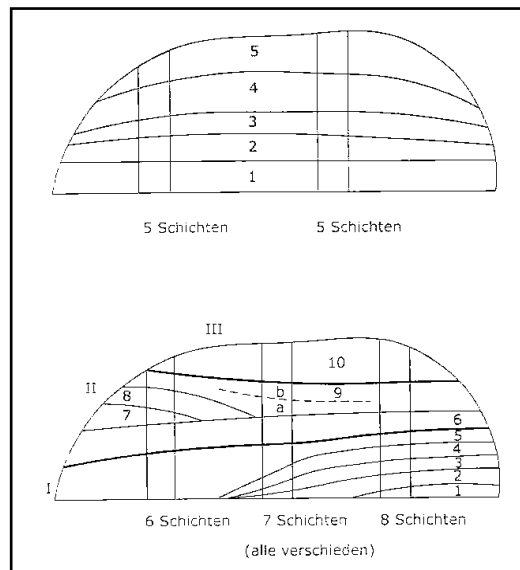
#### ***D. Stratigraphy of the Mound***

The stratigraphical sequence at the site is made mainly during the excavation at the current area under excavation. Architectural remains and soil properties help to define many of these sequences. Post-excavation processes, especially evaluation of the pottery and other small finds, are also important in terms of constructing a clear stratigraphical sequence for the mound.

It was apparent from the beginning that the mound consisted of a number of occupations. Through excavations in several trenches it became clear that apart from the Neolithic remains *höyük* contains archaeological deposits from Early Byzantine/Late Roman,

Early Bronze Age, as well as Middle-Late Chalcolithic periods. The latest remains were designated as “Level I” which has three sub-phases. Bronze Age levels at the site are labeled as “Level II,” with three sub-phases. “Level III” represents the Middle/Late Chalcolithic period. Layers which revealed Neolithic material were identified as “Level IV,” with ten sub-phases that utilize lowercase letters from “a” to “k;” “b” is divided into sub-phases, as IVb1 and IVb2. The (pre)historical periods which are represented by these levels are identified mainly through pottery comparisons. Middle and Late Bronze age pottery has also been found at the site but no related architecture could be identified. A pithos cemetery from these periods was excavated in the vicinity of the site. Level III could only be uncovered in two trenches (O12, O13) where a small section of a destroyed structure is preserved. The periodization of this level relies entirely on pottery comparisons which according to the excavators indicate similarities with Baklatepe and Ilıncın V materials (Çilingiroğlu *et al.* 2004).

As mentioned above, the best preserved deposits at the site belong to Level IV. By 2001, 600 of 750 m<sup>2</sup> of excavated area belonged to this level. This level was identified as “Late Neolithic- Early Chalcolithic” based largely on the red-slipped pottery with vertical tubular lugs; a pottery type which is very well-known at West Anatolian and Lake District sites. Level IVb represents the best preserved architecture at the site and is detected all over the mound through horizontal excavations during which two building phases belonging to IVb were identified. Some earlier building phases belonging to Level IV were met at trench N11, where a deep sounding was made.



**Figure 3.5: Above - an ideal (i.e., it would never exist) stratigraphy. Below - a realistic one (After Jablonka 2000: Fig. 4)**

Below the IVb settlement eight additional architectural phases were found, most of which contain only floors, floor-like hard surfaces, post-holes and stone foundations. Since these earlier remains did not preserve well and could only be excavated in a limited area, it is difficult to tell whether they could be present in the entire mound. There are few other architectural elements which

are associated with these floors. Each of these floors was interpreted as one building phase (IV c-f).

Phases IV g-k, on the other hand, are surprisingly better preserved and therefore have architectural features like well-defined tone foundations, pavements and plastered floors. These phases, which were excavated in one grid, are applied to the overall stratigraphy of the mound, which naturally could not be revealed in all excavated areas (Fig. 3.5). At trench L13, where another deep sounding has taken place, only three of these phases could be recovered. Since there is no stratigraphical relation between grids N11 and L13, it is not possible to tell which sub-phases correspond to each other. The identification of these phases at the second trench does not rely on Harris Matrices but on the properties of floors, architectural techniques and soil properties. It is perfectly normal that each excavated area on a mound would reveal its own unique stratigraphy (Jablonka 2000). However, it is impossible to define the relationship between two trenches (or two structures) that are located far apart from one another when they share no identifying characteristics (like abrupt change in the pottery typology, architectural technique etc.). In this case, the stratigraphical sequence applied to the whole mound should be general rather than detailed. Every single trench would have its own unique stratigraphical sequence.

In Ulucak's case, since there is no clear break in the pottery tradition along the sequence, pottery comparisons would not be very helpful in creating a detailed stratigraphical analysis. However, at Ulucak architectural techniques show an abrupt change; for example, a change from wattle-and-daub to mud-brick architecture. Therefore stratigraphical correlations between grids L13 and N11 can be established once the mud-brick architecture disappears.

The most informative phases of Level IV are IV b1 and 2. These phases, which end with an accidental fire disaster, provide valuable information on the settlement layout, architecture, and architectural elements as well as on pottery, stone tools or other small finds (many of which were unearthed in undisturbed contexts). A number of the rectilinear mud-brick structures were found with their walls preserved up to two meters, indicating extraordinary preservation. A total of thirteen structures, two courtyards and two open areas similar to courtyards constitute this phase. Together they present a good picture of the settlement layout. Almost all we know from Level IV actually comes from these phases. Building phase IVa, which was considerably damaged and therefore could

not be seen in other excavated parts of the mound, represents the latest LN/EC occupation at the site before its final abandonment in the early 6<sup>th</sup> Millennium BCE.

In 2003 and 2004, when deep soundings were carried out, an older architectural level below Level IV was identified. Dramatic differences in this new architecture in comparison to the previous level's led excavators to name this settlement as "Level V." This level was created in order to emphasize its distinguished characteristics as being part of an older settlement. The defining feature of Level V is its wattle and daub architecture. Mud-bricks are completely lacking in this older phase. Nevertheless, the general character of the material culture shows clear parallels to the overlying Level IV.

Level V also has a number of sub-phases. In 2004, remains from the latest phase of this level, Va, were exposed in two trenches (N11 and L13). One of the distinguishing artifact groups from this level is comprised of large amounts of sling missiles that were found in various structures (22, 27 and 28). They were uncovered either in piles or scattered around storage vessels.

In fall 2005 and 2006 at trench L13, another older phase was found. Named as Vb, this phase is represented by three relatively well-preserved structures (Buildings 30, 31 and 33). Building 30 apparently experienced a fire that is responsible for the present-day, in-situ preservation of many of the archaeological items. The building contained, amongst other pieces, 11 clay storage units and 25 pottery vessels. At the same trench, a small sondage area revealed three sub-phases (Vc,d,e) which are not as well-preserved as those found in the upper layer, but contained postholes, burnt surfaces and many small objects. Architectural remains from Vb were also excavated in the neighboring trench K13, where "Building 32" is located.

Even earlier occupational layers in grid L13 were excavated since 2006. These sub-layers, Vc-f and VIa, have not been included in this study. It suffices us to mention here that the free-standing rectilinear houses built with wattle-and-daub building technique continue in these earlier phases. One exception is from Vd which contained massive stone foundations. Phases Vc and Vf included remains of burnt buildings (Building 40), post-holes and various pits.

Sub-phase VIa is distinguished from all the upper occupations by its brightly painted red lime floor which has at least three renewal phases. The lime layer is 1 cm thick and

contains small grits as tempering material. Such floors are known from PPN sites in the Levant and in southeastern and Central Anatolia (Bentur *et al.* 1991). Aşıklı and Musular are two of the PPN sites where red painted lime floors were excavated (Özbaşaran 2003). In West Anatolia, Hacılar's "Aceramic Phase" IV, II and I, Bademağacı ENI-8 and Hoca Çeşme's earliest Level 7 (phase IV) revealed such floors (Mellaart 1970: 4; Duru 2007: 344 and Özdoğan 2007b: 415 respectively). Red painted lime floors definitely have their origins in PPN Southwest Asia. Presence or persistence of this activity at Ulucak's earliest deposits, dated to 7910±50 BP (7040-6640 cal. BCE), might entail clues in terms of the origins of the initial inhabitants at Ulucak.

### ***E. Radiocarbon Dates from Ulucak***

There are 26 carbon samples from the Ulucak Levels IV, V and VI.<sup>9</sup> The majority of the samples were analyzed by the Beta Analytic Radiocarbon Dating Laboratory in Florida, USA. Three samples were dated by Köln University Radiocarbon Laboratory. With the exception of a single shell, all of the samples were obtained from charred material, mainly charred wood. Some of the samples were analyzed with the conventional C14 method but the majority were analyzed using the AMS method.<sup>10</sup>

Carbon dates tend to be frequently misinterpreted in Anatolian prehistory simply due to the fact that some of the significant aspects of the carbon data are not taken into consideration. It needs to be recognized that the samples do not "date" our archaeological levels, but the radiocarbon method provides us with the date when the sampled organism ceases to live. The samples might stem from organic materials that died long before they were deposited in the archaeological record, especially if they belong to long-lived species like oak or juniper, commonly found at Anatolian sites (Cessford 2002: 28). In other words, they can be older than the cultural remains, thereby providing only a *terminus post quem* (Wagner 1998: 136). This possibility, also known as "old wood effect", should always be considered when interpreting radiocarbon dates and constructing absolute chronologies (Bowman 1990: 15). This is also the reason why many scholars emphasize that "one sample is no sample" meaning a settlement, phase or an event cannot be securely dated relying only on a single sample. Secondly, by dating a sample, one dates a single event – such as the death of an organism, for example. The

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<sup>9</sup> For all the dates obtained from Ulucak so far please refer the list at the end of the study.

<sup>10</sup> It should be noted that marine organisms like shells yield dates that are older than the contemporary non-marine organisms due to the marine reservoir effect. In order to use the dates that are obtained from such samples, there must be local calibration curves (Renfrew and Bahn 2004:147; Bowman 1990: 24-25).

result does not provide us with the information of how long a building level was occupied. The sigma probability ranges that one obtains after the calibration should never be interpreted and used in this direction. The standard deviations (error margins) should not be ignored, either. It is common practice to eliminate dates with large standard deviations from the overall analysis (Bowman 1990).

Different radiocarbon laboratories may deliver varying results on one sample or one sample when divided into two may well provide non-identical results (Buck, Litton and Scott 1994: 252). With regards to the interpretation and use of carbon dates it is worth presenting two examples here that will hopefully demonstrate our point. The first example draws from one single deposit sampled during the Ulucak excavations (EFH) and subsequently sent to two different radiocarbon laboratories (Beta-212086 and KN-5783). Although the results turned out to be fairly close to each other, the error margins are not matching (Beta-212086: 7380±60 BP and KN-5783: 7315±35 BP). Like the first example, the second sample was divided into two and dated by a single laboratory (KN-5782 and KN-5781). Once again the results were close to one another but not identical (7340±40 and 7280±35 respectively). In conclusion, as long as one does not interpret the carbon dates too literally, they can provide the most reliable basis for a chronology.

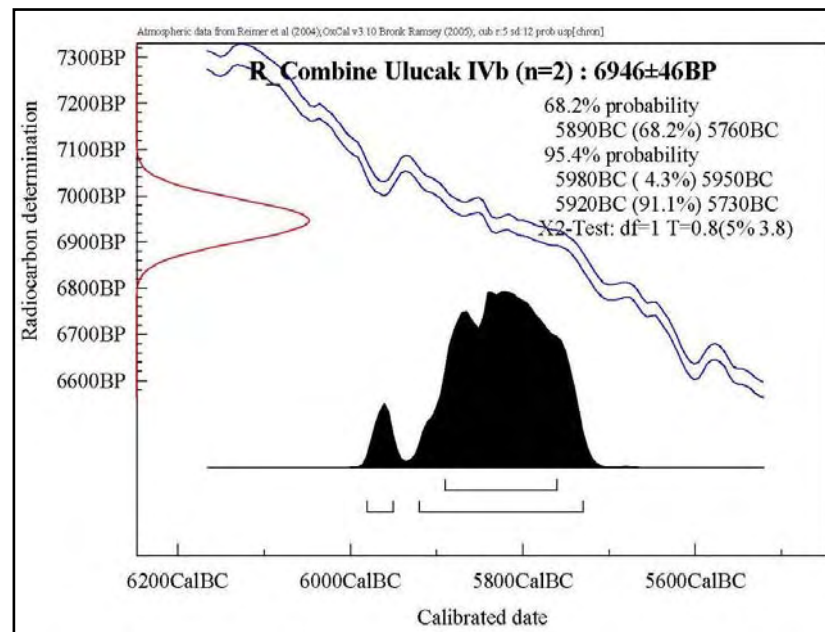


Figure 3.6: Combination of two dates from Level IVb.



Carbon dates from Ulucak's varying building phases present us with a coherent and reliable picture.<sup>11</sup> Extremely old or young dates do not occur. Most of the dates seem to be in accordance with the others and with the stratigraphical context they originated from. Additionally, Ulucak carbon dates are in accordance with the dates that are known from other Anatolian Neolithic sites. However, one should be aware of the old wood effect, since most samples are obtained from charred wood, including in some cases structural wood. There are indeed some samples that seem to stem from old wood used in the architecture or from old rings. Since the recycling of wood used in architecture is a well-documented phenomenon in Southwest Asia, the possibility should always be kept in mind.

Beta-223540 (7540±110 BP), Beta-223542 (7490±40 BP), Beta-212087 (7520±40 BP) and Beta-223545 (7760±40 BP) are likely candidates of old wood that would have created the effect because they provided older dates than the samples that originate from the same deposits. Additionally, the date obtained from a shell (Beta-212087) also provided an early date, 7520±40 BP, when compared to other dates from the same phase. This date can also be excluded from the overall analysis because, as mentioned already, calibration of marine samples is problematic due to marine reservoir effect.

Beta-223540, which has a big error margin at 7540±110, might be removed for the sake of the analysis.

Three out of four samples from building phase Vf were obtained from structural wood, i.e. from inside the postholes belonging to Building 40. For the time being, it is not possible to comment on the tree species used in the building of the house but the woods used for the construction do not stem from old trees because they are only 4 to 7 cm in diameter. The fourth sample from phase Vf was collected from inside the Building 40 and it is likewise a small charcoal piece. When calibrated, all four dates overlap in a range from 6440-6250 BC at one sigma.

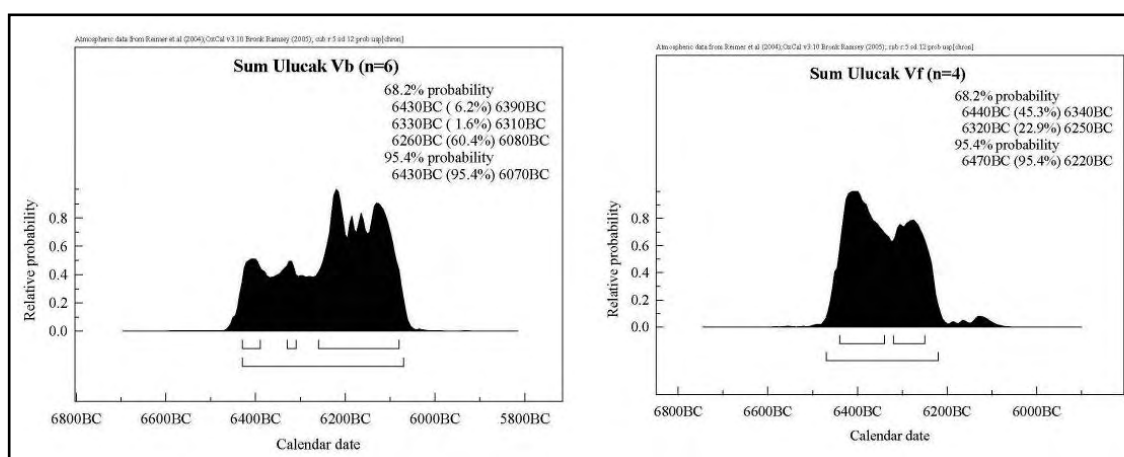
Only two radiocarbon dates are available from Level IVb. The combination of those two dates (Beta-178748 and Beta-178747) provided the value 6949±46 BP and 5890-5760

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<sup>11</sup> All Ulucak dates and other dates were calibrated using OxCal 3.10 software developed by Radiocarbon Accelerator Unit of Oxford University (Copyright C Bronk Ramsey 2005). Functions SUM and COMBINE embedded in the software program OxCal 10 were frequently used in this study. Sum function is used to estimate a time range for a certain phase or period whereas combine function is used to calculate an average date using various samples from the same stratigraphical layer (Schoop and Seeher 2006: 55-56).

cal. BCE at 1 sigma (Fig. 3.6). The sum of the carbon dates from Level Vb results in a range 6430-6080 cal. BCE with 68.2% probability. The combination of five carbon dates from Phase Vd provides the date 6300 cal BCE while sum of four carbon dates from sub-phase Vf provides a range from 6440-6250 with 68.2% probability and 6470-6220 cal. BCE with 95.4% probability (Fig. 3.7).

Two carbon dates are available from sub-phase VIa: Beta-250265 (7910±50 BP) and Beta-250266 (7770±50 BP). When calibrated at 2 sigma, the first date gives the range 7040-6640 cal. BCE. The second one is 6680-6480 cal. BCE at 2 sigma range. Sum of these two dates provide a range between 6800-6500 cal. BCE at 1 sigman range. These two dates indicate clearly that the site was already occupied around 6500 cal. BCE. Beta-250265 (7910±50 BP) is especially important in terms of dating the horizon of red



**Figure 3.7: Left: Sum of six dates from Level Vb; Right: Sum of four dates from Level Vf.**

painting lime floor as this sample stems from that deposit and was sampled on a small charcoal piece. Unfortunately, the flat section (low gradient) in the calibration curve around 8000 BP is problematic and causes a wide time span for this date, even though the date itself has a low standard deviation.<sup>12</sup>

If we employ the method used by Cessford (2005: 77) who calculated the occupation length at Çatalhöyük East by estimating the elapsed time between the earliest and latest carbon determinations, we may as well extract the approximate length of occupation at Ulucak IV-V. The complete range of the calibrated dates from Ulucak falls between 7040-5660 cal. BCE (at 2 sigma) and 7000-5790 BCE (at 1 sigma). The length of the occupation duration is estimated as 1120-790 years at one sigma range and 1140-980

<sup>12</sup> See Bowman 1990 and Buck, Litton and Scott 1994: 256-257 on the flat sections in calibration curve and their impact on archaeological interpretation of radiocarbon dates.

calender years at two sigma range. It is for the moment not clear whether the site was really occupied at the end of 8<sup>th</sup> millennium cal BCE as the carbon dates indicate. One can tentatively suggest that the mound was occupied for around 800-1000 years before its abandonment around 5700/5600 cal BCE. Available carbon dates indicate that Ulucak is the only excavated site in Central-West Anatolia that contains such a long continuous sequence of archaeological deposits, providing us with the perfect opportunity for reconstructing the complete Neolithic sequence in the region. However, new samples on short-lived organisms are necessary to confirm our statements regarding the duration of the inhabitation on the mound concerning the era of the early farmers.

## ***F. General Characteristics of the Architecture***

The details of the architecture at Ulucak have already been presented in several recent publications (Çilingiroğlu *et al.* 2004; Abay 2005; Derin 2005). Only the major attributes of the architectural techniques, materials and planning will be discussed here. This information was predominantly extracted from daily excavation reports kept by Atilla Batmaz, Fulya Dedeoğlu, Mücella Erdalkıran, Mehmet Işıklı, Haluk Sağlamtimur, Osman Karadağ, Ali Ozan, Göksel Önder, and myself.

### **1. Level IV**

Houses at Ulucak IVb were built on stone foundations with mud-brick and wood. The plans are always rectilinear with defined corners. The walls are up to 0.8 meter thick and 2 meters high and are built with standard sized mud-brick blocks (Photo Plate 2). Dividing walls are seen frequently. Walls and floors are frequently plastered whereas painting has only been detected in two structures. Wood is an important building material for the buildings and is used both for the roof frame and as a support. Evidence of wooden posts comes from Buildings 2, 3, 8, and 13. Actual remains of burnt wooden beams were found in Building 13 in 2001. The roofs were most probably flat. Although presence of central posts at Buildings 8 and 13 might speak for gabled roofs, archaeological evidence presents us with the opposite suggestion. Collapsed roofs were encountered during the excavations at several places. On at least one of them grinding instruments were recovered, this means that the roofs were flat and were used as activity areas.<sup>13</sup> On the other hand, buildings from contemporary Anatolian sites have mostly flat-roofs, except at Ilıpınar (Roodenberg 1999: Fig. 3). There is no evidence of a second

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<sup>13</sup> Personal communication with Fulya Dedeoğlu.

story in any of the houses. Internal division of space does not seem to be occurring frequently at the settlement, although a few of the houses (Buildings 12, 13 and 8) have partitions or rooms inside (Plan 1). There is evidence of leveling in Building 8 where a platform with a hearth and a storage bin was found at an elevation lower than the house floor. Two separate spaces can be observed in Building 13, one containing an oven and the other two hearths. Building 12 seems to have a partition wall, which divides the inner space into two. Hearths, ovens, ash pits and mud platforms are architectural elements that appear in almost every building. Storage bins appear as well, although not as often as the above mentioned features. It is possible that the clay storage units did not survive under the heavy collapsed walls and roofs.

Three courtyards were identified at the exposed areas and probably belong to Houses 5, 13 and 19 (Plan 1). Enclosure walls of courtyards are made with wattle and daub technique. Evidence for post holes was found at Courtyard 9 of Structure 5, which indicate that this courtyard was covered with a roof. Courtyards bear evidence of daily activities like cooking and grinding as well as of grain storage.

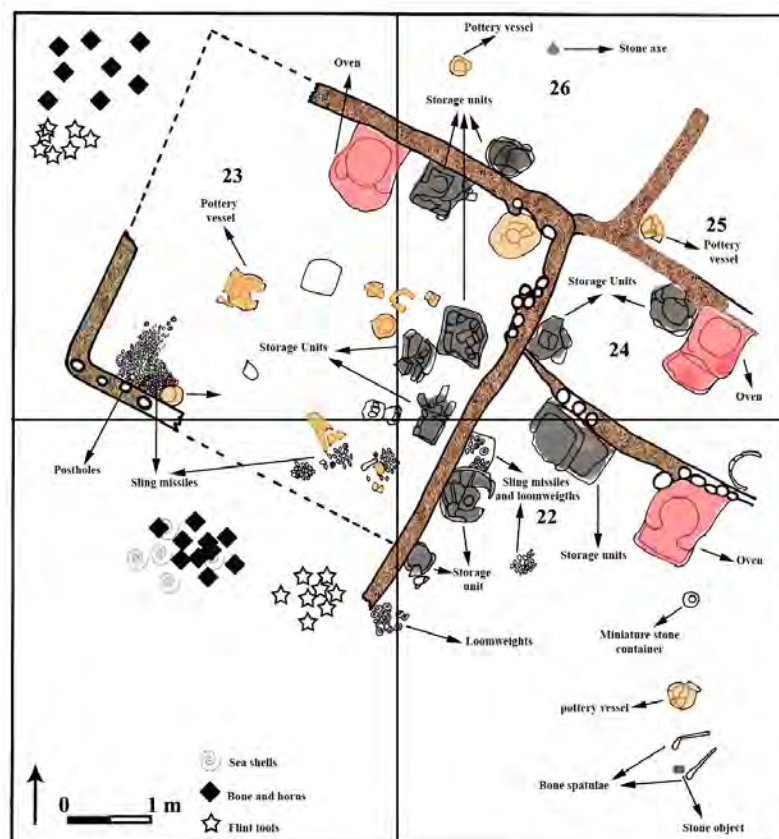
Earlier building phases of Level IV were excavated mainly at N11 (Plan 2.1). Additional but restricted remains from these phases were obtained from soundings at L13 and O11. Phase IVg was identified northwest of N11 and was later named as "Building 17." It has burnt mud-brick fragments, a yellowish plastered floor and double-rowed, middle-sized, rounded stones (20-30 cm in diameter) as foundations (Photo Plate 2.2). Phase IVk has comparable properties whose remains were preserved only through foundations made out of three rows of rounded stones that seem to have been brought from the river bed. A distinctive feature of this structure is that it has a floor paved with stones of 10-20 cm in diameter, which was covered with a thin layer of white plaster. A very similar architectural activity is mentioned by Mellaart (1970: 4) who describes some of the floors of aceramic buildings which were "*laid on a bed of small stones or pebbles covered with a lime plaster...These floors were stained with red ochre, varying in shade from light red to crimson, which was burnished when dry.*" The reasons behind constructing stone foundations with such care or stone pavements at Ulucak remain unclear. Cobble paving is observed many times under the fire installations to provide heat isolation and as protection against moisture. One tends to suggest the same concerns might be at stake for the building from IVk. However, it seems like this technique was not common at the site, neither in the earlier nor later phases. It is basically unknown

whether such foundations and floors were executed all over the IVk settlement or if their use was only at a restricted number of houses.

During the excavations at L13, where transitional phases from IV to V were also exposed, comparable architectural features were not found. As mentioned before, it is highly likely that these phases are not represented at trench L13 due to differing stratigraphy, but this explanation does not provide a clarification for our question. Alternatively, there could be a cultural explanation behind this building strategy. It is worth reminding that these phases (IV g-k) bear the earliest evidence of mud-brick houses with stone foundations at Ulucak, which were maybe built with specially selected rounded stones of similar sizes. Foundation stones of later phases are smaller and such diligence cannot be observed in their execution.

## 2. Level V

The settlement that preceded Level IVk shows a differing architectural pattern, in terms of the building technique, thus it was named as a different level (Fig. 3.8). This level is characterized by post-wall buildings, evident in the surviving thin mud walls with 10-15



**Figure 3.8: Phase Va at trench L13, where five adjacent structures containing evidence of storage facilities and food preparation areas were excavated. Note the concentrations of animal remains and flints in the open areas.**

cm wide post holes.<sup>14</sup> Level V comprises of several superimposed architectural layers. Layer Va is distinguished from the preceding layers (Vb-Vf) with respect to its adjacent houses. Starting with layer Vb the post-wall houses are free-standing (Plan 3.1). In some cases relatively big sections of wooden posts have survived (as in L13d, Vb). Mud-brick as a building material cannot be observed in this settlement. Stone foundations are rarely observed in this phase. Buildings 22-26 in Grid L13 do not have stone foundations while Building 32 in Grid K13 was built on stone foundations.

Plastering, both inner and outer surfaces of walls and floors, was confirmed at some buildings. The walls of the structures are considerably thin and do not exceed 25 cm. Since some of the buildings from this level could be excavated completely, the sizes of some buildings are known to us. For instance, Building 23 measures 5 x 4.5 m. Building 27 has a relatively small size with 2 x 1.7 m. Building 30 from Vb, almost square in shape, measures approximately 4.5 x 4.5 m (Photo Plate 4). Although the plans are rectilinear, it is observed that the corners are rounded as a consequence of the building technique. Compared to the mud-brick architecture of Level IVb, the preservation of this settlement is much lower. Surprisingly, the storage elements in this level are better preserved. Every structure has storage facilities like free-standing mud boxes or circular bins that are attached to the side walls. These facilities were found in particularly well preserved conditions in Buildings 22, 23, 28 from Va as well as in Building 30 and 33 from Level Vb. Hearths and ovens are also features that each house possesses. Unfortunately, the original height of the walls and shape of the roofs cannot be ascertained.

### ***G. Settlement Organization at Ulucak***

Demoule and Perlès (1993) have identified common characteristics of EN settlements on Thessalian Plain which, in my opinion, can be easily employed to Ulucak IV-V. As these features are significant in terms of understanding the settlement organization they are enumerated here:

1. Location of settlements on alluvial-colluvial plains;
2. Long-term occupation indicating social as well as economic stability;
3. Clay-based architectural techniques;
4. Vertical development of settlements as opposed to horizontal;

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<sup>14</sup> For further description of architectural details see Çilingiroğlu and Abay 2005 and Çilingiroğlu and Dedeoğlu 2006.

5. Settlement size between 2-5.5 ha. (meaning populations of 100-300 and more);
6. Absence of surrounding walls;
7. Absence of monumental architecture.

All of these characteristics are actually encountered at early Ulucak which has a size of roughly 3 ha. These specific features are expedient in terms of understanding the strategies, ideology or conscious choices made by the community concerning the initial and developmental stages of settlement history. To be able to discuss the details of settlement organization several indicative criteria need to be considered. These are the orientation of the structures, amount of space between these structures, existence of communal activity areas, existence of communal storage facilities and presence of buildings with special functions (Eslick 1988; Perlès 2001). Below, Levels IV and V will be evaluated in the framework of these specific aspects.

## **1. Level IV**

It has already been mentioned that at Ulucak the best preserved and widely exposed areas belong to Level IV, which is dated to around 5800-5700 cal. BCE.

### **1.1. Orientation and size of the buildings**

At the site a major part of this settlement was excavated on a horizontal level, which enables us to make statements concerning the settlement layout. First of all, no unification in the orientation of the structures can be observed. For example, it is not like at Lepenski Vir where each structure has its door opening towards one direction or at Nea Nikomedeia where all structures bear an East-West direction (Srejović 1972; Rodden 1965). At Ulucak, the entrances look towards the open areas in the settlement; which are named by the excavators as “streets” but which I refer to here as “open areas.” There were two open areas identified at Ulucak and one can see that Buildings 5, 6, 10, 12, 13, and 19 have their entrances on one of these open areas,<sup>15</sup> which itself has a North-South orientation (Plan 1). The smaller open space to the southwest of the exposed areas has Building 14 and probably Building 8 on it. It can be said that buildings at Ulucak were built to cluster around an open (perhaps communal) area that provided access to most of the buildings. We do not know if these two open areas were connected to each other. It is possible that there were more than one cluster at the

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<sup>15</sup> Since door openings were identified at Ulucak, one can state that the access to the inner spaces was not provided from the roof. However, archaeological evidence suggests that activities took place on roofs as well.

settlement that appeared as the number of households increased. Unfortunately, we do not know exactly where the border of the settlement was lying. However, it is highly likely that Neolithic Ulucak reached its biggest size towards the later phases of Level IV, e.g. just before it was wholly burnt and abandoned in a short time.

The size of the structures that are exposed at Ulucak show uniformity. Among the buildings that were wholly exposed or whose plans could be reconstructed are Buildings 5, 6, 8, and 13, of which measure in size as 6 x 6.5, 6 x 5, 8 x 6, and 6 x 2 meters respectively. Sizes of the other structures seem to accord with these figures. None of the buildings have unusually bigger size. The approximate size of a building at Ulucak IV would then be around 40 m<sup>2</sup>.

### **1.2. Space between the structures**

Another important feature is the amount of space between the structures. The general plan of Ulucak IVb shows that most of the buildings at the site were not free-standing (Plan 1; Photo Plate 2.1). There is however some space between some of the structures. For example, Building 19 and 13 have approximately half a meter space in between. However, Building 5 and 6 have adjacent walls; and the north wall of Building 6 forms the south wall of a courtyard, which seems to belong to Building 5. It can be stated that Ulucak had a “degenerated” agglomerative plan, i.e. definitely not as strict as in Aşıklıhöyük or Çatalhöyük. Choice for an agglomerative plan by a society at any given settlement might have had technological, economic, social and/or ideological grounds. It is widely known that adjacent structures keep and transfer heat as well as providing a feeling of protection. Such a plan might as well transmit a message of solidarity to the outsider. On the other hand, it is possible that adjacent buildings represent households that are offsprings of the parents’ household. Each cluster might represent families with a common ancestor that has its origin at the oldest household. The proximity of the houses at Ulucak might hint at an egalitarian community, where socio-economical independence from the other inhabitants did not exist and was not sought. The adjacent walls did not only keep heat but also demonstrated strong economical as well as social bonds among the individual households. Lastly, the small amount of space among the structures might be an indication of a transitional phase to the fully free-standing buildings of the later periods like the *megara* of the Aegean Early Bronze Age.



### **1.3. Evidence of communal activity areas**

The existence of communal activity areas also gives us clues about the social organization at the settlement. During the excavations at the site some of the areas yielded evidence of pottery production, weaving or food preparation. In some areas piles of flintstones were uncovered, which are interpreted as “workshops.” What we need to look at is if they are located in a communal area or do they belong to single households?

When we look at the open areas, we can see limited evidence of communal activity. During the excavations of the so-called “north street” grinding instruments and stone tools were mainly found; these pieces might well have been used by every member of the community. One interesting concentration appeared in the northern part of the open area where a number of perforators and sea shells were found belonging to the Phase IVb. Presence of a hole on these sea shells led the excavators to interpret them as necklace pieces. It is possible that this used to be an area (M13b) where sea shells were pierced in order to make various adornments.

In another area (Building 15 of IVc) a concentration of clay balls, grinding stones and flint pieces were found. Although this area is named “Building 15,” no walls that might belong to this structure were found. Building 15 refers to a floor which is described as moist, black colored, clayed, and beaten, and is identified as belonging to building Phase IVc. For this reason, it is not clear whether there was a roofed structure located here. Existence of various sized clay balls between a hearth and grinding instruments might suggest that in this area activities related either to cooking or to clay processing for pottery, sling stones or other objects have taken place. Just to the north of this complex high amounts of flint pieces were recovered that were originally put into a bowl that was found upside down. What is interesting about the flint stone concentration is that in the upper building layer (IVb2) piles of flint stones were again recovered in the same area. This situation might suggest that this activity area had more than one phases and the floors identified at this area might correspond to successive phases of a “workshop” where community members or members of several households came together in order to undertake their daily activities.



**Figure 3.9: Building 12, area with concentration of loomweights and a stamp.**

A different type of concentration can be observed in Building 12 of IVb2. Inside the building a number of loom weights were found together (Derin, Çilingiroğlu and Taşlıalan 2003). What makes this group more interesting than other loom weight concentrations is the fact that close to this area a stamp was discovered (Fig. 3.9). It is known that stamps are thought to be applied either to skin or textiles to make impressions. Evidence of a stamp together with loom weights can be used to support this suggestion as well as to interpret this part of the building as an area where weaving took place (Çilingiroğlu, Ç. *in press*). Nevertheless, the accessibility of this building by the whole community remains unclear; rather, it seems to belong to a single household.

Another area of interest here is Building 6, where evidence of pottery production was verified. Here remains of a hearth with pottery slags were found. Apart from two platforms in the room, there were clay balls, whole vessels, flat stones and grinding instruments on the floor; all of which could be utilized during various stages of pottery making. A more probable function associated with clay balls is cooking, which might have been used for indirect boiling or baking of food in baskets, skin containers, as well as in ovens (Atalay and Hastorf 2005: 118-119). The presence of numerous flint flakes on one of the platforms and in a bowl with a figurine and loom weights might be indications of other activities carried out in the same structure.

Lastly, I would like to present another area where a different activity can be identified. This is probably an open area from one of the earliest phases of Level IV at Trench L13 and was named Building 29 during the excavations because of the plaster pieces appearing in the immediate area. The concentration at this locale is dominated by flint and obsidian flakes, sling missiles, bone objects and animal remains, including many horn fragments and sea shells. It appears that this was mainly an area where either animals were slaughtered or their remains were processed to make tools. The additional presence of sea shells in the same area might also point to the fact that this area was used for the consumption of shellfish or for the processing of shell adornments.

#### **1.4. Communal storage facilities**

Although storage bins or vessels were not found at every building at Ulucak IV, this does not point to a communal storage at the site because there was no evidence of this either. It is significant that at Building 13 a wooden grain chest was found. It was preserved together with the actual grains, charred but identified as six rowed barley (*Hordeum vulgare*). In the same building a large-sized jar, 61 cm in height, was also discovered and was most likely utilized as a storage unit.

Good evidence for food storage appeared at Building 8, where the southeastern part of the building was used as a storeroom. Grain concentrations analyzed from this part of the building revealed more than 15000 pieces of einkorn wheat (Megaloudi 2005). The condition of preservation at the other structures might not have been optimal like in Buildings 8 and 13 where heavy fire caused favorable conditions for the organic remains. Containers made of unbaked clay might have disappeared among the debris of collapsed roofs and walls, whereas wooden or skin containers could not survive at all. Other areas where evidence of storage was attested are within Courtyards 11 and 20, where a total of two storage bins were uncovered. Bins were also found in Buildings 6, 13 and 4.

Storage of agricultural products definitely took place at the settlement; however, one can not speak of a communal one. It is highly likely that every household had its own grain, food or salt storage facilities.

#### **1.5. Presence of buildings or areas for ritual activities**

The identification of “special buildings” at prehistoric sites is a highly debated issue. There was critique against the way in which Mellaart at Çatalhöyük or Gimbutas at

Achilleion identified some buildings as “shrines,” which loads a purely religious function to specific structures (Düring 2002; Perlès 2001). Hodder, for example, prefers “ritually elaborate building” instead of “shrine” as a designation (Hodder 1999: 179).

There are mainly two parameters which let archaeologists designate some structures as “special.” One is based on the unusual plan and/or location of a structure and the other relates to the extraordinary appearance of the material discovered in a structure. As Özdoğan points out, architecturally unusual buildings appear in the PPN period in Southwest Asia, which he prefers to call “cult buildings.” In other parts of Anatolia the size or plan of the buildings give no clues about the function related to them (Özdoğan 2002b). At such regions in Anatolia and Southeast Europe the identification of special buildings depends on the finds that are discovered in seemingly domestic structures. Red floors at an Aşıklı building, figurines at Achilleion or wall paintings at Çatalhöyük buildings are examples of such identifications (Esin and Harmankaya 1999; Gimbutas *et al.* 1989; Mellaart 1967). The major problem with such interpretations is first of all related to the history of these structures. It is possible that these were actually domestic structures which at the time of the abandonment or destruction of the settlement were given ritual function. In other words, labeling certain structures as “special” implies that they were built and used for ritual purposes during their entire history of existence.

What is decisive for the archaeologists is the state of discovery. The presence of figurines or wall paintings at a structure is enough to designate it as a “shrine” or “special,” although there is a good possibility that each structure housed figurines or wall paintings at least once in its lifetime. A situation similar to Çatalhöyük is also true for Ulucak, where no building with unusual sizes or plans were detected.



**Figure 3.10: Painted anthropomorphic vessel as found in Building 8 (Level IVb).**

The archaeologists who excavated at Ulucak interpreted Building 8 as a possible “shrine” (Çilingiroğlu *et al.* 2004: 25). The reason behind this suggestion is that in this building fragments of wall paintings and an anthropomorphic vessel, together with another seven well-preserved vessels, were discovered. Moreover, the absence of stone tools in this structure was brought forth as

another argument which would support this interpretation. Is the co-appearance of wall paintings and an anthropomorphic vessel in a building enough to justify such an interpretation?

The anthropomorphic vessels, because of their elaborate forms and designs, are as a rule associated with rituals. At Ulucak, two anthropomorphic vessels were discovered; one is almost complete and one is fragmentary (Plate 15.1 and 15.2). It is worth mentioning that the relatively well-preserved anthropomorphic vessel (Excavation Unit: APJ 3032) was found on the floor of Building 8, adjacent to its western wall (Fig. 3.10). Also within this building, but from an unrelated context, two big concentrations of charred einkorn wheat grains were collected.<sup>16</sup> The area that revealed these charred grains was in front of the remains of a wall with evidence of paint. More interestingly, this area was a separate section in this structure where food storage and preparation took place, and where the elevation was 30 cm lower than the floor level. This brings us to the interpretation of the whole building again. It is relatively clear that the vessel, wall paintings and the charred grains were not related to each other directly. It is much more plausible that grain storage took place in a separate part of the building (with lower elevation), whose walls were probably painted (wholly or in designs). It is possible that grain storage, in other words, the agricultural product, was given special treatment. It not only had to be protected from insects and moisture but also from the “evil-eye,” through apotropaic designs. On the other hand, it can not be ruled out that the anthropomorphic vessel might have had a ritual function. The question is whether the existence of such vessels affected the space surrounding them, giving the room an additional ritual substance. Or was the single vessel just another pottery vessel, just like the other seven jars found in the same area? Consequently, it is not unlikely that Building 8 (wholly or partially) was related with ritual undertakings around the time of fire at Ulucak IVb. However, in my opinion, this would not suggest that the building was a “shrine” of and for the whole community.

Another area that may hold a “religious function” is the southeastern part of Building 13. In this part of the building there is a wall with red-brown painting and in front of it, a bowl with flint chips and two figurines were discovered. It is interesting that not the whole building but only a part of it, where these extraordinary finds were found, was designated as “religious” (Çilingiroğlu *et al.* 2004: 29).

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<sup>16</sup> The soil sample taken from inside the vessel revealed no botanical remains.

A bowl with a figurine and many flint flakes is a repeating element at Ulucak IV, which deserves a closer look, and has already been published by Abay (2003) in detail. There are two clear cases where this combination of finds appears. One of them is in Building 6 (Excavation Unit: ASM) and the other is in Building 13 (Excavation Unit: CYV). In Building 6 they were found in the west section of the building, just to the south of a bin with well-plastered walls. Other finds from this building suggest daily activities like weaving, grinding and cooking. As mentioned above, at Building 13 they were found in front of a wall with red paintings, whose association with hearths or ovens unearthed in the same building remains unclear.

There are two other cases where bowls full of flint chips were discovered but they are without figurines. However, there were figurines found close to these bowls. During the excavations on the North street in 2001, a miniature bowl (Excavation Unit: BVS 6404) with four flint chips and a burnt bone fragment were found; moreover, in the neighboring context a figurine piece (Excavation Unit: BVT 766) was discovered. Although the relation between the bowl and figurine fragment is questionable, such a possibility can not be ruled out. What is interesting in this case is that contrary to the others, these were recovered in an open area. Whether they were intentionally deposited in this area is unclear. What we know is that in the open area punctured sea shells and perforators were found, which might point to the existence of a communal activity area. In this case, a bowl with flint chips could be part of the ordinary daily activities rather than a ritual object.

Another curious combination is a concentration of flint pieces and a figurine found in close proximity (Excavation Units: AZG, AZY). However, the context in this case is not informative since these finds were recovered inside collapsed mudbrick deposits. Besides, a bowl that would hold these flint pieces is missing in this case. Here again the bond between these finds is admittedly skeptical. There is a possibility that the figurine and flint flakes were not originally related to each other, but through long lasting deterioration process they were captured in the same mudbrick dump. There is no reason to assume that every bowl with flint flakes had a ritual meaning.

To summarize, I suggest in accordance with the excavators that bowls with figurines and flint chips had a symbolic component. It is relatively clear that these were deposited there deliberately. The interpretation of this deposition is rather difficult. The lithics found in the bowls are mainly associated with tools that are used in agriculture (like

threshing sledges).<sup>17</sup> Moreover, in the area where this cache was found there was one bin, which points to the fact that this area was the storage room of Building 13. Therefore, this deposition can be interpreted as having to do with agricultural production, in that the cache of objects was probably used like symbolic pieces or votive objects. They were representational agricultural tools used to help them in acquiring a better harvest. I am inclined to interpret the two figurines, one male and one female, as actual human beings rather than supernatural creatures or “Gods” and “Goddesses.” They might actually represent a couple who worked together and wish that their work is appreciated by the supernatural powers (“spirits” maybe) who would protect their agricultural products.

Finally, I tend to oppose the idea that such caches existed only in certain buildings. On the contrary, a house at Ulucak did not solely serve a single purpose but was used both for ritual and domestic activities, which were not independent from one another but rather interwoven. An activity related to agricultural production or anything related to subsistence can easily become an object of an offering or a ritual. All of the structures exposed reveal evidence of daily life from storage to cooking and from weaving to tool production. It is not contradictory that at these buildings ritual objects were kept and/or ritual ceremonies were held. During the Neolithic, in a region where cult buildings do not exist in the settlements, it is not surprising to have evidence of ritual and daily objects together.

Hence, the presence of special buildings at Ulucak is, as in the rest of Anatolia, a matter of interpretation. If wall paintings, figurines or anthropomorphic vessels are to be associated with rituals that take place regularly, then there are ritually erected buildings at Ulucak. It is well-known that such caches or depositions might appear anywhere at a settlement because of the changing functions of buildings throughout their lives. A widely recognized example is that a figurine can be used during a ritual and as a toy on the same day! Such cases remind us that functions attached to buildings as well as to objects by people vary frequently during the active lives of these features. However, the archaeologist only has the opportunity to, given that the object is preserved in its last original position through the long-term processes of deterioration, “witness” one of these functions as a “snapshot.” Another aspect that should be kept in mind is the possibility that many rituals might have taken place in nature. Old trees, rocks, lakes and springs,

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<sup>17</sup> This information is kindly provided by Kevin Cooney.

which are held sacred, are part of the history of rituals in West Anatolia. It is widely understood that the mountains of Nif (ancient Olympus), Yamanlar and Spil (ancient Sipylus), as well as Karagöl (Lake of Tantalus), all of which are mentioned in Greek mythology, housed many sacred monuments already in the pre-Greek eras. Two Hittite rock monuments are also located in the vicinity, one on the Karabel pass, which is even mentioned by Herodotus; the other is a seated female figure with her arms on her breasts, carved on a natural rock found east of Manisa (Bean 1967: 53-65). They all suggest rituals taken place in nature. There is no need to mention that ethnographic records also provide many examples of such activities that take place in open areas or outside the settlements. Additionally, the Latmos rock paintings in Southwest Anatolia, where according to the discoverer marriage ceremonies are pictured, could even be part of a contemporary natural “cult building” created for rituals (Penschlow-Bindokat 2003: 29).

To conclude, with the archaeological evidence available alone from Ulucak it does not seem likely that there were “special buildings” at the site in the sense that we know from sites like Göbeklitepe, Çayönü or Nevalı Çori. What I would rather suggest, depending on the archaeological evidence, is that the spheres of natural and supernatural seem to have merged into each other without clear boundaries. It seems more like the two spheres relied on and fed each other. In this sense, rituals could have taken place anywhere and buildings could have been turned into temporary ritual spaces at any time.

## **2. Level V**

### **2.1. Orientation and size of the buildings**

Unfortunately, there is not much information from this level, which would enable us to reconstruct the settlement organization. Architectural remains from Level Va were exposed in two excavation grids, where a total of seven buildings were discovered. In excavation L13 five buildings that are adjacent to each other were found. The walls have a northeast orientation; however, it is not possible to determine the orientation of the buildings since their door openings could not be identified. Only Building 23 from this phase was preserved well enough to measure its size. It is 4.7 x 4.4 m. The other buildings that are sharing walls with each other might be smaller in size. However, since they are even more damaged it is hard to tell how big they might were.



In Grid N11 excavations were conducted in an even more restricted area. There, two adjacent buildings (27 and 28) were excavated. Building 27 is quite small in size and measures only 1.85 x 1.75 m. The size of Building 28 can not be determined. It seems like the sizes of the buildings from this phase vary between 3.2 to 20.68 m<sup>2</sup>. It is questionable whether a small area of three-squared meters could be used as a single household. Building 27 was probably part of a building complex. The same suggestion is also possible for the buildings in Grid L13, which share walls.

In the lower phase, Vb, the buildings have a different orientation and more importantly they are free standing. Thus in terms of settlement organization, there is no continuity between Vb and Va. Building 30 has a door opening on the southern narrow side and two large post holes in its center which probably supported a gabled roof (Photo Plate 4). The thin walls belonging to Buildings 30 and 33 imply that the upper structure must have been built of light material. Building 33 might have its orientation towards north but it is not clear (Photo Plate 5). Building 31 was excavated in a restricted area on the southeastern edge of the grid, therefore it is not possible to understand its orientation. Building 30 was excavated completely and it covers an area of 19.35 m<sup>2</sup>. Building 33 is partially excavated and has a size of 4.5 x 2.5 m. Building 31 is even smaller, measuring 2.2 x 1.5 m. It should however be noted that these measurements are indicating the excavated areas and not the complete size of the buildings. Building 30 is therefore the only building that gives a good idea about the building sizes from Vb.

## **2.2. Space between the structures**

Based on the five structures that were exposed in L13, one can posit that they share parting walls with each other. These walls create a sort of cluster without any space between them. It is not known whether the entrance from these adjacent buildings was provided through the roof. However, this option is unlikely because it would be very unusual for Ulucak when compared to earlier and later building phases, where the houses always have entrances on the floor levels. Cluster-like appearance in this building phase is reminiscent to IVb. The excavators suggest that these five adjacent buildings formed one single house (Çilingiroğlu and Abay 2005: 12). However, I am inclined to interpret each of these structures as separate houses, since they all seem to possess their own storage units as well as ovens and hearth areas. It is true that they share walls but this might not automatically indicate that they belonged to one single household. On the other hand, it is possible that the smaller buildings (24, 25, 26) were offspring houses,

built later than the main structure; although archaeological evidence supporting this possibility has not been found.

Phase Vb has a completely different appearance. The structures do not create clusters. They are free-standing buildings. For instance, between Building 30 and 33 there is an existing open area whose width is around 1.20 m. Accordingly, Building 31, which was identified by the excavator as a “workshop” due to the *in situ* finds it contained, is also separated from the adjacent structures (Photo Plate 5.2). Hence, one can say that earlier structures were not built adjacent to one another as one would have expected. This could also be related to the roof constructions of these early structures. It is possible that they had gabled roofs rather than flat roofs, as originally assumed. Two adjacent post-holes that are found in Building 30 might indicate the presence of gabled roofs in this phase. Unfortunately, there is no additional archaeological evidence that would support or falsify this suggestion. For the time being it should be emphasized that Vb buildings were rectilinear, free-standing post wall houses.

### **2.3. Evidence of communal activity areas**

It is also evident that an open area existed around Building 23, where concentrations of animal remains, shells and obsidian/flint tools were discovered. As already mentioned above, it remains uncertain whether these adjacent structures formed a single multi-roomed complex as the excavators postulate (Çilingiroğlu and Abay 2005). It is however highly likely that, whether they were occupied by a single household or several independent households, the inhabitants made use of the open space next to Buildings 22 and 23; because in this open space concentrations of animal bones, horns, shells and stone tools were unearthed. These concentrations might indicate that these areas were used as activity areas for the manufacturing of bone tools and shell ornaments, animal butchery and food preparation. The presence of an obsidian core from the same area might be an indication of stone tool manufacturing that may have taken place here.

As for Phase Vb, there is no convincing evidence for communal activity areas like in Va. However, as mentioned above, between the free-standing structures of Vb there are open spaces, which might were utilized by the community members or at least by the members of the families who inhabited these structures. It was noted by the excavators that in this open area the floor was unplastered but very hard, suggestive of beaten earth. This gives the impression that it was artificially made. Finds from this hard area comprise mostly of pottery and animal bones.

There is one area in Vb where weaving activities probably took place. At the western section of Building 33 a concentration of spindle whorls and a stamp (Excavation Unit: EFO) were found. These finds are very much indicative of a weaving activity area. However, since these were located inside the structure, it remains doubtful whether this could have been a communal activity area.

#### **2.4. Communal storage facilities**

In terms of the communal storage, it is again difficult to find unambiguous evidence. As mentioned already, there is good evidence of storage in this level. Almost every structure contains storage bins, storage vessels and mud boxes. It is also known that not only agricultural products but also certain objects were stored in this settlement. Sling missiles are the objects which appear at almost every structure. Piles of sling missiles were found in Buildings 22, 23, 27, and 28. It seems like they were kept in pottery vessels or daub bins. Evidence for this is especially apparent at Building 23, where 214 sling missiles were found next to a vessel, which itself is fragmented but still contained some slings. Another big concentration was discovered in Building 28, where 190 sling missiles in total were found piled (Korfmann, Dedeoğlu and Erdalkıran 2007).

Storage facilities are also well-represented in Phase Vb. In Building 33, five storage bins were identified in total. Their depths range between 45-50 cm and their diameters measure between 60 and 95 cm (Çilingiroğlu and Dedeoğlu 2006: 139). If one considers that part of the structure remains uncovered in the next trench, then it is possible that this structure contained actually more than five bins. Building 30 which was exposed wholly contained 11 storage units, 9 circular bins and two rectangular clay boxes. Diameters of the circular bins measure between 30 to 70 cm. The rectilinear boxes measure 30 x 30 and 45 x 45 cm. It must be noted that none of the bins contain macro remains of grains. Can this be interpreted as a planned abandonment, a planned re-organization of the settlement or a fire that occurred at a time when there was little agricultural product left in the storage facilities?

#### **2.5. Presence of buildings or areas for ritual activities**

There is not much to say in regards to the presence of special buildings in this level. Although a number of figurines were found in and around these structures, they can not be considered as convincing evidence of special buildings. Additionally, the quantity of figurines (both human and animal) from Level V is much lower than the subsequent level, indicating production of clay figurines was not fully embedded into the daily of

the community. Wall paintings, anthropomorphic vessels or bowls holding figurines are not among the finds from Level V. Moreover, all of the buildings excavated from this level have predominantly domestic characteristics. Although one can argue that only a very restricted area of this settlement was exposed, it is doubtful that a building constructed only for ritual/ceremonial purposes existed in this level. On the flipside, ritual activities were performed within or outside the settlement, as is the case for the following period.

### ***H. The Neolithic Assemblage***

Most small objects from Ulucak IV-V have already been presented in several publications. In this section I will try to concentrate mainly on the typical Neolithic finds that are essential elements of the “Neolithic package.” These particular finds have widespread distribution in Southwest Asia, Anatolia and Southeast Europe (for details see Çilingiroğlu, Ç. 2005). Occurrence of these elements at Ulucak is undeniable evidence for West Anatolia’s involvement in the complex network of early farming communities. These communities were apparently interacting in several ways, including through long-distance exchange, mobility due to procurement of raw materials, intermarriages, and possibly via existing itinerant craftsmen.

The objects which appear frequently at 7-6<sup>th</sup> Millennium BCE sites from Southwest Asia, Anatolia and Southeast Europe are as follows: stamps (“stamp seals” or “pintadera”), anthropomorphic figurines, prismatic polypod vessels (“offering tables”), bone spatulas, animal figurines, well-made beads, marble/stone bracelets, imported shells, well-made stone bowls, bone “belt hooks,” polished axes, grooved stones, bone polishers, chipped discs, phalli, “ear plugs,” red slipped/painted wares and sling missiles. These objects are very familiar to field specialists because they are discovered in varying quantities and conditions at almost every Neolithic settlement, making it clear that they belonged to varied and numerous spheres of Neolithic lifeways. In my opinion they do form a meaningful whole together and thereby reflect a particular way of living that developed in a particular space and time. This means that their co-occurrence is far from being a coincidence. These objects are seen as expedient tools in our aim to reconstruct Neolithic ways of life. In addition, since these objects do not appear suddenly and simultaneously in a vast region but rather develop and evolve through time in various regions, they can also be utilized in constructing relative chronologies and investigating the dispersal of Neolithic communities and ideology (Çilingiroğlu, Ç. 2005).

Just like in many other Anatolian Neolithic sites, at Ulucak a good number of these items were discovered in the archaeological contexts of Levels V and IV. Among the items found were anthropomorphic figurines, animal figurines, stamps, bone spatulas, sling missiles, prismatic polypod vessels (“offering tables”), “ear plugs,” polished axes, bone polishers, anthropomorphic vessels, and well-made beads or pendants. One well-made stone bowl was also discovered at Ulucak IV.

Below, a selection of some of these objects found at Ulucak, which are significant with regards to establishing relative chronologies is presented.

**The Lithic Assemblage:** The analysis on lithic material from Ulucak, which is conducted as PhD project by Kevin Cooney of Boston University continues to date. The information provided here draws on the preliminary report submitted by Cooney in 2007.

Raw materials for lithics include flint, quartz, quartzite and obsidian. Preliminary results of Cooney indicate that obsidian in Level V constituted 65% of the lithic assemblage while this amount drops to 38% in Level IV. Lithic industry is basically based on blade production. In Level V, 64% of all blades are made out of obsidian in sharp contrast to 47% in Level IV. Uni- and multi-directional pressure-flaked cores and prismatic cores are known in the assemblage. Existence of prismatic cores at Ulucak is construed as an indication of an unknown Mesolithic sub-stratum in Central-West Anatolia, as such cores are typical of micro-blade production industries of Mesolithic cultures (Özdoğan 2007b: 409). Same production technique is also attested at Ege Gübre and Yeşilova, indicating that blade production on prismatic cores is not peculiar to Ulucak in the region. On the other hand, blade production relying on prismatic core production was attested at Çatalhöyük VI-V and at Hacılar VI, indicating that the Neolithic communities used this blade production technique and that it is not totally absent from Neolithic Anatolia (Gatsov 2005; see also Gatsov 2009). Especially the sudden transition from flake-based to blade-based technology has been recognized by Conolly (1999: 76) at Çatalhöyük VI which is dated to ca. 6600/6500 cal. BCE, coinciding with sub-phases VIa-Vf at Ulucak. Instead of a Mesolithic origin, blade-based technology at Ulucak might have had its origins at Central Anatolia in the middle of the 7<sup>th</sup> millennium BCE in the light of data from Çatalhöyük.

Stone tools are dominated by retouched flakes, blades, bladelets, end-, side- and convergent-scrapers, sickle elements, sickle blades and boring/incising tools in both levels. In contrast to Çatalhöyük, extremely few numbers of projectile points were recovered at Ulucak IV-V.

Macroscopic inspection of the obsidian from the site revealed two major types: Gray-matt and black-glossy. Different structures and color of obsidian may imply different sources, although same obsidian may contain material that have different colors (Özdoğan 1994). Gray-matt obsidian is usually associated with Melos obsidian while black-shiny structure is a characteristic of Cappodocian obsidian. An analysis made on obsidian found at the site showed that the source of the material was Central Anatolia (Çilingiroğlu *et al.* 2004: 52). This is an undeniable evidence of an indirect connection between Ulucak community and Central Anatolian communities, who extracted the raw material from its source, probably processed it for further work and exchanged it with people, who would then pass it to the next community until it reached as far as Central-West Anatolia. It is possible that an exchange organization similar to PPN covering Central Anatolia-Levant-Cyprus (Balkan-Atlı and Cauvin 2007) was active in at least PN onwards between Central and Western Anatolia. So far, it is not known whether Ulucak community acquired obsidian from Aegean sources like Melos or whether small sized local sources exist in the vicinity of Ulucak (see Özdoğan 1994: 426 on small obsidian sources in West Anatolia). Obsidian samples from Level IV-V are currently analyzed by Ernst Pernicka at the Curt-Engelhorn-Centre for Archaeometry in Mannheim whose results should clarify the source issue.

**Anthropomorphic and animal figurines:** In the excavation seasons between 1995-2007, 66 figurines or fragments of figurines were discovered at Ulucak. Twelve of these can not be identified in terms of type or gender. Few anthropomorphic figurines of Neolithic type were found even at elevations close to the surface of the mound. Of all 66 figurines, 34 belong to anthropomorphic figurines, which predominantly represent steatopygic females that are depicted sitting or standing. There is only one figurine which could be identified positively as a male figurine. Anthropomorphic figurines were discovered mainly in Level IVb and few fragments were unearthed from Va and Vb. It appears that figurines do not appear at levels below Vb. Peg-head figurines seem to be associated with Level V. One of the peg-head figurines was discovered in Building 30 right next to Bin 1.

On the other hand, 20 animal figurines were identified at all levels and seem to continue into the earliest deposits at the site. It is in most cases impossible to identify the species represented. In some cases, the excavators identified the animals as ox, bird or sheep/goat/pig.

**Stamps:** Among the most widely distributed and distinctive Neolithic package items are stamps, of which seven were discovered at Neolithic Ulucak (Fig. 3.11). Analogous to figurines, stamps appear too at both levels; however, they occur more frequently at Vb-c. One well-preserved circular stamp with concentric circles was uncovered in Building 13 from Phase IVb and one ellipsoid stamp with concentric ovals was discovered in deposits belonging to IVg (Abay 2005; Çilingiroğlu, Ç. 2009).

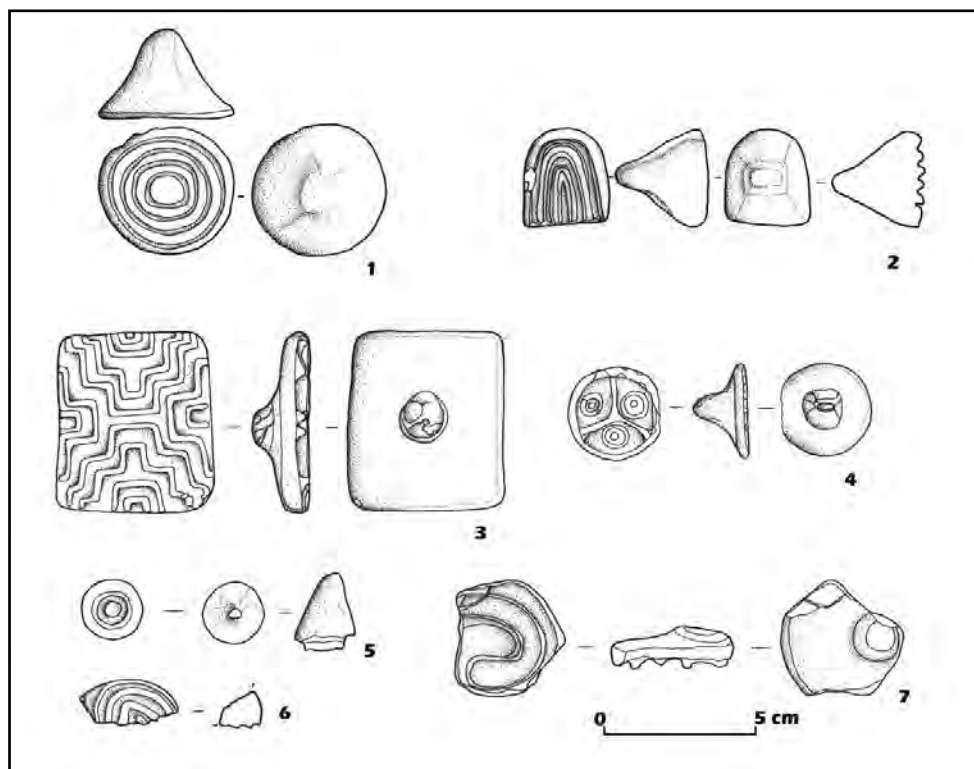


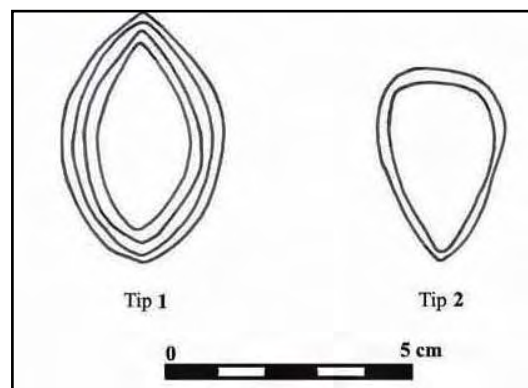
Figure 3.11: Stamps found at Ulucak. 1-2: Level IV; 3-7: Level V.

It is surprising that most of the stamps are found in deposits that are older than Level IV, despite the fact that these deposits were excavated in a single grid, L13. In total five stamps were found from Levels Vb and Vc. Three of the five are fragmented, four are circular and one is quadrangular in shape. Two of them have concentric circles on them, and one has concentric spirals. The quadrangular example is very well-preserved and has a stepped labyrinth motif on it (item marked as 3 on Fig. 3.11). One of the circular

stamps is distinguished from all the other stamps in terms of its motif. The stamping areas are divided into three. In each division there are circles with two concentric circles (item marked as 4 on Fig. 3.11).

In terms of morphology and design Ulucak stamps are analogous to specimens from Central and West Anatolia as well as to the ones that are known from EN sites in mainland Greece and Macedonia (compare seals with spirals and concentric circles in Lichter 2005: Fig. 3). However, the quadrangular example with labyrinth designs from Phase Vb closely resembles Balkan stamps rather than Anatolian or Greek ones (see Makkay 1984).

**Sling shots:** Ulucak's Neolithic levels contain large amounts of sling shots, which are found singly in debris or as piles in buildings.<sup>18</sup> These objects are made out of clay and have either biconical or ovoid shapes (Fig. 3.12). Biconical type is dominating the sling assemblage with 84%. Only Level V contained more than 570 sling missiles (Korfmann, Dedeoğlu and Erdalkıran 2007: 42). These numbers



**Figure 3.12: Ulucak sling typology. Left: the biconical type; Right: Ovoid type (after Korfmann *et al.* 2007: Res. 4a)**

clearly indicate that sling missiles were produced in large quantities at the site, were stored in the buildings (frequently in jars or daub bins) and clearly constituted as the main choice of weapon within the community. It should be noted that at Ulucak sling missiles are present from the middle 7<sup>th</sup> millennium BCE onwards and continue to be used until the abandonment of the settlement around 5700 cal. BCE. Projectile points are extremely rare in the lithic assemblage. Korfmann (1973) underlines the fact that sling shots are as effective as arrowheads as weapons in reminding us of the story of David fighting against Goliath. Slings travel 75 m/sec in the air and clay specimens are effective at distances between 20-60 m whereas they may reach distances as far as 200 m (Ivanova 2008: 58-59). The Ulucak community was clearly well-trained in utilizing this weapon effectively in potential conflicts or during hunting expeditions. Both Perlés (2001) and Arsebük and Korfmann (1976: 136) mention that these objects might also

<sup>18</sup> For details on sling shots from Ulucak, see Korfmann, Dedeoğlu and Erdalkıran 2007.



have been used by shepherds to protect their flocks from possible attacks from wild animals.

Sling shots should certainly be mentioned among the other important items that are encountered in the Neolithic assemblages. Biconical and ovoid clay sling missiles are one of the most widespread elements of the Neolithic Package in Southwest Asia, Anatolia and Southeast Europe (Çilingiroğlu, Ç. 2005). Özdoğan (2002) asserts that these objects appear after the disappearance of stone arrowheads in Southwest Asia and Anatolia. For instance, at Sabi Abyad sling missiles do not appear in basal deposits but appear in the late stages of pre-Halaf horizon in Level 9 which is dated to 6200-6100 cal. BCE (Nieuwenhuys 2007: 38). In this light, they are seen as taking the position of weapons or hunting devices until bronze arrowheads appear. Moreover, Özdoğan (2002) maintains that sling shots can be correlated with the appearance of RSBW, therefore making this object a chronologically distinctive item. The near absence of projectile points at Ulucak IV-V is an interesting aspect that needs further scholarly attention.

**Prismatic polypod vessels (so-called “offering tables” or “cult tables”):** The typology and vast distribution of these objects throughout Central and West Anatolia, as well as Southeastern Europe, has already been studied by Schwarzberg. He demonstrates that the quantity of these objects is especially high at sites from Northwest Anatolia – in other words, at Fikirtepe Culture Sites (Schwarzberg 2005). Such vessels are also known in Anatolia from Lake District sites like Hacilar, Kuruçay and Höyücek (Duru 1994, 1999; Duru and Umurtak 2005), as well as from sites in the vicinity of İzmir like Moralı, Çaltıdere and Höyücek II (Dinç 1997; Meriç 1993 respectively).

Ulucak polypod vessels represent the only examples from Central-West Anatolia that were found in secured contexts. Of seven fragments from Ulucak which belong to such vessels, three are very badly preserved (only one leg), whereas the rest are better preserved but still fragmentary. The ones whose preservation is restricted to only one leg are identified only tentatively as polypod vessels since there is a slight possibility that they might belong to anthropomorphic figurines. The best preserved example was found in a hearth area inside Building 13 from building Phase IVb. One fragment that was uncovered in the debris of Va gives us clues about the continuation of these vessels into the earlier phases. Below this occupation phase “offering tables” were not found.

**Bone Spatulas:** Variety of bone objects are present in Ulucak assemblage, which is dominated by needles and points at all occupation levels. Bone spatulas are among the typical objects associated with 7-6<sup>th</sup> millennia BCE communities of Southwest Asia and Southeast Europe. The earliest examples of bone spatulas are reaching back to PPNA period (Çilingiroğlu, Ç. 2005: 5). Basal Çatalhöyük and Bademağacı likewise contained these objects (Çilingiroğlu, Ç. 2005: Tab. 2). At Ulucak, both levels yielded bone spatulas of varying size and morphology. Some of the spatulas are elongated, flat and thin objects with pierced holes on one narrow side (Çilingiroğlu *et al.* 2004: Fig. 34). Some, however, have round long handles and a wide shallow end and these resemble modern kitchen spatulas the most. The precise function of these objects is unclear. Russell points out that they might have been used for eating, plastering or preparing soft substances (Russell 2005: 348). Best preserved spatulas originate from Level Va at Ulucak where two specimens were found to the south of Building 22 lying parallel to each other on the plastered floor (See Çilingiroğlu and Çilingiroğlu 2007: Fig. 26). A fragmented bone spatula (only the shallow spoon-like part) was recovered in a fill deposit below Level Ve indicating that these objects were produced already around the mid 7<sup>th</sup> millennium BCE at the site.

### ***I. Subsistence***

Current scientific evidence clearly demonstrates that the vital steps for an agro-pastoral life (domestication of plants and animals) were established independently in several localities around the world; Southwest Asia being the earliest. Southwest Asian hunter-gatherers domesticated major crops like wheat and barley and animals like dog, sheep, goat, cattle, and pig. The current knowledge, constituted by multiple scientific disciplines (archaeology, biology, genetics, history), also suggests that in Southwest Asia domesticated plants and animals dispersed towards East and West (Zvelebil 2001: 1) by means of human mobility and adaptation of farming by hunter-gatherers who came in contact with the farmers (Zvelebil 2001: 5; Diamond 2002).

Wild progenitors of the “founder crops” (emmer, einkorn, barley, pea, lentil, chickpea, bitter vetch, and flax) identified by Zohary and Hopf (1993) are not found in West Anatolia as a package. It is argued that the sudden co-occurrence of the founder crops, in their domesticated state, is an excellent indication of non-local domestication and infiltration into the area by those who possessed these domesticated species (Colledge *et al.* 2004).

At Ulucak the botanical and archaeological remains from the earliest habitation layers and onwards indicate that the locale was inhabited by an advanced food-producing community. Botanical samples from Level IVb were analyzed by Megaloudi (2005), who distinguished two main cereal types produced at Ulucak. These are einkorn wheat (*Triticum monococcum*) and six-rowed barley (*Hordeum vulgare*), both of which could be found in their wild forms in West Anatolia but were probably domesticated somewhere around the Fertile Crescent. Zohary and Hopf point out that as one of the founder crops einkorn has the advantages of being able to grow on poor soils and has high nutritional values, although its yield is not as high as some other cereals (Zohary and Hopf 1994). Another advantage of einkorn wheat is that it could be stored for a longer period than, for example, bread wheat. Six-rowed barley, which appeared through a mutation from the wild two-rowed barley during the domestication process, is another founder crop that has the ability to resist “*drier conditions, poorer soils and some salinity*” (Zohary and Hopf 1994: 55). Both einkorn wheat and six-rowed barley grow around belts of oak forests and in secondary habitats, like *maquis* or abandoned fields. These environments all exist today in the vicinity of the Ulucak mound.

High concentrations of wheat were discovered at Building 8 where traces of a fierce fire were recorded. Megaloudi (2005: 29) underlines that the agricultural products were first sieved to separate the grains from their by-products and were stored in the buildings, ready to be consumed. This is an important hint in terms of the way in which agricultural production was processed.

The analyses on the botanical remains of Ulucak V still continue. Aylan Erkal of Ankara Middle East Technical University, who is analyzing the samples as part of her doctoral dissertation, indicates that primarily wheat, barley and lentil were produced by this community. She asserts that the inhabitants of Ulucak IV-V possessed great knowledge of advanced farming strategies, which were highly-adapted to well-watered alluvial plains.<sup>19</sup> Future research will provide further insights into the environmental interactions and subsistence strategies of the Ulucak community through time.

The types of agricultural practices employed by the Ulucak community are unknown but it is possible that the readily available, fertile alluvial plains surrounding the settlement could have been utilized as cultivation fields. In this case, woodland clearance to gain

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<sup>19</sup> I would like to thank Aylan Erkal for providing her preliminary results to me.

cultivable land may not have been necessary. As mentioned above, the Ulucak community may have practiced cultivation techniques like flood plain cultivation, this requires low amounts of labor but wide spaces of land; and/or they may have practiced intensive garden cultivation, which requires intensive labor and integration of animal husbandry (Bogaard 2004; Halstead 1989). Based on the fact that sheep and goat remains dominated the osteological assemblage with 75% at Neolithic Ulucak (Trantalidou 2005) and because the flood area of the Nif Stream might not have covered wide areas, Halstead's suggestion that intensive garden cultivation was employed seems plausible. This particular type of cultivation involves row-sowing, hand-weeding, hoeing, manuring, and watering. According to this model, sheep and goat flocks that are pastured on fallow fields for regeneration and manuring assure the long-term stability of the settlements (Halstead 1989).

The estimates demonstrate that a household of five individuals consume around 1500 kg cereals annually, which depending on the yield per hectare requires roughly 1-3.7 ha of cultivated land. On the other hand, ethnographic records show that intensive cereal cultivation can produce yields from 800 to 1900 kg/ha, depending on the weather conditions (see Bogaard 2004: Table 2.1 and 2.2). These figures indicate that a family of five individuals should be able to annually cultivate at least two hectares of land in order to assure a survival that relies on crop cultivation. Since fluctuations in precipitation and temperatures are well-known instances in the Mediterranean, a minimum agricultural yield has serious consequences for the entire community. Such an event would inevitably necessitate alternative ways of obtaining food, such as slaughtering domestic animals, additional hunting/gathering/fishing or consuming forest products like acorns (Halstead 1999; see also Braudel 1972: 246-265 for historically documented cases). Indeed Kayan underlines the fact that frequent fluctuations in precipitation and temperatures are one of the most important characteristics of the current climate around Kemalpaşa Plain (Kayan 1999: 8). In line with this, Braudel (1972: 244) describes the perpetual threat of bad agricultural yields in the 16<sup>th</sup> century Mediterranean with the following words:

“In the sixteenth century it was rare for a harvest to escape in turn all the dangers that threatened it. Yields were small, and in view of the limited space devoted to cereal growing, the Mediterranean was always on the verge of famine. A few changes in the temperature and a shortage of rainfall were enough to endanger human life. Everything was affected accordingly, even politics.”

In short, Ulucak's optimal location bordering a fertile alluvial plain does not guarantee an escape from short-term fluctuations in weather conditions for the community. In years

of bad yield the presence of forests must have vastly contributed to the survival of the community. It is known that acorns are consumed by people in times of food shortage as a substitute for cereals and therefore are known as “bread of hunger in Southwest Asia (Zohary and Hopf 1994). Acorns (*Quercus sp.*) are already attested at Ulucak IV and might have been consumed by the community in a similar situation (Megaloudi 2005: 30). It is common knowledge that acorns contain tannins that need to be removed before they become palatable. Several ways are available to remove the poisonous substance from the acorns: leaching, roasting or burying the acorns in a pit for several months (Martinoli 2004: 74). It can be assumed that the Ulucak community possessed the knowledge of making acorns edible for humans.

Nevertheless, we should note that Ulucak IV-V encompasses a period of circa 1000 years which is a clear indication of its lasting socio-economical stability and availability of reliable food resources. Ulucak community took advantage of the highly fertile alluvium plain surrounding their settlement for a millennium.

In terms of the osteological remains from Levels V and IV, it can be stated without doubt that morphologically domesticated sheep, goat, cattle, and pig were found in the assemblage. Additionally, animal husbandry was an important part of the diet. It was dominated by ovicaprids, which constitute more than 75% of the whole assemblage, whereas cattle comprise around 12% and pig only 4% (Trantalidou 2005). Similar results were obtained by Çakırlar (2008), who has been studying the animal bones since 2007 from the Neolithic deposits. The information provided below draws on her first preliminary report, which was based on the analysis of 5,173 bone and 222 mollusc specimens. According to Çakırlar (2008), pigs were kept solely for their meat and they, together with cattle, played a secondary role in the subsistence. Sheep and goat dominate the assemblage in the entire occupation from Layer Vc to IVb.

One of the objectives of Çakırlar’s ongoing research is to reveal whether secondary products (especially dairy products) were consumed by members of the Ulucak community and if yes, when this trend began. The production of dairy foodstuffs during the Anatolian Neolithic, especially from cattle, was verified by a recent study which aimed to detect raw milk lipids absorbed by ceramic containers (Evershed *et al.* 2008). At Ulucak, the possible existence of dairy products needs to be further investigated with more samples in order to discover the culling patterns. Çakırlar’s preliminary analysis of kill-off patterns indicates that domestic animals were kept entirely for their meat during

Level V (pre-6000 cal. BCE), whereas in Level IV (6000-5700 cal. BCE) a mixed exploitation strategy was adapted which targeted both meat and secondary products. This reflects a major change in the attitude towards domestic animals and has profound effects on the subsistence patterns of communities. This trend is especially visible in the cattle kill-off patterns which show that more adult cattle are present in the assemblage.

Bird and tortoise remains are rarely found in the studied assemblage. Two fish bones were found in the samples analyzed by Trantalidou (2005), however, their species remains unknown due to bad preservation. The quasi-absence of bird and fish remains might be a reflection of the excavation strategies that were utilized rather than the exclusion of these species from the diet of the Ulucak community.

Both Trantalidou and Çakırlar concluded that hunting played a minor role in the subsistence at Ulucak. Çakırlar (2008) notes that in Level V hunting was particularly less pronounced than in any other periods present in the mound, including the Early Bronze Age levels. Current evidence indicates that Anatolian fallow deer (*Dama dama*) were the most frequently hunted animals in both levels. In Level IV there is a marked increase in the number of these deer. In terms of wild taxa, fallow deer is followed by roe deer (*Capreolus capreolus*), wild boar (*Sus scrofa*), wild goat (*Capra aegagrus*) and red deer (*Cervus elaphus*). European hare (*Lepus europaeus*), red fox (*Vulpus vulpus*) and brown bear (*Ursus arctos*) are among the other identified wild species that only sporadically appear.

Archaeomalacological studies were also conducted in order to understand the role of molluscs in the subsistence patterns (Karali 2005; Çakırlar 2007). It is evident that Ulucak was an inland site with at least a 15 km distance to the coast during the 6<sup>th</sup> millennium BCE. This might be the explanation as to why aquatic sources did not play a major role in this period, especially if we consider the low number of fish and mollusc remains from Neolithic contexts as opposed to EBA levels. Nevertheless, at least 14 mollusc species were identified from Level IV. Lagoon cockle shells (*Cerastoderma glaucum*) dominated the assemblage and were most probably collected and consumed by the community. The presence of dentalium, or rustic dove shells (*Columbella rustica*), is construed as ornaments rather than remnants of food. Relatively high numbers of mollusc species, compared to the number of species identified in EBA levels for instance, might indicate the community's well-established knowledge concerning the coastal environments and the habitats of these organisms. Although marine sources do

not constitute a critical portion of the subsistence, their existence can be used not only as evidence of the community's familiarity with mollusc collecting, keeping and processing, but also of regular mobility of at least some of the members to the coast. Consumption of marine shells continues into the first half of the 7<sup>th</sup> millennium BCE as indicated by a shell midden found at sub-Layer Vf, which contained more than 500 mollusc shells.

### **Analysis of Ulucak IV and V Pottery**

#### ***A. Pottery Analysis Methods***

##### **1. Main bibliographical sources used in the study**

In this study a number of books and articles were used as key sources of information on pottery production, ethnographical case studies and the requirements of well-formulated pottery analyses. These references include Shepard 1980; Rice 1987; Schneider 1989; Orton, Tyers and Vince 1993; and Ökse 1999 and 2002. The design of the database introduced below relies to a great extent on the suggestions made in these studies.

Shepard 1980 is a book which provides substantial ethnographic information on the raw material procurement, manufacturing techniques of hand-made pottery, and characteristics of prehistoric pottery. I found it especially enlightening in terms of the discussions on the relation between the clay and color of the pottery.

Rice 1987 and Orton, Tyers and Vince 1993 were both useful in terms of the richness of the information provided on the every aspect of pottery manufacturing, from the properties of clay to the firing conditions. Substantial and well-written data is also provided about the aims and methods of pottery analysis. It also provided some of the form definitions for my study.

Schneider 1989 is a source which helps in terms of the methods of a pottery analysis. Which properties and characteristics of the vessels should be given attention in a



coherent pottery analysis? How they should be categorized? These are the main questions that are discussed in the article.

Ökse 1999; 2002 are the only books in Turkish that aim to provide the general framework of the pottery analysis for the archaeologists. They are especially useful in terms of the pottery terminology, definitions and pottery morphology.

## **2. Initial processing of the assemblage**

During the excavation the pottery from the excavation units would initially be washed. Secondly, the diagnostic pieces (i.e. complete vessels, rims, bases, handles, decorated sherds) would receive unique illustration numbers, which were written on the inner side of the sherds. From the start of the excavations, because of the lack of storage possibilities, diagnostic sherds were separated from the body sherds. The latter were kept in the excavation house while the diagnostic pieces were taken to be stored at the lab at Ege University. I was only able to study the diagnostic pieces that were housed in the archaeology laboratory in Ege University, İzmir.

The analysis of the Ulucak pottery followed the method known as “Selective Sampling.” This is a method applied to obtain reliable data by analyzing representative amounts of material from designated secure archaeological contexts (Rice 1987: 323). Therefore, the first step in studying the pottery was a careful examination of the excavation documentation, including daily reports, photos and plans. This was done to determine where well-preserved contexts and deposits were, of which could contain the most reliable and well-dateable material. A careful study of the excavation documentation revealed the excavation units that needed to be included in the analysis. The material selected was studied according to the building phases, starting with the youngest, which were identified in the past excavation seasons by the excavators. Each and every diagnostic sherd from the selected closed contexts was documented, measured and described in terms of physical appearance, technological aspects and morphology.

In total, 2,981 diagnostic pieces from 383 excavation units were subjected to detailed analysis (Tab. 4.1). Of these, 2,865 diagnostic pieces were included in the statistical analysis and the rest were categorized as belonging to mixed or unstratified contexts. The majority of the analyzed material stem from building phases IVb, Va and Vb. These three building phases provided the best preserved domestic contexts and they have large amounts of pottery associated with them. Other building phases (IVa, IVc, IVd-k) were

excavated in very restricted areas, which resulted in the recovery of only small quantities of pottery from these layers. Especially building phases IVd to IVk were exposed in a restricted area in Grid N11. Small sample size of pottery from building phases IVg and IVi impedes reliable statistical conclusions. Selective sampling was especially applied to ceramics from building phases IVa, IVb and IVc. Phases Va and Vb revealed smaller amounts of pottery that were recovered from within only two grids and all the excavation units from both of these buildings phases that proved to be secure were subject to analysis.

Building Phases	IVa	IVb	IVc	IVd	IVe	IVf	IVg	IVh	IVi	IVk	Va	Vb
Number of analyzed diagnostics	342	657	215	131	167	142	89	201	52	140	387	342
Complete profiles	3	33	1	-	-	-	-	2	-	-	9	18

**Table 4.1: Number of diagnostic sherds and complete profiles analyzed according to building phases.**

In order to avoid the inclusion of contaminated pottery from these phases, in particular from secure contexts, all house deposits were analyzed. These data were entered into a Microsoft Access database designed by the author which enabled further quantitative analysis.

### 3. Description of the fields in the databank

#### 3.1. General information

**Catalog ID:** a unique number automatically provided by the databank for each entry.

**Excavation Code:** the code given to the sherds during the excavation which stem from a common deposit. It refers to a single excavation unit. The codes are composed of three uppercase letters (e.g. “CDG”).

**Drawing Number:** a unique number which is given to every single diagnostic sherd that was drawn during the excavation. The code and the drawing number are also written on the sherd (e.g. “BGR 3578”).

**Notes:** includes any additional information that needs to be given about the sherd. For example, whether there is any trace of secondary use such as holes made after firing.

**Current Location:** describes whether the piece is currently located in the store room of Ege University, at the excavation house or in the İzmir Archaeological Museum.

**Figure Link:** the file that contains the picture(s) of the piece.

**Drawing Link:** the file that contains the drawing(s) of the piece.

### **3.2. Contextual Information**

This is a sub-form that provides information on the details of the recovery and context of the vessels or diagnostic sherds. Some of the information is already available through the databank of the Ulucak excavations and some of them are entered by the author.

“Trench Name,” “Layer,” “Date,” “Elevation Start,” “Elevation End,” “Size of the Sherds,” “Number of Diagnostics,” “Find Location,” “Important Remarks,” and “Associated Finds” can be found here. With the help of this information it is easier to understand and evaluate the sherds and their recovery information. It also provides important information on the relationship between the pottery finds and the structures, architectural elements and other finds; this might help in identifying the function of a building, an open area or function of a vessel.

### **3.3. Physical Properties**

**Information obtained:** describes whether the diagnostic sherd is a “Rim Sherd,” “Base,” “Handle or Lug,” “Body Sherd,” or a “Whole Profile.” There is also the “Other” option, which is used to record rarely occurring elements such as lids, spouts or feet of offering tables.

**Size:** knowing the approximate size of any given sherd is important because it provides information on how well-preserved the piece (or whole context) is. It is also helpful to know the size of a sherd when it is no longer available for observation. Size was measured with the help of a sheet of paper on which different sized squares were drawn. The squares measured 2 x 2, 3 x 3, 4 x 4, 5 x 5 cm and so on. By placing the sherd on a square, one is able to see the approximate size in square centimeters. However, complete vessels cannot be measured with this technique; in these cases this data field is left empty.

**Height:** measured with calipers in centimeters by holding the sherd in its original position. This field is particularly significant for the complete vessels of which their size is best understood through recording height and rim diameter.

**Wall Thickness:** a significant criterion for understanding the quality of the vessels. Wall thickness was measured with calipers in millimeters. There may be discrepancy between

the wall thicknesses of various areas of a single vessel. Generally, rim sherds are more helpful when the goal is to determine the “fineness” of any given vessel.

**Non-Plastic Inclusions:** include every material type that is observed in the clay composition. These could be part of the natural clay composition or they could also be added later by the potter as real temper. Clays, whether from primary or secondary deposits, include materials other than clay particles like other minerals such as quartz and mica or organic components (Rice 1987: 37). At Ulucak IV-V the most frequently appearing inclusions in the clay matrix are grits, chaff, sand, and mica. Lime appears far less than the aforementioned components.

Shepard points out that clay deposits from streams and flood plains contain sand (Shepard 1980: 11). Indeed in Ulucak Neolithic pottery sand and mica seem to be appearing naturally in at least some of the clays used by the potters. It was made clear by the clustering analysis of pottery sherds that at Ulucak IV various clay sources were exploited, indicated by nine different chemical compositions (Liritzis 2005: 35). It is possible that some of these sources were located on or near the Nif Stream, which might well have contained sand, mica or even organic material. Since it is not possible to distinguish between real “temper” (unless for instance, it is made up of pottery particles, hair, blood, or shell) and material already available in the clay, these categories are not addressed separately in this work.

It is also important to consider that different parts of the vessels might contain different types of inclusions or that these inclusions may vary in size and quantity (Schneider 1989: 12). Therefore, this is another point which needs to be taken into consideration when the data is evaluated.

**Size of Inclusions:** contains three categories, which are “Big,” “Medium” and “Small.” In order to provide coherency, the chart in Orton *et al.* 1993: 238 was used. It is designed to help ceramic specialists determine the size and amount of the non-plastic inclusions. By using this chart one is able to compare the sherd with the images on the chart and make more quick and reliable decisions concerning these inclusions. Small inclusions are considered to be 0.5-1.0 mm, medium inclusions are between 1.0-2.0 mm and big inclusions are larger than 2.0 mm (Orton, Tyers and Vince 1993: 238).

**Amount of Inclusions:** again decided with the help of the chart on page 238 in Orton *et al.* 1993. The result is then given as “Few,” “Middle/Regular” or “Abundant” as suggested in Schneider 1989. “Few” inclusions represents a 5% presence of inclusions in the clay. A regularly occurring value indicates around 10 to 20% of non-plastic particles

in the clay and abundant inclusions is the presence of more than 30% of inclusions in the clay.

**Fracture:** one of the most important information sources that provides reliable clues about the firing conditions. Fractures can have several compositions which allow us to interpret the firing atmosphere. For instance, dark gray fractures indicate incomplete oxidation, meaning either insufficient oxygen entering the atmosphere or short periods and/or low temperatures of firing. Organic matter in the clay also causes dark colored fractures. Light colored fractures are an indication of adequately oxidized firing conditions (Rice 1987). Hence, this datafield is used to document the composition of the fracture. The categories are “Single-Colored,” “Two- Layered,” “Three-Layered,” “Multi-Colored,” and “Unidentifiable.” Both single-colored and three-layered fractures occur frequently at Ulucak.

**Fracture Color:** another data field about the properties of core. If the composition is three-layered, the colors are documented from top to bottom in the following format: “orange-gray-orange.” Or if they are two-layered then they are listed in the following format: “dark gray-brown.” For color categories, see the *Surface Color* description included in this section.

**Porosity:** understood as defined in Schneider 1989 as “Wasseraufnahmefähigkeit.” In actuality, most of the Ulucak pottery is non-porous, since it was as a rule carefully slipped and/or burnished. However, some pieces did contain small pores on the surface that were either uncovered by the burnishing or as a result of the burnt organic material during the firing process. These were then labeled as “Fine-Porous.” Other possibilities are “Coarse-Porous,” “Non-Porous” and “Unidentifiable”.

**Hardness:** one of the most problematic information categories during the entire pottery analysis. At first, I had the intention to adopt the Mohs’ hardness scale. However, it proved to be useless, at least for Ulucak Neolithic pottery, since practically every sherd could be scratched by a steel blade and only a very small fraction of the sherds could be scratched using a finger nail. This might indicate that most of the Ulucak Neolithic pottery had hardness levels somewhere between “Moderate” to “Hard.” Another method that seemed to work better was to break the sherds and try to experience the resistance at the time of the breakage. It is known that hardness is influenced by many factors like the nature of the firing, porosity, size of the non-plastic inclusions, and/or post-depositional processes (Orton et. al 1993: 138). My criteria used herein for hardness is “Very Hard,” “Hard,” “Moderate,” “Soft,” and “Unidentifiable.” The pieces that could be scratched

with a finger are classified as soft. The distinction between moderate and hard was determined through the breaking method. Very hard pieces are usually the ones that were exposed to extreme heat during or after their use-life.

**Surface Color:** exists as another disputed issue. Terms like “chocolate brown,” “buff,” “jet black,” “crimson,” or “cherry-colored” are completely avoided as they are susceptible to various interpretations. The color categories used in this study are “Red,” “Dark Red,” “Reddish Brown,” “Orange,” “Light Brown,” “Brown,” “Dark Brown,” “Cream,” “Gray,” “Black,” “White,” and “Unidentifiable.” I have defined the surface color by the most dominant color on the surface. For example, if the sherd shows two colors (e.g. red and orange), I chose the color which covers more area on the sherd. I also make an addition note that such pieces display more than one color.

It is generally assumed that Munsell soil color charts (1998) provide universally uniform categories that enable researchers to have a uniform system of colors that can escape relative perceptions of colors. I tried to create a similar, easy to understand surface color system by using common color names, which should be more or less clear to everyone. Nevertheless, the color categories that are used in the text are provided here with their Munsell code below so that reader can compare my designations at any time with that found in the Munsell Soil Charts.<sup>20</sup>

Red: 2.5YR4/8; 2.5YR4/6; 2.5YR5/8.

Light Brown: 10YR6/3; 10YR6/4.

Brown: 7.5YR4/4; 7.5YR5/4; 10YR5/2; 10YR5/3.

Dark Brown: 7.5YR3/1; 7.5YR3/2.

Dark Red: 2.5YR3/6; 2.5YR 2.5/3; 2.5YR 2.5/4.

Orange: 7.5YR 7/6; 7.5YR7/8.

Cream: 7.5YR8/4; 7.5YR8/1; 7.5YR8/3; 7.5YR8/2; 10YR8/3.

Light Orange: 7.5YR8/6; 10YR8/8.

Reddish Brown: 2.5YR4/4; 2.5YR4/6.

Gray: GLEY2 4/10B.

Dark Gray: 2.5Y2.5/1; Gley2 3/5PB.

**Distribution of Color:** as already mentioned, because many of the sherds bear more than one color, I added this category to help the reader visualize the actual appearance of

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<sup>20</sup> These categories are also valid for the fracture colors (see *Fracture Color* section on the previous page).

the sherd. By classifying the surface color distribution as “Regular,” “Irregular” or “Unidentifiable,” one can understand that even if the sherd is defined as red, this color cannot be observed all over the surface.

**Surface Remarks:** a data field that provides additional information concerning the sherds’ surfaces. For example, it is noted here as to whether or not the sherd is smooth, mottled, uneven, crazed, cracked, or sooted. In the case of mottled pieces, all the colors seen on the surface are recorded. Additionally, this section records whether or not there are any fingerprints, mat traces, rubbing or burnishing traces visible on the sherd. The surfaces of the sherds may have also been transformed by post-depositional processes, such as when they come into contact with acid soils, salts, carbonates, and rootlets. Indeed some analyzed examples had white encrustations on their surface indicating such processes. All colors that are observed on the surface are also mentioned. In short, the surface remarks section aids in obtaining information concerning the manufacturing techniques, firing processes, function, post-depositional effects, and preservation of the vessels.

**Slipped:** a “yes” or “no” question. The slip (or coat) is understood as “a suspension of clay in water,” which is applied once or several times to the surface of the vessel with a brush, naked hand or a piece of cloth by dipping or pouring (Shepard 1980: 67; Rice 1987: 150). The main reason for applying a slip to the surface is to give the vessel a better appearance in terms of color and texture, and to obtain a desired color and a non-porous surface (Shepard 1980: 191; Ökse 1999). Large vessels tend to be slipped with the pouring method whereas smaller-sized vessels are dipped into the slip.

Schneider points out that a slip, which is made out of pigments to give a different color to a vessel, should rather be called a “wash” (Schneider 1989: 13). Rice defines the distinction between slip and wash quite differently by saying that the former is applied before and the latter after the firing (Rice 1987: 151). Ökse underlines that the washes usually are watery suspensions which allows one to see the original paste and the inclusions through the wash layer (Ökse 1999: 29).

These contradictory definitions are one of the reasons why I did not include this category into my analysis. Secondly, if Schneider’s definition is correct, it is not known precisely whether the red or cream slips are pigments or simply clay suspensions. Chemical analyses are needed in order to ascertain what kinds of coating materials are used at Ulucak. Thirdly, as Ökse points out, washes form a transparent layer over the paste, thus enabling the viewer to see the original paste. Since transparent surfaces are almost never

the case for the Ulucak IV-V pottery, it seemed to be inappropriate to adopt this term once again.

**Slip Coverage:** defines which part of the sherd or vessel was covered with a slip. The possibilities are “Wholly”, “Outside Wholly”, “Partly” and “Unidentifiable”. Almost all of the sherds and vessels from Neolithic Ulucak are either wholly covered with a slip or their outer surfaces are wholly covered.

**Burnished:** another “yes” or “no” question. Burnishing is understood as the process of rubbing and smoothing the surface of a vessel when it is leather-hard with a hard tool made out of wood, stone or bone in order to obtain a bright, even, compact, and non-porous surface. If visible on the outer surface, the direction of the burnishing strokes is also recorded, with the options being: “Horizontal,” “Vertical” or “Diagonal.”

**Brightness:** not every burnished sherd has the same brightness and therefore I have created four categories for this data field. The brightness types are “Very Bright,” “Bright,” “Non-Bright,” and “Unidentifiable.” The only problematic distinction is between bright and very bright pottery sherds. I would define the very bright sherds as ones which “reflect the light as from a mirror” due to their compact and even surfaces (Shepard 1980: 122). Note that I do not use the category “metallic bright.”

**Decoration Type:** contains seven categories, which seek to encompass all the decoration types that appear at Neolithic Ulucak (Fig. 4.1). These groups are “Impressed,” “Incised,” “Painted,” “Plastic,” “Barbotine,” “Pattern Burnished,” and “Other.”

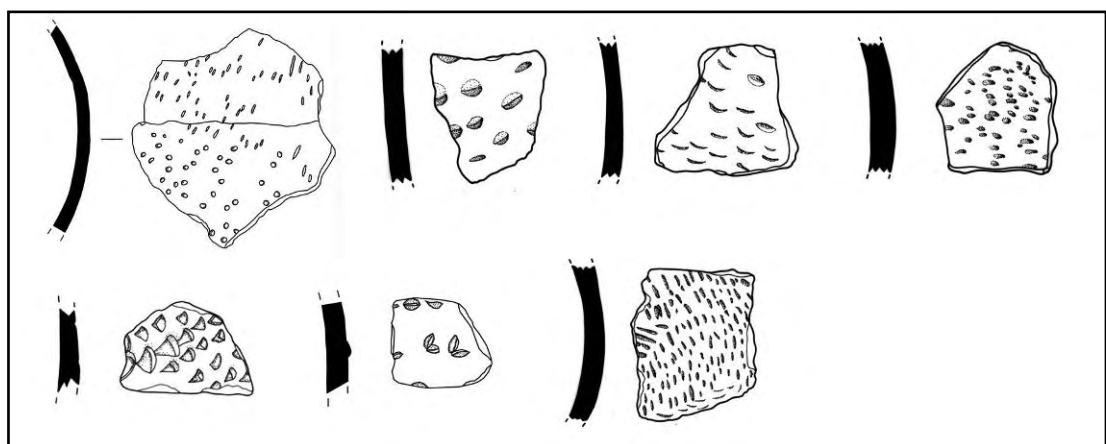


Figure 4.1: Different types of impressions observed on Ulucak IV-V pottery.

**Decoration Description:** the data field where the details of the decoration are described. For example, if an impressed sherd needs to be further described, then shape, density and



orientation of the impressions would be detailed in this category. If the sherd is painted, then the type and shape of the paint is described here. This field is important in terms of understanding the variation in the decorations. It seeks to define whether they were executed carefully or whether the decoration covers the whole surface, as well as what kind of tool might have been used to execute the impressions and so forth.

**Color of Paint:** obviously used only for the painted sherds. The color is again defined in line with the Munsell Soil Chart, as “Red,” “Brown,” “Cream,” et cetera.

**Ware Type:** the field where the ware group of the sherd is given. Ware groups at Ulucak were defined using four main criteria: non-plastic inclusions, wall thickness, surface color, and surface treatment.

The most frequently appearing ceramic category at Ulucak is called “Red-Slipped and Burnished Ware” (RSBW). This category has two main sub-categories that include “RSBW-org,” referring to chaff-tempered red-slipped wares, and “RSBW-min,” referring to mineral-tempered red-slipped wares.

Red-slipped and burnished wares are already well-known in the archaeological literature. French (1965; 1967) called this ware type “plain burnished ware” and Mellaart (1970) included them in his “monochrome pottery” category. Recently, Özdoğan (2007: 414) called them “red-slipped wares” and Lichter (2006: 34) named them “*westanatolisch rot polierten Keramik*.” In this study, they will be referred to as RSBW.

Other ware categories used in this analysis are “Cream-Slipped and Burnished Ware,” “Gray Ware,” “Red-on-Cream Painted Ware,” “Cream-on-Red Painted Ware,” “Coarse Ware,” “Brown Burnished Ware,” “Mica Glimmer Ware,” “Other,” and “Unidentifiable.” Cream-slipped and burnished wares are also divided into two categories according to their non-plastic inclusions as CSBW-min and CSBW-org similar to RSBW. The wares and their defining criteria are described in detail in the following section.

### **3.4. Definition of wares**

**Red-Slipped and Burnished Ware (RSBW):** the most frequently appearing ware at Ulucak IV-V, appearing from 40-80% in all building phases (Photo Plate 4.1). The majority of pottery that is found in Levels V-IV belong to this group. The distinctive characteristics of this ware are, as the name implies, the surface color and treatment. The non-plastic inclusions in the pastes vary. Sand, mica, small grits, chaff, and other types

of inclusions such as lime appear in various combinations in the clay. Sand and mica might be naturally occurring in the clay and chaff inclusions may reflect a separate pottery production tradition. Therefore, it seemed to be appropriate to create two sub-categories for this ware group. Sherds which contain chaff together with mineral inclusions were named as “RSBW-org,” while material that contained solely mineral temper was labeled as “RSBW-min.” In Level IV RSBW is typically tempered with chaff (83%), whereas in Level V mineral inclusions, namely sand, mica, small grit, is more commonly found (84%).

The pastes for this ware are compact to porous and found in tones of orange, brown or gray.

The fractures are typically inoxidized or incompletely oxidized. Three-layered fractures, as well as dark gray-dark brown colored fractures, are very common. RSBW-org is especially associated with black layers and inoxidized pastes as the carbon in the clay cannot escape completely during the firing process.

The vessels are always covered with a layer of slip, either made out of pigments or clay suspension, which gives the surface a red color. The layer of slip cannot always be distinguished clearly, as it can be thin and always adheres well to the body. However, surface color at the end of the firing process did not always turn out to be red. Surface colors range from orange, light brown, brown, to dark red. Usually it is the case that surface color is composed of various tones due to the firing conditions (oxidation, duration of the firing and heat). Different hues, or grayish-blackish areas caused by sooting or burning, are seen frequently. In some cases, the outer and inner parts of the vessel show different colors (e.g. the outside is red and the inside is gray or vice versa). This is probably due to the limited control of the firing conditions. Therefore, we see different chromas and tones of red, brown and orange in Ulucak pottery.

Another important characteristic of the RSBW vessels are their bright surfaces achieved through careful burnishing. It is known that many unrestricted vessels are burnished both on the outside and inside. Sometimes one can observe rubbing traces on the vessel's surface, which were left by the tool used during the burnishing process. Some examples are so bright that they reflect the light as if from a mirror.

RSBW usually display a fine character with a wall thickness that generally ranges between 3-6 mm. However, one can distinguish between two sub-variants in terms of quality, which are called “fine” and “coarser” variants. Coarser variants appear frequently and although they are red-colored, slipped and burnished like the fine RSBW,

the walls are thicker and the size and/or amount of the inclusions may be bigger. Moreover, the surface treatment is not executed as finely as with the finer variant.

There are no specific vessel shapes that are exclusively associated with RSBW. Practically every vessel type found at Ulucak V-IV was executed in this ware.

Decoration is seen seldom on the RSBW vessels. There are few examples with impressions and plastic decoration. The painted ones are evaluated under other ware names, like “cream-on-red ware.”

**Cream-Slipped and Burnished Ware (CSBW):** a ware type that occurs in relatively low numbers in Levels IV-V (Photo Plate 4.2). Their number increase in early IV and Level Va. They have a finer appearance than RSBW with very bright surfaces and thick coating. The non-plastic inclusions are chaff, sand and mica, sometimes with grits. “CSBW-org” and “CSBW-min” are sub-categories for this group. The size of the inclusions are small to medium. Fractures are oxidized with orange-light brown colors, although incompletely oxidized fractures also exist. The most important difference between CSBW and RSBW is that CSBW’s distinctive surface color is white-cream, light brown or light orange. Otherwise, their manufacturing process seems to be identical to RSBW.

Just like RSBW, they have a fine appearance with bright surfaces and very thin walls (3-5 mm). The cream-slip might again be a pigment rather than a clay suspension. Finally, another characteristic of CSBW is their thick whitish slips which are occasionally cracked.

**Brown Burnished Ware (BBW):** especially encountered in large numbers in Level V. They generally have dark-colored inoxidized cores, small-middle mineral inclusions, moderate firing, and dark colored, burnished, non-porous and non-bright to bright surfaces (Photo Plates 5.2 and 6.1). Surface colors range mainly from brown to dark brown with regular or irregular distribution. The slip or any coating present cannot be distinguished. If they are slipped, they must were slipped by the same clay as was used for the body. Wall thickness is around 3.5-4 mm. Despite their thin walls, their appearance is coarser than RSBW and CSBW. BBW can be described as fine-medium dark-colored burnished pottery with mineral non-plastic inclusions. They are especially associated with hole-mouth jars, appearing in the early levels of the site.

**Gray Ware:** in most cases associated with impressed body sherds; and their combined number is low. Most impressed vessels did not survive wholly intact but rather as single body or rim-sherds. This might indicate their less durable nature due to the firing

conditions or manufacturing techniques. Their paste, color and surface treatments are obviously different from the other slipped and burnished wares (Photo Plate 5.1). They have a coarser appearance with rough and non-bright unburnished surfaces. The slip cannot be distinguished and if any coating exists it is the same as the clay (e.g. what can be called “self-slip”). Some of them show glimmering micaceous surfaces and many are not well-preserved. The Gray Ware paste includes non-plastic inclusions like chaff, sand, grit, and mica. The fractures are usually dark gray or brown. Surface colors may vary from light gray, to gray, to brown. Despite Gray Ware’s coarse looking surfaces, in most cases their wall thickness does not exceed 4 mm. Gray Wares can be classified as one of the coarse fabrics at Ulucak IV-V but whether they were associated with cooking cannot be inferred. They are typically associated with impressed pottery and do not appear below Level Va.

**Coarse Ware:** as the name implies, used for sherds or vessels with a coarser appearance that is achieved through thicker walls, large-sized grit inclusions and the absence of careful surface treatment (Photo Plate 8.1). Coarse Ware can be burnished, although they mostly have non-bright surfaces. There are porous as well as non-porous examples. Fractures are mainly gray or dark brown and occasionally orange. The firing ranges are between moderate to hard. Cream Ware surface colors vary from cream to gray and dark brown. Their wall thickness is usually between 5-6 mm. The amount of Cream Ware is extremely low in the entire assemblage.

**Red-on-Cream Ware:** a very well known pottery type of West Anatolian Early Chalcolithic assemblages, although they occur very rarely in Central-West Anatolia. These are very fine wares with very thin and brittle walls (Photo Plate 7.1). As the name implies, its most characteristic property is the red paint applied on a cream-slipped and burnished surface. In this sense, it is actually a variety of cream-slipped and burnished ware because the other properties are just the same as cream-slipped and burnished ware. The paint that is used to decorate the vessel is probably the same as the slip used for the RSBW. This ware occurs only rarely in Ulucak IV-V.

**Cream-on-Red Ware:** the cream painted version of the RSBW (Photo Plate 7.2). Just like red-on-cream ware it does not occur frequently in the assemblage. The paint is probably the same material as the slip used for cream-slipped and burnished wares. Paint is probably applied to the red burnished surface before firing. There is one example where cream paint was not burnished but left as it was applied.

**Mica Glimmer Ware:** appears with building Level Vb and seems to be peculiar to the earlier building phases of Ulucak. Their amount is very low in the overall ceramic assemblage, yet they are easily distinguished from other wares by their surfaces (Photo Plate 6.2). The surface glimmers due to the intensive numbers of tiny mica particles in the clay. This is different than the mica gloss observed on various other wares. Mica glimmer can also be referred to as “mica wash” and seems to be an intentional act of the potters. The fabric is similar to brown burnished ware with mineral inclusions, moderate firing and single layered, dark colored cores. Surface color ranges from dark red, light brown to dark brown. Burnishing is common.

**Unidentifiable:** a data field for the pieces which have extremely worn-out surfaces or are covered with a thick layer of minerals which prevent us from determining the ware. Many vessels from the heavily burnt settlements at IVb belong to this category.

### 3.5. Morphological information

**Rim Type:** seven main rim types occur in Ulucak Neolithic pottery; these are “Simple,” “Incurving” “Everted,” “Sharply Everted,” “Flattened,” and “Bead-Rim” (Fig. 4.2; see the appendix for summary of rim morphology). A rim is identified as simple when the lip is left rounded and straight. Incurving rims are, as the name implies, rims that are turned inside. Everted rims have a lip that is turned slightly outwards. A sharply everted rim would have a more defined curve towards the outside. Flattened rims are very characteristic of Ulucak Neolithic pottery. They display a deliberately flattened and thickened area along the rim which is achieved by pressing a stone, thumb or any other instrument on the rim. Their rim width can range between 3-30 mm. A bead-rim is when the rim is thickened on the outside forming a groove all around the vessel’s mouth.

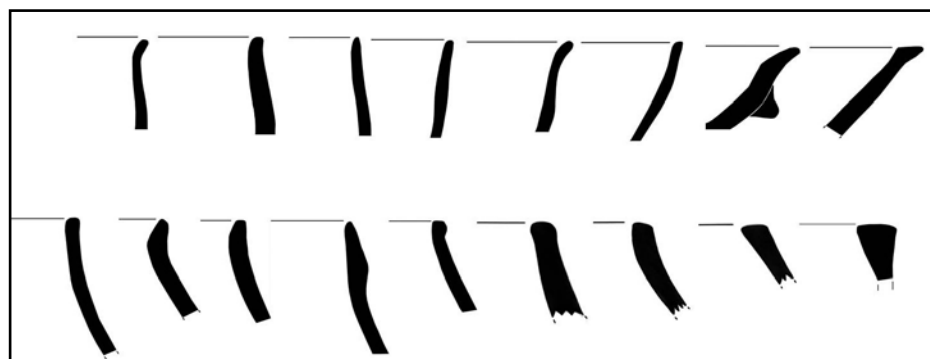


Figure 4.2: Rim types at Ulucak IV-V.

**Rim Diameter:** one of the most important pieces of information that expresses how big the vessel was originally. In order to measure the rim, a chart with concentric circles (with a 0.5 cm increasing radius) was used to measure the diameter quickly and reliably. There is no need to mention that the bigger the sherd is, the less the risk of mismeasurement is.

**Diameter Remarks:** a data field where the number of concentric circles the rim-sherd covers on the diameter chart is noted. This field enables me to know how much of the original rim was preserved and how reliable the data are concerning the rim diameter and vessel shape.

**Base Type:** has seven different categories, which are: “Flat,” “Disc,” “Ringed,” “Other,” and “Unidentifiable.” Most of the bases that occur at Ulucak IV-V are either flat or disc bases (see the appendix for summary of base morphology).

**Base Diameter:** another important data field used to find out about the stability and size of the vessel. This measurement has also been made with the help of the rim chart, which as mentioned was also employed for the rim diameter. One problem with measuring the base diameters appeared when the base was oval in shape; in this case, it did not fit the circles of the diameter chart. Therefore, such oval-based pieces were measured with help from calipers or then when they were not well- preserved enough, their diameters could not be measured.

**Base Remarks:** data field that provides information on the size and preservation conditions of the base, as well as the type of manufacture. Additionally, it contains information on the shape of the base (e.g. whether it is oval) and if there are any mat traces on the base would also be mentioned here.

**Handle Type:** there are two basic categories of handles associated with Neolithic pottery, “Loop” and “Basket” handles. I have used the definitions for these two types as given in Ökse 1999: 94-96. Loop handles are handles that usually are horizontally attached to the body vessel. Basket handles are attached to the rim, stretching from one side to the other. The analysis revealed that basket handles are absent at Ulucak IV-V and handles altogether are extremely rare.

**Lug Type:** include “Vertical Tubular,” “Knob,” “Double-Knob,” “Pierced Knob,” “Other,” and “Unidentifiable.” Since tubular lugs always occur vertically, they are labeled as “Vertical Tubular.” Knobs appear to resemble “buttons,” with a small amount of clay simply attached to the surface. Theoretically, lugs are used to hang the vessels

with ropes or to cover their lids, whereas knobs are useful to by which to grab vessels (see the appendix for summary of lug morphology).

**Number of Lugs:** total number of lugs appearing on a vessel.

**Orientation of the Handle/Lug:** four alternative lug-types are “Horizontal,” “Vertical,” “Other,” and “Unidentifiable.” This information is needed in order to reconstruct the original form of the handle or lug. This might also provide information on the function of the vessel. “Other” represents lugs or handles that are attached diagonally to the body, a feature that does occur on Ulucak vessels.

**Width:** of the lugs, handles or flattened rims. This is recorded in millimeters.

**Length:** of the lugs, especially of vertical tubular lugs. Since they occur in various lengths, it is important to record the variety of lug sizes. This measurement may shed light on the function and execution of the vessels. This data is recorded in millimeters.

### **3.6. Definitions of vessel shapes**

Ökse 2002 and Rice 1987 are the main sources that I have found useful in defining vessel shapes appearing at Neolithic Ulucak. One of the methods of identifying vessel shapes suggested by these authors rests on the principle of measuring the ratio of height to maximum diameter of a vessel, which helps to determine the vessel type (Rice 1987: 217; Ökse 2002: 100). In most cases these methods proved to be of general use, although, one has to mention that they are both time-consuming and fail to apply to prehistoric pottery which is void of standardization. Rice rightly underlines the fact that universally defining vessel shapes is probably too ambitious a project and not without its flaws (Rice 1987: 217). It is clear that almost every ceramic analyst has his/her own criteria when it comes to defining shapes and forms. Therefore, I found it useful to provide the reader with the definitions below of the terminology used in this particular study and to mention the criteria that diverge from the strict definitions provided by Ökse and Rice.

**Restricted Orifice:** when the orifice diameter is smaller than the maximum diameter of the body.

**Unrestricted Orifice:** when the mouth diameter is equal to or larger than the maximum diameter of the body.

**Dishes:** are always unrestricted. A dish is a container whose height is more than 1/5 but less than 1/3 of its maximum diameter.

**Beakers:** are small sized containers whose diameter is smaller than its height and whose rim diameter does not exceed 15 cm. They normally have no handles.

**Bowls:** can have restricted and unrestricted orifices. One of the definitions for bowls is a container whose height can measure from 1/3 to equal the amount of its maximum diameter (Rice 1987: 216).

Bowls have similar sizes to dishes but are deeper than them. At Ulucak, their rim diameters mostly range from 9-20 cm with depths mainly from 5-8 cm. Bowls have sub-categories that are defined according to their profiles; such bowls are “Bowls with ‘s’-Shaped Profiles,” “Bowls with Straight Profiles” and “Bowls with Convex Profiles” (see the appendix for summary of bowl morphology). Bowls with ‘s’-shaped profiles can have defined or slight ‘s’-shaped profiles. Bowls with convex profiles can have vertical or flaring upper bodies, depending on the angle of the rim and where the belly was situated. Usually if the bowl has a lower belly the upper body would be vertical. If there is no defined belly, then the angle would be less than 90-100°. Finally, there is the well-known “hole-mouth bowl” which has a restricted orifice and a globular body whose width exceeds the rim diameter. One true example of such a bowl is found in Vb deposits.

**Large Bowls:** or *Schüssel* or *Çanak* bowls, have shapes similar to that of bowls but they have larger volumes. Large bowls are frequently found in the Ulucak assemblage. They normally have rim diameters from 21-35 cm or depths that exceed 10 cm. There is no clear-cut distinction between bowls and large bowls at Ulucak and the definition of the large bowls is inevitably arbitrary, relying mainly on the rim diameter of the vessel. When the depth of a vessel cannot be measured, the rim diameter was used as the defining criterion. Large bowls can have convex and ‘s’-shaped profiles. Oval variants of large bowls with ‘s’-shaped profiles are also found in the IVb assemblage (see the appendix for summary of large bowl morphology).

**Jars:** always have restricted orifices, usually with rim diameters that are half the size of their maximum body diameters. Jars are also defined as containers whose height can be equal to or greater than their maximum diameters. Jars may occur in various sizes with or without necks. At Ulucak, there are both variations. Jars without necks are very common, having mainly globular bodies and can appear with ‘s’-shaped or convex profiles (see the appendix for summary of jar morphology).

“Jars with Necks” also appear with globular bodies, having sub-varieties that are classified according to the shape of their necks. These are “Jars with Vertical Necks,”



“Jars with Everted Necks” and “Jars with Short Necks.” Short-necked jars have necks that are shorter than 3 cm and can have ‘s’-shaped profiles.

**Jug:** basically a jar with a spout whose primary purpose is pouring liquids. Very few examples are known from Ulucak. There is one complete jug found in Building 30 (Pl. 38.1).

**Miniature Vessel:** is a vessel that can be identified as a small cup with a height lower or equal to 5 cm. They can occur in the form of bowls or jars.

**Anthropomorphic Vessels:** are jar-like containers that have a human form. Two examples are known from Ulucak IVb (Pl. 15.1 and 15.2; see also the appendix for miscellaneous forms).

**Offering Tables:** are shallow vessels that are usually rectilinear or square in shape, with four short legs (see the appendix for miscellaneous forms). In literature they are commonly referred to as offering tables although their functions remain unknown to date. They are also called “prismatic polypod vessels” (see Schwarzberg 2005).

**Sieves:** are containers whose walls are completely or partially pierced (see the appendix for miscellaneous forms).

**Special forms:** include any other rare form that is not represented in the other vessel categories such as “braziers” or “lids” (see the appendix for miscellaneous forms).

**Unidentifiable:** are the diagnostic sherds of which their bad preservation or small sizes do not enable us to identify their original form.

#### **4. Illustration**

Illustration of Ulucak pottery was in progress since the beginning of the excavations at the site. Diagnostic sherds (i.e. rims, bases, handles, lugs, and decorated pieces) from each collection unit are given a unique number and drawn by the team members during the excavation season and then are consequently catalogued for the excavation documentation. Many of the illustrations used in this study stem from these drawings. I also received valuable help from archaeologist Canan Karataş, a member of the Ulucak team, who made ink drawings of some complete vessels and decorated sherds.

I have digitized and drawn many profile illustrations in the catalogue using FreeHand and Adobe Photoshop softwares. The pieces illustrated herein are generally presented at a 1:2 or 1:3 scale.

## ***B. Layer IVa***

### **1. Description of the phase**

Layer IVa constitutes the latest phase of the Neolithic settlement. Since it was directly under the Early Bronze Age deposits or in some cases very close to the surface, where agricultural activities took place, it was damaged considerably. Therefore, the excavators were not able to reveal whole structures belonging to this building phase. It appears to be represented by few architectural features. Additionally, it contains mostly yellowish or light brown compacted soil that occasionally was interspersed with burnt mud-brick pieces. Archaeological remains were uncovered in several areas including O11, O12, N11, N12, and M13. At trench N11 an oven and a hearth belonging to IVa were excavated. Data from M13, where the youngest phase of the North Street and Courtyard 20 were recovered, was included in the analysis. Finally, material uncovered from grid O11 is also present in our analyses.

Some of the IVa features contained post-Neolithic pottery, mainly Chalcolithic and Early Bronze Age, and rarely post-Bronze Age material. The Neolithic material is usually well-preserved but there are some exceptions where the surface is covered with minerals or salt particles that prevents surface visibility.

In total 342 diagnostic pottery sherds that stemmed from good contexts were analyzed from the top layer of the Ulucak IV. These constitute 159 rim sherds, 133 base fragments, 32 handles or lugs, 15 body sherds with decorations, and three complete profiles.<sup>21</sup>

### **2. Fabric**

Pottery from IVa is dominated by RSBW (Fig. 4.3) at 87% (n=305) of the assemblage, with coarser RSBW appearing only occasionally. RSBW-org constitutes 71% whereas RSBW-min only 29% of the RSBW. CSBW (n=20), gray ware (n=11) and coarse ware (n=9) each make up roughly 3% of the collection. There is no painted ware in the analyzed samples and there are nine unidentified sherds.

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<sup>21</sup> Analyzed excavation units from this layer are:  
AVA,AYG,AYU,AZF,AZG,AZH,AZI,AZJ,BAA,BAB,BAN,BAR,BBH,BBJ,BBR,BCEH,BCEI,BDB,  
CAD,CBI,CCG,CCI,CDG,CDI,CDJ,CER,CFI,CGD, and CJZ.

Non-plastic inclusions that appear in the pastes show certain homogeneity. Sand and mica occur in almost every paste, frequently along with organic material (n=132). Although less regular, small grits are present as well. Size of the inclusions range between small to middle but are dominated by small-sized inclusions (n=223). Only ten RSBW sherds contained large inclusions. The amounts of inclusions do not have a homogeneous character. Although all categories, from few to abundant inclusions, are observed, regularly occurring (n=211) and abundant (n=106) amounts are frequent. Bases tend to have regular to abundant amounts of inclusions, whereas rims normally have few to regularly occurring amounts. This might suggest that different clay compositions were used for different parts of the vessels. CSBW have in most cases small-sized but abundant amounts of inclusions composed of mica, sand and organic material. Most of the gray wares have organic and small grit as inclusions. This might indicate a functional preference in terms of gray wares.

Gray wares contain inclusions that are small to medium-sized and appear regularly to abundantly.



**Figure 4.3: Sample pottery (RSBW) from Layer IVa.**

Most of the sherds have single-colored fractures (n=285), which are dominated by gray-dark gray, brown-dark brown and orange cores. Completely black cores occur on ten examples. Together with 106 dark gray cores, black fractures indicate firing atmospheres that were not fully oxidized and the presence of abundant organic material in the paste. There are also 28 pieces that have fractures composed of three layers and 11 that have two-layered fractures. These sherds usually display brown-gray-brown or orange-dark

gray-orange layer combinations. Such layer combinations are most likely caused by the organic material in the paste; this material could not escape during the firing due to incomplete oxidation and therefore formed a dark-colored layer in the middle (Rice 1987: 334).

Hardness ranges mainly between soft (n=64) to moderate (n=245), with hard examples appearing only in 18 cases. Although fine-porous sherds occur frequently (92 out of 342) in the assemblage, due to pores left on the surface by the organic inclusions, the majority (n=234) of the pieces bear non-porous surfaces from slipping and fine burnishing. Coarse porous surfaces appear in only five cases and there are 11 pieces with invisible surfaces, which are left as unidentifiable.

Slip and burnish appear practically on every well-preserved piece, both covering the complete outer surfaces. Unrestricted vessels were slipped and burnished on the inside as well. It is observed that a good number of surfaces were bright due to the careful burnishing (n=232), although non-bright examples are not uncommon either (n=77). Only occasionally were there very bright pieces (n=26). Additionally, vertical (often) and horizontal (rarely) marks, which occurred during the burnishing process, can be observed on a number of sherds. Mottled, sooted and worn-out surfaces appear occasionally. Surfaces with mica glimmer are observed rarely (n=6).

There are many variations of surface colors present. Hues of orange (n=94), red (n=126) and brown (n=69) are the most frequently seen – in some cases appearing together on a single sherd. Gray, light brown, cream, and dark red surfaces are also seen. Irregular distribution of color over the surface is a rule rather than an exception. Additionally, it is not uncommon that outer and inner surfaces bear different colors, which might again point to irregular conditions of the firing atmosphere.

Coarse and gray wares are represented with only a small number of examples. Their pastes show no characteristics which vary from those seen in the RSBW; meaning sandy and organic inclusions are seen together with mica and small grits also present. Sizes of the non-plastic inclusions vary between medium to large, with the amount of inclusions being abundant. All examples of gray ware (n=11) have single-colored fractures that are gray or brown. Their hardness ranges between soft to moderate with surfaces that are non-porous in composition. Although they are slipped (probably self-slip) and sometimes rubbed, their surfaces remain non-bright. The surface color is either gray or

brown. Interestingly, five gray ware examples bear impressed decorations, this brings to mind that gray ware is related to vessels with impressed decorations. CSBW are non-porous and tempered with small-sized inclusions which normally are sand, mica and organic material. Additionally, they are both moderately fired with bright-very bright surfaces that are mainly cream or light brown in color.

### **3. Morphology**

#### **3.1. Size**

The mean size of the sherds is 23.6 cm<sup>2</sup>. The smallest sherd measured 4 cm<sup>2</sup> whereas the biggest approximately 100 cm<sup>2</sup>. The majority of the analyzed examples are 11-20 cm<sup>2</sup> in size, although there are 121 sherds that are bigger than 25 cm<sup>2</sup>. Fifty-four pieces are not preserved at heights exceeding 2 cm. The mean preserved height of the sherds is 3.7 cm with a maximum value of 12 cm and a minimum value of 0.9 cm.

#### **3.2. Wall Thickness**

The average wall thickness in this layer is 5.5 mm. The thinnest wall is only 2 mm whereas the thickest is 17 mm. The average thickness of the rims is 5 mm, with 2 mm the lowest and 15 mm the highest in value. In general, the walls of the sherds can be classified as thin. One hundred and eighteen rim sherds have a wall thickness that measures between 2-4 mm –giving a fine ware appearance to the pottery. The remaining sherds have thicknesses that range between 5-7 mm.

In observing specific ware types, the wall thickness of gray ware ranges from 5 to 15 mm with an average of 7.3 mm. The coarse wares here have values between 4-11 mm with an average of 6 mm for their wall thickness.

In contrast to the rims, the average thickness of bases is 6.25 mm, which indicates the robust structure of the bases. This robustness provided stability to the vessel.

#### **3.3. Vessel Shapes**

Jars with everted necks and jars without necks dominate the assemblage (Pl. 1-3). The most frequently appearing jars are as follows: jars with vertical necks (6%), jars with everted necks (34%), jars without necks (37%), and jars with short necks (12%). Jars seem to be associated with flattened rims whereas bowls have either everted or simple rims. One of the RSBW jars has nail impressions on the shoulder (Pl. 1.1). Only one jar without a neck carries a pierced knob. Other notable vessel types that occur in this phase

are bowls with convex and 's'-shaped profiles (Pl. 2.6, 2.7, 2.11, 3.1, 3.2 and 3.3). Together, these two bowl types are represented by a total of 20 examples. Bowls with straight profiles appear in much smaller quantities (n=2). Four large bowls with "s'-shaped profiles and three fragments of large bowls with convex profiles complete the assemblage. There is also one rim sherd belonging to a dish and two miniature vessels (Pl. 2.9, 2.10) from this layer.

### **3.4. Rims**

There are three major types of rims that occur in the assemblage, these are simple (49%), everted (33%) and flattened rims (15%). Incurving, inner-thickened and sharply everted rim forms are represented with very few examples. One inner-thickened rim sherd might even have been an intrusive piece from Chalcolithic layers. Flattened rims have highly varying thicknesses which range from 3 to 30 mm, appearing usually within the range of 3-7 mm. Such rims mainly appear on jar rims, while thicker flattened rims usually belong to jars without necks.

The average rim diameter is 15.4 cm with 6 cm being the smallest and 30 cm representing the largest values. Values over 20 cm are rare.

### **3.5. Bases**

Flat bases dominate the assemblage with 107 examples from a total of 136 examples (Pl. 4). There are 27 disc bases and only one ring base among the analyzed examples. There are 16 cases where the base is not circular but oval (Pl. 4.2). Oval shaped bases can be either flat or disc shaped. Base diameters range between 4 and 20 cm with an average of 9.8 cm. Most of the bases have a diameter between 9 and 12 cm. Values over 14 cm are extremely rare.

### **3.6. Handles and Lugs**

Among the most common addition to the body of the vessel are various types of lugs. These lugs are dominated by vertically placed tubular lugs and knobs. Thirteen out of 33 lugs belong to vertically placed tubular lugs and appear in varying lengths and widths (Pl. 5.8). Their lengths may fluctuate between 20 to 55 mm.

Twelve single, four double and two pierced knobs constitute the second largest group (Pl. 5.1-5.7). Lugs were simply attached to the vessel body and then either pierced or left unmodified. This was probably done before the vessel was slipped and burnished. All

the lugs are burnished but the areas where the body and lug are attached to one another were not carefully burnished.

In this assemblage, handles are a rare feature represented with only five loop handles, which are small in size and either horizontally or vertically attached to the vessels.

### 3.7. Decoration

Decoration is another feature that does not occur frequently in this phase. Fifteen out of 342 sherds have decoration. Additionally, there is one red-slipped sherd that has three vertical lines that were made through burnishing. However, it is not clear if this was intended to be a pattern burnish decoration. Fourteen sherds were impressed and one has plastic decoration with an unclear motif.



Figure 4.4: Impressions on Gray Wares (IVa)

Impressions appear to have been made at a stage in the vessel production when the pottery was still moist or leather-hard. The impressions were made with either a sharp thin instrument or then by using their fingernails (Pl. 5.10-5.17). Nail-like impressions appear with the greatest frequency, with tear-drops and half circle impressions also present (Fig. 4.4). All

impressions always cover the entire surface of the sherds but whether they covered the entire surface of the vessels is unknown because no whole vessels with impressed decorations survived from this building phase.

Nine of the impressed sherds have red slip and burnish and five of them belong to the gray ware category. Five of the red-slipped and impressed pieces have non-bright surfaces, as do all of the impressed gray wares.

## C. Layer IVb

### 1. Description of the phase

Level IVb constitutes a vast area, which revealed cultural remains from ten different excavation areas.<sup>22</sup> The areas that were closer to the center of the mound were better preserved than those towards the edge of the mound. The areas at the outer extremities of the mound had their artifactual remains situated much closer to the surface and were in many areas cut by Bronze Age and Roman buildings (such as at excavation areas L13 and K13). In certain areas the deposits reached 2.5 meters in thickness and for the most part they were close to the current mound

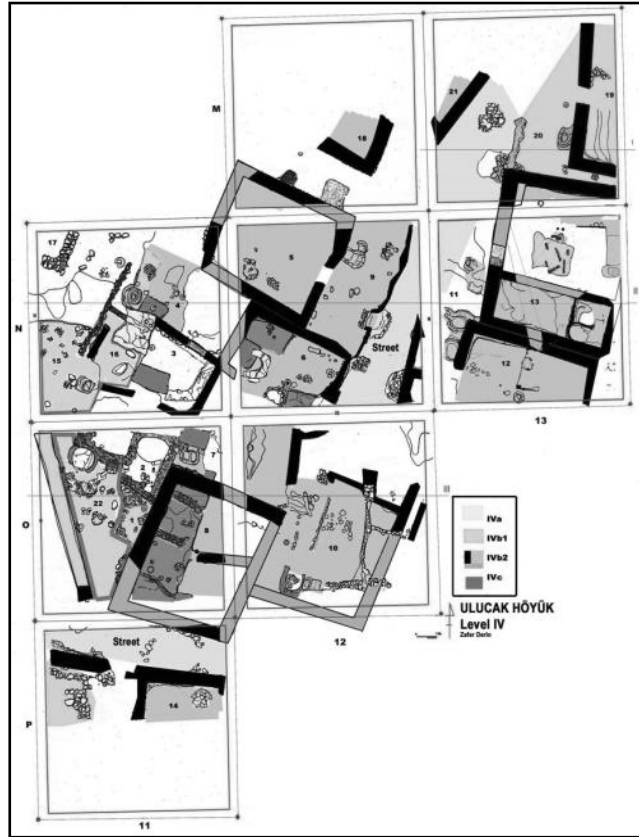


Figure 4.5: Plan of settlement IVb at Ulucak.

surface. Generally, they appeared

right under the Roman, or EBA, remains; this section contains massive burnt mud-brick debris and is distinguished by its yellow-orange-colored charcoal. Such debris and charcoal can be traced throughout the mound, pointing to the relatively large size of the settlement at that time. Since the architectural remains that were uncovered from this phase have already been described in detail elsewhere, only the major characteristics of this settlement will be outlined here (see Çilingiroğlu *et al.* 2004).

The excavators have divided this level into two sub-layers since most of the houses from this phase show at least two renewal phases. The significance of this phase is the result of its excellent preservation, which in some excavation areas has revealed mud-brick

<sup>22</sup> The ten different excavation areas for Level IVb are: P11 (2000), O11 (1998-2000), O12 (1998-2000), N11 (1999-2004), N12 (1998-1999), N13 (2000-2003), M12 (2001), M13 (2001-2002), L13 (2002-2006), and K13 (2005-2006).



walls up to 1.5 m high. However, there are still some areas where only a small part of the mud-brick wall or only the stone foundations have survived. The inner architectural elements, like clay platforms, ovens and storage facilities, were also preserved inside the houses; although again, the degree of preservation differs from one excavation area to the other. Some open or lightly covered activity areas were also discovered during the excavations such as the areas referred to as North Street and South Street. These areas contain evidence of daily activities like food preparation or tool manufacturing. At least three buildings, 5, 13 and 19, seem to have lightly covered courtyards, which may have been used for food preparation or as penning areas (Fig. 4.5).

A representative sample of pottery from this level was studied in detail. These pieces were found in Buildings 1, 3-6, 8, 10, and 12-14, and Courtyards 9, 11 and 20, as well as the area designated as North Street (Fig. 4.5). Within these areas the pottery was mostly recovered from closed contexts, especially building fills and floors, and open areas. In total 657 diagnostic sherds and complete vessels were analyzed. There are 33 complete profiles, 353 rim sherds, 183 bases, 59 handles/lugs, 28 decorated body sherds and one foot piece. Twenty of the complete profiles are currently in two different archaeological museums in İzmir.<sup>23</sup>

An additional section on the IVb material and their distribution in the excavated buildings is provided at the end of this part.

## 2. Fabric

Eighty-three percent of the assemblage can be assigned to the RSBW (n=545), which includes coarse and fine variants. Fourteen percent of all RSBW belongs to the coarser variant. The RSBW-org constitutes 76% and the RSBW-min 24% of the RSBW assemblage. CSBW (n=37) and red-on-cream (n=4) wares together make up 7% of the whole assemblage. Coarse ware (n=30) is represented with 5%, whereas Gray ware (n=8) constitutes only 1%. As usual, gray ware is associated with impressed sherds, although in this phase many red-slipped impressed sherds also appear.

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<sup>23</sup> The excavation units for Level IVb are as follows: AMM, AOO, AOP, AOY, APB, APD, APF, APH, APJ, APO, APP, ARA, ARB, ARC, ARD, ARE, ARF, ARN, ARP, ARR, ART, ARV, ARY, ARZ, ASG, ASK, ASN, ATY, ATZ, AUU, AVC, AVD, AVE, AVI, AVJ, AVK, AVM, AVO, AVR, AVY, AYH, AZK, AZM, AZO, AZP, AZR, AZU, BAD, BAF, BAJ, BAK, BAL, BBN, BCEA, BCEB, BCEG, BCES, BCEU, BCEY, BCEZ, BDA, BDE, BDK, BDL, BDO, BFR, BFS, BFY, BGH, BHC, BHD, BIU, BJJ, BLD, BLG, BLU, BMP, BNF, BOI, BOL, BOR, BPC, BPI, BPO, BRE, BRU, BRY, BSC, BSD, BSI, BSJ, BSM, BSN, BSO, BSP, BSS, BSY, BTB, BTC, BTH, BTK, BTL, BTN, BTZ, BUA, BUB, BUC, BZZ, CBH, CEJ, CET, CFJ, CFK, CFT, CGC, CGE, CHA, CHB, CHC, CHF, CIU, CKT, CLH, CLL, CLM, CLN, CLY, CLO, CLP, CLS, CLT, CLV, CLZ, CME, CMI, CMK, COI, CVC, CVD, CVL, and CYV.

There are four diagnostic sherds with black and very bright surfaces, tempered with organic, sand and mica inclusions, which cannot be identified as RSBW or as any other ware type. These pieces were identified as “other” during the analysis. Since they have common characteristics they can be tentatively called “black burnished ware;” however, they might be representative of RSBW that accidentally turned black during the firing process. Pottery with these properties was not identified in other building phases.

Additionally, due to the heavy fire event observed in this phase many vessels were secondarily burnt and lost their original paste and surface qualities. Therefore, 28 pieces are classified as “unidentifiable.”

In terms of non-plastic inclusions all the wares seem to share common components, nevertheless some slight differences persist. RSBW vessels mostly contain organic particles, mica and sand as inclusions, but the sand-mica or inclusions of grit occur to a lesser degree than the other inclusions. Organic-mica-sand inclusions are observed in 365 sherds. The mica-sand combination is seen in 129 examples, while sand-mica-grit appears only 11 times. The sizes of the non-plastics mainly range between small to medium and their sums vary from few to abundant. Small-sized non-plastics definitely dominate in the assemblage (n=475), while large-sized examples only number nine. The better part of the assemblage contains a regularly occurring amount of inclusions while abundant totals for the inclusions are also seen frequently (n=117). Few inclusions are observed on 77 examples. The CSBW contain mostly sand-mica or organic-sand-mica and rarely contain small grit. Coarse wares have predominantly organic-mica and sandy material as inclusions. Their size varies from small to medium and their amounts from regular to abundant. Gray wares mostly have sand-mica and to a lesser degree organic-mica-sand as their non-plastic inclusions. These inclusions are small in size and they range from few to regularly occurring amounts. Painted sherds (all red-on-cream) contain sand-mica inclusions that are small-middle in size and abundant in their quantity.

The majority of the cores are composed of a single-colored paste. Only 50 examples have two or three-layered cores.<sup>24</sup> Three-layered fractures are mostly composed of brown-gray-brown or orange-gray-orange layers. Gray or dark gray colors are mostly indicative of incompletely oxidized organic, non-plastic inclusions in the paste. Single-layered fractures show mainly brown (n=202), dark gray (n=75) and orange (n=122)

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<sup>24</sup> It should be noted that some of the complete vessels from this layer are being exhibited in museums and therefore their fracture properties could not be studied.

colored pastes. Cores that are completely black number 14. Orange, red, cream, and light brown fractures are present on a combined number of 186 pieces and their pattern of coloration indicates fully-oxidized firing conditions. Light brown, orange and brown fractures are mainly associated with sand-mica inclusions, although they also can occur with organic inclusions. Some of the sherds were apparently exposed to extreme heat, probably secondarily; this is indicated by their extreme hardness, matte surfaces and red-pink-yellow cores or almost slag-like appearance. These examples might have burnt during the fire that destroyed the entire settlement.

Four hundred and fifty-two examples are moderately hard, whereas 132 sherds are very hard. However, some of the examples seem to have been hardened during a secondary event, like the aforementioned fire. Fifty-five examples can be classified as “low-fired.” Four hundred and seven out of 653 sherds have non-porous surfaces. Few vessels have large pores (n=19). One hundred and eighty-nine examples have small pores on the surface, mostly left by the burnt chaff. The surfaces of 40 fragments were either worn-out or completely covered with soil or minerals which prevented all possible inferences into the porosity levels for these vessels.

Almost all of the examples that have visible surfaces are covered with a layer of slip, either completely or partially. Cream or red-colored slips are better preserved and thicker than the slips (probably “self-slips”) seen on gray wares. Burnishing also appears on the majority of the sherds (n=601). Only 23 sherds seem to have no traces of burnishing. These are mainly coarse and gray wares. The rest, especially RSBW, CSBW and painted wares, have burnishing present. Although bright surfaces are dominant in the assemblage (n=433), 165 pieces have non-bright surfaces. There are also a good number of RSBW sherds that are burnished, but have non-bright surfaces. Thirty-nine specimens with very bright surfaces occur in association with RSBW, CSBW and “black burnished ware.”

More than 90 sherds have their surfaces covered with minerals or salt, either completely or partially. Many of the base fragments are covered with soil on the inside. But as a whole, there are more well-preserved surfaces that reveal no covering layers. These mostly have bright surfaces and eight sherds even have burnishing marks on them. In four cases the marks are vertical; two of them are diagonal and two of them horizontal. One hundred and five examples show mica glimmering on their surfaces. Thirty-four examples are clearly mottled and sooting is observed on only 23 examples.

There is a variety of surface colors present in the sherds from this level, although orange-red tones clearly dominate, with 245 red sherds, 183 orange sherds and 44 dark red sherds. Additionally, there are 32 cream-colored sherds, 77 brown sherds and 15 gray examples. Dark brown, white and black examples are extremely few. The RSBW are mainly red or orange, with brown variants appearing less frequently. The CSBW have cream, light brown or light orange tones and the gray wares are either gray or brown. Red-on-cream wares are cream, light brown or whitish in color. Finally, coarse wares are dark brown, brown or orange.

### **3. Morphology**

#### **3.1. Size**

Apart from more than twenty complete vessels from this phase, which reflects both the good preservation conditions and the extensive excavation area, the preservation of vessel fragments is also better in this level than in many other older building phases. For instance, 168 vessel fragments have sizes larger than 30 cm<sup>2</sup> and more than 100 sherds are equal to or higher than six centimeters. Bases are as a rule better preserved than rim and body sherds. The worst preservation is seen on lugs or handles. There are around 80 pieces with sizes smaller than 10cm<sup>2</sup> and 155 sherds with preserved heights that are shorter than 3 cm.

#### **3.2. Wall Thickness**

The majority of the sherds from this level have wall thicknesses that range between 2-5 mm. Among them, 31 are only 2 mm and 122 sherds are only 3 mm thick. Most of these pieces are rim sherds, although even base fragments or body sherds can have such thin walls. Two hundred and forty sherds are 5-7 mm thick. Wall thicknesses that exceed 9 mm are extremely rare, numbering only nine individuals.

Out of 325 rim sherds 93 are 2-3 mm thick, 100 are 4 mm thick and 72 are 5 mm thick. These values point out just how fine the vessels are. Thin walls (2-3 mm) are mainly associated with RSBW, red-on-cream ware and CSBW, while thicker walls (between 4-6 mm) can generally be found in the gray wares. Coarse wares from this level have varying wall thicknesses that mainly range from 3-7 mm. The coarse wares with thin walls are observed only on miniature vases.

### 3.3. Vessel Shapes

There is great morphological variety among complete profiles preserved in this level. There are two anthropomorphic vessels (Pl. 15.1, 15.2), one possible brazier (Pl. 6.10), one bowl with an 's'-shaped profile, eight bowls with convex profiles (Pl. 6.1-6.7), one bowl with straight profiles, four large bowls with 's'-shaped profiles (Pl. 7.1-7.4), three jars with everted neck (Pl. 10.3, 10.5), two jars without necks, five jars with vertical necks (Pl. 10.2), three miniature vessels, two jars with short necks, and one offering table (Pl. 6.9). Two of the deep bowls with 's'-shaped profiles, one of the bowls with a straight profile and one of the necked jars have oval bases, and all have ellipsoid forms. One particular jar with an everted neck (BBN 3872) has an oval base and asymmetrical body shape that makes it look more like a churn than a normal jar (Pl. 10.5). These oval forms are peculiar to this level and therefore are of great interest. Anthropomorphic jars are likewise seen only in this level. Both represent female figures, one sitting and monochrome and the other standing, holding her breasts; the latter has red-colored stripes.

The rest of the assemblage is composed of a variety of vessel shapes (Pls. 8-15). The most frequently occurring forms are as follows: bowls with convex profiles (n=54), bowls with 's'-shaped profiles (n=34), jars without necks (n=62), jars with short necks (n=24), jars with everted necks (n=69), jars with vertical necks (n=19), and deep bowls with convex (n=23) and 's'-shaped profiles (n=16). Miniature vessels and beakers (Pl. 6.8) are among those encountered but are as a whole rare vessel types. It is observed that jars with long necks are frequently produced during the IVb settlement (Pl. 11).

Bowls with 's'-shaped profiles have rim diameters that range between 9-24 cm. Simple and everted rims are mostly associated with this vessel shape. Both RSBW and CSBW appear with this particular form. Length of the necks change between 1.5-2.5 cm with diameters between 9-24 cm. Jars without necks (Pl. 9) are associated with flattened and everted rims but there are also two bead-rimmed versions that were found with this form. Rim diameters of jars range between 10-24 cm. Wall thickness of jars without necks can range between 2-12 mm while most values lie between 4-6 mm. Jars with everted necks have diameters that range between 8-28 cm, with wall thicknesses that lie between 2-9 mm. Rim types associated with this vessel type are everted and simple types. Deep bowls with convex profiles (Pl. 14) are associated with RSBW and simple rims that have diameters ranging between 14- 32 cm. Only one example of a deep bowl has a bead-rim.

### **3.4. Rims**

Three hundred and eighty-six rims were analyzed from Level IVb. The rims are classified according to their morphology as follows: simple (n=179), everted (n=116), flattened (n=68), sharply everted (n=4), bead-rimmed (n=3), and other (n=6). Simple rims constitute 47% of all rim types and everted rims make up 30% of the rim types present. Eighteen percent of the rims are of the flattened form and they generally have widths that vary between 3-8 mm although the thickest example measures 23 mm.

As mentioned above, all three main rim types occur on jars, bowls and deep bowls. However, everted and simple rim types are associated more with deep bowls and bowls with 's'-shaped profiles and flattened rims are mainly seen on jars without necks or with short necks. Three bead-rims encountered in this level are significant since they do not appear in earlier building phases. Sharply everted rims are also few in number. Additionally, there are two instances where one knob is placed right on the sherd's lip. Bead-rims and lugs placed on the rim are characteristic features of this phase.

### **3.5. Bases**

There are 34 wholly preserved bases in the assemblage. Many bases are pored and cracked, while others are sooted, worn-out or covered with minerals and exposed to secondary firing. The majority of bases are simple flat bases (n=150), of which 25 of them are oval in shape (Pl. 17.10). Sixty-three base fragments are disc bases, with five belonging to the oval shape variant. Base diameters normally range between 7-20 cm, with 9.5 cm being the average width for all the bases. Flat bases tend to be wider (9.67 cm on average), whereas disc types are narrower (7.5 cm on average). Finally, disc bases can be up to 12-14 mm high and there are even some base examples that retained their body and/or base attachments.

### **3.6. Handles and Lugs**

Eighty lugs and only one loop handle were encountered in the assemblage (Pl. 16.1-16.14). In full, there are four types of lugs that appear in the analyzed assemblage, these are: vertically placed tubular lugs (n=30), single knobs (n=32), pierced knobs (n=9), and double knobs (n=7). Tubular lugs are generally placed in pairs or then separately on four sides of the vessels (mostly on jar bellies and shoulders), enabling the vessel to stay in balance when hanged. Tubular lugs can be quite small in size (e.g. 12 x 14 or 12 x 11 mm) or they may be thin and long reaching 14 x 56 or 12 x 40 mm in two such cases.

Another variation is thick and short tubular lugs, as seen on one of the deep bowls which measures 36 x 9 mm.

Single knobs are placed either horizontally or diagonally to the vessel body and sit on either the belly or shoulders (Pl. 16.1, 16.2, 16.3, 16.7, 16.9, 16.10). There is also one circular, button-like knob seen in the assemblage. The widths of the single knobs range between 7-40 mm and their lengths between 5-40 mm. Wide and short variants measure 31 x 5 or 40 x 8 mm.

Double knobs are seen less frequently (Pl. 16.8, 16.10). They are placed horizontally to the vessel's body, measuring in width between 22-35 mm and in length from 7-15 mm.

Finally, pierced knobs are in most cases horizontally placed upon the vessel and have size ranges of between 9-19 mm for length and 15-36 mm for their width.

### **3.7. Decoration**

Based on the 31 decorated examples of pottery found and analyzed from Phase IVb's assemblage, it is clear that decoration on pottery is rare for this phase. Most decoration constitutes impressions made with fingernails but there are also impressions made with pointed tools (Pl. 16.1, 16.2). Twenty-four out of 31 decorated examples exhibit impressions. The execution of the impressions varies. There are shallow-deep, irregular-regular and intensive-non-intensive variants that leave different types of impressions on the surface of a vessel. The most commonly observed impression shapes are shallow, nail-thin horizontal impressions, deep triangular shapes, deep half circles, and tear-drops. An assortment of these motifs can easily appear on the same vessel and can change their orientation as, most likely was the case, the potter turned the vessel in his hand. Additionally, there are four red-on-cream painted sherds, two pieces with plastic decorations and one punctuated body sherd. An anthropomorphic vessel with red stripes is the only complete vessel with painted decoration. All of the painted examples of sherds are red-on-cream and they are patterned with either thick single bands (11 mm wide) or thin horizontal bands.

## **4. Distribution of Pottery in Level IVb Buildings**

The aim here is to present the results of pottery analysis in relation to the buildings that were exposed. Using rim sherds, whole vessels and the recognized building types present I have tried to reconstruct the correlation between vessel shapes and various buildings.

This reconstruction was executed in order to understand the functional variation in different parts of the buildings, as well as to see whether patterns emerge in terms of the distribution of different kinds of pottery vessels in the settlement. To achieve this goal, I concentrated on the fills of well-preserved buildings and the pottery that was collected from their floors (Tab. 4.2).

Buildings/ Complete vessels	Crty 20	Bld 1	Bld 3	Bld 4	Bld 5	Bld 6	Bld 8	Bld 10	Crty 11	Bld 12	Bld 13	Bld 14	Bld 19
Bowl with 's'-shaped profile	1	-	-	-	-	-	-	1	-	-	-	-	-
Bowl with straight profile	1	-	-	-	-	-	-	-	1	-	-	-	1
Bowl with convex profile	-	-	1	-	-	-	-	1	-	-	-	1	-
Jar with everted neck	-	-	-	-	-	1	-	-	-	-	1	-	-
Deep bowl with 's'-shaped profile	-	-	-	-	-	-	1	2	-	-	-	-	-
Jar with vertical neck	-	1	-	1	-	-	-	-	-	-	-	1	-
Jar with short neck	-	-	-	-	-	-	-	-	-	-	-	-	-
Jar without neck	-	-	-	-	-	-	-	-	1	-	-	-	-
Anthropomorphic vessel	-	-	-	-	-	-	1	-	-	-	-	1	-
Miniature vessel	-	-	-	1	-	-	-	1	-	1	-	-	-
Offering table	-	-	-	-	-	-	-	-	-	-	1	-	-
Brazier	-	-	-	-	-	-	-	-	-	-	1	-	-

**Table 4.2: Number of complete vessels found in the buildings of Settlement IVb.**

### **Building 1**

This is a small sized building adjacent to the Building 8 in grid O11. The western and southern walls of this building did not survive. Therefore it is not possible to reconstruct the original plan. The floor of the building was exposed at 219.72 m. On the floor, five complete oval shaped bases were found *in situ*. At least two of these belong to jars, whereas one of them is probably an open vessel. Other rim fragments point to various jars present in the building. One whole profile from this building belongs to a jar with vertical neck, whose neck is 5 cm high and base is oval. There is one rim sherd which belongs to a bowl with convex profile and one belonging to a bowl with 's'-shaped profile. There are no decorated vessels from this building.

### **Building 3<sup>25</sup>**

This is a mud-brick building with up to one meter of preserved walls in grid N11d. The inner space contained several features like a clay platform and a flat-roofed oven. Its floor was discovered at 219.41 m. There is only one complete vessel recovered from this building – an oval-based bowl with a convex profile (BDA 3873). The other rim

<sup>25</sup> Building 3 is made up of the following analyzed excavation units: AUU, AZK, BCEG, BDA, BDE, BFR, BFS, BFY, BGH, BHC, BHD, and COI.



fragments indicate the presence of other jars, bowls and deep bowls in the building; they measure roughly 20-50 cm<sup>2</sup> in size. Nineteen jar, 15 bowl and 4 deep bowl fragments were identified; and the majority of them come from the west part of the building. Additionally, there were seven decorated sherds belonging to at least four different vessels found in this building. One of them has plastic decorations and the rest are decorated with impressions. The impressed pieces belong to the RSBW and gray wares. The impressions are either in the shape of half circles or then they are shallow fingernail-impressions.

#### **Building 4<sup>26</sup>**

This building is located to the north of Building 3 in grid N11c. It is a mud-brick building with stone foundations that measure approximately 6 x 3.2 m. The excavators recognized two building phases for this structure. The inner architectural elements include one flat-roofed oven, located close to the southwest corner of the building and a clay platform. The floor of the building is found at 218.87 m. This area yielded two whole sherd profiles; one from a miniature bowl with a convex profile (Excavation Unit: BDK 4120) and another from one jar with a vertical neck (Excavation Unit: BDL 4006). There are also at least two necked jars from this building. One of the necks is 4.2 cm and the other 7.8 cm high. Finally, there is one cream-slipped, impressed body sherd that was found in the northeast part of the building.

#### **Building 5<sup>27</sup>**

Building 5 is a rectilinear mud-brick building built on stone foundations that measure circa 6 x 6.5 m. The building is located in grids N12 and M12. Northern and northwestern parts of the building did not survive well. There is a door on the east wall opening to Courtyard 9. The floor was found at elevations 218.74-218.59 m. The fact that no inner architectural elements were discovered in the building is unusual for Ulucak when compared with the other buildings from the same phase. There is not a single whole sherd profile found in the building. The rim sherds, of which also have poor preservation, provide information on various vessel shapes that might have been present in the building. There are six bowl fragments, four with 's'-shaped profiles and two with convex profiles. There are nine fragments of jars with everted necks, five sherds from

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<sup>26</sup> Building 4 is made up of the following analyzed excavation units: BDK, BDL, CHF, and BDO.

<sup>27</sup> Building 5 is made up of the following analyzed excavation units: APH, ARV, ARY, ARZ, ASK, ASN, BAK, and BCA.

jars without necks and only one deep bowl with an 's'-shaped profile. One jar with a short neck has a bead-rim, something that appears seldom in the assemblage.

### **Building 6<sup>28</sup>**

Building 6 is another rectilinear mud-brick building in grid N12 and has an area of approximately 30m<sup>2</sup>. The plastered floor was unearthed at elevation 218.55 m. Two ovens and two clay platforms were discovered in the building. The oven was found adjacent to the western wall and next to it was a 20 cm high clay platform. Both were relatively well-preserved and the latter feature measures 2.15 x 1.5 m. The other oven, found on the southern wall, was not preserved well enough to reconstruct its shape. Large numbers of stone tools were found on the clay platforms. Loom weights were found on the eastern part of the northern platform.

One of the most interesting finds from this building is a very coarse, unfired mud bowl which held one female figurine and lithics (Excavation Unit: ASM). It was found in front of the damaged southern oven (Abay 2003: 18). The figurine is standing and headless. The body shape is typical for the Anatolian female figurines, with thick rounded legs and belly. This deposition is very reminiscent of the cache found in Building 13, suggesting that this could have been part of a ritual activity undertaken by the Ulucak community.

Most of the pottery from this building was found on the east side of the building in front of the eastern wall on the floor. There is one complete vessel from the building, which was found in pieces and then restored. It is a 16 cm high jar with an everted neck (Excavation Unit: BBN 3872). It has an interesting asymmetrical shape with a fairly long neck that is 5.6 cm high; its rim diameter is 11 cm. The base is oval-shaped and flat with a diameter measuring 7 x 4.9 cm. The surface is orange, matte, cracked, and covered with a transparent whitish layer. Such surfaces appear only on vessels that were exposed to high temperatures during their use life. It is tempered with chaff, mica, sand, and grits. It has two diagonally placed shallow lugs on two sides, which must have hardly been functional. Eight jar, three bowl and one deep bowl fragment complete the assemblage from this building.

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<sup>28</sup> Building 6 is made up of the following analyzed excavation units: AMM, AZM, BAD, BBN, BCB, BCS, BCY, and BCZ.

### **Building 8<sup>29</sup>**

Building 8 is a rectilinear mud-brick building that was built on single row stone foundations. It is located mainly in grids O11c-d and measures 8 x 6 m in size. The walls were preserved up to 87 cm and are plastered on the inside. The fill of the building is hard, yellow-colored and in some locations greenish. The inner space is divided into two by leveling and a thin mud wall. It was noted that the western part of the building is higher than the eastern part. The eastern part of the building contained apparent fire traces with many carbonized seeds. Two carbon dates were obtained from these charred remains, yielding conventional radiocarbon ages of 6900±70BP and 6980±60BP. Archaeobotanical analysis on the charred organic material revealed two big concentrations of einkorn wheat (*Triticum monococcum*) from this area, one containing 8,500 and the other 6,800 grains (Megaloudi 2005). It is very probable that the eastern part of the building was utilized as a store room. Another interesting feature about this section was the discovery of plastered wall fragments at 219.71 m deep. These wall fragments have brown-colored paintings on them displaying dots and wavy lines (Çilingiroğlu *et al.* 2004: 25).

Around 10 relatively well-preserved pottery vessels were recovered from the western part of Building 8. The pots were found lying separately on the floor, of which has an elevation of 219.37 m. The pots are all crushed from a probable roof and mud-brick wall collapse that occurred as a result of a heavy fire. Evidence for this fire can be seen on the pottery uncovered from this area in the form of their matte, cracked surfaces that are covered with a whitish transparent layer and red-pinkish pastes. Additionally, the pieces have a definite hardness and some even appear slag-like.

Of all the pots that were found in pieces on the floor, two turned out to be complete. One of these is an anthropomorphic vessel, found adjacent to the western wall of the building (Excavation Unit: APJ 3032), and the other is a deep bowl with a 's'-shaped profile (Excavation Unit: ARR 3158) that was found towards the western wall but was not attached to it. The anthropomorphic vessel is 21 cm high whereas the large bowl is 16.5 cm high.

Other vessels that could not be wholly restored include one jar with a short neck (Excavation Unit: ARF 3155) and three jars with everted necks (Excavation Units: ARP

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<sup>29</sup> Building 8 is made up of the following analyzed excavation units: AOO, AOP, AOY, APD, APF, APJ, APO, APP, ARA, ARB, ARD, ARE, ARF, ARP, ARR, ART, ASG, ATY, ATZ, AVC, AVK, AVO, and AVR.

3152, ARD 3154, AVO 3514). Some of the vessels only had their bases survive; these include ARE 3156, AVK 3697 and AVK 3698. It seems like all the well-preserved vessels are middle-large sized jars. One of the jars has a 24 cm rim diameter (Excavation Unit: ARF 3155) and quite possibly could be taller than 60 cm.

All of the vessels that were found lying on the floor deposit of Building 8 are RSBW except for the anthropomorphic vessel which has the same evidence of fire damage seen on the other post-depositionally altered pieces with the characteristic cracked matte surface and so forth. On this latter vessel, one can distinguish a cream surface color that has red paintings upon it. The paintings are in the form of stripes and can be observed on the face, shoulders, neck, and lower body of the vessel. The placement of these painted patterns may indicate body painting or some sort of clothing on the anthropomorphic figure. Additionally, the soil that was found in the vessel did not contain any plant remains.

The vessel body appears to have been formed in four steps. First the lower body was made, then the upper body, and then the neck was attached to the upper body. The arms and the nose for the piece must have been formed and attached at the very end, before the clay was dry. These last two anthropomorphic features are articulated, with the arms holding the breasts. The feet can also be distinguished on the piece.

The differing rim types as well as rim diameters found on several pieces confirms that there are other rim sherds from this assemblage that do not belong to any of the above mentioned vessels.<sup>30</sup> Other rim sherds from the fill of Building 8 belong to three jars with short necks, nine jars without necks, six jars with everted necks, four jars with vertical necks, two deep bowls with 's'-shaped profiles, two bowls with convex profiles, and five bowls with 's'-shaped profiles.

The number of decorated diagnostic sherds from this building is very low. Apart from the painted anthropomorphic vessel, there is only one red-slipped, impressed body sherd that was decorated intensively with half circles. Whether this piece belongs to one of the vessels is unclear.

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<sup>30</sup> The two exceptions to this are rim sherd AOO 2815 and rim sherd AOP 2244. Each one has an identical rim type, diameter, ware, surface type, and vessel shape.

### **Courtyard 9<sup>31</sup>**

This is an area in front of Building 5 that is surrounded with a 20-30 cm thick, 7 m long wattle-and-daub wall. This wall has an opening, indicated by a wooden threshold, leading to the open area known as North Street. The floor of the courtyard is earthen and is at an elevation of 218.68 m. In the courtyard, a hearth and a concentration of various grinding instruments were found near to one another. A female figurine (Excavation Unit: AUS 321) was also uncovered in the courtyard, where the walls of Buildings 5 and 6 join.

There are a few well-preserved pottery sherds that were collected from this area; some have heights reaching up to 6 cm. All the sherds are RSBW with chaff pores on their outer and/or inner surface. The vessel shapes include two fragments from a large bowl that has a convex profile, one bowl with a convex profile, one jar without a neck, and one jar with an everted neck. The large bowl and the jar without the neck both have sooted areas on the outside, which might indicate that they were used as cooking vessels. The jar with the neck is most likely small in size with a rim diameter of 8 cm. The bowls have larger mouths with diameters of around 20 cm. One knob fragment belonging to a coarse RSBW vessel was found in the area and shows shallow irregular line impressions across its body that were made with an extremely thin point.

### **Building 10<sup>32</sup>**

Building 10 in grid O12 is fairly damaged due to the massive Bronze Age and Chalcolithic Period architectural remains which lay on top of it. Due to this destructive impact, only partially preserved stone foundations and small parts of the mud-brick wall belonging to this building, together with a poorly preserved hearth, could be recovered (Fig. 4.6). The nearly one meter fill of the building was gray and ashy. The floor is detected at different elevations (between 218.01-217.78 m) in different parts of the trench due to the sloping of the mound.

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<sup>31</sup> Courtyard 9 is made up of the following analyzed excavation units: AVY, AZR and BBN.

<sup>32</sup> Building 10 is made up of the following analyzed excavation units: BLG, BLU, BLY, BMP, BNH, BOI, BOR, BPC, BSF, BSG, BSY, BTA, BTB, and BTC.

The hard surface of the floor obtained its gray-black color because of a fire. The fill and the floor yielded pottery that is surprisingly well-preserved, including four whole vessels. One bowl with a convex profile (Excavation Unit: BOR 4703) was uncovered in the fill and one almost complete deep bowl with a 's'-shaped profile (Excavation Unit: BTB 4962) was found on the floor. The latter has an ellipsoid shape with an oval base and two diagonally placed knobs on its belly. Areas close to the mouth of the vessel are highly mottled on one side, otherwise it is a fine orange-colored, slipped and burnished deep bowl with only 3 mm of wall thickness.



**Figure 4.6: Burnt remains and stone foundations of Building 10 in Grid O12.**

Two nearly identical deep bowls (Excavation Units: BLU 5378 and BLU 5435) that are oval-shaped, have 's'-shaped profiles and flat bases, were found in the building at an elevation of 219.06 m. Another almost completely preserved bowl with a 's'-shaped profile (Excavation Unit: BTC 5798) was likewise found in the building at an elevation of 217.73 m. It is an 11 cm high bowl with an oval carinated base, an oval mouth and one knob. The paste is dark gray with organic, sand and mica inclusions while the surface is mottled with colors ranging from brown, orange to red. Finally, there is one miniature cup in the shape of a bowl. It has a convex profile that has a depth of only 4 cm (Excavation Unit: BOI 4891). There are limestone pieces as non-plastic inclusion in the miniature cup's paste; these pieces cracked the surface in some spots (so-called lime spalling) that are visible in areas where the slip did not preserve well.

Other than the aforementioned vessels, eight jars, eight bowls and three large bowl fragments were also uncovered from this area.

### **Courtyard 11<sup>33</sup>**

This is a 2.5-3 m wide area aligned with North Street and adjacent to Buildings 12 and 13. The borders of the courtyard are not clear along the western part of the area, however the eastern walls for this area are the western walls of Buildings 12 and 13.

One oven with a form of ventilation oriented towards the street was found in the courtyard. The excavators mention that around the oven many green colored pottery pieces, as well as ceramic slags, were found. This evidence might indicate that this particular oven was used to fire pottery. There may have also been another oven on the northern part of the courtyard but unfortunately it was found to be too damaged to say for sure.



**Figure 4.7: Crushed jars found *in situ* in Courtyard 11.**

Another architectural feature from the area is a bin found at a depth of 217.92 m and almost right next to the oven. One jar was found standing upside down in the bin (Excavation Unit: BSZ 18928). The rim of the jar is missing but the rest of the vessel

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<sup>33</sup> Courtyard 11 is made up of the following analyzed excavation units: BRY, BSJ, BSN, BSP, BSZ, BTL, BTZ, and BUA.

body could be restored. It is a reddish brown-slipped and burnished flat-based jar that has no neck or lugs. The belly of the vessel is remarkably ellipsoid and wide.

Another vessel, a deep bowl with a straight profile (Excavation Unit: BSP 5790), was found in the courtyard at elevations between 218.16-217.82 m. This is an open vessel with a 35 cm rim diameter, which for Ulucak IV standards is surprisingly high. Additionally, one pestle and nine polished axes were found in this same deposit.

In comparison to Courtyard 9, more vessel fragments were found in Courtyard 11 (Fig. 4.7). These include nine jar fragments, two deep bowls and four bowls of various types. Necks of the jars are around 4.5-5.7 cm high with rim diameters of 10-15 cm. However, the deep bowls have rim diameters of up to 26 cm. One of the jars and one of the deep bowls are CSBW, whereas the rest are generally made up of the coarse variant of RSBW. There are two impressed body sherds, one is RSBW and the other is gray ware. Unfortunately, some of the rim fragments from the courtyard are small in size and so one cannot be sure whether they were original elements of the courtyard or whether they arrived to the courtyard through post-depositional disturbances. On the other hand, there are at least four almost complete jar bases that most probably belong to these vessel rim fragments. One can tentatively conclude that the courtyard contained around 7-8 ceramic vessels at the time of the fire.

### **Building 12<sup>34</sup>**

This is a mud-brick building with plastered walls which were preserved in some areas up to 2 m. Only the northern part of the structure was excavated, it is located in grid N13b-d. The floor of the building appears to have been plastered during its use at least three times and has evidence of severe damage caused by the heavy collapse of the walls and roof (Derin *et al.* 2003: 242).

There is an “L”-shaped wattle and daub wall protruding from the northern wall of the building which divides the inner space into eastern and western sections. The excavators suggest that a concentration of 11 loom weights (216.83 m) next to this wall implies that this area was used as a textile manufacturing activity area. It is worth noting that there is further evidence which supports this idea in the form of an assortment of finds which are related to textile production. Among these artifacts is one clay stamp with concentric

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<sup>34</sup> Building 12 is made up of the following analyzed excavation units: BRU, BSM, BTN, BUC, CMI, CMK, CVD, and CVL.



circles, flat and worked stones, flint and obsidian lithics (including one scraper), pierced shells, 6 pierced beads in the shape of water droplets, one sling missile, one cylindrical-shaped clay object, and pestles. All were found at a depth of 216.82 m. In the same deposit, on the eastern side of this collapsed inner wall, an unburnished and unslipped miniature vessel in the shape of a tiny-necked jar (only 4.8 cm high) was found (Excavation Unit: CVL 11878). It has four vertically attached tubular lugs on the belly, which indicate that it was hanged somewhere, probably on the wall or a wooden post.

Apart from this small vessel, pottery fragments belonging to nine jars, five bowls with convex profiles, two bowls with 's'-shaped profiles, one deep bowl with a 's'-shaped profile, one miniature jar, and one beaker could be identified as originating from Building 12. There are also four impressed body sherds from the area, two with regular tear-drops and two with shallow horizontal impressions. All four pieces seem to belong to different vessels. Finally, one whole jar base with a 13 cm base diameter was found adjacent to the eastern wall of the building. It was found together with many of its associated body sherds but unfortunately could not be refitted.

Most of the pottery from this building is red-colored and has bright surfaces. There are a few orange, brown and gray-colored examples. However, most of the time the fractures are single-layered and dark gray or brown.

### **Building 13<sup>35</sup>**

Building 13 is a rectilinear mud-brick building built on stone foundations that were excavated in areas N13 and M13 in 2000-2002. Its area reaches 7 x 5.5 m, covering an area of almost 40 m<sup>2</sup> and making it one of the biggest buildings in Ulucak IVb (Fig. 4.8). The northern, western and southern walls of the building are exposed whereas the eastern wall must have remained in grid N14, which was not excavated. There is a door opening on the west wall which leads to Courtyard 11 and from there to the open area called North Street. The excavators found out that this house was divided into two sections, which is indicated by a badly preserved, thin mud-brick wall that runs in an E-W direction in the house. The smaller of the two rooms measures 5.6 x 2 m (Çilingiroğlu *et al.* 2004: 29). The floor of the building is made out of beaten earth and was found at 217.66 m.

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<sup>35</sup> Building 13 is made up of the following analyzed excavation units: BSI, BSO, BTK, BUB, BSI, CHB, CLH, CLL, CLM, CLN, CLO, CLP, CLS, CLT, CLV, CLY, CLZ, CME, CVC, and CYV.

The northern space contains one flat-roofed oven adjacent to a clay platform and a hearth. Two wooden posts that are 15 cm thick were unearthed in the middle of the northern space. The excavators suggest that they supported the roof. One of the wooden beams was fit into a mortar.



**Figure 4.8: High mud-brick walls belonging to Building 13 and 12 in Grid N13.**

In addition, a number of grinding instruments (pestles and mortars) were found in the area, along with some burnt wooden posts. Archaeobotanical analysis revealed

that charred grains (90 six-rowed barley seeds) were also present (Megaloudi 2005). This combination of finds supports the suggestion made by excavators already at other buildings and courtyards, which postulates that grain bags were hung from these posts (Derin *et al.* 2003: 242).

The southern part of the building has seen considerable damage due to its collapsed mud-brick walls. However, the eastern wall has two hearths that were found next to each other.

The southeastern part of the building yielded three interesting features which need to be described here. The first notable feature is red paint that was discovered on the southeastern part of the wall. It seems like this wall was completely or partially coated with red paint. It may even have been painted with the same material used for slipping pottery. Secondly, a bowl holding two figurines and around 20 pieces of chipped lithic material was found in front of this painted wall at an elevation of 217.3 m. The bowl is not preserved wholly, however it is certain that it is an oval-based bowl with a convex profile (Excavation Unit: CYV). The vessel wall is five millimeters thick and has medium-sized non-plastic inclusions that include chaff, mica and sand. The fracture is single-layered and brown-colored. The inner surface is worn-out, whereas the outer surface is non-porous, orange slipped, burnished, and bright.

The third significant feature which is worth mentioning is a so-called “offering table” (Excavation Unit: CLV 1296) that was found in one of the rather damaged hearths from the southeast part of the building. It was found at a depth of 217.55 m and is 5.4 cm wide, 2.9 cm high, and square-shaped. It is a small container that originally had four feet, of which only two have survived. The piece is only 4-5 mm deep with a 6 mm wall thickness. Despite its small size, the offering table is heavy due to the large-sized grits used as temper in its paste. It is extremely hard, probably due to a secondary fire. There are no sooted areas on the piece. As a whole, the surface of the offering table is non-porous, slipped, cream-colored, burnished, and non-bright. It is more like a coarse type of cream-slipped and burnished ware. The deposition of this vessel in the hearth is curious. There is no other comparable find context from Ulucak. It is also unclear whether the previously mentioned bowl with figurines and chipped lithics was related to the offering table.

Other than the above mentioned vessels, one jar with an everted neck (Excavation Unit: CLY 8699) was found in the northern part of the building. It has a height of 30 cm, a rim diameter of 13 cm and a base diameter of 9.8 cm. Its size indicates that this jar may have been used as a storage vessel.

Building 13 also contained fragments of 24 jars, 12 bowls and one deep bowl. Sixteen of the jars have necks, four of them being short necks. All of the vessel fragments which were found in the area where charred grains, wooden posts and grinding instruments were also found have black bright surfaces and completely black fractures (again, this is probably due to the fact that they were exposed to fire together with the organic remains). The rest of the vessel fragments are dominated by red and orange bright surfaces and orange or dark gray cores. Almost all of the vessels have organic inclusions in the clay and very few have small grits.

### **Building 14<sup>36</sup>**

This is a building excavated in 2000 in grids P11 a-c. Because grids b and d were left unexcavated, only the northern section of this structure was uncovered. It has partially preserved mud-brick walls with stone foundations (Fig. 4.9). There is a door opening on the northern wall, which leads to the area called South Street. The floor of this building was found at 218.67 m and is dark yellow and made out of beaten earth. There is a stone

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<sup>36</sup> Building 14 is made up of the following analyzed excavation units: BNF, BOL, BPI, BPO, BRE, BSC, BSD, BSS, and BTH.

foundation in the house which is protruding from the northeastern wall towards the south. The thin, wattle-and-daub wall may have divided the house into two sections.

There are two interesting pottery vessels that were found sitting on the floor at the eastern part of the building. One of them is the biggest vessel ever found at Ulucak with a height of 81 cm (Excavation Unit: BTH 5813). It is highly likely that this huge vessel, with a flat base and long neck, was used as a storage unit. The rim diameter is 24 cm and the base is 18.5 cm wide. The vessel's belly is its widest part and reveals twelve repair marks. These marks imply that the potter had technical problems when he/she was building this large-sized vessel. The asymmetrical form of the jar is also indicative of the



**Figure 4.9: Building 14 in Grid P11.**

difficulties found in producing such a vessel. It seems likely that this vessel was built in four major steps: first the neck, then the upper vessel body, followed by the lower vessel body, and then the base. The piece could have been produced with a combination of techniques, like slab building and coiling separately. The most problematic part of the process was attaching the upper and lower body parts. The upper body was probably too heavy to stand on the lower part and therefore was slightly deformed. There is also one tiny knob on the belly of the piece which may not have been functional. The whole vessel is slipped as well as burnished. The surface is brownish-red to red and bright. The paste includes sand and small grit as inclusions. It is not known what was stored in the vessel; no evidence in this sense was documented during the excavation. It is possible that the vessel was empty as the house burnt down. Such large vessels are rare in Ulucak IV and V, although there is one other big one that is higher than 60 cm (Excavation Unit: CLY 11314). This piece is a storage vessel from Ulucak IVb.

The second interesting vessel found in the same section of the building is an anthropomorphic vessel in the shape of a seated woman (Excavation Unit: BPO 5434). It was discovered on the floor in the southern section of the excavation grid. Unfortunately,

the vessel is not complete because the upper part, where the face, shoulders and arms would be, is missing. It is difficult to infer the original form of the piece, for example, whether this woman was also holding her breasts or not. In terms of shape and technological properties this anthropomorphic vessel is very different from APJ 3032. The paste includes organic, mica, sand, and small grit inclusions. The fracture is single-colored and brown. The wall is only 4 mm thick and while the outer surface is slipped, fine-porous, burnished, orange-brown, and bright, there is no decoration or paint on the vessel. The inner surface is left unworked. The back part of the vessel is flat which might indicate that it was made to lean on a wall. It seems like the rounded legs were executed separately and then attached to the body.

Additionally, there is another bowl that was found in the western section of the building (Excavation Unit: BSD 12706). This is a red-slipped and well-burnished bowl with a convex profile and a flat round base. It is only 6.7 cm high and the walls are four millimeters thick. Almost half of the vessel was restored.

Other vessel fragments in Building 14 are as follows: one short-necked jar, three jars without necks, one jar with an everted neck, one jar with a vertical neck, four bowls with convex profiles, and two bowls with 's'-shaped profiles. These fragments are all rim sherds that are medium in size. The ware repertoire is dominated by fine red-slipped and burnished wares that are tempered with organic, mica and sand. However, there are rim sherds belonging to a bowl that is a coarse ware. There are also two impressed body sherds, one is gray ware that has deep irregular nail impressions and the other piece is RSBW with deep triangular impressions. Another body sherd (Excavation Unit: BNF 5129) that is red-on-cream painted was found colored with two red bands. There is also one tiny body sherd that has a unique decoration on its surface, which was executed with a needle-like tool and left tiny piercings on the its red-slipped and burnished surface. Finally, there were also two oval bases found from this building.

### **Building 19<sup>37</sup>**

This is a quadrangular building that has a plastered floor at 218.06 meter deep. It was excavated partially in the eastern section of grid M13 and the remaining part of the building is located in an unexcavated grid (M14). Mud-brick walls and stone foundations

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<sup>37</sup> Building 19 is made up of the following analyzed excavation units: CFT, CGE and CHC.

were discovered as part of this building. Additionally, it has an 80 cm wide door that opens from its long eastern wall and leads to Courtyard 20.

The fill of the building contained many small finds as well as fragments of ceramic vessels. One whole vessel was found when the northern wall was exposed. This is a bowl with a straight profile and three knobs on the belly; it is 9.1 cm high and has a 14 cm rim diameter (Excavation Unit: CHC 7974). In the same area, lithics, animal bones, four grinding stones, and one pestle were also recovered.

During the removal of the collapsed southern mud-brick wall rim sherds belonging to different jars were found (Excavation Unit: CFT). This same deposit also included some common finds, like animal bones and lithics, but also polished axes, one animal figurine, one bone needle, and 22 beads.

### **Courtyard 20<sup>38</sup>**

To the west of Building 19, an open area with a width of 2.6 m and length of circa 5 m was excavated and is designated as Courtyard 20. This courtyard is bordered by a 0.4 m thin wall that belongs to the open area called North Street in the Ulucak publications (Çilingiroğlu *et al.* 2004). Although it has suffered heavy



**Figure 4.10: Courtyard 20 with bins and grinding stones and Building 18 in Grid M13.**

destruction from Late Roman through Early Byzantine

disturbances, Courtyard 20 contains evidence for the daily activities that took place in this area, such as fire installations, ovens and grinding instruments (Fig. 4.10). Numerous lithic finds, burnishing tools and loom weights are among the other finds from the area. The separation of this area from the communal open areas might indicate that only one household conducted activities here.

<sup>38</sup> Courtyard 20 is made up of the following analyzed excavation units: CEJ, CET, CFK, CHA, CKT, CBH, CFJ, CGC, and CIU.

A large number of fragments of jars, bowls and deep bowls were also found in the courtyard. One fragment of a jar with an everted neck (Excavation Unit: CBH) was found inside the hearth and in the area surrounding this hearth pieces of jars, animal bones, lithics, and sling bullets were discovered (Excavation Units: CFJ, CGC). One small bowl with a straight profile (Excavation Unit: CET 7027), holding a bone needle, was found on a platform at 218.12 m. Another bowl with a 's'-shaped profile was found incomplete on the floor level of the courtyard association with other ceramics, sling missiles, grinding stones, and two clay balls. The nature of these finds indicates that in general cooking and food preparation were taking place in this area.

To the south of Building 19, in the alley-like space between Buildings 19 and 13, an animal skeleton was excavated. It is suggested that it was killed by the collapsing walls during the time of the fire that destroyed the settlement (Çilingiroğlu *et al.* 2004: 23).

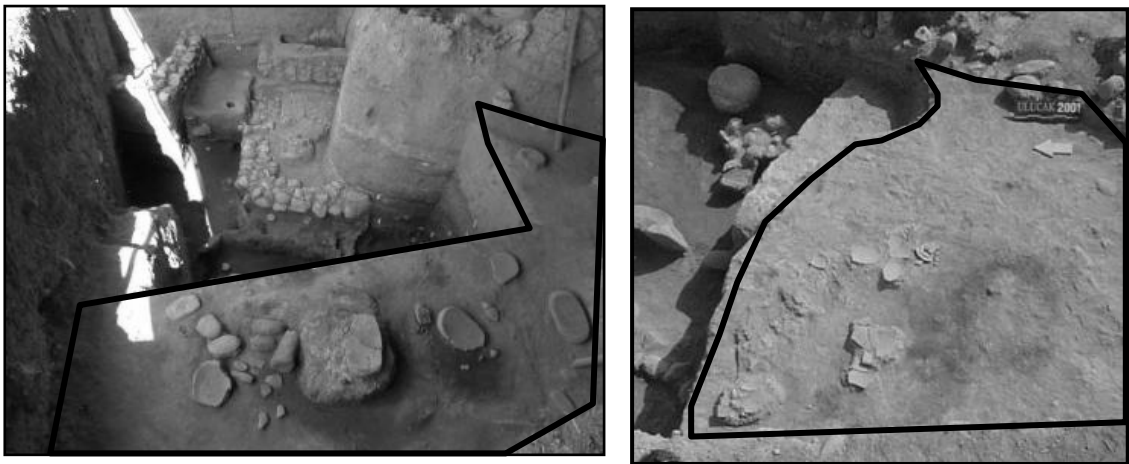
## ***D. Layer IVc***

### **1. Description of the phase**

Cultural deposits belonging to Phase IVc were unearthed mainly at two excavation areas: N11 and O11.

At N11, the IVb architecture was removed in 2001 and 2002 by Atilla Batmaz in order to reach the earlier deposits. Although the substantial IVb deposits caused considerable damage to the building phase situated right beneath it, the excavators were able to recover several remains. Included amongst these remnants are burnt mud-brick pieces and burnt, black-colored, plastered floor remains that are 3-4 cm thick. The floor remains were located in various parts of the trench at elevations of between 218.39-218.15 m. Additionally, these floors were designated as Building 15 and Building 16 and have two oval-shaped hearths, many grinding stones, clay platforms, a good number of clay balls, a large amount of pottery, and a concentration of flintstones around an upside-down bowl associated with them.

Building 16 contained collapsed and burnt mud-brick deposits. In the middle of this area,



**Figure 4.11:** (Left) Inside the marked area are buildings 15 and 16 shown with clay lumps, various stone objects and the grinding stones from their grid, N11b (218.42 m.).

**Figure 4.12:** (Right) Marked area is the south side of Grid N11a, where the floor of Building 15 is exposed at 218.36 m. Note the crushed pottery vessels on the floor.

right above the burnt floor, a circular carved stone was found, which probably housed a wooden post that supported the roof. These finds, together with a hearth (218.41 m) and clay working areas, complete the architectural features from this structure.



According to the excavator, the area called Building 15 could have been a pottery workshop because the clay balls, which were found laying adjacent to a hearth, are interpreted as the clay lumps used to produce pottery (Figs. 4.11; 4.12). Alternatively, finds such as grinding stones, pestles, pottery pieces, flint concentrations, and the clay balls might also suggest a cooking area. A third possibility, since the walls of this “building” could not be found, is that this was an open area, where various daily activities took place, such as food preparation, cooking, and/or tool or pottery manufacture. If this structure was an open area, remains of burnt wood pieces on the floor might suggest that it was a covered open area.

Material collected from Buildings 15 and 16<sup>39</sup> (N11) provides a reliable and good picture of how the vessels looked and with what kind of objects they were relation to. The remains from this phase covered more than 50 m<sup>2</sup> and are burnt, which suggests that a fire ended this phase.

At O11, excavations conducted in 2001 by Ali Ozan revealed remains from Phase IVc. The deposits are dominated by burnt floors and a yellowish soil at the southeast end and a gray-ashy to gray-black colored soil at the north part of the trench. The excavated floors display different properties which, according to the excavator, must be related to a fire event.

The remains of an oven were discovered on the north floor together with a mud-brick construction, whose function could not be determined. Based on the finds found inside this construction, which include many obsidian pieces and a small clay ball, the excavator interpreted it as some kind of a storage unit. The north floor also contained many pottery sherds, grinding stones, flint tools, bone tools, sling missiles, stone axes, burnishing stones, and animal bones.

Two hundred and fifteen diagnostic pieces from both of the aforementioned areas (N11 and O11) are included in this analysis. These pieces were found either on the burnt floors mentioned above or around the oven and hearths. They are made up of a single complete profile, 114 rim sherds, 71 bases, 15 lugs, and 14 decorated body sherds.<sup>40</sup> The majority of the analyzed sherds come from N11, in total 162 pieces. The sherds are generally well-preserved and have bright surfaces; however, some pottery pieces, especially those

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<sup>39</sup> The analyzed excavation codes from N11 are: CIK, CLF, CMH, COB, CON, COO, COZ, and CPA.

<sup>40</sup> The analyzed excavation codes from O11 are: CGT, CHK, CIK, CJS, CJT, CJV, CKA, CKD, CKN, CLA, CLB, CLF, CMH, CMJ, CML, CMN, CMO, COB, CON, COO, COZ, CPA, DTV, and DUF.

from N11b contexts (the ones found on the floor of Building 15), revealed partly burnt surfaces.

## **2. Fabric**

In this layer, the wares are dominated by RSBW, which makes up 92% of all analyzed pieces (n=198). Additionally, 92% of all the RSBW belongs to the RSBW-org variant. Gray ware, which is represented with eight examples, constitutes the second largest group at only 3% (n=7) of the total. Coarse and cream-slipped wares are present in the assemblage with five examples in total. In terms of their ware category, there are four unidentifiable sherds.

Most of the red-slipped sherds analyzed from this phase were recovered on the burnt floor of Building 15, which was uncovered in several different parts of trench N11 in 2001 and 2002; and at trench O11 in 2001. The rest was collected from the collapsed deposits of Ivc, which is mostly composed of mud-brick pieces and yellowish or gray-ashy soil.

The non-plastic inclusions of the RSBW show a homogeneous appearance that is characterized by the co-occurrence of organic, mica and sand inclusions. Small grits and lime are observed in a number of sherds, occurring together with organic, mica and sandy material. More than half of the assemblage (65%) displays small-sized inclusions but sherds with medium-sized inclusions also occur frequently (32%). Sherds with regularly occurring amounts of inclusions number 134 (62%), whereas abundant amounts of inclusions are observed in 74 pieces. Sherds with large-sized inclusions tend to have more inclusion particles. Sherds with small or medium-sized inclusions mostly have regularly occurring to abundant amounts of inclusions.

The majority of the fractures have a single color (n=175), dominated by gray, dark gray and brown colors. Completely orange and black fractures occur very seldom. Fractures with three layers make up 14% of the assemblage with the most frequently occurring combinations being: brown-gray-brown, orange-gray-orange or brown-dark gray-brown. There are also two-layered and multi-colored fractures observed in 19 pieces; again, they have brown, gray and occasionally orange colors. Gray and dark gray cores point towards carbonized organic material that existed in the paste during the firing.

The hardness of the sherds range between hard (n=50) to moderate (n=153), with few soft examples; this suggests relatively good firing conditions. The majority of the surfaces are non-porous, although fine porous surfaces also occur.

All of the sherds are slipped and burnished. The slip generally covers both the outer and inner surfaces, although some examples bear no slip on their inside. With the exception of 11 pieces (six of which are impressed), all of the sherds are burnished and some even have traces of vertical burnishing. A great number of the sherds have bright (71%) to very bright (14%) surfaces. Pieces with non-bright surfaces appear rarely (n=32). Mottled surfaces, which may result from irregular oxidization during the firing process, also appear relatively seldom. As mentioned above, many sherds display traces of burning, which probably appeared from contact with the fire that destroyed Building 15.

One of the interesting properties of IVc pottery is the occasional occurrence of micaceous surfaces, observed on 38 examples. It is not clear whether this was an intentional practice, a consequence of the firing conditions or related to the high concentration of mica in the clay.

There is a variety of surface colors present in the sherds from this phase. Red (n=83), orange (n=42), dark red (n=25), and brown (n=36) surfaces are seen in the majority of the assemblage. There are a few examples of gray, light brown and dark brown sherds. One third of the sherds display a regular color distribution (n=76) and the rest have an irregular distribution of color (n=362).

As mentioned previously, gray ware is represented with only seven pieces, two from N11 and five from O11. Only one of the gray ware sherds was recovered from the floor of Building 15 (Excavation Unit: COZ), the rest were found in the mud-brick deposits belonging to the IVc building. One context (Excavation Unit: CGT) revealed two gray ware pieces that were impressed with decorations. All of the gray ware sherds contain small-sized mica, organic and sand inclusions that are dispersed in regularly occurring to abundant amounts. Five of the sherds have single-colored (dark gray and brown) surfaces and the other two have three-layered fractures (brown-gray-brown) and a moderate hardness and non-porous surfaces. Four of the pieces have mica gloss and two of the gray ware sherds are burnished. All of the pieces are slipped but none of the surfaces are bright or preserved well. The surface colors ranges between gray to brown

with regular distribution. Six out of the seven gray ware examples have impressed decorations.

There are two base and one body sherd fragments, which belong to the coarse ware category. These are partly burnt pieces that are brown in color and have unburnished surfaces. They all have medium-sized inclusions that contain mica, organic material, sand, and small grits. One of the coarse ware pieces was found on the floor of Building 15, whereas the other two came from O11 in front of its western section. The single body sherd has impressed decorations on it, similar to those seen on gray ware sherds.

### **3. Morphology**

#### **3.1. Size**

The average size of the sherds is relatively small. Most of the sherds cover an area of four to 21 cm<sup>2</sup>. Only 16 sherds are bigger than 50 cm<sup>2</sup>. The preserved height of the vessels is generally low with 86 examples that are less than 3 cm and 96 that are between 3-5 cm in height. Only 34 pieces reach more than 5 cm in height and therefore provide us with better information concerning the original vessel shapes.

#### **3.2. Wall Thickness**

Out of 215 measured pieces, 98 have thin walls (between 2-4 mm), 113 have walls measuring between 5-10 mm and only three have a thickness that is more than 10 mm. Among 110 RSBW rim sherds, 55 have a thickness value that is between 2-4 mm, 54 measure between 5-10 mm and one fragment is over 10 mm in thickness. In general, half of the vessels have thin walls and the other half have relatively thicker walls that nevertheless do not exceed 9 mm in thickness. The walls of for gray ware sherds range between 3 and 5 mm.

#### **3.3. Vessel Shapes**

Among 115 rim sherds, 102 fragments are included in the form analysis. The rest of the material was too small in size to determine the vessel shape. In this phase the jars are more numerous than the bowls. In total, 60 jar fragments were identified from this phase. Jars with vertical necks (n=9), jars with everted necks (n=30) and jars without necks (n=19) alone constitute more than half of the whole assemblage (Pl. 19). Two short-necked jars are also present. Since most of the material consisted of rim sherds it was not possible to measure the height of the jars. Bowls are dominated by the convex-profiled

examples (n=22), while bowls with 's'-shaped profiles only number 15 (Pl. 18.1-18.9). Both jars and bowls have similar wall thicknesses, ranging mainly between 4-8 cm.

### **3.4. Rims**

There are three main types of rim shapes that frequently appear in this phase, they include everted (%41), simple (%39) and flattened (%19). There is only one example of a sharply everted type. Rim diameters range from 8 to 29 cm but most of the vessels have rim diameters between 13 and 16 cm. Values exceeding 24 cm are rare. Flattened rims appear both on jars and bowls, while everted rims are usually associated with bowls that have 's'-shaped profiles or then with jars with everted necks.

### **3.5. Bases**

There are two main types of bases which occur in this phase – flat and disc bases (Pl. 20.1-20.14). Among 72 identified bases, 61 were flat and 11 were of the disc base type. Three of the flat bases are oval in shape (Pl. 20.1). Base diameters range between 4-16 cm, but most have diameters between 8 to 11 cm. Diameters that exceed 12 cm are extremely rare. The fact that the average vessels found in this area had less than large diameters might indicate that the bigger vessels that were, for instance, used for storage were not located in the excavated areas. Building upon this, if the areas excavated at N11 (buildings 15 and 16) are indeed open areas, then the unimpressive sizes of these vessels would support this idea, since one would expect that storage facilities (like large vessels) would rather be found in roofed structures.

### **3.6. Handles and Lugs**

There were no handles amongst the pieces studied. However, there were 16 lugs of various shapes. Five of them belonged to the vertical tubular lug category (Pl. 20.17, 20.18). Their width varies between 9-18 mm and their length between 12-53 mm. Single knobs are represented with six examples, whereas double knobs with only three (Pl. 20.15, 20.22). Knobs were mostly attached horizontally to the vessel body. There are also a few button-like circular knobs. One of these is 8 mm thin and 56 mm long. The original shape of one of the lugs could not be identified.

### **3.7. Decoration**

Fifteen body sherds bear decorations, of which impressions are the dominant type (Pl. 21.1-21.6). Only one sherd has plastic decorations on it that were made with a thin clay

line which forms a zig-zag pattern (Pl. 21.7). Other sherds have impressions on them that were generally applied irregularly and intensively on the surface, resulting in either half circles, crescent-like or tear-drop shapes.

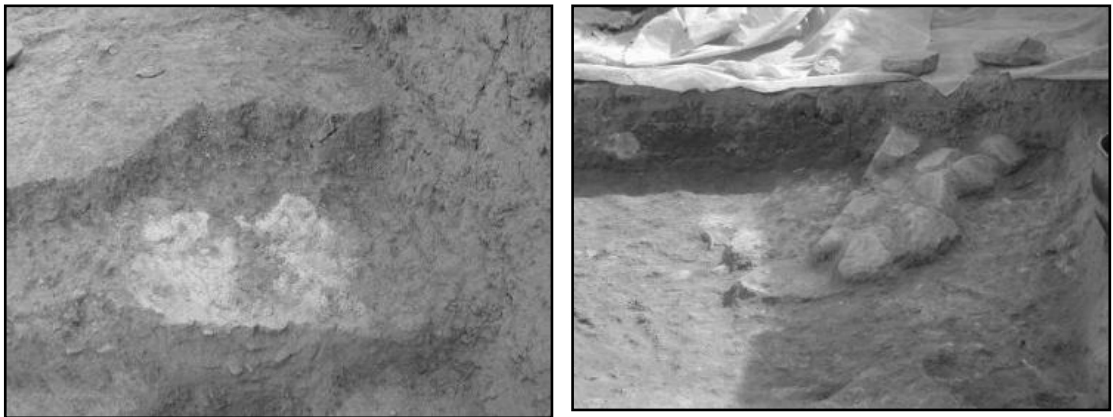
Six impressed fragments are RSBW, one is a coarse ware body sherd and the rest are gray ware vessels. In one context from O11 (Excavation Code: CGT) there were four decorated pieces found. Three of these pieces are impressed and one has plastic decoration. However, the impressed pieces do not belong to the same vessel.

## ***E. Layer IVd***

### **1. Description of the phase**

The excavations that took place at N11a in the fall of 2001, under the direction of Atilla Batmaz, revealed archaeological material from this phase for the first time ever. Phase IVd is a building phase that was identified at N11 below the floor levels of Buildings 15 and 16 (218.42 m). These floor levels were left unexcavated in the previous season. The excavation of this building phase had to be carried out in a limited area of the grid.

This phase is distinguished by a fine, whitish, dust-like, soft, textured surface, which is identified as the “IVd Floor” (Fig. 4.13). This floor was uncovered at an elevation of



**Figure 4.13:** On the left, the white surface identified as the floor. Found at 218.22 m in 2001.

**Figure 4.14:** On the right, the stone foundations found at 218.10 m in 2002 (N11b).



**Figure 4.15:** Grinding stones recovered on the floor (N11b).

218.22 m and has no evidence of plastering. The remains of the floor could be exposed in several areas of the grid (except for at the northern part of N11a) where they were revealed to have only partially stayed intact. There are no other architectural features associated with this particular floor.

The 2002 excavations revealed more areas characterized by the same floor described above. In grid N11b, IVb (Building 3) and IVc remains were removed in order to compare the earlier deposits from this area with the results from the previous season. The archaeological material revealed during this excavation is as diverse as the material

from the previous phases. A group of four polished axes and some grinding stones were recovered on the “IVd floor” (218.21 m), which has, as in other parts of the trench, a whitish color and a fine dust-like composition (Fig. 4.15). Pottery, animal bones, shells, stone tools, bone tools, sling missiles, and grinding instruments make up the IVd assemblage from N11. The only architectural feature from this phase is a three-rowed stone foundation that was uncovered at 218.10 m. The stone foundations reach one meter in length and have a 35 cm width (Fig. 4.14). Some of the stones belonging to these foundations were specifically set down to create a quadrangular shape.

Although rich in small finds, the whole phase is represented only by fragments of a floor and the stone foundations. These two major features probably belong to the same stratigraphical level but actually do not connect with one another. The limited area of the excavation and the bad preservation of the architectural remains limit our understanding of this earlier building phase. Likewise, it can not be inferred whether this building phase is observable throughout the mound. At Trench L13, where earlier phases have also been excavated, one can identify several phases that appear under the IVb settlement, however the stratigraphical connection between N11 and L13 can not be established. Therefore, one can only speculate as to which phases from these two trenches correspond to each other.

In total, 131 diagnostic sherds that were collected from this level were analyzed. These are 84 rim sherds, 36 bases, six handles/lugs, four decorated body sherds, and one pierced sherd.<sup>41</sup>

## **2. Fabric**

The RSBW dominate the assemblage at 97% (n=125). Eighty-eight percent of all RSBW is assigned to RSBW-org while only 12% belong to RSBW-min. Gray ware is only represented with two examples. One interesting piece from this phase is a body sherd with red paint, which is identified as red-on-cream ware. There is one piece of CSBW and another whose fabric could not be identified.

The non-plastic inclusions for these pieces are dominated by mica, sand and organic material (n=76). Small grits are observed occasionally and lime appears much less frequently. The majority of the sherds have small-sized inclusions (69%) and medium-sized inclusions nearly make up the rest of the assemblage. The majority of the sherds

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<sup>41</sup> Analyzed excavation codes from this phase are CHS, CJH, CPO, CPR, CRS, CRU, and DBV.



have regularly occurring amounts of inclusions, although sherds that contain abundant amounts of inclusions also appear with some frequency.

Most of the sherds display a single-colored fracture (n=105), with dark gray (n=29), gray (n=24) or brown (n=29) being the most frequently observed core colors. Totally black (n=8) or orange (n=8) cores also appear occasionally. Three or two-layered cores are seen less frequently, appearing in 22 examples. The three-layered composition of brown-dark gray-brown appears the most and there are three pieces with multi-colored fractures. The majority of the sherds have moderate to hard structures and badly fired sherds are extremely rare. Around 35 examples have fine-porous surfaces, however the rest are completely non-porous.

All of the sherds are slipped. In most of the cases slip covers the whole surface. Burnishing occurs on almost every sherd, except for four pieces. Some examples have vertical burnishing tool marks and even more rare, are horizontal burnishing marks. Two of these four unburnished pieces are gray wares, another is cream-slipped and the last is a red-slipped ware. The surfaces of all the sherds are either bright (n=85) or very bright (n=32), whereas non-bright examples are represented with only 13 pieces. Thirty-eight sherds have mica gloss on them and mottled surfaces are rare for all the pieces. On three sherds there are holes present which were drilled after the pieces were fired.

Surface colors are dominated by red (n=65), dark red (n=10) and orange (n=28) tones. There are few examples with black (n=2), dark gray (n=1) and light brown (n=5) colors. Gray ware examples are either gray or dark gray. Red-on-cream and cream-slipped examples both have light brown surfaces. The color is usually distributed unevenly over the surfaces, although evenly distributed surface colors make up almost half of the assemblage.

### **3. Morphology**

#### **3.1. Size**

Sherds from this phase are generally small in size. More than half of the assemblage measures between 3-15 cm<sup>2</sup>, with 37 of them being less than 10 cm<sup>2</sup>. There are ten sherds with sizes over 30 cm<sup>2</sup>. Small sherd sizes indicate bad preservation, this is further supported by the poor preservation of the other associated archaeological remains.

### **3.2. Wall Thickness**

The fineness of the pottery of IVd can best be understood with the wall thickness values. Nearly half of the assemblage (n=54) have wall thicknesses between 3-4 mm and 61 of them have a value between 5-7 mm, which in general speaks for the fine appearance of the vessels. Forty-three rim sherds have thickness between 3-4 mm. Only five of them exceed 7 mm thickness. The thinness of the vessel walls might be another reason why the vessels did not preserve well in this phase.

### **3.3. Vessel Shapes**

Vessel forms from this phase show a certain variety, although there are several predominant shapes like jars with everted necks (n=17), jars without necks (n=13) and bowls with 's'-shaped profiles (n=18). Jars are represented with 37 examples (Pl. 22.1-22.10), whereas bowls appear with only 25 examples (Pl. 23.1-23.11). Among the jars are medium to large-sized examples, made evident by the number of large rim diameters that are around 20 cm wide. Two of the jars with everted necks have strap handles (Pl. 22.1, 22.2), one is positioned horizontally and the other vertically. Another of the vessels seems to have been used as a sieve (the only cream-slipped example). This piece has thirteen holes on which are pierced 2-3 cm beneath the rim area. None of the rim sherds found have decorations. Five of the bowls with 's'-shaped profile and four of the jars have vertical or horizontal burnishing traces on them. It is worth mentioning that careful burnishing, which resulted in very bright surfaces among bowls with 's'-shaped profiles and bowls with convex profiles, is present.

### **3.4. Rims**

As usual rim types are dominated by three types: simple, everted and flattened. Simple rims make up the largest percentage, with 33 examples. Everted rims are represented with 29 pieces and there are 20 examples of flattened rims. Most of the bowls with 's'-shaped profiles have an everted rim. Flattened rims, on the other hand, seem to be more associated with jars with everted necks or jars without necks than with the bowls. Most rim diameters range between 12-14 cm and the smallest value found for a rim is 6 cm, while the largest is 24 cm. The rim fragments are mostly small. Some examples are so small that their diameters could not be measured.

### **3.5. Bases**

There are two types of base types which occur in this phase: flat and disc (Pl. 23.12-23.15). Flat bases dominate with 27 examples and disc bases are represented with nine pieces. Base diameters vary between 8-12 cm. There is no correlation between the base type and the diameter. There are two oval flat bases from grid N11. As usual the bases are better preserved than the rim sherds. The small diameter of the bases points to the presence of smaller vessel sizes in this phase as compared to IVb.

### **3.6. Handles and Lugs**

There are only six lugs and two strap handles that were found. Five of these lugs are vertical tubular lugs (Pl. 23.17), and one of them is a knob (Pl. 23.16). All of them are found on RSBW fragments. Three of the tubular lugs come from the CPR feature. This feature is one of the best IVd contexts in N11b and is associated with a variety of finds like animal bones, obsidian, flint tools, and shells. The other two tubular lugs also stem from an interesting context (CJH), where many *solenidae* shells were found. It is difficult to say whether there is a relation between the sherds and the shells.

The sizes of the lugs varies. There are two tubular lug examples which measure 11 x 37 mm. The first is 21 mm wide and 37 mm long, and the second is 17 mm wide and 44 mm long. Lastly, the knob is 15 mm wide and 35 mm long.

### **3.7. Decoration**

There are four body sherds that have decorations on them. Three of them are impressed and one is painted (Pl. 23.18, 23.19). Two of them, one impressed and one painted, were found on the IVd floor in N11b (CPO). This floor revealed a pottery assemblage that consists of many rims and bright, well-preserved pieces, as well as other archaeological material like animal bones, flint and obsidian tools, bone tools, and shells.

The one painted sherd found in Phase IVd is red on cream painted (Pl. 23.19). Its size is around 10cm<sup>2</sup>. The motif visible on the piece's bright surface is a "V." Its background is light brown-cream colored, and it is slipped and burnished. Mica gloss is visible on the surface. It is interesting to note that painted sherds continue to appear at this level, but apparently only in extremely small quantities.

## ***F. Layer IVe***

### **1. Description of the phase**

Archaeological deposits belonging to IVe were excavated in various parts of trench N11 in 2001 (N11a), 2002 (N11a,b) and 2004 (N11c,d) by Atilla Batmaz and Fulya Dedeoğlu. In 2001, after the remains from the upper phase (IVd) were removed, a new phase was defined as soon as the new floor was met in grid N11a. The soil which stood above the surface of the floor was moist and clayey. The floor itself was identified at 218.13 m.

In the following year the excavations were carried out mainly at two grids, N11a and N11b. The IVe floor was uncovered again in different areas and at different levels (218.07, 218.00, 217.79 m). The floor here was white-colored and plastered. The plaster was roughly 0.5 cm thick and the whole floor was two centimeters thick. A very hard, green-colored, clayey debris was observed at some locations beneath this floor. In other parts, a burnt, dark yellowish soil was uncovered under the floor. The IVe floor also appeared below the stone foundations of IVd in N11b and was visible on both sides of the wall there (Fig. 4.16). Archaeological finds found on this floor comprise of pottery,



**Figure 4.16: White plastered surface of Phase IVe at 218.00 m. Stone foundations from the upper phase are cutting the plastered surface.**

animal bones, stone tools, sling missiles, and shells. Unfortunately, there are no additional architectural features.

Finally, in 2004, a short-term excavation was conducted in grids N11 c-d to test the results from the previous years. A yellow-brown colored deposit, which contained mud-brick fragments, was identified as “IVe” at 217.90-217.85 m. However, the floor that might have existed under this deposit was left unexcavated.

In total, 167 diagnostic pieces were analyzed from this phase. These are 92 rim sherds, 61 bases, nine handles/lugs, and five decorated body sherds.<sup>42</sup>

## 2. Fabric

As a rule, RSBW dominates the ceramic assemblage from this phase making up 95% (n=159) of the collection. Ninety-four percent (149/159) of RSBW belong to the organic tempered variant. CSBW (n=3), gray ware (n=2) and coarse ware (n=1) appear in extremely small quantities. Some of the red-slipped pieces are worn-out, cracked, sooted, or covered with a layer of minerals.

There are a variety of non-plastic inclusions. However, the most frequently appearing combination is organic, mica and sand, which was observed in 113 cores. Mica, sand, organic, and grits appear together in 25 examples. Lime is present only in three pieces. Fabrics that have only sand and mica as inclusions number only six. Fourteen among 92 rim sherds and 22 of 61 bases contain small grits in their pastes. Organic inclusions almost appear in every sample, except 17 that contained sand, mica or small grit. It seems like the paste used for different parts of the body was homogeneous. In the pastes there are 62% small, 35% medium and 3% large-sized inclusions. More than half of the assemblage includes regularly occurring amounts of inclusions in the paste. Fifty-three sherds are densely tempered and ten pieces have relatively few inclusion particles.

The majority of the cores show single colors like dark gray, brown, dark brown, or then, rarely, orange. The amount of dark gray-colored cores is caused by the relatively large amount of organic material included in the fabric. There are 122 (73%) single-colored fractures. Two (7%) or three-layered (15%) fractures, such as brown-dark gray-brown composition, appear in smaller numbers. There is no meaningful correlation that can be made between the body part and the fracture properties. Most of the sherds (n=134) are moderately hard. Only 25 examples can be defined as hard and seven as “low fired.” Ninety-two out of 167 pieces have non-porous surfaces while 72 can be called fine-

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<sup>42</sup> The following excavation codes were analyzed as part of Layer IVe: CGI, CJI, CRT, CUC, CSJ, CSZ, CTJ, CTK, and DIU.

porous. The latter are named as such because their fine pores were left by the organic material that was on their surfaces.

Ware/Surface color (IVe)	RSBW	CSBW	Gray Ware	Other
Red	62	-	-	-
Brown	13	-	-	-
Orange	18	-	-	-
Dark Red	8	-	-	-
Gray	1	-	1	-
Light Brown	3	1	-	-
Cream	-	1	-	2
Other	2	-	-	1

The majority of the pieces are slipped but some (n=30) are slipped only on the outside. Burnishing can also be observed on almost every sherd. One hundred and thirty-eight sherds have bright surfaces, ten have very

**Table 4.3: Relationship between ware groups and surface colors (IVe)**

bright surfaces and 19 have non-bright outer surfaces. Fifty-six

sherds have mica glimmer on them and seven sherds show traces of burnishing that is, in most cases, vertical. There are a few pieces (n=8) that are sooted either on the outside or inside. Many base fragments that partially lost their slips are worn-out or cracked. Mottled examples are few. As usual, surface colors are dominated by red (n=89) and orange (n=29), while brown (n=18) also occurs. Coarse ware is dark gray. Both gray ware sherds are gray-colored (Tab. 4.3). Three cream-slipped wares are cream and light brown-colored. The color is seen to be mostly irregularly distributed over the surfaces (n=102).

### 3. Morphology

#### 3.1. Size

The majority of the samples are small to medium-sized. Seventy-three of them are less than 10cm<sup>2</sup>, 57 are between 10-20 cm<sup>2</sup> and 30 are between 21-40 cm<sup>2</sup>. There are only seven sherds that are bigger than 40 cm<sup>2</sup>. One hundred and thirty-one sherds have heights less than 4 cm. There is also not a single whole profile in the assemblage. All these figures point to the fact that the ceramic preservation is not optimal.

#### 3.2. Wall Thickness

Eighty-three pieces have wall thicknesses between 2 to 4 mm. Sixty-one pieces are 5-6 mm and 21 samples are 7-9 mm thick. Almost half of all rim sherds (n=83) are 2-4 mm thick. At 9 mm thick, a neckless jar is the thickest example in the assemblage. Usually

the bowls with 's'-shaped profiles tend to have thinner walls than other ceramic shapes; one of them is even 2 mm thin. Bowls with convex profiles have slightly thicker walls than bowls with 's'-shaped profiles. Necked jars usually have wall thicknesses between 5-7 mm. However, jars without necks possess the largest thickness values at around 8-9 mm.

### **3.3. Vessel Shapes**

With 26 examples, the most frequently appearing vessel form are bowls with 's'-shaped profiles (Pl. 24.4, 24.6, 24.7, 24.8, 24.12). Bowls with convex profiles are represented with only 11 examples (Pl. 24.9, 24.11). In total, 37 jars are identified from this phase (Pl. 24.1-24.3); 18 have everted necks, 15 have no necks and four have vertical necks. Only one of the neckless jars has a vertical tubular lug preserved on it. Otherwise, no attachments are preserved on the sherds. However, one of the neckless jars is impressed with tear-drop shapes right under its rim. Unfortunately, we cannot infer which vessel types tend to be decorated.

The assemblage has a balanced distribution of open and closed forms, which means it could be evaluated as a domestic assemblage. Unfortunately, it is not clear whether these pieces come from a single building or from a number of constructions. If we simply consider the pieces that were found on the IVe floor in Grid N11a as one unit from one structure (Excavation Units: CTJ, CTK), then we see that jars with everted rims and bowls with 's'-shaped profiles dominate with five specimens each. Bowls with convex profiles appear four times while other jars total two. Again there is nearly a balanced presence (9/7) between closed and open vessels as is seen in the other layers. Here too, the open vessels outnumber the jars by two. Also from the same collection area came two red-slipped, impressed body sherds, which are both slipped on both of their sides. This means that they definitely belong to two of the bowls.

### **3.4. Rims**

Preservation of the rim sections is very low in this phase; generally at only 10% or less. The rim sorts that occur in this assemblage are everted (n=44), simple (n=27) and flattened (n=21). It is observed that there is a correlation between everted rims and bowls with 's'-shaped profiles because in most cases they appear together. Such correlations can also be observed between jars without necks and flattened rims; although flattened rims do appear occasionally on other bowl or jar types. Most flattened rims are 3-5 mm

thick (n=15/21). Nevertheless, there is one example where the flattened area reaches 32 mm in thickness. This is probably a large neckless jar (perhaps a storage jar) that likewise has an unusually large diameter of 30 cm. In the whole assemblage the smallest rim diameter is 8 cm. Most of the rim measurements range between 10-15 cm, which suggests the existence of many medium-sized vessels in the ceramics. The mean rim diameter in this layer is 14.6 cm. Bowls with 's'-shaped profiles tend to have smaller diameters compared to bowls with convex profiles. Lastly, jars without necks have diameters from 10 to 30 cm, whereas jars with everted necks measure from 10 to 21 cm in diameter.

### **3.5. Bases**

Bases are better preserved in comparison to the rims and make up an average of 20% of the assemblage. Among the 61 bases that were processed, 38 flat, 21 disc and 2 ring bases were identified (Pl. 25.1-25.4). Four out of 49 bases are oval in shape. One of the oval examples belongs to the disc base category. The base diameters range between 5 to 18 cm with mean base diameters at 9.5 cm. Thirty-eight of the bases have a diameter that is between 5-10 cm, which might point to the majority of the pieces as belonging to small to medium-sized vessels. The diameters of disc bases range between 6-14 cm and flat bases show very similar figures. Additionally, there is one wholly preserved flat base. Functionally there is apparently little difference between the disc and flat base types. Finally, there are two ring bases that have an 8 cm and an 11 cm diameter; one of them belongs to an open vessel and the other to a closed vessel.

### **3.6. Handles and Lugs**

There are eleven lugs in this assemblage and they include seven vertical tubular lugs, three double knobs and one single knob (Pl. 25.5,25.6,25.7). All the knobs are horizontally attached to the body. One of the tubular lugs belongs to coarse ware. Double knobs are approximately 30 mm in width and 15 mm in length. Tubular lugs measure about 15 x 30 mm and the single knob is 30 x 21 mm. There are no unusually big or small-sized lugs, as seen to sometimes occur in other phases.

### **3.7. Decoration**

For this layer there are five decorated body sherds and one impressed rim sherd among the analyzed samples. Five of these pieces display impressions and the last has plastic decorations, formed by a very thin clay strip attached horizontally to the body. This latter



piece and two other impressed body fragments must belong to open vessels, since they were also slipped and burnished on the inside. One of the impressed examples has semi-circular, irregular impressions and is slipped (possibly self-slipped) but left unburnished. The second impressed piece belongs to a jar without a neck and is intensely impressed with deep, vertical tear-drop shapes under the rim. The final three examples are all RSBW with bright, slipped, orange-red colored surfaces. They have thin, horizontal, shallow, crescentic impressions that are irregularly distributed over the surface (Pl. 25.8, 25.9). Finally, three of the decorated specimens were found on the IVe floor but during different operations.

## **G. Layer IVf**

### **1. Description of the phase**

The building phase identified as “IVf” comprises only a damaged floor and burnt mud-brick deposits. These features were detected in the 2001, 2002 and 2003 excavation seasons in several parts of grids N11a and b, underneath the remains of building Phase IVe. In 2001, in the northern parts of Grid N11a, a white-light gray-colored, ashy surface was found approximately 20 cm under the IVe Floor. This ashy surface was found 217.90 m deep under the soft, powder-like matter of the IVe floor. It is understood that since the IVf Floor was damaged, this surface cannot be traced throughout the excavated area. However, inside the debris burnt animal bones and pottery were found.

In 2002, the same whitish, soft deposit was once again encountered between elevations of 217.79-217.69 m in Area N11a. This deposit contained pottery, one loom weight and a clay ball. In 2003, only a small part of the IVf Floor was exposed in N11b; it was then removed in order to investigate the older remains beneath.

Analyzed material from this phase consists of 142 pieces. These are 70 rim sherds, 51 bases, 11 handles/lugs, 8 decorated body sherds, and one pierced body sherd.<sup>43</sup> No complete vessels exist in the analyzed assemblage.

### **2. Fabric**

One hundred and thirty-one out of 142 fragments belong to the RSBW, which makes up 92% of the entire assemblage. The RSBW is almost completely organic-tempered (96%). The RSBW-min makes up only 4% in the assemblage. A number of red-slipped examples have coarser appearances than is usually seen at this site. With four examples (4%), gray ware constitutes the second largest ware type. CSBW is represented with two (2%) pieces and coarse ware (2%) with two examples.

Most of the sherds, including the gray and cream-slipped wares, contain organic, mica and sand material as non-plastic inclusions (n=115). A small number have lime or other mineral inclusions. One hundred and eleven out of 142 examples have small-sized inclusions, whereas the rest contain medium-sized inclusions. Most pastes show regularly occurring amounts of inclusions (69%). There are 33 sherds (24%) that have

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<sup>43</sup> The analyzed excavation codes for Layer IVf are: CGR, CHE, CKR, CIM, CYI, CUD, and DIV.

abundant amounts and ten that contain low amounts of inclusions. Wares other than RSBW contain regularly occurring to abundant amounts of inclusions.

The majority of the cores (n=122) are composed of single colors. Forty-six of them are colored dark gray, 32 brown, 11 dark brown, and 16 are gray. In total, black cores number six and orange cores occur seven times. Fractures with two or three layers constitute nine examples each. In most cases, three-layered cores are composed of an orange-gray-orange combination. Wares other than RSBW usually have single-colored (dark gray or brown) fractures.

One hundred and nine of all analyzed sherds are medium-hard. Hard examples number 29, whereas soft ones only four. Sixty-six percent of all the sherds have non-porous surfaces whereas 32% can be identified as fine-porous. Pores on the surface are caused by the organic substances in the paste.

All of the samples are slipped, having most of their surfaces entirely covered. Aside from two red-slipped body sherds, which were only burnished on the inside, all of the sherds are burnished. This includes the gray and coarse wares. One hundred examples show bright surfaces, 28 very bright and 13 are non-bright. Two out of three coarse ware fragments have non-bright surfaces. Likewise, two out of five gray ware pieces are also non-bright.

One of the interesting properties of the wares from this phase is the relatively large number of sherds that have mica glimmer on them. In total, 33 surfaces have mica gloss. Among these three belong to gray ware and one to a coarse ware fragment. Eight examples have sooted areas on them, be it on their inside or on their outside. Mottled pieces number nine and a number of samples (n=7) display burnishing traces.

The RSBW in the assemblage are usually red, orange, dark red, or brown. There are a number of examples where the outer surfaces are brown-colored and the inside is red. Such differences in the outer and inner surface colors are most probably a consequence of the firing process. Gray wares are either gray or black-colored. The colors are distributed unevenly on a large number of the sherds, leaving only forty sherds with evenly distributed colors. Coarse ware, gray ware and CSBW all have irregular color distributions.

### **3. Morphology**

#### **3.1. Size**

The preservation in this phase is not optimal. Fifty sherds have areas between 3-10 cm<sup>2</sup> and another 57 are between 12-20 cm<sup>2</sup>. This clearly indicates that only small portions of vessels have survived. There are 32 pieces that outsize 20 cm<sup>2</sup> and they naturally provide an abundance of information on the original form, the surface treatment and/or the building techniques implemented. Only two fragments are bigger than 50 cm<sup>2</sup>. The bad preservation can also be seen in the preserved heights of the vessels. This is exemplified in the roughly one hundred sherds that measure between 1.3-3.9 cm in height. Only 39 pieces are higher than 4 cm.

#### **3.2. Wall Thickness**

A large number of the sherds, 69 in total, are 2-4 mm thin. Sixty are between 5-7 mm. Only eight sherds have thicknesses between 8-10 mm. Many rim sherds (40 out of 59) are also mostly between 2-4 mm thin. The rest are between 5-7 mm thick.

#### **3.3. Vessel Shapes**

The material from this phase is dominated by jars. Open forms, namely the deep bowls and bowls, are observed less. Jars with short necks (n=10), jars with vertical necks (n=3), jars with everted necks (n=21), and jars without necks (n=8) are encountered frequently (Pl. 26.1-26.13). Jars with short necks have rim diameters of between 11-16 cm. Bowls with convex profiles (n=9) and bowls with 's'-shaped profiles (n=6) also occur. The bowls have rim diameters between 7-19 cm. Additionally, there are two rim sherds that are deep bowls with convex profiles and rim diameters that exceed 20 cm. In general, the rim diameters indicate that the jars are indeed small to medium-sized, with large-sized jars absent in the assemblage.

#### **3.4. Rims**

Seventy rim sherds were measured and their bad preservation is confirmed by the relatively small portion of rim circles that have survived. Only 10% or less of the rim segments are preserved in 46 examples. There are seven rim sherds of which were too tiny to allow for their diameters to be measured.

There are three rim types that occur in this phase, they are: everted, simple and flattened. Everted rims are observed on 28 pieces. Simple examples occur almost as much as the

everted types, with 22 examples in total. Lastly, flattened types are encountered on 20 rim sherds.

Rim diameters mostly range between 10 to 15 cm. Vessels with rim diameters that are between 16-19 cm number 13 pieces. Rim diameters that equal or exceed 20 cm are measured only on six pieces. The relatively small size of rims points to there being a large number of necked jars in the assemblage.

### **3.5. Bases**

As usual, preservation of the bases is better than what is seen for the rim sherds. There are 51 bases that were analyzed from this phase and the majority of them (31) are flat bases; the rest are disc bases (Pl. 26.16-26.20). There is also one ring base (Pl. 26.21). Three flat bases belong to coarse wares and one gray and one CSBW have carinated flat bases.

Base diameters range between 6-13 cm. Thirty of the bases measure between 6-10 cm wide and 13 of them are 11-13 cm wide. There are four oval bases; one measures 7 cm and the other 11 cm wide. There are four small base fragments, of which have immeasurable diameters.

### **3.6. Handles and Lugs**

In the assemblage there are ten vertical tubular lugs (Pl. 27.1-27.5), one pierced knob (Pl. 27.7) and one horizontally placed loop handle. All of the tubular lugs and the loop handles are found on RSBW vessels. Some of the tubular lugs are relatively long and two lugs have areas that measure 56 x 14 and 57 x 14 mm.

### **3.7. Decoration**

Among eight impressed body sherds, six belong to RSBW and three to gray ware vessels (Pl. 27.8-27.11). There is one necked jar fragment with impressions placed right on the area where the neck is attached to the shoulders (Pl. 26.1). The impressions are crescentic (or rather boomerang-like) and are made intensive. Unfortunately it is not possible to see whether the impressions cover the whole vessel body.

Two of the gray ware pieces that are decorated have several horizontal crescentic impressions, which were made irregularly across the surface. Impressions on the other decorated examples are made with a tool that left triangular shapes. Red-slipped specimens also show a variety of impression styles, in terms of the execution and shape

of their impressions. Three of them show intensive impressions all over the surface. Two of the red-slipped impressed sherds have tear-drop impressions, plus one has half circles and the other quasi-quadrangular impressions.

## ***H. Layer IVg***

### **1. Description of the phase**

Archaeological remains belonging to IVg were exposed in the 2001, 2002 and 2003 excavation seasons by Atilla Batmaz. In 2001, as soon as the IVf floor was removed, a dark yellow and partly black deposit of collapsed mud-bricks appeared in the excavation area N11a. The debris was observed to be 45 cm thick. Consequently, in the northwest corner of the excavated area two-rowed stone foundations were found under the mud-bricks, which apparently constitute a corner of a building. Therefore, the area that is surrounded by these walls was named Building 17 (Fig. 4.17). The collapsed mud-brick deposits probably belong to this very structure, which for the most part remains in the



**Figure 4.17: Stone foundations and area identified as Building 17 at the northwestern corner of N11a (Far Left on Picture).**

unexcavated areas. The floor that belongs to Building 17 was met at 217.45 m in the northern part and at 217.36 m at the southern part. It is described as light brown-yellowish in color, and is damaged and is thickly plastered. Plastering was also observed on the body of the mud-brick wall, which only survived to a 5 cm height.

In 2002, excavations were continued in Grids N11a-b. Burnt reddish-pink mud-bricks were met once again beneath the IVf remains between 217.65-217.51 m deep. In the southern part of N11a and at N11b, IVg deposits were excavated to the floor level. This level is characterized with a yellow clayey composure (217.55-217.49 m). Unfortunately, no other architectural feature could be exposed in these areas. In 2003, some excavated areas from IVg in N11b were removed in order to reach the older deposits. The material from this removal work has also been included in this analysis.

In total, 89 sherds from this phase were analyzed. These include 48 rim sherds, 26 bases, 14 handles/lugs, and one decorated body sherd.<sup>44</sup>

## 2. Fabric

The pottery assemblage from IVg consists of various wares including RSBW, coarse ware, CSBW, and gray ware. The RSBW, all of them RSBW-org, as usual clearly dominate the assemblage with 86% (n=76). Coarse ware makes up 7% of the assemblage while the rest belong to CSBW (5%) and gray ware (2%).

Organic, mica and sand are absolutely the predominant non-plastic inclusions in this phase. In most cases these three occur together in the paste (n=69). There are also instances where small grit is seen together with these three components. Only three pieces have pastes that contain solely sandy and organic material and lime is seen in only one example. Coarse, gray and cream-slipped examples also show mostly organic, mica and sand inclusions, which suggests that their pastes were prepared in the same way as for the red-slipped ware. All of the inclusion particles have small to medium sizes. Inclusions that can be classified as large do not occur in the assemblage. Sixty examples have regularly occurring amounts of inclusions and twenty show abundant inclusion particles. Only eight examples display few inclusions.

The majority of the sherds (n=78) have single-colored fractures that are mostly dark gray, brown or gray-colored. Completely black, orange or dark brown fractures are observed less frequently. Three or two-layered fractures occur in small numbers in this phase and usually are brown-gray-brown or orange-gray-orange compositions.

The hardness of the pieces is as follows: 69 sherds are moderately hard and 18 can be classified as hard. There is only one example that can be called soft or “low-fired”.

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<sup>44</sup> Analyzed excavation codes are: CLG, CYB, CYC, CYD, CYH, CZJ, DAS, DAV, DEG, DIN, and DJB.



Coarse, gray and cream-slipped examples are all medium hard. Fifty-one examples have fine-porous surfaces and 36 have non-porous surfaces. Gray ware fragments have non-porous surfaces. Three out of six coarse ware fragments are fine-porous.

All of the examples are slipped and for most, the slip can be seen covering both sides. However, there are cases where the slip covers only the outer surface; these belong apparently to restricted vessels. Burnishing is also observed on almost every sherd. There is only one gray ware sherd that does not show any traces of burnishing. There are also a few sherds that are covered with thin layers of salt that prevent any examination of the surface. A great number of sherds have bright surfaces (n=62). Very bright surfaces are seen on eight examples and non-bright surfaces are evident on 18 sherds. Four coarse ware fragments, three cream and ten red-slipped specimens have non-bright surfaces.

One of the peculiar aspects of IVg pottery is that there are 14 sherds whose surfaces are covered with salty material either on the inside or outside, and in some cases completely, and sometimes only partially. There are 10 sherds that show traces of burning. Additionally, there are 13 examples with mica gloss and nine with mottled surfaces. On one example there are vertically-made burnishing marks.

In this phase the surface colors are diverse. RSBW are mostly red (n=28), orange (n=14), brown (n=14) or dark red (n=11). Cream-slipped wares are all cream or light brown-colored. Coarse wares are dark gray, cream or light brown-colored. Gray wares are either gray or dark brown. Fifty-three out of 88 sherds display irregular color distributions. Two pieces are entirely covered with minerals and so their original surfaces are not visible. Coarse wares usually have irregular color distribution, whereas cream-slipped examples are regularly distributed. Most red-slipped wares (n=48) also have irregular color distributions on them and only 26 of them show single color on their outer surfaces.

### **3. Morphology**

#### **3.1. Size**

The analyzed diagnostic sherds have small to medium-sizes. The majority of them measure between 11 to 30 cm<sup>2</sup>, while nine examples are bigger than 30 cm<sup>2</sup>. The height of the sherds also provides a good idea about the preservation in this building phase.

Fifty-one pieces are between 2.1-5 cm and only 22 examples are no higher than 2 cm. Another 15 vessel fragments are slightly better preserved with heights that exceed 5 cm.

### **3.2. Wall Thickness**

Twenty of the diagnostic sherds and 10 of the rim sherds have wall thicknesses of only 3 mm. The greater part of the assemblage has walls that are 4-5 mm thick and 18 sherds are thicker than 5 mm. The majority of the rim sherds measure between 3-4 mm; however, there are seven rim sherds that are thicker than 7 mm. One coarse ware rim sherd has a 10 mm thick wall. In general, the average wall thickness in this phase is 4.6 mm and the RSBW rim sherds also average 4.5 mm thick.

### **3.3. Vessel Shapes**

Forty-one out of 47 rim sherds could be identified in terms of their forms. The vessel shapes from this phase are not diverse and in this phase, the most frequently occurring vessel types from other phases are also found. These are mainly bowls with 's'-shaped profiles (Pl. 28.7, 28.8), bowls with convex profiles, jars without necks, and jars with everted necks (Pl. 28.1-28.8). Additionally, there are two examples of short-necked jars and one jar with a vertical neck. There are no complete vessels preserved from this phase, therefore it is difficult to comment on the actual sizes of these vessels. There are two jar fragments which are definitely small in size (between 6-15 cm high) and with rim diameters that do not exceed 12 cm. There are also two seemingly large-sized jars that do not have necks; they were probably used as storage vessels. Slip coverage of base and lug fragments indicates that there are more restricted vessels than unrestricted types in this building phase, but this could also be a result of sampling.

### **3.4. Rims**

Rim sherds from this phase are usually small in size. The actual rim area, which is used to measure the rim diameter of the vessel, is preserved from around 6 to 16% on the rim samples. There are two rim sherds of which had rim diameter that could not be measured due to their small sizes.

There are three rim types that are present in this phase, these are: everted, simple and flattened. Out of 47 rim fragments, 25 are classified as everted (52%), 10 as flattened (22%) and 13 as simple (26%). The diameters of the vessels range between 9-27 cm. Twenty-two of all the rims measure between 10 to 15 cm, 13 of them between 16-20 cm and only five exceed 20 cm. Both bowls and jars have diameters that are comparable in

size. However, there are five jar fragments that have diameters measuring between 20-27 cm.

As seen in the other phases, flattened rims are usually associated with jars without necks and their widths vary considerably. Three examples of the flattened rims are only 3 mm thick and another three are more than 24 mm wide (24, 30 and 31 mm respectively). These probably belong to large-sized vessels that were used as storage units. Only one 13 mm thick flattened rim belongs to a bowl with a convex profile.

### **3.5. Bases**

At between 16-46%, the preservation of the bases is better than the rim sherds. However, their surfaces are pored, cracked and, in a few cases, sooted. There are two base types that occur at IVg, these are flat (n=12) and disc (n=14) bases (Pl. 28.9-28.13). There are four oval-shaped examples, of which three are flat. In this phase the disc bases actually outnumber the flat ones. Whether this is an actual change in the production or only a coincidence of the sampled pieces is unclear. There are four coarse ware bases from IVg; two of them are the normal flat kind and the other two belong to the disc type. Among three cream-slipped examples, two are disc and the other is flat. The base diameters range between 6-18 cm but 21 of all bases have diameters that measure between 6-11 cm. There is only one base fragment that has an 18 cm diameter. It seems like many base fragments belong to small to medium-sized jars.

### **3.6. Handles and Lugs**

The IVg assemblage consists of 15 fragments of handles and lugs (Pl. 28.14-28.17). Among them only one belongs to a horizontally placed loop handle and the rest belong to different types of lugs. These other varieties include one double knob (15 x 22 mm), three pierced knobs, four single knobs, and six tubular lugs. Except for one pierced knob, the pierced and double knobs are placed horizontally. One of the pierced knobs is a coarse ware. Two of the single knobs are circular and button-like. The other single knobs are horizontally placed. One of them is 43 mm in length and 7 mm in width. Another single knob is 35 mm long and 6 mm wide. Like the single knobs, the vertically placed tubular lugs are also mainly long and thin (51 x 14, 48 x 18, 41 x 11, 37 x 16, 22 x 14, and 14 x 18 mm).

### **3.7. Decoration**

There is only one decorated body sherd from this phase and it is an impressed gray ware sherd that is 25 cm<sup>2</sup> in size. The absence of slip and burnishing on the inside of the piece indicate that it most probably belonged to a restricted vessel. The whole surface is covered with horizontally made crescentic impressions, is non-porous and shows mica glimmer. The fracture is dark brown and it has organic, mica and sandy material in the paste. The piece was found in 2002 on the IVg Floor in N11b.

## ***I. Layer IVh***

### **1. Description of the phase**

This phase is architecturally represented by Building 34, which was exposed in September 2003 at excavation area N11a-b. The excavators point out that the IVh deposits contain a lot of orange- brown-colored mud-brick fragments and charcoal, which once formed the upper structure of Building 34 (Fig. 4.18). The two walls of the building that constitute the southwest corner of Building 34 were excavated at elevations between 217.17-217.06 m. Unfortunately, most parts of the building remain in the unexcavated section of this and neighboring grids. The walls have three-rowed stone foundations. Additionally, two successive floor deposits in this building were identified;



**Figure 4.18: Northwestern corner of Building 34 in Grid N11.**

the upper one is plastered and light brown (217.11 m), whereas the lower one is made out of beaten earth and is black-gray colored and probably burnt (216.99 m). Therefore, the excavators have divided this building phase into two sub-phases, calling them IVh1 and IVh2. Here we will consider both of these phases together since chronologically both belong to the same horizon.

Two hundred and one diagnostic sherds from 15 excavation units belonging to Phase IVh were analyzed. These include two complete vessels, 112 rim sherds, 58 bases, 19 handles/lugs, and 8 body sherds.<sup>45</sup>

## 2. Fabric

The pottery from this phase is dominated by fine RSBW, at 81% (n=162) of the assemblage. Ninety-three percent of the RSBW is categorized as RSBW-org. The coarse variant of RSBW (n=19) represents 9% of the collection. In this phase, coarse ware appears within 6% (n=11) and CSBW within 10% (n=20) of the assemblage. Four pieces of gray ware and two pieces of cream-on-red ware complete the assemblage. There is one sherd without a surface that is classified as unidentified.

As usual, the RSBW has organic, mica and sand in its paste as non-plastic inclusions (n=137). There are some exceptions to this as only mica and sand appear in 17 sherds and another two examples include lime as an inclusion. Twelve sherds have small grits in addition to organic, mica and sand inclusions. The majority of the RSBW (n=116) have small-sized inclusions. Medium-sized inclusions are seen in 49 sherds and large-sized inclusions are not observed at all. The amount of non-plastic inclusions is mostly regular (n=162), however few (n=19) or abundant (n=18) amounts of inclusions have also been recorded. Fifteen out of 18 CSBW fragments contain organic, mica and sand inclusions in their paste. Almost all of the CSBW sherds have small-sized and regularly occurring amounts of inclusions. Gray wares contain organic, mica, sand, and grits as inclusions. Like the CSBW, the gray wares are mostly small in size with regularly occurring inclusion amounts. Although they do not fit together, there are two cream-on-red sherds that probably belong to a single vessel. Both of these pieces have small-sized mica and sand inclusions. Finally, coarse wares also have organic, mica, sand, and small grit inclusions that are mostly small in size and regularly occurring to abundant in their amounts.

The majority of the fractures have single colors (n=177). Three-layered fractures only appear on 16 pieces and they are normally composed of brown-gray-brown or orange-dark gray-orange layers. Single-layered fractures display a variety of colors with most of them being dark gray (n=55), gray (n=34), brown (n=35), or orange-colored (n=30).

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<sup>45</sup> Analyzed excavation codes from this phase are DEH, DEO, DEP, DFM, DFN, DFY, DFZ, DGS, DGT, DGZ, DHY, DHZ, DIO, DJY, and DJZ.

Only seven fractures were pitch black. Dark gray, brown and gray colors result from the organic material in the paste.

The majority of RSBW from this phase are moderately hard. The hard examples number 41, while there are 23 soft examples. Most of the CSBW are gray ware and red-on-cream ware and are also moderately hard, although soft and hard pieces also appear. Coarse wares have moderate to hard structures. One hundred and twelve out of 201 sherds are non-porous and there are 82 fine porous examples. Roughly half of the RSBW have porous surfaces due to the pieces' high amounts of organic material.

Almost all of the examples are slipped and burnished. The slip can be observed on both sides. The surfaces are bright, although non-bright examples can be seen in 33 pieces. Very bright surfaces are usually associated with the RSBW, however there are only 12 such examples. As a whole, the non-bright surfaces can appear with the RSBW, CSBW, gray wares, and coarse wares.

One of the frequently observed properties of the sherds from this phase is that they have heavy mica glimmer on their surfaces (n=43). Another interesting feature is the number of sherds with differing colors for their outer and inner surfaces. There are 31 examples that elicit this feature, which is probably a consequence of the firing atmosphere and technique. Such specimens might have brown outer surfaces and red inner surfaces or cream outer surfaces and orange inner surfaces. Mottled outer surfaces also appear, although only infrequently. Surfaces that have not been well-preserved or worn-out are also common in this assemblage, with more than 25 examples of such pieces whose surfaces are totally or partially worn-out. There are six sherds with traces of burnishing, three are vertical and three are horizontal.

The RSBW show a variety of surface colors that ranges from brown to dark red. The majority have red surfaces (n=62) and there are 38 orange and 32 brown examples. The surface color of the CSBW is either cream, light brown or then light gray. Coarse wares are usually brown or dark brown and red-on-cream ware is light brown with red paint. The majority of the sherds (n=132) have irregular distribution of surface color, suggesting unstable firing atmospheres. Finally, sixty-seven sherds have single surface colors.

### **3. Morphology**

#### **3.1. Size**

Although there are many small pieces from this phase, better preserved sherds also appear frequently. Twenty-six pieces are bigger than 30 cm<sup>2</sup> and 32 are higher than or equal to 5 cm. Twenty pieces are larger than 20 cm<sup>2</sup> and 50 pieces are actually smaller or equal to 10 cm<sup>2</sup> in size. The bases and handles/lugs are generally better preserved than the rim sherds. Sixty-seven sherds are shorter than 3 cm, which suggests poor preservation. The CSBW and gray ware are the worst preserved types.

#### **3.2. Wall Thickness**

One hundred and fifteen out of 201 sherds have wall thickness between 2-4 mm; among them, 29 are 3 mm and four are only 2 mm thick. Forty-seven examples are 5 mm, 16 are 6 mm and 11 are 7 mm thick. There are only seven pieces that have wall thickness that exceeds 7 mm. The walls that are thicker than 10 mm are measured on three flattened rims that belong to medium-large-sized jars. The coarse wares can be 5-8 mm thick, gray wares 3-5 mm and the CSBW 3-6 mm. Ninety-five out of 162 RSBW fragments have wall thickness measuring between 2-4 mm and 59 measure between 5-7 mm. Sixty-four out of 90 RSBW rim sherds have a wall thickness between 2-4 mm. The two red-on-cream pieces are 4 mm thick. All these figures demonstrate how finely made the vessels from this early phase are.

#### **3.3. Vessel Shapes**

Bowls with 's'-shaped profiles (n=28) and jars without necks (n=36) are the two vessel types from this phase that dominate the whole assemblage (Pl. 29.1-29.12). Other vessel forms appear less frequently but are highly varied. Among these other jar types are 12 short-necked jars, five jars with everted necks and one jar with a vertical neck. Deep bowls with 's'-shaped profiles are also common, appearing 11 times. Among the other bowl types are 11 bowls with convex profiles and 3 bowls with straight profiles. There are also three sieves (Pl. 29.14, 29.15) and one possible lid in the recorded examples. The ratio of closed shapes to open shapes is almost equal. There are two possible large-sized vessels with rim diameters that exceed 26 cm. These can be functionally classified as storage jars. The other vessels are small to medium-sized.



Two complete vessels from this phase are displayed in İzmir History Museum. One of them (Excavation Unit: DGZ 14260) is a small-sized jar with a short neck and four short tubular lugs on its shoulder (Pl. 29.2). It was found directly on the floor of Building 34 in pieces, at 217.11 m deep. The height of the vessel is 6.8 cm and the rim is everted, measuring only 5 cm in diameter. The flat base is only 2.8 cm in diameter. The vessel has cracks on its surface, which is burnished and slipped with a red color. However, the piece does not have a fine ware appearance. Organic material, mica and sand can be identified as the non-plastic inclusions.

The other vessel is the only complete one from Ulucak that has impressed decorations on it (Excavation Unit: DHY 14061; Pl. 29.1). It was also found in a fragmentary state inside Building 34 and close to the eastern wall section, at 217.11 m deep. The vessel is a medium-sized jar with a short neck, a slight 's'-shaped profile and four knobs. It has a height of 16 cm and a rim diameter of 13 cm. The piece has organic, mica, sand, and small grits as inclusions. Furthermore, it is slipped and burnished on the outside and has a brownish red surface that is mottled and partly sooted. Since the sooted areas are below the belly, it is suggested that this vessel was used for cooking on a fire. The fact that the paste includes small grits might also support this suggestion. Additionally, there are traces of burnt areas inside the vessel. The impressions appear almost all over the vessel, excluding the neck and rim areas, and are shallow, irregular and mostly in rounded or tear-drop shapes. The impressions were made after burnishing. Finally, the base is a disc type and the four knobs on the piece are not pierced.

### **3.4. Rims**

There are three types of rims that occur in this assemblage, these are simple, everted and flattened. The most frequently appearing type is the everted rim (n=64). As usual, flattened rims (n=11) are associated with jars without necks. Such jars constitute the thickest rim sherds, which form orifices that are wider than 16 cm. Simple and everted rims are seen on jars, deep bowls and bowls. Their rim diameters range from 5 to 28 cm. The majority of the vessels have rim diameters that measure between 11 to 17 cm. Usually, the jars have rims that measure between 10-16 cm in diameter, although values around 20 also occur. The deep bowls have wide orifices measuring between 20-28 cm. Finally, the bowls are similar to jars because they mostly have rim diameters between 10-16 cm. For the entire assemblage, the average rim diameter is 15.4 cm.

### **3.5. Bases**

There are sixty base fragments from this phase, four of them are complete and at least 15 belong to open vessels. Except for three oval bases, all bases are round in shape. Disc bases dominate the assemblage with 49 pieces (Pl. 30.1, 30.2) and flat bases are seen on 11 base fragments. The diameters for the bases mainly vary between 8-10 cm. There is one flat base with a diameter of 24 cm that must have been a large-sized vessel. It probably belonged to one of the vessels with a flattened rim that had a big diameter. Other than that, the bases seem to belong to small-medium-sized vessels.

### **3.6. Handles and Lugs**

There are 20 lugs and one handle from this phase. The one handle fragment is classified as a horizontally placed loop handle and seems to belong to a relatively large-sized vessel. It is 47 mm wide and 21 mm in length, and incomplete. The rest of the assemblage is composed of various lugs and knobs (Pl. 30.4 and Pl. 30.5). Fifteen out of 19 lugs are vertically placed tubular lugs and then there are 3 knobs and two double knobs. The tubular lugs vary in size, with their widths between 10-20 mm and their lengths ranging from 27-60 mm. This means there are unusually thin and long tubular lugs from this phase.

One of the complete vessels has four vertically placed tubular lugs on its shoulder (Pl. 29.2). These lugs are small, measuring 10 x 8 mm. There are also three vessels with horizontally placed knobs and one body sherd with one double knob. Four knobs are seen on the impressed vessel (Excavation Unit: DHY 14061). The knobs that are on the impressed jar are 16 x 10 mm and the other knobs measure 24 x 13 and 21 x 10 mm. Almost all lugs and knobs appear on the RSBW vessels.

### **3.7. Decoration**

There are nine vessels and body sherds that have decorations on them; there is one plastic decorated body sherd, two painted sherds, five impressed body sherds, and one complete jar with impressions. The piece with the plastic decorations has two thin bands that run parallel along its outer surface (Pl. 30.8). Due to the small size of this sherd (only 9cm<sup>2</sup>), it is impossible to infer what the original design was like.

The two painted body sherds seem to stem from the identical vessel (Fig. 4.19). These pieces have brown-orange surfaces with cream-colored paint. On one of them, two separate bands can be observed running to form a “V”-shape. The other one has only one band partially preserved on its corner.



**Figure 4.19: Decorated body fragments from Phase IVh.**

Of the five impressed sherds, three are gray ware and two are RSBW. The impressions upon them are usually irregular, shallow and not concentrated and appear in the shapes of tear-drops, triangles, nail impressions, and semi-circles (Pl. 30.6, 30.7). All impressions were made using a tool or finger tip when the vessel was still leather hard. As mentioned above, there is also one completely intact jar that also has impressions.

## ***J. Layer IVi***

### **1. Description of the phase**

Layer IVi is a building phase excavated in September 2003 by Fulya Dedeoğlu. It is located in Grid N11a-b, in the space located between Buildings 17 and 34 of building phases IVg and IVh. The deposit that was exposed under the building Phase IVh is described as green-gray-colored and clayey. A badly preserved, yellow-colored, 3-4 cm thick plastered floor, which contained sunken grinding stones and damaged hearths, appeared under this deposit at 216.71-216.69 m deep. One posthole is also identified in



**Figure 4.20: Area identified as IVi between Buildings 17 and 34 in Grid N11.**

the central part of the excavated area and is associated with the floor. The excavator points out that this building was heavily damaged by the younger structures that were built directly on top of it. Because the remains of a floor and a posthole could be identified in connection to one another, this area was named as Building 35 (Fig. 4.20). The walls and other architectural elements that might belong to this phase probably remain under the deposits of upper phases, which were not removed. Therefore, only a very small area, designated as Phase IVi, could be excavated. The finds are restricted to animal bones, lithics and pottery.

To the south of the excavated area a concentration of charred grains were found. The archaeobotanical analysis conducted by Megaloudi (2005: 28) upon samples retrieved from this area revealed that three acorns (*Quercus sp.*) are present in the sample. A

carbon date (Beta-188371) from the same concentration provided the result of 7110±40BP (6030-5895 cal. BCE).

The restricted size of the excavation area resulted in the collection of only a small number of pottery from this single building phase. Moreover, in this area there is the high possibility of contamination from other phases as it is difficult to distinguish the deposits belonging to phases IVh, IVi and IVk with high security. In total, 52 sherds are analyzed from IVi. The assemblage is too small to treat it in a scientifically meaningful way, but it does provide an impression of the general characteristics of the pottery from this phase. However, the total percentages of types and pieces, the existence of certain wares or abundance of certain wares and the form types will reflect a misleading picture when compared to other phases. For this reason, the quantitative results from this phase should be evaluated carefully. The assemblage consists of 26 rim sherds, four lugs, five body sherds, and 17 bases. There are no complete vessels recovered from this phase.<sup>46</sup>

## **2. Fabric**

Forty sherds could be assigned to the fine RSBW (ca. 70%) and five pieces were classified as coarse RSBW (%10). All the RSBW belongs to the RSBW-org variant of this ware group. There are eight CSBW, two cream-on-red and one red-on-cream ware pieces from this phase. The number of painted wares is huge compared to the small size of the assemblage. Two cream-on-red sherds probably stem from one common vessel. Although they do not connect to one another, their inclusions, surface characteristics and color of paint indicate that they once belonged to the same vessel. It is interesting that no coarse or gray wares appear in the assemblage, but this might again be linked to the small sample size.

The majority of the sherds have organic, mica and sand as non-plastic inclusions. Eight examples have small grit in addition to these inclusions. Only one sherd does not contain organic material as an inclusion. Thirty-four out of 52 examples have small-sized inclusions, while the rest contain medium-sized inclusions in their pastes. The amount of inclusions is mainly regular (n=35). Few inclusions are seen only on four examples and abundant amounts of inclusions occur in 13 pieces. There does not seem to be a strong relationship between the ware and non-plastic inclusions. It is worth noting that CSBW contains, almost as a rule, small-sized inclusions. The RSBW can have both small and

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<sup>46</sup> Analyzed excavation codes from this layer are: DLL, DLM, DNC, and DND.

medium-sized inclusions. The only red-on-cream ware piece has small-sized inclusions that are made out of sand and mica. Cream-on-red pieces have medium-sized inclusions that include organic, mica, sand, and small grits.

Forty-three of 52 sherds have single-colored fractures, eight examples are three-layered and only one sherd has two-layered fractures. In most cases, the CSBW display single-colored fractures which are gray or brown. The RSBW has a variety of fracture colors that range from orange to gray and from brown to dark gray. A number of the RSBW fractures have three-layered fractures, which are mostly orange-gray-orange. Cream-on-red pieces have brown single-layered fractures and the one red-on-cream piece has a three-layered fracture that is composed of orange-gray-orange layers.

Most of the sherds are moderately hard (n=43) but there are seven hard examples and two soft sherds. The CSBW are in every case moderately fired. Hard examples belong to the RSBW and cream-on-red ware. Thirty-seven out of 52 pieces have non-porous surfaces, although fine porous examples also occur frequently (n=25).

All of the sherds from this phase are slipped and burnished. In almost every case, the slip covers both the inner and outer surfaces. Pieces with differing colors of outer and inner surfaces appear frequently. As a whole, there are various surface colors that appear in this phase but the dominating colors are brown (n=11), red (n=12), orange (n=18), and cream (n=5). There are also light brown, dark gray and dark red surfaces. Thirty-five out of 52 sherds have irregularly distributed outer surface colors. The surfaces are bright (n=47), with non-bright surfaces only seen on two RSBW pieces. There are three very bright surfaces, one on a CSBW and two on RSBW sherds. Thirteen pieces have mica glimmer on their surfaces; seven of these are observed on base fragments. These base fragments are from red-on-cream ware, RSBW and CSBW. Mottled surfaces occur only rarely. Lastly, there are five pieces with traces of burnishing on them; three of them are vertical and two of them are horizontally made.

### **3. Morphology**

#### **3.1. Size**

There are 22 pieces that are bigger than 20 cm<sup>2</sup>. Five pieces measure more than 50 cm<sup>2</sup>. On the other hand, there are 11 examples that are smaller than 10 cm<sup>2</sup>. On average the area of the pieces is roughly 24 cm<sup>2</sup>. The preservation of the sherds is surprisingly above

average, with the heights of the analyzed sherds ranging between 1.7 to 9 cm and averaging 4.1 cm.

### 3.2. Wall Thickness

Pottery from this phase is exceptionally fine. The thinnest walls measure 3 mm, while the thickest value is only 7 mm. The mean wall thickness is only 4 mm. Thirty-six out of 52 sherds have a wall thickness of 3-4 mm and only six sherds are 6-7 mm thick.

### 3.3. Vessel Shapes

The vessels from this phase display the usual variety of shapes (Pl. 31.1-31.4). The most frequently occurring vessel types are bowls with 's'-shaped profiles (n=9) and jars without necks (n=8). Jars with vertical and everted necks appear to a lesser extent. Two bowls with convex profiles, one deep bowl with a 's'-shaped profile, one short-necked jar, and one sieve



Figure 4.21: Typical RSBW and painted fragments from Phase IVi.

complete the assemblage. The CSBW is seen with two bowls with 's'-shaped profiles, one jar without a neck and one deep bowl. The rim sherd identified as a sieve is red-slipped and belongs to a burnished bowl that has a convex profile. The piece has 11 holes on its body, which were pierced from the inside before firing. One of the jars without a neck is painted with a cream color on its mouth area; the paint is in the shape of an upside down "V" (Fig. 4.21; Pl. 31.1). One of the bowls with a 's'-shaped profile has reddish brown-colored paint on its lip. It reveals a 15 mm thick horizontal band and three thinner vertical bands coming out of it towards the body.

### 3.4. Rims

Everted (n=14), simple (n=9) and flattened (n=3) rims are the three rim types that appear in the assemblage. As in upper phases, everted and simple rims dominate the assemblage. As usual, flattened rims are clearly associated with jars without necks. However, all of the rims are only 3 mm thick. Rim diameters range between 10 to 24 cm and many are between 12-16 cm. At 22cm, the cream-on-red painted jar has one of the biggest rim diameters. The size of the vessels as judged by the rim diameters, whether

bowls or jars, is small to medium. The large-sized vessels that can be described as “storage vessels” are not observed in this assemblage.

### **3.5. Bases**

There are 17 bases from this phase, of which three were preserved completely. At least five of the bases originate from unrestricted vessels. There are only two types of bases present, flat and disc; although there is only one flat base in the analyzed examples. The base diameters range between 6-10 cm, again indicating the relatively small size of the vessels. One of the cream-slipped carinated bases is 8 mm high, which is unusual when compared to other disc bases. Finally, the dominating nature of carinated bases from this phase is worth emphasizing (Pl. 31.5, 31.6).

### **3.6. Handles and Lugs**

There are only four lugs inside the analyzed pieces. The first two are pierced knobs that seem to stem from the same vessel. Their shape and size are very similar, measuring 16 x 32 and 16 x 24 mm. The third lug from this phase is tubular and unusually long and thin, measuring 70 x 13 mm (Pl. 31.7). The last lug is a single button-like, circular knob. It measures 11 x 18 mm and is found on a dark red-slipped and burnished body sherd that has impressions on it.

### **3.7. Decoration**

There are seven sherds with decorations. One is an RSBW rim sherd and has plastic decorations that are vertically placed as a thin band on the neck (32 x 4 mm). One red-on-cream, painted bowl rim sherd also appears in the assemblage. It has one thick horizontal band circumnavigating the rim and three equidistant thin bands running perpendicular to the horizontal band, along the body of the vessel (Pl. 31.8).

One cream-on-red painted rim sherd has an upside down “V” on its shoulders, which begins immediately under the rim. The two bands that form the “V” shape are 10 mm wide and applied with a brush-like instrument with little care. Although the surface is red, bright and well-burnished, the paint is cream-colored and matte. It is noted that the paint was applied after the burnishing process because the paint has a rough surface but it is not clear whether the paint was applied after the firing. The other cream-on-red painted body sherd has two unconnected bands, one running horizontally and the other diagonally (Pl. 31.9). These two bands might have formed a “V” shape, but it is not



clear. One of the bands is 8 mm wide, while the other is incomplete. The two cream-on-red sherds might belong to the same vessel, however this is not certain.

Additionally, there are three impressed body sherds. All of them are red-slipped and burnished and two of them have bright surfaces. Two pieces also have mica glimmer on them. The impressions are irregular, shallow and appear as semi-circles and thin, shallow scratch-like lines (Pl. 31.10).

## ***K. Layer IVk***

### **1. Description of the phase**

Building Phase IVk constitutes the earliest building phase of Level IV. The architectural remains from this phase were discovered in the fall of 2003 through the excavations carried out at Grid N11b by Fulya Dedeoğlu. This phase was exposed directly under the archaeological deposits of the subsequent building phases – IVh and IVi.



**Figure 4.22: Thick stone foundations and stone pavement of Building 36.**

The deposit for this phase is gray-white in color and ashy. The accumulation is relatively thin and the remains are very damaged. However, the well-preserved stone foundations of Building 36 were excavated in Grid N11b. In terms of its building technique, Building 36 is one of the most interesting buildings at Neolithic Ulucak (Fig. 4.22). The stone foundations are relatively thick and are formed by three rows of rounded stones that measure 20-30 cm in diameter. This contrasts the single rows of small-sized stone foundations of the upper levels. The western and southern walls of the building join into a rounded corner at 216.38 m. This is another architectural feature that was not observed in the upper building phases, which have sharp corners. Unfortunately, evidence from the super-structure is lacking. However, the rounded corners might indicate that the

walls were not constructed out of rectangular mud-bricks but rather from mud. On the other hand, postholes located between the stone foundations were not found. Had there been evidence for postholes this would have suggested that the building technique used for the walls was wattle-and-daub.

Another interesting and unique feature about this building is its interior pavement, which is made out of small to medium-sized pebbles that measure 10-20 cm in diameter. This pavement was subsequently covered with a thin plaster (0.3 cm). Such a floor treatment is observed neither in the later nor in the earlier buildings. Additionally, pottery, bones, lithics, a number of ground stone fragments, and pestles were discovered on the paved floor, at a depth of 216.73-216.69 m. No additional inner architectural features were found in this building.

Unfortunately, it is not possible to reconstruct the original house plan, since it could only be excavated in a restricted area. The stone foundations are seen continuing under the overlying deposits and into the unexcavated sections of this grid. Nevertheless, rounded corners and paved floor are obvious signs for a change in the architectural techniques that were utilized at Ulucak.

There were 140 diagnostic sherds that were collected from this phase.<sup>47</sup> There is possibility of contamination from building deposits IVh and IVi. All together, the assemblage contains 75 rim sherds, 12 decorated body sherds, 48 base fragments, four lugs, and one special form. No complete vessels were recovered from this phase.

## 2. Fabric

Almost 90% of the whole assemblage is formed by two types of wares – RSBW (74%) and CSBW (15%) (Fig. 4.23). The RSBW sherds number 104, whereas there are 21 CSBW. For the first time ever, the RSBW-org dominates the RSBW assemblage, making up 65% of it. Twelve RSBW sherds are of coarser variants. Additionally, there are five coarse ware (4%), five gray ware (4%),



**Figure 4.23: Cream-slipped burnished wares from phase IVk.**

<sup>47</sup> Analyzed excavation codes: DMJ, DNR, DNS, DOA, DOB, and DRA.

three cream-on-red ware (2%), and two brown burnished ware (1%) fragments. All together, these pieces make up roughly 11% of the whole pottery assemblage from IVk.

Seventy-seven out of 122 diagnostic sherds have organic material, mica and sand as non-plastic inclusions. Eleven additional sherds also contain small grits. Forty-three sherds have only sand and mica in their pastes. The majority of the RSBW (55 out of 92) have organic, mica and sand material in their pastes, although simply sand and mica also occur frequently (n=23). The CSBW display a similar pattern as seen in the 12 out of 18 examples that are tempered with organic, mica and sand, as well as with the five that only have mica and sand temper. Gray ware examples have both organic, mica and sand with and without small grits, as well as only sand-mica combinations. The majority of the non-plastic inclusions were small in size (n=110), while 27 pieces have medium-sized and only two of them have large-sized inclusions. The CSBW contain either small or medium-sized inclusions. In most cases gray wares display small-sized particles in their pastes and cream-on-red wares only have small-sized inclusions. Coarse wares have small to medium-sized inclusions. Large-sized inclusions appear only in two coarse pieces of RSBW, in a base and a lug.

Most of the pastes contain inclusions in regularly occurring amounts (n=84). Nevertheless, 42 examples have abundant amounts of inclusions and only 13 have few inclusions in their pastes. Abundant amounts of inclusions can appear as a mixture of large, medium and small-sized inclusions. The CSBW has regularly occurring to abundant amounts of inclusions in their pastes. Gray wares mostly have regular amounts of inclusions and cream-on-red wares have regular to abundant inclusions of small sizes. Lastly, coarse wares have regular to abundant inclusion amounts.

The great majority of the sherds have single-layered fractures but there are eleven three-layered fractures, mainly orange-dark gray-orange, and four pieces with two-layered fractures. As usual, single-colored fractures have a variety of colors ranging from orange to black. Frequently occurring examples of single-colored fractures are brown (n=36), dark gray (n=39) and orange (n=24). Less frequently observed colors are gray (n=12), dark brown (n=9), black (n=3), and light brown (n=2). Completely black cores are observed on two CSBW examples but the majority of the remaining CSBW have dark gray fractures. There is only one CSBW example with orange-colored fractures. Gray wares also have brown to dark gray fractures and cream-on-red wares display orange and brown fracture colors. The RSBW appear with brown, dark gray and orange fractures.

Ten out of 20 fractures that are orange and light brown-colored contain only sand and mica as non-plastic inclusions. However, the rest are tempered with organic material together with sand, mica and occasionally, small grits. Non-porous examples outnumber sherds with fine pores. Non-porous surfaces occur on 97 examples while pieces with fine-porous surfaces number only 41. There is only one RSBW base with large-sized pores. The majority of the CSBW are also non-porous. Gray wares and cream-on-red wares are in all cases non-porous, while coarse wares are fine-porous.

One hundred and fifteen pieces are moderately hard. There are 16 very hard examples and only nine soft ones. Hard sherds occur together with the RSBW and the CSBW. Soft ones occur together mostly with the RSBW. Gray, cream-on-red and coarse wares are always moderately hard.

All of the examples are slipped, mostly on both sides. Burnish is seen on all the sherds except for six, which belong to gray and coarse wares. Ninety-seven sherds have bright, 24 have non-bright and 19 have very bright surfaces. Thirteen out of the 21 CSBW have bright surfaces. Five additional examples display very bright surfaces. None of the gray wares have bright surfaces, although three of them are burnished. Cream-on-red wares also have bright surfaces. Coarse wares can have both bright and non-bright surfaces. Seventy-nine RSBW sherds appear with bright surfaces, while 12 are non-bright and 13 have very bright surfaces. The outer surfaces of the sherds appear worn-out in ten examples and four pieces are covered with a layer of minerals. Thirty-four examples have mica glimmer. Additionally, 18 sherds display different colors on their outer and inner surfaces, and 19 sherds are mottled on the outside. There are nine sherds that have burnishing traces on them; four of them are vertically made, three are horizontal and two are diagonal. Seven pieces are partly sooted or burnt.

The surface colors vary considerably, although some colors clearly dominate the assemblage. Red occurs on 46 examples, orange on 32, brown on 24 and cream on 16 pieces. The rest of the pottery assemblage display colors like dark gray (n=2), dark red (n=7), gray (n=3), dark brown (n=2), and light brown (n=7). Gray wares have brown, dark gray and gray surface colors, whereas coarse wares have brown-dark brown surfaces. Ninety-one out of 140 sherds have irregular color distribution on their surfaces and regular color distributions are recorded on 49 examples.

### **3. Morphology**

#### **3.1. Size**

Thirty sherds are smaller than 10cm<sup>2</sup> and five of them are equal to or bigger than 50 cm<sup>2</sup>. The ones that have medium sizes range from 10 to 48 cm<sup>2</sup>. The average size of the sherds is 19.8 cm<sup>2</sup>. Heights of the sherds range from 1.3 to 9 cm and 61 sherds have a height that is between 3-4 cm. The average height of the sherds is circa 3.5 cm. These figures speak for relatively bad preservation conditions.

#### **3.2. Wall Thickness**

Ninety-two examples have wall thicknesses measuring between 2-4 mm. There are five sherds with only 2 mm wall thicknesses, 43 with 3 mm and finally, 44 with 4 mm thick walls. Another 43 sherds measure between 5-8 mm thick. The average thickness of all wares is 4.3 mm. The RSBW have an average of 4.1 mm while the CSBW average 4.3 mm in wall thicknesses. Gray wares and coarse wares have higher thickness averages, at respectively 5 mm and 5.5 mm. The thickest example measures 19 mm and belongs to a possible foot from an offering table. There is also one rim sherd from a jar that is 9 mm thick. These figures clearly illustrate the fineness of the vessels from this phase.

#### **3.3. Vessel Shapes**

Various vessel forms are recorded in the assemblage (Pl. 32.1-32.12). The most frequently occurring vessel shapes are bowls with 's'-shaped profiles (n=11; Pl. 32.5-32.8), jars with everted necks (n=13) and jars without necks (n=19). Bowls with convex profiles appear nine times (Pl. 32.9-32.12) and deep bowls with 's'-shaped profiles six times. There are two CSBW dish fragments. The appearance of dishes in this early phase is surprising, since they are observed extremely seldom in Ulucak's Neolithic repertoire. Less frequently appearing vessel shapes in this phase are bowls with straight profiles (n=1) and jars with vertical necks (n=3). All in all, jars are dominant in the assemblage, numbering 40. Most of them appear as RSBW or CSBW.

#### **3.4. Rims**

Seventy-five rim sherds were analyzed from IVk. They all fall into three type categories: 29 are classified as everted, 34 as simple and twelve as flattened rims. The thickness of the flattened rims range from 2 to 21 mm. Extremely thick examples that exceed 50 mm do not occur in the assemblage. The average rim diameter is 16.2 cm and almost half of

the analyzed rim sherds have rim diameters that measure between 12-16 cm. There are more than 24 rim sherds with rim diameters either equal to or bigger than 18 cm. The widest rim measures 26 cm. Both jars and bowls show similar values in terms of their rim diameters which points out that small to medium-sized vessels were produced at this time. Large-sized vessels seem to not be a part of the assemblage. Two dishes from this phase have 22 cm for their rim diameters. Preservation of the rims is very bad in this phase with only 6-10% of the entire rims being preserved in 55 out of 61 rim sherds.

### 3.5. Bases

Almost all of the base fragments belong to disc bases (Fig. 4.24; Pl. 32.13, 32.14). There are only four flat bases and one ring base, the latter appearing on a RSBW sherd. The base diameters range between five to 14 cm. Most of the bases measure only eight centimeters in width and those which have diameters exceeding 10 cm are very rare. These figures



indicate relatively small-sized vessels. **Figure 4.24: Base fragments from Phase IVk.**

Preservation of bases is much better than in the rim sherds, with two complete bases. At least 14 out of 44 base fragments belong to unrestricted vessels. Eleven of these come from the coarser variant of the RSBW. A few of the bases display sooted areas, which might indicate that some were used as cooking vessels. Eight examples have mica glimmer on them. One of the disc bases shows the coil break where the base and body were attached to one another. The inner surfaces of the bases are frequently worn-out or not preserved at all. This is a feature that is seen throughout the Neolithic sequence.

### 3.6. Handles and Lugs

There are only four lugs in the assemblage. All of them are vertically placed tubular lugs belonging to RSBW vessels (Pl. 32.16). They have varying dimensions that measure 10 x 23, 18 x 40 and 19 x 45 mm. The fourth one is 12 mm wide and broken. They are neither tiny nor too long, but rather medium-sized tubular lugs that display no extraordinary traits. No handles were observed in this level. The small number of tubular

lugs and the absence of knobs might be a result of the relatively small size of the sample, since knobs are observed in the earlier building phases.

### **3.7. Decoration**

In comparison to the low number of bases or lugs there are plenty of decorated pieces from this phase – 14 in total. These include three painted and 11 impressed sherds. Painted examples show cream-colored paint on burnished orange-red-slipped surfaces. Two of the painted pieces display horizontal bands (Pl. 32.17) and one has two incomplete diagonal bands that probably formed a “V” shape. Since only tiny areas of the painted sections were preserved, it is impossible to tell what the designs are.

The impressions that are present are regular, intensive, diagonal, deep, and semi- circular (Pl. 32.18). These designs can be observed on gray ware and RSBW sherds of small sizes (around 8-10 cm<sup>2</sup>). Five out of eleven impressed sherds are associated with gray ware and the rest are seen on red-slipped and burnished pieces. Six impressed sherds show nail impressions and another four have semi-circles, one of which also has shallow, irregularly made horizontal and vertical impressions upon it. The impressions cover the whole surface of each piece; however, some are intensely made and some are not. One of the impressed pieces is seen on a base fragment of gray ware.



## ***L. Layer Va***

### **1. Description of the phase**

Architectural debris from building phase Va was uncovered at two excavation grids located at different places on the mound, namely in Grids N11 and L13.

Layer Va remains from N11 were excavated in 2003 by Fulya Dedeoğlu. The excavation area was located in the southern section of the grid and was approximately 3.6 x 1.9 m (ca. 6.8 m<sup>2</sup>). The deposit was orange-brown colored and included many burnt mud fragments and charcoal. The remains of two adjacent post-wall buildings, named 27 and



**Figure 4.25: Buildings 27 and 28 in Grid N11.**

28, were uncovered in this layer (Fig. 4.25). The dark brown- black-colored floors of these buildings were found at elevations between 215.95-215.90 m. Inner architectural elements are preserved in Building 28 and could only be unearthed partially. One free-standing mud storage unit was found in the central part of the excavated area. Additionally, large piles of sling missiles were found in both of the buildings next to crushed pottery vessels, of which probably once held them.

Architectural remnants belonging to the same building phase were also excavated in Grid L13, which is located towards the northern edge of the mound. The excavation of

the Va deposits took place in 2003 and 2004, and was supervised by Ali Ozan and Mücella Erdalkıran. In 2005, the exposed structures were removed by Fulya Dedeoğlu, who identified a terracing activity that was made prior to the construction of the Va buildings. The Layer Va buildings were then exposed in a large area, which covered the complete grid area and enabled us to obtain more information on the daily life of the earlier Ulucak community (Photo Plate 2.2). In Grid L13, inner spaces as well as open areas were discovered. Buildings 22 through 26 were built adjacent to each other, using mud and wood. Post-holes in the mud walls are observed in many places. Although only 15-20 cm of the wall height has survived, the inner features and objects that were present in the houses are preserved surprisingly well. The good preservation is probably partially due to a heavy fire, which probably did burn down the whole settlement. The burnt deposits were discovered in grid N11, which is located at the center of the mound. The buildings contained ovens, hearths, mud storage units, pottery vessels, as well as concentrations of objects like sling missiles and loom weights. The burnt floor of Building 23 was found at 215.82 m deep. Building 26 has its floor at 215.47 m, Building 22 at 215.57 m and Building 25 at 215.41 m deep. The floors in Buildings 23 and 22 are whitish-colored and plastered, whereas in Buildings 25, 26, and 24 the floors are represented with burnt dark brown-colored, hard surfaces (Fig. 4.26).



**Figure 4.26: Buildings 22-26 in Grid L13.**

The open sections contain evidence for activity areas. Concentrations of animal bones, horns and a great many stone tools are identified at the northwestern side of the grid while in the southern sections concentrations of shells, animal bones, horns, and many lithic tools were found. These might be areas where butchering and manufacturing of bone tools or shell ornaments took place.

There are 378 diagnostic sherds and nine complete vessels that were analyzed from Phase Va, from Grids N11 and L13. The diagnostic sherds include 237 rim fragments, 93 bases, 40 handles/lugs, and seven decorated body sherds.<sup>48</sup>

## 2. Fabric

The majority of the analyzed sherds belong to fine (n=167) and coarse RSBW (n=23), constituting 49% of the assemblage. Of these, 78% belongs to RSBW-min and 22% to RSBW-org. The quantity of the CSBW increases remarkably in this phase, representing 29% of the assemblage (n=111). Likewise, brown-colored burnished wares also increase, making up 10% of the assemblage (n=40). Coarse ware is represented with 7% (n=26). There are three red-on-cream painted pieces (1%) and one ware with mica glimmer. Six burnt sherds with very badly preserved surfaces were left as unidentified (2%).

The bulk of the examples contain mica and sand as inclusions (n=255), while organic-mica-sand also continues to occur (n=74). The co-occurrence of mineral inclusions (i.e. sand-grit-mica) is also seen on 37 examples. Lime inclusions are observed in 10 pieces but the sand-mica combination dominates all types of wares. Seventy-three out of 112 CSBW and 128 out of 190 RSBW contain sand-mica as non-plastic inclusions. However, two of the red-on-cream contain organic material in addition to mica and sand. Coarse wares also have sand-mica inclusions but they are accompanied by other minerals. Most pastes have regularly occurring amounts of non-plastics (n=256). Pieces with few amount are also common (n=78) and there are 45 sherds with abundant amounts of non-plastics. There seems to be no meaningful correlation between the ware type and the amount of inclusions. Almost the entire assemblage shows small-sized non-plastics. Medium-sized inclusions are observed in 32 cases, while large-sized inclusions are not seen at all.

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<sup>48</sup> The analyzed excavation units from Grid N11 are DRB, DRE, DRK, DRM, DRZ, DSA, DSG, DSV, and DSY. The analyzed excavation units from Grid L13 are DFK, DGI, DIL, DIM, DJI, DJM, DJN, DJV, DKP, DKS, DKV, DOP, DPN, DPU, DSJ, DSL, DTA, DTD, DTF, DZB, DZD, DZE, DZI, DZK, DZL, DZO, DZU, DZV, EAD, EAE, EAF, EBA, EBB, EBM, and EFV.

Fractures are mainly single-colored, although two and three-layered fractures, as well as multi-colored examples also occur. There are 340 pieces with single-colored fractures and only 14 three-layered examples and 21 two-layered pieces. The majority of the single-colored fractures are brown (n=124) but dark brown, gray and dark gray fractures also occur frequently. Gray and dark gray cores usually contain organic inclusions. Orange and light brown cores, usually appearing with sand-mica inclusions, are observed both on RSBW and CSBW. These cores indicate fully-oxidized firing conditions were achieved. However, dark-colored cores dominate, which might indicate the potters' predisposition for non-oxidized firing conditions. Three-layered cores are low in number and usually appear with brown-gray-brown or orange-brown-orange, orange-dark gray-orange layers. The dark-colored central layer is usually a result of the incomplete oxidization of the organic material in the paste.

The greater part of the assemblage is comprised of moderately hard pieces (n=266). There are 69 hard examples and low-fired (or soft) examples are encountered 49 times. Almost the complete assemblage is non-porous (n=353). Fine-porous examples number only 26 and there are only two coarse-porous examples in the assemblage. There are six pieces with damaged surfaces. Slip is commonly observed on RSBW and CSBW and is not present on coarse wares; while gray wares seem to have self-slips. Most sherds are slipped on both sides, however, there are examples where only outer surfaces are slipped. The bulk of the sherds are burnished, or at least smoothed. Two hundred and fifty-two sherds have bright, 50 have very bright and 83 examples have non-bright surfaces. Most of the coarse and gray wares have non-bright surfaces but few RSBW and CSBW reveal such surfaces. One hundred and five examples have mica glimmer on their surfaces, 14 of these being very heavy. Additionally, 46 examples are partly sooted. This sooting can be seen both on the inside and outside of the vessels. Twelve pieces have burnishing marks on them, 10 of them vertically made. Mottling is observed on 25 pieces.

Surface colors vary a lot in this phase. Cream (n=58), brown (n=50), red (n=89) and orange (n=75) are the most frequently observed colors. Light brown (n=37) also appears frequently, especially in association with the CSBW. There are 29 dark red examples and dark brown and black surfaces are seen rarely. The colors can be both regularly and irregularly distributed over the surfaces, with regular distribution seen on 220 examples and irregular distribution present on 167 examples.

### **3. Morphology**

#### **3.1. Size**

The average area of all diagnostic sherds is 21.9 cm<sup>2</sup>. Rim sherds have a mean area of 182 cm<sup>2</sup>. The minimum area measured is 5 cm<sup>2</sup>, while the maximum area reaches 280 cm<sup>2</sup>. The mean height of the sherds is 3.9 cm and rim sherds have a mean height of 4.2 cm. The minimum preserved height is 1.1 cm for all sherds and 3.7 for all rim sherds. All these figures speak for a relatively well-preservation. Supporting this idea, is the fact that there are nine complete vessels from this phase. Complete vessels have heights between 3-11 cm, which means that only small-sized vessels could survive completely; whereas middle-large-sized vessels were all damaged in the debris.

#### **3.2. Wall Thickness**

The better part of the diagnostic sherds have thicknesses between 2-4 mm. There are 124 examples with 3 mm thick walls and walls that are 4 mm thick are found on 138 pieces. There are even 28 examples with only 2 mm thick walls. The number of sherds that are 5-8 mm thick is 81 and there are seven pieces that have walls which measure 9-12 mm. The mean wall thickness is 3.9 mm, with a minimum of 2 mm and a maximum value of 14 mm.

#### **3.3. Vessel Shapes**

Unrestricted vessels outnumber the restricted vessels in this assemblage (Pl. 34.1-34.16). The most frequently occurring unrestricted form is the bowl with a 's'-shaped profile (n=57). Bowls with convex profiles follow with 20 pieces. Deep bowls with 's'-shaped profiles are also commonly come across within this phase (n=19), while deep bowls with convex profiles occur 12 times in the assemblage. There are also two dishes in the analyzed examples. Restricted forms (Pl. 33.1-33.14; Pl. 35.1, 35.2) are dominated by jars without necks (n=56), jars with short necks (n=28) and jars with everted necks (n=15). Jars with vertical necks appear only four times. Three miniature vessels and one special form, a probable brazier (Pl. 36.9), complete the assemblage.

There are nine complete vessel profiles recovered in the debris of this building phase. As usual, small-sized bowls and jars could be recovered either completely or in crushed states within the debris. Three cream-slipped and burnished bowls with 's'-shaped

profiles and heights of 6.8, 7.5 and 8.3 cm, are among these vessels. One of them (drawing number: 13646) is very fine with a 3 mm wall thickness. The other sherds with whole profiles include two cream-slipped jars with short necks, one coarsely made miniature vessel and two red-slipped jars without necks; these pieces all have heights of 9 and 11 cm. Some were found in the fill of the buildings and others were recovered on the floor of buildings 22 and 23, in Grid L13. The brazier and one of the jars with a short neck (drawing number: 18927) were recovered in Building 22. Building 23 revealed two complete profiles, one jar without a neck (drawing number: 17818) and one miniature vessel (drawing number: 2438).

### **3.4. Rims**

Everted rims constitute 50% of the assemblage (n=123). Simple rims are counted in 94 instances, making up 38% of the assemblage, and flattened rims are observed only 26 times. Thicknesses of the flattened rims change between 2-34 mm but most pieces are between 3-6 mm. Flattened rims are mostly associated with the RSBW, brown-colored and burnished ware and coarse wares. There is one sharply everted rim.

One hundred and ninety-eight examples are large enough to measure their rim diameters. The minimum measured diameter is four and the maximum value is 32 cm, making the mean value 16.3 cm. Orifices that exceed 20 cm are mostly seen on jars without necks and deep bowls with 's'-shaped profiles. Bowls with 's'-shaped profiles have rim diameters that range between 8-22 cm with an average of 15 cm. Bowls with convex profiles have rim diameters that vary between 10-22 cm and average 14.6 cm.

### **3.5. Bases**

Disc bases are almost the only base type seen in this phase; they make up 91 out of 99 base or base fragments (Pl. 37.1-37.10). There are only eight simple flat bases, one ring base and two bases that are categorized as "other" in the assemblage. Disc bases can be around 8-12 mm high and some are not attached to the body at 90 degrees. There are 18 complete bases encountered in the assemblage. Base diameters are found to measure between 3.4-18 cm, with the average value at 8.4 cm. Some bases are sooted, on the outside mostly, and few have mica glimmer.

### **3.6. Handles and Lugs**

Forty lugs and four handles were analyzed from Layer Va. Twenty-eight of all lugs are vertically placed tubular lugs with lengths ranging between 10-65 mm (Pl. 36.11-36.13, 36.18, 36.19). Fifteen of all tubular lugs have lengths between 21-40 mm. There are three lugs that have lengths that exceed 50 mm. The widths, on the other hand, range from 7 to 22 mm. One of the tubular lugs is very thin and long, measuring 9 x 65 mm. Tubular lugs are found upon RSBW, CSBW, coarse ware, and brown wares. They are in most cases attached to the shoulders of jars. Seven single knobs (Pl. 36.15) and five pierced knobs (Pl. 36.16, 36.17) also exist in the assemblage. Single knobs are all horizontally placed on the jar bodies. Widths range from 18-30 mm and lengths vary between 8-15 mm. Likewise, pierced knobs are placed horizontally on the vessels. Their widths vary between 10-34 mm while their lengths are 13-21 mm.

Only four handles are found in the assemblage. All of them are loop handles, two of them horizontally and two others vertically attached to the vessel bodies (Pl. 36.16). All of them are found on the RSBW vessels. Their sizes vary between 33 x 16, 35 x 23 and 26 x 38 mm.

### **3.7. Decoration**

Out of 387 diagnostic sherds and complete vessels only 17 bare some sort of decoration. Twelve of these decorated specimens have impressions, three are painted and one of them has a plastic application. Seven of the impressed pieces are on gray ware, one is impressed on brown-colored burnished ware, two are found on RSBW, and one is on a CSBW vessel. Seven of the impressions were made either with fingernails or a tool that leaves nail-like impressions (Pl. 35.1, 35.2, 35.3). Two of them have also small circles together with nail impressions. There is one complete 11 cm high jar that is entirely covered with nail and circular impressions. There are shallow and deep, as well as irregular and regular impressions. There is no unity in the execution of the impressions.

All of the three painted pieces, one body sherd, one rim sherd and a base were found in the same deposit. However, they do not belong to the same vessel. The rim sherd is from a bowl with a 's'-shaped profile, whereas the base seems to belong to a bowl with a convex profile. Two of the red-on-cream painted examples show horizontal bands and they are both made on small body sherds. The first has horizontal bands that measure 11

mm wide and the other has 15 mm thick horizontal bands. The base fragment has very interesting decoration as seen in a red-colored cross that is found on the inner and outer surfaces of the piece (Pl. 35.5). The inner cross survived better. This is a unique piece not only because the cross design is a rare one but also because the decoration is seen in the inside of the vessel.

Likewise, another interesting and rare decoration is seen on a bowl with a 's'-shaped profile. The decoration covers the entire surface and is extremely regular and without any empty spaces. The decoration is executed by pulling the surface with two finger tips while it is still wet; this can be described as "pinching." The outer surface of the vessel is left without a slip or burnishing, while the contrasting inner surface is orange, slipped and burnished.



## ***M. Layer Vb***

### **1. Description of the phase**

The cultural fill that is identified under the Va buildings and their terraced layers (215.55-215.51 m) is named Layer Vb. This layer is characterized by roughly 30 cm of thick debris of burnt orange-yellow and brown-colored mud and charcoal. The layer was excavated extensively in Grid L13 in 2005-2006 under the direction of Fulya Dedeoğlu. During this time three free-standing buildings, one complete and two partial, were unearthed. The northern sections of Buildings 31 and 33 were excavated on the southern part of the grid in 2005. Building 33 was discovered with a plastered floor at 215.02 m deep and it contained five circular bins, an extremely damaged oven and clay elements, like platforms, that belonged to the oven. Building 31 is also incompletely exposed, but rather along the southeastern corner of the grid. The borders of this structure are determined by the remnant rows of post holes which encompass an area of 2.2 x 1.5 m. Inside this building, the floor level can be found at 215.07 m deep and it is burnt and black-colored on its surface with numerous finds scattered across it. The finds include sling missiles, loom weights, flat-surfaced stones, as well as many obsidian and flint flakes and tools; which has led the excavators to interpret this building as a “workshop” (Photo Plate 5.2; Çilingiroğlu and Dedeoğlu 2006: 140). Alternatively, the limited excavated area could correspond to the work area inside a house.

Building 30 has an area of 4.5 x 4.5 m and was for the most part exposed completely in the northern part of the grid (L13a-b) in 2006. The walls of the building are approximately 15 cm thick and they have plastering on both sides. The plastered floor had at least three renewal phases and is found at 215.07 m deep. In the central part of the building, towards the southern wall, two post holes that reach depths of 26 cm and probably originally supported the roof structure were found. The entrance to the building is situated on the southern side and is 1.30 m wide. Building 30 contains absolutely the best preserved inner architectural elements and portable objects at Ulucak. Six circular mud bins, two square-shaped mud storage units, one damaged oven, and three clay platforms are among the inner architectural elements. All of these structures were found along the walls of buildings, some are even almost attached to the wall. Portable finds in the building are dominated by 25 pottery vessels, most of which were found crushed or intact on the floor and some were even inside one another (Pl. 46). Fifteen of the 25

vessels are preserved almost wholly and from this group, thirteen were already submitted to the İzmir Archaeological Museum.

The pottery analysis is concentrated on material from the fill and the floor of the buildings and the outer open areas that lie between them. Apart from eighteen complete profiles, 192 rim sherds, 80 base fragments, 51 lugs and one lid were put to analysis; this adds up to 342 pieces in total. Almost all complete vessels (15 of 19) were found *in situ* inside Building 30, on the floor.

## **2. Fabric**

The assemblage contains a variety of wares in various quantities. RSBW is represented with 37% (n=127) and RSBW-min represents 92% of RSBW. RSBW-org makes up only 8% of RSBW sample. Brown-colored burnished wares constitute 29% (n=99) and CSBW 24% (n=81) of the assemblage. Coarse wares are present with 6% (n=19) and mica glimmer ware only with 1% (n=5) in the collection. There are 11 sherds that are classified as unidentifiable due to post-depositional processes, like bleaching, or their badly preserved surfaces.

Non-plastic inclusions mostly consist of sandy material and mica, both of which are observed in 231 pieces. The organic, mica and sand combination is seen in 43 examples, while sand, mica and grit are in 47 pieces. Lime is included rarely and if included, is combined with sand (n=2) or sand and mica (n=6). Mineral non-plastics were clearly preferred by the potters. The sand-mica combination is frequently seen in the pastes of all ware groups. One hundred and eighty-nine out of 340 sherds have regularly occurring amount of non-plastics in their pastes, and 72 examples had few while 71 had abundant amounts of non-plastic inclusions. The great majority of the sherds included small sized non-plastics. Only 49 have medium-sized inclusions and large-sized inclusions are not observed at all. There are seven examples which were left as unclassified.

The bulk of the fractures are made out of single layers (n=294). There are 19 two-layered cores and three-layered cores are seen in 21 examples. Three examples are multi-colored and three are unidentifiable. Most of the single-colored fractures have colors such as brown (n=85), light brown (n=77), orange (n=31), dark brown (n=30), and dark gray (n=21). Orange, orange-brown, red, and reddish brown cores are associated with pastes that contain only mineral inclusions. Other colors appear both with mineral and organic inclusions together. Likewise, most brown-colored cores are associated with mineral

inclusions. Organic inclusions usually end up with gray-dark gray tones after firing. In terms of their hardness, 259 pieces are moderately hard, 56 are hard and 25 examples are soft.

Most pottery examples are not porous due to careful burnishing (n=311). Fine-porous surfaces are seen 16 times and coarse porous examples only seven times. There are six unidentifiable sherds. Porous examples do not necessarily appear together with organic tempered sherds. There are 314 sherds that have slips covering their surface and only 11 seem to have no slips, leaving 15 as unidentifiable. In most cases, slips covers both surfaces. There are 46 sherds that are slipped only on the outside. Another 17 sherds have worn-out, or invisible, surfaces which are left as unidentifiable. Two hundred and fifty-six sherds have bright surfaces, 68 are non-bright and 16 have very bright surfaces. Of the 106 sherds that display mica glimmer on their surface, 18 of them have very intense glimmer. Twenty-seven of the sherds show traces of sooting, mostly only partial sooting. These sooted areas are for the most part observed on bases and lugs. Bases can have sooting concentrated in the inside of the vessel. Thirty-three sherds have transparent whitish layers covering them, either completely or partially. Traces of burning are seen on 23 pieces, eight of these clearly due to secondary burning. There are 33 mottled sherds, which are largely comprised of brown-red, orange-red-brown and brown-gray mottling. Fourteen sherds have burnishing traces preserved on them; 11 of these are vertical marks, two are diagonal and one is horizontal. Most of the burnishing marks are observed on rim sherds. Lastly, two pieces have their surfaces cracked by lime inclusions.

Surface colors are very diverse in this phase. Brown (n=92), red (n=59), light brown (n=46), cream (n=37), orange (n=32), and dark red (n=30) are frequently observed outer surface colors. Gray (n=6), dark gray (n=9), dark brown (n=5), and reddish brown (n=8) are seen much less frequently.

### **3. Morphology**

#### **3.1. Size**

Excluding the complete vessels, the mean area of potsherds from this phase is around 27 cm<sup>2</sup>. The minimum area is five and the maximum 225 cm<sup>2</sup>. Most sherds have areas between 10-15 cm<sup>2</sup> and rims have an average size of 24.3 cm<sup>2</sup>. Examples that exceed 100 cm<sup>2</sup> are very rare, being confined to seven pieces. The heights of all 340 sherds have

a mean value of 4.5 cm. The maximum height is 16 cm, while the minimum value is 1 cm. Thirty-five potsherds have heights below 2 cm. Rim sherds with heights between 4-7 cm are the majority. Rim sherds with small areas and heights, as well as low preservation on their rims, number 12. Otherwise, the preservation in this assemblage is good enough to allow inferences on vessel morphology.

### 3.2. Wall Thickness

The entire Vb assemblage, regardless of the ware groups, is characterized by very thin walls. There are 21 sherds with 2 mm thick walls, although the majority have walls that measure between 3-4 mm. There are 130 walls that have 3 mm thicknesses and 118 with 4 mm thick walls. Walls that exceed 5 mm are rare and there are only four sherds with wall thicknesses that exceed 9 mm. The mean thickness of all diagnostic and rim sherds is 3.8 mm. The minimum value is 1 mm and the maximum thickness value is 12 mm; both extreme values are represented with single examples.

CSBW and brown-burnished wares have mean wall thicknesses of 3.6 mm, while RSBW are on average 3.8 mm thick. Coarse wares have a mean thickness of 5 mm. These figures indicate that CSBW and brown-burnished wares tend to be finer than other ware groups, including RSBW.

### 3.3. Vessel Shapes

With 66 identified examples, bowls with 's'-shaped profiles are without a doubt the most frequently occurring vessel type in this phase. Other bowl types are observed less commonly, such as bowls with convex profiles, which are recorded only 23 times (Pls. 41, 42, 43). There is also one dish fragment (Pl. 42.13). Among other unrestricted

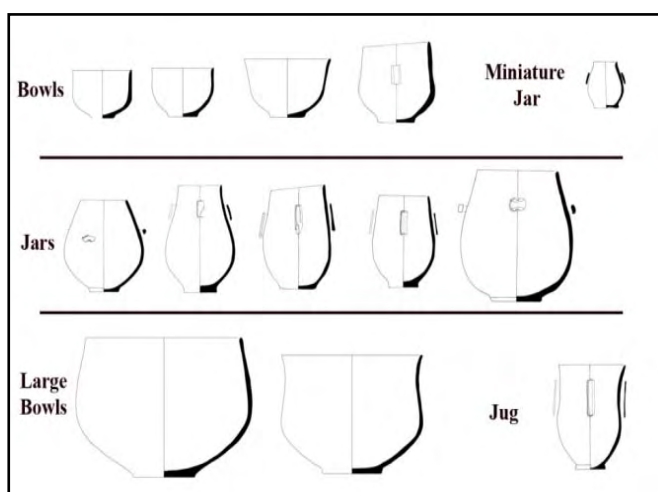


Figure 4.27: Complete vessels found in Building 30.

vessel types, deep bowls with 's'-shaped profiles (n=34) and deep bowls with convex profiles (n=11) are encountered most frequently. Deep and shallow bowls with 's'-shaped profiles do indeed dominate the Vb assemblage.

Jars also occur frequently. Jars without necks appear 36 times while jars with short necks are documented 26 times. There are three jars with vertical necks and seven jar fragments with everted necks. One spouted jar is seen in the assemblage, a form seen extremely rarely. Additionally, there is one possible brazier, a portable hearth, and a lid from the assemblage.

The completely preserved vessels in Building 30 are as follows: three bowls with 's'-shaped profiles, one bowl with a convex profile, two deep bowls with convex profiles, one deep bowl with a 's'-shaped profile, eight jars without necks, and one jug (Fig. 4.27; Pls. 38-40; Pl. 46). All of them have disc bases that have diameters of between 3.8-10.5 cm. Rims are either of simple or everted types. Wall thicknesses range between 3-7 mm.



**Figure 4.28: Reconstruction of the *in situ* positions of vessels after their restoration in Building 30 (view from South).**

Jars are mainly small to medium in size, with heights that are from 6.7 to 19 cm, and with rim diameters that range between 8-17 cm. Six of the jars have vertically placed tubular lugs on their shoulders and the other three have horizontally placed pierced knobs. The number of lugs and knobs on each jar is always four. Bowls are around 7-8 cm high with rim diameters that measure between 10-15 cm and base diameters of 3.8-6

cm. Deep bowls have greater rim diameters that reach up to 26 cm and heights of 11 cm. Only one of the deep bowls with a convex profile has vertically placed tubular lugs on it.

The distribution of the vessels in the house creates an interesting pattern (Fig. 4.28; Pl. 46). Medium-sized jars and the jug are closely associated with the daub storage bins on the northern wall of the building. They were recovered either adjacent to the bins or then even inside of them. The large bowls and two small bowls are situated in the center of the house, interpreted as an activity area, and are closely associated with flat stones. Another jar with a short neck and four tubular lugs was found right next to a small bin in the southwestern section of the house and one bowl with a 's'-shaped profile was found close to the door. Some of the vessels were found one inside the other, which was probably done to conserve space in the house. The contextual relationship between the storage units and the medium-sized jars is meaningful.

### **3.4. Rims**

Two hundred and ten rims were documented from this phase, of which 130 are everted, 64 are simple, 12 are flattened, and two are sharply everted. Everted rims constitute 62% of the entire assemblage and simple rims make up 31%. Flattened rims are only 6% of the assemblage and their widths range from 2 to 14 mm. Eight of them are 3-6 mm. There is one single spouted rim in the assemblage belonging to a jar found in Building 30.

Most of the rim sherds were preserved fairly badly with only 8-10% of the rim circles preserved. There are also few completely preserved rims. Around 10 examples were preserved so badly that their rim diameters could not be measured with certainty. The minimum rim diameter value is 4 cm and the maximum is 32 cm, with the mean rim diameter value measuring 16.4 cm. The rims with diameters exceeding 22 cm are mostly associated with deep bowls and jars. Large bowls with 's'-shaped profiles have mean rim diameters of 20.9 cm. Some small-sized jars possibly have rims that are even smaller than 10 cm. Jars without necks have an average rim value of 13.8 cm. Most bowls have rims which are measured between 12-17 cm. Bowls with 's'-shaped profiles have an average rim diameter of 14.5 cm. Similarly, bowls with convex profiles have a mean value of 15 cm.

### **3.5. Bases**

Thirty-two out of 98 bases were wholly preserved in the assemblage, indicating better preservation conditions in favor of bases in comparison to rims. Of the preserved bases, 25 belong to unrestricted vessels, indicated by their slipped and burnished inner surfaces. Out of 98 bases, 92 are disc types (Pl. 45.1-45.5). Disc bases can be up to 11 mm high. There are only four simple flat and two ring bases (Pl. 45.6, 45.7). Both ring bases are seen on RSBW vessels. The average base diameter is 7.9 cm, with the maximum value at 13.3 cm and the minimum diameter at 3.6 cm.

### **3.6. Handles and Lugs**

In total, 74 handle or lug fragments from Vb debris were analyzed. Only three of these belonged to loop handles; two of them were horizontally and one vertically placed. The horizontal loop handles measure 51 x 18 cm and 44 x 17 cm, with the vertical handle 21 x 31 cm.

There are three types of lugs observed in the assemblage: tubular lugs, pierced knobs and single knobs (Pl. 45.9-45.16). Fifty-nine out of 74 lugs are vertically placed tubular lugs, while five single and ten pierced knobs also appear. Tubular lugs are very frequent with lengths ranging from 15 to 66 mm. Tubular lugs are mostly long and thin, with six examples that are over 5 cm long. Widths change between 4-20 mm. Of the 15 vessels found in Building 30, six had tubular lugs on them that all numbered four (Pl. 38.2, 38.3; Pl. 39.1, 39.2, 39.4; Pl. 40.3) . On the jug, lugs are placed in pairs and are very close to each other (Pl. 38.1).

Pierced knobs are encountered on ten diagnostic pieces (Pl. 45.13, 45.14, 45.16). These have widths between 15-30 mm and lengths between 6-24 mm. Three of the vessels found in Building 30 contained horizontally placed pierced knobs, attached on the shoulders. Single knobs are observed on five potsherds (Pl. 45.15). One of them has a quadrangular shape with a size of 21 x 9 mm. Widths of the single knobs vary between 13-31 and lengths are between 9-16 mm. They are always attached horizontally to the vessel body.

### **3.7. Decoration**

Decoration is almost absent in the Vb assemblage. There are only three diagnostic sherds with decoration and all belong to the same vessel but they do not fit with each other. These pieces include one rim sherd and two body sherds of brown-colored burnished

ware. The three pieces were found together outside of Building 30. They display a wavy plastic band that is attached to their surfaces and resembles a *bucranium*; but since the band was continuously made, it is more appropriate to describe it as a wavy line (Pl. 44.1). Besides, on one piece, the *bucranium* is upside-down and another one has it oriented to the right; this means the wavy line was continuous and the potter did not intend to execute a *bucranium* shape. The three sherds belong to a jar with a short neck and an everted rim that measures 10 cm in diameter. The vessel has 3 mm thick walls, sand-mica inclusions and mica glimmer on its surface.

The six millimeter thick brown-colored and burnished band is located under the short neck as a separate attachment. Although the band was attached carefully and later rubbed and burnished to hide the attachment, the vessel was partly broken where the application was attached. The band is not symmetrical and it is not clear whether it circumnavigated the vessel. The curious property of this decoration is that it is also pierced to make it functional, for example, it could have been used as a pierced knob. The pierced hole is small but was significant enough in size to pass a rope through. Additionally, there are at least two other pierced pieces that were used as knobs.



## ***N. Comparison of Pottery from Levels V and IV***

Analysis of pottery from the sub-phases of Levels IV and V enables us to compare and contrast the characteristics of these two levels. Our impression is that there are four developmental phases in the Ulucak pottery assemblage: Late IV, corresponding to building phases IVa through IVf; Early IV, corresponding to IVg through IVk; and Level V, including sub-phases Va and Vb, the final two developmental phases (Tab. 4.4). Layers Va and Vb, although building phases that follow one another, are also quite different from each other and need to be treated separately.

<b>Approximate calibrated age</b>	<b>5800-5700 BCE</b>	<b>6000-5900 BCE</b>	<b>6100 BCE</b>	<b>6300-6200 BCE</b>
<b>Typical features</b>	<b>Late IV</b>	<b>Early IV</b>	<b>Va</b>	<b>Vb</b>
<b>Fabric</b>	<ol style="list-style-type: none"> <li>1. RSBW + Gray Ware</li> <li>2. Impressed pottery</li> <li>3. Chaff inclusions</li> <li>4. Porous surfaces</li> <li>5. Light surface colors</li> </ol>	<ol style="list-style-type: none"> <li>1. RSBW + CSBW</li> <li>2. Impressed pottery</li> <li>3. Few painted pieces</li> </ol>	<ol style="list-style-type: none"> <li>1. RSBW + CSBW</li> <li>2. Earliest BBW</li> <li>3. Non-porous surfaces</li> <li>4. Increased use of mineral temper</li> </ol>	<ol style="list-style-type: none"> <li>1. BBW + Mica Glimmer Ware</li> <li>2. Mineral temper</li> <li>3. Non-porosity</li> <li>4. Dark surface colors</li> <li>5. No impressions</li> </ol>
<b>Morphology</b>	<ol style="list-style-type: none"> <li>1. Long necks</li> <li>2. Small vertical handles on rims</li> <li>3. Large jars</li> <li>4. Flat bases</li> <li>5. Double knobs</li> <li>6. Thick flattened rims</li> <li>7. Oval forms</li> <li>8. Anthropomorphic vessels</li> </ol>	<ol style="list-style-type: none"> <li>1. Jars without necks</li> <li>2. Short-necked jars</li> </ol>	<ol style="list-style-type: none"> <li>1. Bowls with 's'-shaped profiles</li> <li>2. Jars without neck</li> <li>3. Disc bases</li> <li>4. Small handles</li> <li>5. Horizontal knobs below the rim</li> </ol>	<ol style="list-style-type: none"> <li>1. Bowls with 's'-shaped profiles</li> <li>2. Jars without necks</li> <li>3. Disc bases</li> <li>4. Long-thin tubular lugs</li> <li>5. Small vessel sizes</li> </ol>

**Table 4.4: Typical pottery features of four developmental stages at Ulucak.**

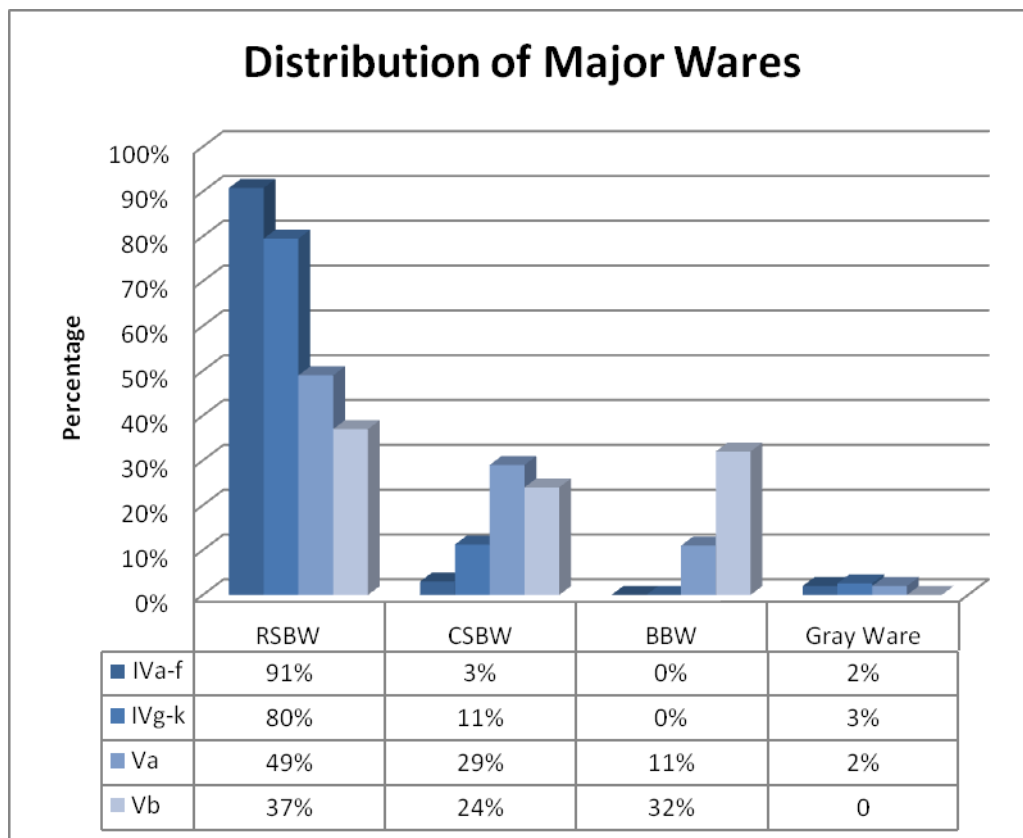
It needs to be pointed out that the phases we define here rely on the changes seen solely in the ceramics and architectural techniques and are in no way conclusive. The aim of this schema is to allow the readers to have an overall glimpse at the ceramic features at Ulucak through time. Future research at the site may transform the current understanding presented here concerning the ceramic development on the mound. Analysis of other material cultural elements from Ulucak may alter the way we define the major developmental stages or, alternatively, they may concur with our results. In terms of the ceramics stages defined here, data from Phase Early IV relies on small sample size as these deposits were excavated in one grid. Moreover, they are prone to contamination. Although the contexts and quantity of pottery analyzed from Va and Vb present us a

more reliable picture, these are likewise known from only restricted excavation areas. The table above aims to summarize the typical features of the pottery from the four different stages we have identified at Ulucak.

Below, the properties of pottery from these stages is compared and contrasted in order to understand the development seen in the fabric and morphology of Ulucak Neolithic pottery.

## 1. Fabric

In terms of wares, most of the types persist through Layer Vb to IVa. What does change is the quantity of different wares in the assemblage. The RSBW increases radically from Vb to IVb (Tab. 4.5). In Phase Vb, the RSBW is represented in 41% of the assemblage, while with Early IV (IVa-f) it makes up 94% of the ceramic assemblage. In this latter and later stage the RSBW becomes almost the only fabric that is produced. The RSBW-



**Table 4.5: Quantitative change in the occurrence of wares in Ulucak IV-V.**

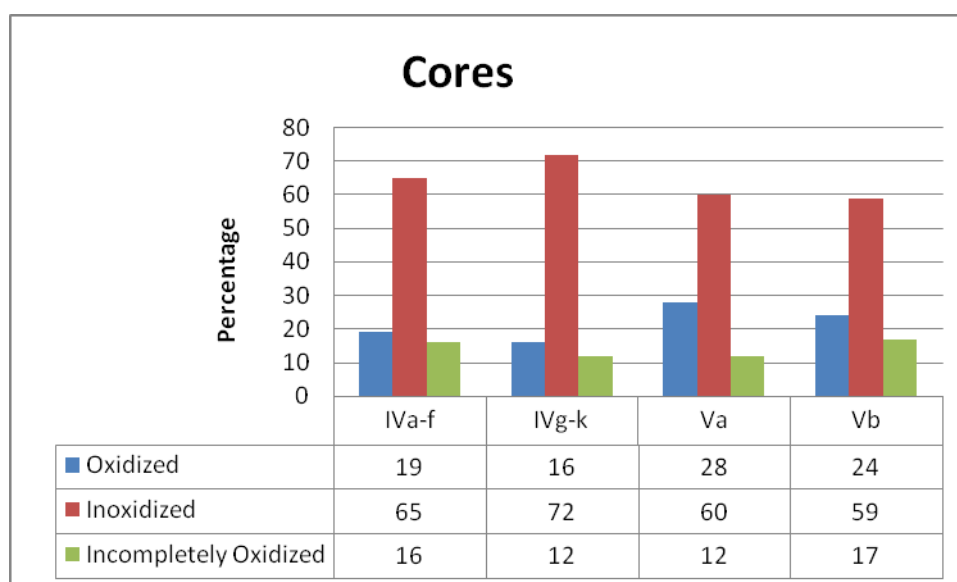
org makes up 83% of the total RSBW samples in Level IV and RSBW-min constitutes only 17% of the RSBW sample. However, in Level V the percentage of the RSBW-org drops to only 16%, while RSBW-min increases substantially, comprising 84% of all RSBW. On the other hand, CSBW and brown burnished ware decrease from Level V to

IV. The CSBW reaches its highest point in Va making up 32% of the collection, while in Vb it is represented in 27% of the pieces. CSBW-org is more commonly found in Level IV (n=73/109), whereas in Level V CSBW-min dominates at 149 out of the 192 examples. Brown burnished ware is a characteristic of Vb with 32% of the assemblage, although earlier occurrences were recorded in Early IV and Va. Gray ware is observed in all building phases except in Vb. With Vb, gray ware, as well as impressed decoration, are no longer observed. Gray ware never becomes quantitatively high in any of the phases at Ulucak, forming only 4-5% of its assemblage. Gray ware's total absence in Vb is considered significant in terms of constructing an interregional chronological sequence. It is worth underlining the fact that in Vb impressed decoration, usually associated with gray ware, is not observed on RSBW or other ware categories either.

Coarse wares are present in the entire Ulucak assemblage and are represented at 5-6% in various building phases. Painted wares, whether red-on-cream or cream-on-red, are as a rule encountered very rarely in all building phases. These wares are always seen on small-sized body sherds and rarely on rim sherds, which suggests bad preservation conditions for such painted vessels. The single painted ware that is an exception to this rule is the anthropomorphic vase found in Building 8 from Level IVb, which was exposed to secondary fire and consequently was re-fired and hardened. Cream-on-red ware is especially associated with Early IV, appearing only in sub-phases IVh-k, and red-on-cream is observed more from Va to IVb. Likewise, mica glimmer ware is extremely rare and its significance lays in its single appearance in sub-phase Vb where it comprises 1% (n=5) of the assemblage.

Cores from the Ulucak IV-V pottery are very frequently single-colored (86-91%). Two or three-layered fractures are seen in the assemblage but are always far less in number than single-colored fractures (6-15%). Multi-colored fractures are extremely rare (1-4%) in all phases (Tab. 4.6). Fractures with single colors are mostly in brown or gray hues; orange and light brown fractures also occur in all phases. Completely black cores are rare, although 14 examples are recorded from IVb. Inoxidized cores are very frequently observed at Ulucak IV-V, they make up around 60% of the analyzed pottery. It is worth noting that pottery with inoxidized cores constitutes 62 % of IVb pottery and 59% of Vb. Additionally, there are incompletely oxidized cores with two or three layers. Three-layered fractures usually have gray-brown centers with light-colored paste surrounding their dark-colored center. Between Layers Vb through IVb two and three-layered

fractures decrease from 17% to 9%, while oxidized cores increase from 24 to 29%. In terms of fracture structures and different ware types, there does not seem to be a meaningful correlation. RSBW from IVb have 61% inoxidized, 15% incompletely oxidized and 27% completely oxidized cores. In Vb, inoxidized cores drop to 49% while oxidized cores reach to 33%. In most phases CSBW includes 53-55% inoxidized cores while with 74-80%, gray wares tend to have more inoxidized cores. Brown burnished



**Table 4.6: Core properties of Ulucak IV-V pottery. Inoxidized cores remain dominant throughout the sequence.**

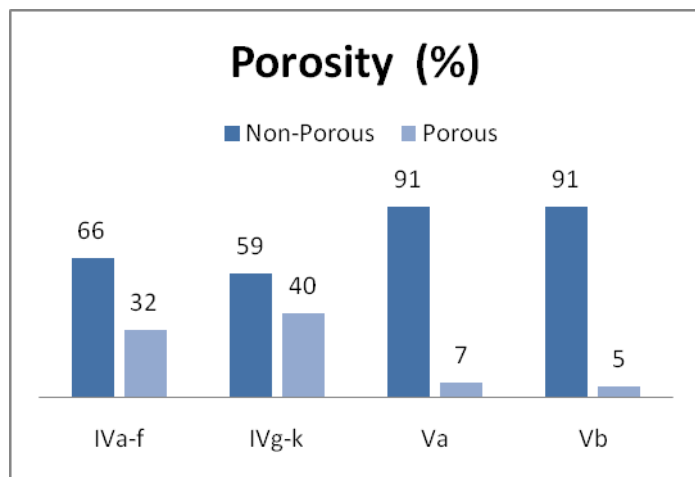
wares are 85% inoxidized in Va while only 50% are inoxidized in Vb. Likewise, painted wares are mostly inoxidized or incompletely oxidized. In terms of firing procedures, there seems to be no great differences observed between differently defined wares.

In contrast to the fracture structure, which remains more or less unchanged throughout the sequence, remarkable changes are observed in the non-plastic inclusions. The most crucial change in the non-plastics is the abrupt increase in the organic temper (specifically chaff) from V to IVk and to IVb. In IVb, organic temper is observed in 63% of all ceramics, while only 14% of Vb pottery included organic non-plastic inclusions. Level Va-b pottery predominantly contains mineral inclusions (i.e. sand, mica and, to a lesser extent, grit). Sixty-nine percent of all Vb pottery contains only mica and sand as non-plastic inclusions. However, one of the characteristics of Late IV pottery is the organic inclusions observed in its fractures, as well as the tiny pores on the surface that were left by the burnt chaff. This abrupt change in the non-plastics suggests differing ceramic technologies and practices employed by the communities that inhabited Ulucak.

Chaff as pottery temper is considered an indication for a developed agricultural community, since by-products of agricultural production like chaff are also well-integrated into the daily life of such societies. The size of non-plastics likewise reflects the change in the temper material. For example, Level V pottery contains predominantly small-sized non-plastics (84% in Vb, 91% in Va), while IVb pottery includes small and medium-sized non-plastic inclusions. In general, Ulucak pottery contains small to medium-sized inclusions. Large-sized inclusions are recorded seldom. However, the amount of inclusions normally range between regularly occurring to abundant. In general, around 65% of all pottery from the sub-phases included medium-sized inclusions in their pastes. Interestingly, 20% of Level V pottery have few amounts of inclusions, while only 12% of IVb pottery had few inclusions in their fabrics.

More than 70% of pottery from each sub-phase was moderately fired, although both low-fired and hard examples also occur in the assemblages. Sixty-nine percent of all IVb pottery was moderately fired while 23% are recorded as hard and 8% as low-fired. Again, in Level V moderately fired examples dominate the assemblage. Hard examples constitute 17% of the ceramics in sub-phase Vb. These figures indicate that in terms of firing temperature and technique there was not much change from Vb to IVb.

Porosity is another category where dissimilarities between Levels IV and V are observed (Tab. 4.7). Late IV pottery is especially fine-porous due to the small pores left on the outer and inner surfaces by the carbonized chaff that was once present in its paste. Since the quantity of organic temper drops dramatically from Level IV to V, pores on



**Table 4.7: Change in the proportion of porous pottery. Note that there is an increase from Level V to IV in porous pottery due to the use of chaff as temper.**

the surface are not observed anymore on the Level V pottery. Ninety-one percent of Vb is non-porous, whereas only 62% of IVb pottery is non-porous. Almost 30% of Late IV ceramics are recorded as fine-porous. Coarse-porous examples are extremely rare, both in Level IV and V.

Both slip and burnish are surface treatments that are observed on Ulucak pottery. Red and cream-colored slips are naturally observed on RSBW and CSBW and are mineral suspensions that are applied to the surface of the pottery. It is suggested that gray ware and brown burnished ware have “self slips,” meaning they are slipped with clay suspensions that are made out of the same clay as the vessel body but which is difficult to distinguish with the naked eye. Burnishing is another surface treatment category that is observed throughout levels IV-V. Eighty-nine percent of all IVb and 90% of all Vb pottery is burnished. Smoothed or unburnished examples make up around 8% of the pottery from these phases. Naturally, burnishing provides bright surfaces to the vessels while functionally making them waterproof. Bright-surfaced pottery comprises 66% of IVb pottery whereas 25% is non-bright. Additionally, there are examples that have very bright surfaces, meaning their surfaces reflect light like a mirror. These make up 6% of the IVb assemblage. In level V, 65-75% of pottery is bright while 20% is non-bright. Very bright examples constitute 13% of the pottery in sub-phase Va and their percentage drops to 5% in the earlier sub-phase of Vb.

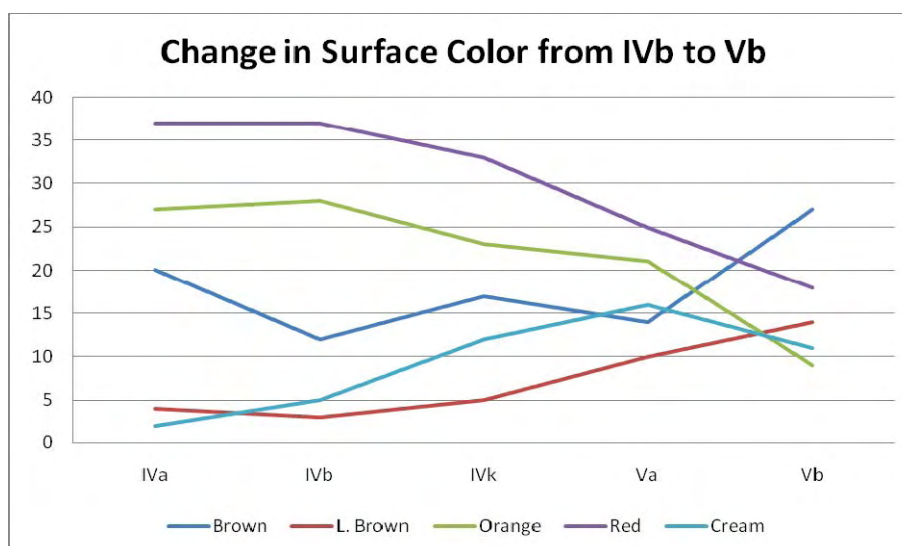
Mica glimmer is another surface property observed on Ulucak Neolithic pottery and it seems to be present in almost every type of clay collected in order to produce the pottery. However, some examples show more mica glimmer on their surfaces as compared to others. Twenty-one percent of all Level IV pottery, 27% of all Va pottery and 31% of all Vb pottery display mica glimmer. The amount of micaceous surfaces decreases through time, constituting only 16% of the collection in IVb. Mica glimmer is observed on all major Ulucak wares. Likewise, mottling is also observed on Ulucak pottery. Ten percent of all Vb pottery have mottled surfaces, usually having orange, cream, red, or brown hues. The amount of mottled ceramics decreases in Late IV, with only 5% of the IVb pottery mottled, followed by an increase in the sub-phases of early Level IV.

Ulucak ceramics are characterized by their light oxidized colors that are dominated by red and orange (Tab. 4.8). Eighty-three percent of IVb pottery has oxidized colors while 17% display non-oxidized colors, like brown, dark brown, dark gray, or black. Oxidized surface colors have their lowest value in Vb, making up 65% of the assemblage. Among the light colors seen at Ulucak, orange and red are observed most frequently throughout the sequence. Red is seen on 37% and orange on 28% of the entire IVb pottery. In Level V, there is clearly more variety in surface color. Apart from red and orange, brown, light brown and cream are also encountered in increasing numbers; this is especially true for

brown surface colors, which increase considerably. Twenty-eight percent of all Vb pottery is brown or dark brown-colored, while cream and light brown pottery make up 24% and red only 17% of the assemblage. Cream and light brown-colored pottery associated with CSBW increases in sub-phase IVh onwards and starts to decline again with the sudden increase of brown burnished ware in Vb. Also, dark gray, as a surface color, is observed for the first time in sub-phase IVg, but their numbers always stay very low throughout the phases. In summary, there is a gradual decrease in inoxidized surface colors from Level V to IV, which probably indicates the progress being made in the firing techniques and in controlling the firing atmosphere.

## 2. Morphology

Analogous to the fabric, is the gradual morphological development seen in the Ulucak pottery from Level V to Level IV. Most of the major vessel forms are already present in

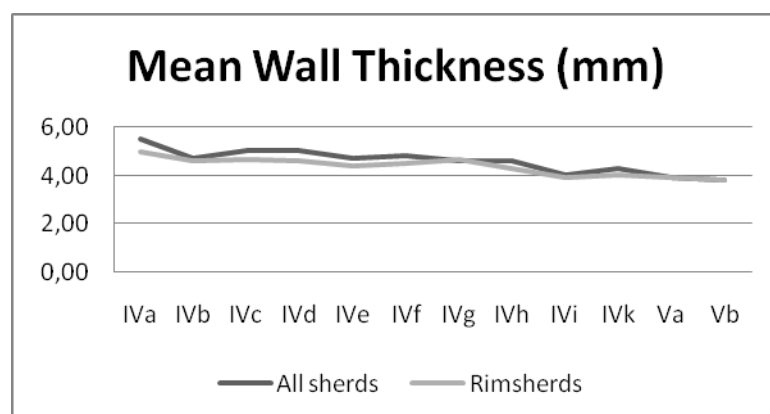


**Table 4.8: Change in the surface color of Ulucak pottery from Level V to IV. Note that orange and red colors increase steadily from Level V to Level IV.**

the earliest levels and continue into the younger phases of the Ulucak Neolithic sequence. However, Late IV at Ulucak contains vessel shapes that do not appear in the earlier deposits. This reflects changes in the technology and function of the ceramics.

One of the properties that slightly changes from Level V to IV is the average wall thickness of the vessels. In general, pottery of Level V has thinner walls than pottery from Level IV (Tab. 4.9). The average wall thickness in IVb is 4.7 mm, whereas it is only 3.7 mm in Va and 3.8 mm in Vb. At first glance, this information may sound

surprising if one tends to interpret the thinner vessel walls of Level V as a hint of technological superiority. Thin walls naturally indicate a well-advanced ceramic technology. However, the reason why Level V pottery has thinner walls is not only related to developed ceramic production but is also a result of the overall smaller size of the vessels that were produced in Ulucak V.



**Table 4.9: Change in the wall thicknesses from IVa to Vb. Note that pottery of Level V is thinner than Level IV.**

The size of the vessels, especially the jars with necks, increase through time. It is reasonable to assume that one needs to build vessels with thicker walls in order to successfully produce vessels with bigger volumes. It appears that this is the real reason behind why Level IV vessels on average have thicker walls than vessels from Level V. As a result, both levels unwaveringly contained substantial amounts of thin-walled vessels. These thin walls are one of the most typical features of Ulucak Neolithic pottery. Two hundred and seventy out of 342, 290 out of 387 and 337 out of 653 vessels from sub-phases Vb, Va and IVb, respectively, have walls that are between 1-4 mm thick. In other words, 80% of the Vb ceramic assemblage has walls that range from 1-4 mm thick, while only 19% of the assemblage has thicknesses between 5-8 mm. However, in IVb 53% of all analyzed examples are 2-4 mm thick and 43% are 5-8 mm thick. Only 4% of the collection is thicker than 9 mm.

There seems to be a correlation between the ware types and wall thicknesses. Compared to such wares as RSBW, CSBW and red-on-cream ware have thinner walls. The mean value of wall thicknesses for CSBW in IVb is 3.8 mm while, in the same phase, RSBW have a mean thickness of 4.8 mm. In Vb, the CSBW reaches 3.6 mm in mean thickness. Even thinner, are the red-on-cream sherds from IVb, which are only 3.2 mm thin. Likewise, brown burnished wares are thin-walled, averaging 3.8 mm in thickness in Va



and 3.6 mm in thickness in Vb. The maximum wall thickness recorded at Ulucak is 19 mm.

As stated above, in terms of vessel shapes most major forms persist from Level V to IV. Bowls with 's'-shaped profiles, bowls with convex profiles, jars with short necks, jars without necks and deep bowls with 's'-shaped profiles are recorded in almost every sub-phase. Both Level V and IV have typical examples of these vessel types. However, there are also vessel types that do not appear in Early IV and Va-b. Bowls with 's'-shaped profiles increase gradually from Level IV to V, increasing from 12 to 33% in the assemblages and making up one third of the ceramic assemblage in Vb. Deep bowls with 's'-shaped profiles also increase in the earlier phases, rising to become 18% of the Level V assemblage. Open forms with 's'-shaped profiles make up almost 40% of Level V pottery. Bowls with convex profiles increase in Level IV, making up 16% of the ceramic collection. Additionally, in Level IV certain jar forms remain equal in quantity while other jar forms increase sharply. This is especially true for jars with necks, which are considerably rare in earlier levels (appearing in 5% or less of the assemblages) but which steeply increase in Level IV to include around one-fifth of the entire assemblage. However, jars with short necks show a slight increase in Level V and jars without necks appear in Level IV and V in high numbers, constituting 20% of those assemblages. Anthropomorphic vessels and large-sized jars (or storage jars) are observed only in Late IV, namely at IVb. Jugs or spouts, though very rare, are solely attested in Level V. One jug with long and thin tubular lugs was uncovered in Building 30 from Level Vb.

Fragments belonging to possible offering tables were encountered in both levels IV and V and are made on RSBW, CSBW and coarse wares. There is a slight possibility that two of the feet, identified as part of the offering tables, were originally figurines. However, at least three fragments from Level IV are without a doubt fragments of offering tables. Two braziers, or portable hearths, were found in Level V and one in Level IVb. In summary, there is a small variety of forms in Level V; it is mostly composed of bowls or deep bowls with 's'-shaped profiles, small to medium-sized hole-mouth jars without necks and jars with short necks, predominantly with globular bellies.

In contrast, in Level IV, there are jar types that are more developed and display necks that are either flaring or vertical. Long necks that are 3-5 cm long are also frequently observed and are one of the characteristics of this late stage. Bowls with 's'-shaped

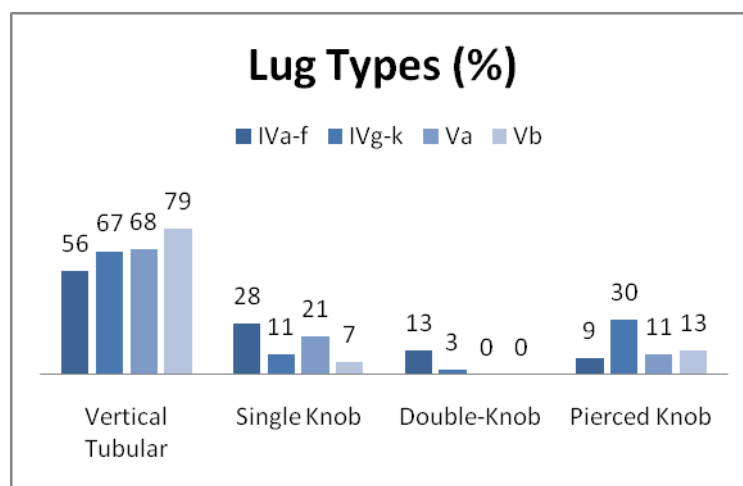
profiles do persist, although their quantities decrease in Level IV, while bowls with convex profiles are more numerous at this stage.

The same rim types are seen in both levels IV and V: everted, simple and flattened. Sharply everted rims are extremely rare in all phases. Everted rims are found in bigger quantities in Level V, reaching 50% in Va and 62% in Vb. Simple and flattened rims are quantitatively much less frequent in Level V as compared to Level IV. Simple rims constitute 30%, and flattened rims only 6%, of the rim types in Level V. In contrast, simple rims make up almost half of the IVb rim assemblage, while 18% of all rims are flattened. The increase in everted rims in Level V might be related to the increasing number of vessel forms with 's'-shaped profiles. Flattened rims, although present throughout the sequence, are more characteristic of Late IV (IVa-f). In particular, examples that are thicker than 10 mm are mostly seen in IVb. The thickest examples, with widths larger than 30 mm, are known from IVe, IVg and Va. Flattened rims can be found on most vessel shapes but they are mostly associated with jars without necks (44%). However, they are also observed on bowls with convex profiles (11%), jars with short necks (13%) and jars with everted necks (14%). The average rim diameter calculated for each building phase is very similar and does not provide evidence for abrupt changes. In IVb the average value is 16.1 cm while in Vb 16.4 cm. The minimum and maximum values are also almost identical. Rim diameters that exceed 32 cm are almost absent in the entire assemblage. Minimum values range from 3-10 cm and large diameters are clearly not preferred by Ulucak potters.

Unlike the rim types, base types show clear distinction between Levels V and IV. The most apparent change observed is the stark and abrupt decline of simple flat bases with Early IV-Level V. With building Phase IVh, disc bases are already present in 82% of the assemblage. In Vb, 93% of all bases are the disc type and only 4% are simple flat types. This is clearly a technological aspect that is caused by the difference in manufacturing technique. Potters of Level V produced the base separately and then attached it to the body in an advanced stage, while in Level IV, the entire vessel body and base were manufactured together. In Level IV, 70% of all bases are simple flat bases and 29% are disc bases. Ring bases are observed very rarely in the entire Ulucak sequence. Three of the seven ring base examples found were encountered in Level V.

It is observed that base diameters slightly drop in Level V, which might be an outcome of the smaller vessel sizes seen in this level. The mean value for base diameters in Level

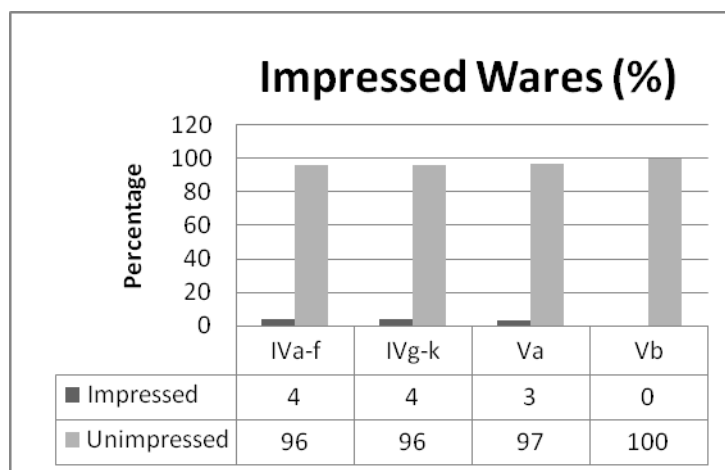
IVb is 9.5 cm, whereas it becomes 8.9 cm in Va and 7.9 cm in Vb. Likewise, the maximum values point to the same trend. In IVb, the maximum diameter measures 20 cm, while this value drops to 13.3 cm in Vb. There is not a meaningful correlation between vessel shapes and base types. However, there is a tendency of jars without necks having disc bases and bowls with convex profiles having simple flat bases. The majority of the bowls with 's'-shaped profiles seem to also have disc bases.



**Table 4.10: Percentile distribution of lug types. Vertical tubular lugs decrease from Level V to IV. Double knobs do not occur in Level V.**

Another remarkable change in pottery morphology is noticed in lug types. There are four major lug types seen on Ulucak IV-V vessels; these are vertical tubular lugs, single knobs, double knobs, and pierced knobs. Double knobs disappear completely by sub-phase IVi and are not at all observed in Level V (Tab. 4.10). Single knobs are mainly observed in Level IV, although they do continue into Level V. However, their percentage drops from 40% in IVb to 7% in Vb. Vertically placed tubular lugs become more ubiquitous in Level V, making up almost 80% of the lugs analyzed. Their percentage is only 37% in Level IVb. Tubular lugs are almost the only manufactured lug type in Level V and are replaced by single knobs and double knobs in Level IV. Interestingly, in Va and Vb tubular lugs are not only more numerous but also longer than the ones in IVb. Many long and thin examples are recorded on jars and bowls that are up to 55 mm long. However, the majority of the tubular lugs from Level V are 31-50 mm in length. And in Level IV they are usually 10-40 mm long. Thin and long tubular lugs, usually numbering four and frequently set in pairs, found on jars without necks and bowls with 's'-shaped profiles, are found to be more of a distinguishing trait of Level V than at IV. However, double-knobs are only seen in Level IV.

Decorated pottery at Ulucak is essentially few in number. The decoration is in most cases composed of impressions, although plastic, painted, pinched, and, although doubtful, pattern-burnished examples are also known from the assemblage. Twenty-four out of 101 impressed pottery pieces recorded for this study originate from Phase IVb. Only 4.7% of IVb pottery is decorated. The rate of decorated pottery declines sharply with sub-phase Vb, where only one sherd with plastic decoration is known. Impressed decoration disappears completely with Vb, although they are present in the previous building Phase Va (Tab. 4.11). To be exact, the general trend observed is the sharp decline of decorated pottery in Level Vb and the gradual increase of impressed pottery from Early IV into Late IV.



**Table 4.11: Impressed wares never constitute more than 4% of the pottery assemblage. They are absent in Level Vb.**

Impressions seen on the vessels are of specific shapes. Normally, the entire surface is covered with impressions and the impressions are shallow and irregular. Most of the impressions are fingernail impressions or impressions in the shape of short horizontal lines. Shapes such as semi-circles, tear-drops and triangles are also seen on vessels, as well as combinations of them. The impressions are either made with finger tips and nails or with sharp pointed instruments. Shapes such as triangles and tear-drops occur when an instrument is used to decorate the vessels. Impressed decoration is seen 58% on the RSBW and 36% on the gray wares. Gray wares are especially associated with this kind of decoration. Only 3% of the impressed sherds were seen on CSBW.

Painted decoration is mostly seen on small body sherds. Four red-on-cream examples are recorded in Level IVb and three in Va. However, cream-on-red is recorded in IVh, IVi

and IVk. This makes us tentatively suggest that this specific ware is more peculiar to Early IV as opposed to Late IV. Unfortunately, since the number of painted examples is extremely low at Ulucak, it is not possible to make conclusive arguments on their chronological positions. Paint on pottery is mostly restricted to single bands that run diagonally or horizontally and, to a lesser extent, upside-down “V”s. Rim sherds with painted decoration usually have horizontal bands running right along the rim.



**Figure 4.29:** At left, a red-slipped sherd with bucranium application. In the middle, a pierced knob as an application of a wavy line. On the right, a pinched bowl from Level Va.

Plastic decorated sherds are also few in Ulucak. One red-slipped body sherd with *bucranium* from Early IV and one with thick wavy lines from Vb were found on brown burnished ware; they are the most articulate examples of plastic decoration found at Ulucak (Fig. 4.29). Pinching is observed on one bowl with a ‘s’-shaped profile from Level Va and its entire outer surface is covered with regularly made pinching.

### **Pottery Technology, Function and Organization of Ceramic Production at Neolithic Ulucak**

The manufacturing of pottery requires certain steps. These can be reconstructed by archaeologists to a certain extent by using ethnographical and ethnoarchaeological case studies and is done so in order to gain insight into the ceramic technology of prehistoric societies. Focusing on ceramic technology helps to understand and explain a community's daily activities, the changes observed in pottery fabric and shapes, some aspects of social organization, and the interaction of the community with their natural environment. Moreover, ceramic theory, which is developed as a result of data acquired during numerous ethnoarchaeological studies, prevents archaeologists from making simplistic and biased interpretations of their observations and data. It does this by demonstrating the high variability of production stages and the organization of production that are utilized by different societies (Kramer 1985; Arnold 1989). In this section, we will try to re-construct the production chain of ceramic vessels from Ulucak by combining the available data obtained through our analysis on Ulucak pottery, ceramic theory and various ethnographic and ethnoarchaeological studies. The evaluation of these production steps (*chaîne opératoire*) should serve to illuminate the social context of pottery production and particularly the technical choices made by the potters who act upon the raw materials to create manufactured goods within an already existing social-cultural environment (van der Leeuw 1993: 242-243). In this respect, it is crucial to acknowledge the fact that techniques implemented by any given society to produce material culture are not isolated or free from the social and cultural framework within which the society operates (Lemonnier 1993: 4-5). Thus, the degree and type of innovation in the ceramics does not only concern the history of technology as a separate

unit of research, but most certainly encompasses an outcome of the change occurred in the whole society.

In the second part of Chapter V, on the discussion whether ceramic specialists existed at Neolithic Ulucak, Costin (2000) will be used as the main source because it provides a detailed survey on definition and identification of craft specialization. With the help of this detailed work we will try to seek the parameters identified by Costin in the ceramic data from Ulucak and determine to what degree and to what extent Ulucak IV-V ceramics were produced by specialists. Additionally, the model developed by Perlès (1992) on organization of production by Neolithic communities of mainland Greece acts as an example for our purposes. Her study stands as the only well-constructed model on the Aegean Neolithic that treats some elements of the material culture as products of specialized action.

Finally, a section on the functions of pottery from Ulucak IV-V will be presented in light of our own research results.

The main production stages of pottery that are detailed in this chapter are as follows (Orton, Tyers and Vince 1993: 114): procurement of raw materials, preparation of raw materials, forming the vessel, pre-firing treatments, firing, and post-firing treatments.

### ***A. Procurement of Raw Materials***

A number of raw materials are required to produce ceramic vessels. The most apparent of these is clearly clay, but clay by itself will not suffice for manufacturing vessels. Temper, water and fuel for the firing process are as significant as clay in ceramic production. Additionally, other types of clays, pigments and organic or mineral matters used for slips and paints are also needed (Rice 1987: 115). Communities or potters are knowledgeable about the clay sources that are in proximity to their settlement, as well as of the whereabouts of other substances (such as temper or pigments) they prefer to use while manufacturing. In terms of the Ulucak pottery, clay is found in abundance around the settlement. The Nif riverbed is one of the possible locations where clay was mined; however, there might be other clay deposits that were preferred by the community.

The proximity of clay sources to the settlement where pottery is produced is an important parameter for the people who collect and transport clay. Theoretically, the energy and time invested in clay collection and transport should not exceed the time-

energy investment for pottery production. Ethnographical studies show that most clay sources are within a 1-3 km distance to the settlement (Arnold: 1989: 32-33; see table 5.1 in Rice 1987: 116). For example, traditional potters of Gökeyüp, a village close to Manisa-Salihli, use two clay sources that are both within a two hour walk to the village (Crane 1988: 15). Another ethnographically recorded traditional potter village at Uslu, in Erzurum, reveals that potters exploit five clay sources that are from 0.5 to 5 km away from the settlement (Angle and Dottarelli 1989: 470). Technological properties of clay, such as its plasticity, amount of non-plastics already present in it and its workability and/or homogeneity, might also affect which clay sources are exploited by a given community (Arnold 1989: 20-21). Additionally, there might be social, cultural and ideological parameters behind which clay sources are exploited (Costin 2000: 381). Clearly, a variety of factors play a role in the choice of clay sources that are mined. Nonetheless, when clay sources are socially-culturally available to the potters, the technical properties of the clay and the distance to the production center seem to be the most significant parameters.

Similarly, temper sources, whether organic or mineral, are found to be available within the immediate territory surrounding the settlement. Slip or material used for paint can be procured from distances farther than 3 km, and in some recorded cases are located even more than 50 km from the settlement. In such instances, the possibility of regional exchange systems can be considered since potters would under normal circumstances not invest that much time and energy in procuring pigments. Otherwise, since such substances are needed less often than clay and are lighter, making them easier to transport, sources within 10 km can still be frequented by potters. One such trip by the potter or families might provide enough raw materials for the entire pottery production season. For instance, potters of Acatlan, in Mexico, purchase their annual paint need (100 kg) with one trip to the source (Arnold 1989: 37).

Chemical analysis of ceramics from Ulucak IV showed that at least seven different clay sources might have been exploited for pottery manufacturing (Liritzis 2005). It is apparent that by Ulucak IV the community had good knowledge of the available clay sources in the vicinity and which ones were suitable for use. It is possible that different clays were mixed in order to obtain the desired plasticity and clay property at Ulucak; this is the case with Türkönü potters, who mix clay with high plastic content with a clay low in plastics to gain a clay composition of their aspiration (Crane 1988: 11). The



macroscopic observations made on Ulucak IV-V pottery persuades us to suggest that the same clay sources were used during both settlement levels. The paste of pottery from both levels is fairly homogeneous in structure and inclusions. Fully-oxidized clay at Ulucak turns red and is especially observed in ceramics found in Building 8, which was heavily destroyed by fire. The red color of the cores must have been achieved by this secondary fire. However, other oxidized cores, which were achieved during the primary firing process, are either light brown or orange. This color appears when the raw clay contains 1.5-3% of iron-oxides (Rice 1987: 335). The clays used for Ulucak pottery seem to contain mica particles as well as fine sand. Crushed rocks and chaff are definitely used as real temper. Chaff as temper is especially typical for Level IV, while pottery from Level V is tempered to a great extent with sand or small grit. Nevertheless, mica is present in both levels. The mica wash effect observed on mica glimmer ware in Level Vb is seemingly not a result of the natural clay properties but rather an intention of the potter. The material used for temper at Ulucak is readily available to the community; in example, chaff is a by-product of agricultural production while rocks exist in the immediate vicinity.

What is important for Ulucak pottery are the substances used for slips, such as the red and cream slips that are applied to the surfaces. It is not known what kinds of minerals were used to obtain these slips. However,

one big lump of red-colored material that was hardened through fire and has mat impressions was found at Ulucak IV. Evidence for red ochre comes from a quern that has red residues of ochre in it and was preserved from the same level (Fig. 5.1). It is possible that lumps of clay were stored in



**Figure 5.1: Mortar with residues of red ochre, possibly used to produce slip (Ulucak IVb).**

the settlement, wrapped in a mat to be processed later. Certain clay types might have been used to obtain the necessary clay

suspension to be used as a slip. In light of the quern discovered with red material, another possibility is that red ochre, meaning hematite mixed with clay, was used as the substance for slips. For instance, at Hacilar and Achilleion, hematite was utilized to create the red slips on the pottery (Stoves and Hodges 1970: 144; Ellis 1989: 168 respectively). Iron-oxides were utilized extensively in prehistoric Turkey for painting

caves or rocks, as evidenced at the Upper Paleolithic Üçağızlı Cave (Déroche, Menu and Walter 1995) or at the Latmos rock paintings (Peschlow-Bindokat 2003: 33). Therefore, it is highly likely that the red color of the slips on Ulucak pottery was caused by iron-oxides, probably hematite mixed with clay. It is known that other hydrous-oxides, such as limonite or magnetite, also turn red when fired; therefore, the possibility that they were also used for slips cannot be ruled out either (Shepard 1980: 38). Red color is also a consequence of oxidized firing conditions.

There are various types of fuel that can be used for the firing process, including wood, shrubs, dung, tree bark, crushed olives, or grass. For example, Gökeyüp potters preferred scrub oak for open firing their ceramics (Crane 1988: 18). The kind of material used by Ulucak potters cannot be ascertained. Wood should have been available to the community on the slopes of the Nif Mountain, which is today still covered with evergreen shrubs, pine and oak trees.

In light of the ethnographic record, it is usually assumed that pottery production takes place during the dry season, meaning during the summer in the Mediterranean region. At villages around Ödemiş pottery production is under way from March to November (Crane 1988: 10), while in Cyprus traditional pottery production begins following Easter (London 2000: 103). Dry weather and low humidity are conditions necessary to both drying the produced vessels before firing and to ensure an uninterrupted firing process, which is vital to obtain good results. Weather conditions, not only temperature but also the presence of humidity or wind, are factors affecting the length and success of the pre-firing drying process whose aim is to dispose of the water surrounding the clay particles (Arnold 1989: 62). Cracks may occur in cases of rapid or unequal drying of the different vessel parts. Therefore, it can be assumed that at Ulucak, pottery was likewise produced in the late spring-summer months to ensure good results.

Since the storing of clay for long periods of time is not usually practiced, the mining of clay and the procurement and preparation of temper, pigments and paint might have also taken place towards the dry season. Additionally, there are cases from different parts of the world where clay sources are inundated during the wet season, making them inaccessible (Arnold 1989: 62). As a result, there is more than one reason why pottery production theoretically has to be practiced during the dry season. The whole process of production, from raw material procurement to firing, requires dry weather patterns.

Another aspect of raw material procurement is the form of organization that was required by the community to collect such raw material. This communal organization may have called for certain individuals to take care of this task, or certain sexes or perhaps required everyone to take part in the collecting and transporting of clay. With the available archaeological data it is not possible to ascertain the details of these initial raw material procurement activities. Ethnographic records present us with extreme variety and it is hard to find meaningful regulations between, say small-sized sedentary agricultural populations and the organization of clay mining. It can be the potters themselves who are mining, or small groups from different households or groups from the same household. For instance, in the Philippines a sexual division of labor for raw material procurement is ethnographically confirmed (Costin 2000: 392). In Ulucak's case, it can be suggested that transportation was made on foot with the help of baskets or other kinds of containers. Given that the clay sources lay within 1-3 km radius of the settlement, a small group of people of varying ages and sexes might have transported the material in one day by making several trips to the source or various sources.

### ***B. Preparation of Raw Materials***

Clay can be stored for a short time at the settlement in the open air, in courtyards or in pits. Normally, following extraction and transportation of clay to the production area, clay is cleaned of macro-impurities such as roots, organic material or rocks. This is done by hand or by using more complex and time-consuming activities like sieving or levigation. Another common preparation process is adding material, most typically water, other types of clays and temper, to the original clay. It is common practice to mix clays in many pre-modern pottery production technologies. Mixing clays of varying properties, compositions and plasticity may provide better workability. In order to ensure that temper is regularly distributed in the clay body, to eliminate air pockets and to create a homogenous clay composition, the clay is kneaded, wedged and/or treaded. Which of these activities, or combination of activities, is practiced depends on the volume of clay worked. Normally, for large amounts of clay food trampling is practiced, while kneading is practiced with smaller amounts of clay (Rice 1987: 119). For instance, traditional potters in villages around Sardis spend 4-5 days for wedging.

The next step is actually optional and is called "aging." This term basically means that the prepared clay is put aside to rest, in order to provide better workability by making it more plastic. Aging of the clay may take anywhere from one day to one year depending

on the preference of the potters and the tradition. Traditional potters at Kornos, on Cyprus, do not age the clay at all prior to shaping (London 1989: 221).

It is known that different clay sources were exploited by Ulucak potters, however, it is not known whether they practiced clay mixing for better results. In any case, sand, chaff and, to a lesser extent, crushed rocks and lime particles were added to the clay body as real temper. One can state that Ulucak IV potters used chaff frequently, as 63% of IVb pottery contains organic temper.

In the earlier settlement of Level V, chaff was not added to the clay; instead, mineral inclusions were preferred such as sand and small grits or quartz. Certain amounts of mica and fine-grained sand can already be present in mined clay. At Ulucak, this is especially true for mica which seems to be naturally occurring in the clays collected by the potters. In both levels, the size of temper is small to medium with regularly occurring amounts; meaning, 10-20% of the non-plastics existed in the clay after preparation was complete. However, for the mica glimmer ware of Level V, crushed mica schist may have been added separately to the clay, especially to the surface to acquire the silvery shine that distinguishes this ware from the other fabrics.

In a small-sized, sedentary and agro-pastoral community, such as the one inhabited at Ulucak V, each household could produce its own pottery vessels, as needed. This is suggested by the fact that there was no activity area one would specifically designate as a “communal pottery workshop” at



Ulucak V. However, one activity area from IVc, Building 15, was associated with pottery production based on clay lumps that were found in its fill (Fig.

**Figure 5.2: Loaf of clay prepared to be used for production of clay objects. Found in Building 15 (IVc) next to a clay platform and grinding stones. Fire that destroyed the building also hardened this loaf.**

5.2). These lumps, or loaves, were found right next to a platform that was located in an area with lithic tools and many grinding and pounding instruments. The clay lumps were clearly fired and hardened during the fire that destroyed the building. These pieces indicate that at Neolithic Ulucak clay was cleaned, tempered and probably kneaded on a

grinding stone before they were formed into lumps of clay to be shaped on a flat stone or platform used as batt. Based on the mat impressions found on the clay lumps, it is suggested that they were also wrapped around mats prior to their shaping. It is possible that clay lumps were left to age before further processing. The color of the clay lumps found in this area is red-reddish brown but the color of the unfired clay may have been another color. It is a well-known fact that there is little correlation between the color of raw and fired clay. Yellow, red, brown, gray, or black-colored raw clays might turn red when fired (see Table 11.1 in Rice 1987: 334). Therefore, it is not possible to conclude at this stage that Ulucak potters preferred red clays. However, what is clear is that clay lumps were prepared as loaves and probably left to age in the activity areas before they were worked into objects.

### ***C. Forming the Vessel***

There are several basic building methods for hand-made pottery vessels; these are pinching, drawing, molding, casting, slab modeling, and coiling. Usually, manufacturing one vessel requires implementing a combination of these techniques, while there is only one base manufacturing technique that is preferred by the potters. Pinching is a technique suitable for building small and simple-shaped vessels. Likewise, drawing is more appropriate for small vessels built from one single lump of clay; however, the drawing technique may allow bigger vessels to be built (Rice 1987: 124-125). Both of these techniques could have been implemented at Ulucak for building simple bowls or miniature vessels.

Ulucak pottery was typically slipped and burnished so that traces of manufacturing techniques did not preserve on the surface. Coil attachments are rarely left with slightly uneven surfaces that can be felt with the fingertips; this is especially true on rim sherds but also on bases. Coiling seems to be the preferred base technique used by Ulucak potters. Technological analyses conducted on Neolithic pottery from the Aegean Region demonstrates that coil building, slab manufacturing and pinching were techniques that were practiced by Neolithic communities. Eslick (1992: 77) asserts that coil building was the base manufacturing technique at the Elmalı Plain sites. At Nea Nikomedea, both coiling and pinching, in some cases a combination of them, could be attested on Neolithic pottery (Pyke and Yiouni 1996: 60-61). While slab manufacture was preferred by Sesklo potters, coiling was the primary technique at Neolithic Ilipınar (Wijnen 1993: 324). At Franchthi and Lerna, coiling was also detected (Perlès 2001: 211). With the

available data at hand, it is apparent that coiling and pinching are the two primary techniques utilized by pottery producers in the Aegean Neolithic.

Breaks observed on carinated flat bases and necks point more towards the use of molds for bases and slab building for necks; the latter are separately manufactured and attached to the body at a later stage. It is possible that two techniques, coiling and slab building, were used for manufacturing bigger vessels, while coiling alone was preferred for bowls and jars without necks or jars with short necks. Oval bases were also formed separately using a mold and then were attached to the body.

Asymmetrical body forms, seen especially on large-sized vessels at Ulucak IV, indicate that potters were having problems with building large vessels. Repair holes observed on the biggest vessel from Ulucak IV support this statement. As already mentioned, carinated flat bases were definitely manufactured separately from the vessel body, as observed many times from the way they broke at the juncture. Attaching different body parts to a vessel requires a considerable amount of time because of the necessary drying intervals, especially if the vessel is large (Arnold 1989: 65). One large vessel, similar to the two storage jars (61 and 82 cm high) known from Ulucak IVb, might have taken one week or more to complete. Eslick (1992: 17) suggests that the typical flattened rims from West Anatolia were formed by pressing the thumb over the rim and supporting the vessel body with the index finger.

Thinning and evening of vessel walls was the next stage in the production sequence and could require re-wetting of the surface many times. This stage formed a significant part of the vessel's production, both technically and stylistically, because it served to better attach the coils together, provided a smooth vessel surface, aided in wall thinning, and removed traces of manufacture, pores, depressions, and cracks (Shepard 1980: 65-66). Since most pottery from Ulucak IV-V has walls that are 3-6 mm thin, thinning was a production step that required developed skills and considerable labor investment.

There are several ways of thinning the vessels, of which scraping and paddle-anvil techniques the most widespread. Ulucak pottery occasionally shows traces of the paddle and anvil techniques on their outsides and insides. However, it is difficult to demonstrate if scraping was also practiced, and if its traces were later covered with paddling, smoothing and burnishing processes. Striation marks have also been observed on a few

restricted forms whose inner surfaces were left untreated. These marks show up on pieces from both Level IV and V, and indicate scraping was practiced by Ulucak potters.

Ethnographic records demonstrate that these thinning activities might have been reserved for individuals other than the actual potter who formed the vessel (Costin 2000: 391). Ulucak potters and their possible “assistants” seem to have had extensive experience and required skills for this production stage. Successful production of such thin vessels, whether small or large, indicates that along with striving for functionality, there was a special care that was devoted to the appearance of the vessels.

Other plastic applications to the body, such as lugs, knobs and decoration, were also separately manufactured and attached to the body (Fig. 5.3). For each vessel several production steps were necessary. The body was probably constructed and then left to dry while the lugs or neck were manufactured.



**Figure 5.3: Attachment of a tubular lug to the body shows that the lug was produced separately and attached to the vessel body.**

The absence of mat impressions on the bottom

of the bases indicates that flat stones were rather selected for and used as batts, which are archaeologically represented at the site. Tubular lugs were made with small lumps of clay and their form was shaped before application. The surface of the vessel, where the lugs or knobs would be attached, were first grooved and roughened so that the two parts would easily join one another. After their application, the lugs were then pierced.

#### ***D. Pre-firing Treatments***



**Figure 5.4: Three sided polishing stone found in the destruction debris of Building 40 (Level Vf).**

Following the formation of the vessel and the thinning of its walls, other surface treatments were usually applied to improve the surface quality and appearance. Smoothing, slipping and burnishing are the most prevalent surface treatments that are known from the Aegean Neolithic. As a rule, Ulucak vessels are burnished with a smooth hard object; probably with the polished stones found

during the excavations (Fig. 5.4). Burnishing makes the surface more compact and waterproof while giving the surface a luster. To achieve this desired effect, it is important to apply burnishing at a point when the clay is neither too wet nor too dry (Shepard 1980: 123). Generally, it should be done when the clay is leather-hard or completely dry. Based on both technical necessity and appearance, burnishing is a preferred treatment.

Traces of burnishing processes were observed many times on Ulucak vessels in the form of horizontal, diagonal or vertical surface marks. The orientation of the burnishing marks depends on how the potter holds the finished vessel, his/her motor habits, and naturally, the size and shape of the vessel. Burnishing was a time-consuming process for Ulucak potters as it covered the entire outer surface, as well as the inner surface, of unrestricted vessels. Most of the time the results are successful, meaning the vessels will have bright to very bright surfaces. However, burnished pieces that have non-bright surfaces also occasionally appear because their luster can be lost through clay shrinkage or during the firing process (Shepard 1980: 191). The burnishing process also has a side-effect in which it moves the fine particles in the clay towards the surface. Mica glimmer, as observed on some Ulucak RSBW, CSBW and gray ware, may be a result of this process.

Slipping is another surface treatment observed on several Ulucak wares and when it is present it generally covers the whole surface of the Ulucak vessels. Slip is defined as the suspension of clay in water. It is applied to change the surface color of a vessel and to make the vessel less permeable by covering its tiny pores and depressions. Red and cream-white-colored slips were used by Ulucak potters. The slip on Ulucak pottery was identified through macroscopic inspection. The slip coating can form a visible separate layer over the vessel's surface that is clearly distinguishable from the clay body. In many cases two layers of different colored clays, one for the body and one for the coat, are visible. Clay that makes up the body is either orange or brown, while slips are either red or white-cream. Red slip was probably obtained through mixing hematite with clay, while white slip might have been obtained from kaolin. It is observed at Ulucak that the slips have adhered well to the vessel bodies. This is especially true for cream-colored slips which are thicker but also tend to crack and craze. Likewise, some red-colored slips showed cracks, but these might have occurred post-depositionally. Finally, the technique of slip application could not be determined at Ulucak. The lack of traces might point to the application of slips with a brush.



Lugs or other plastic applications were applied to the vessels prior to their final surface treatments since they also bare the traces of slip and burnish. Only some impressed vessels were not burnished and slipped. In some cases, especially with RSBW, impressions were executed after



other surface treatments (Fig. 5.5). The impressions were made using a pointed instrument, finger nails, shells, wooden sticks, or stone tools, and usually covered the entire surface of a body sherd or a vessel.

**Figure 5.5: The material used as red slip is applied on this rimsherd only to the rim area while the rest was left unslipped but impressed.**

Paint is rarely observed on Ulucak vessels. The red paint or cream paint observed on vessels seems to be made out of the same material as the slips because their color and structure greatly resemble one another. Although technologically, Ulucak potters were knowledgeable about painting decorations, they rarely did this.

After the surface treatments were completed, the vessels were left to dry. The drying process eradicates the physical water present in the clay before firing and the firing then eliminates the chemical water present in the clay. The necessary time for drying differs from one tradition to the other. In many cases it is one to two days, although it can also take up to one week or even one month (Rice 1987: 153). The amount of non-plastics is another factor that affects the total time allotted to drying. It is known that the more non-plastics there are in the clay, the less time is spent on drying (Arnold 1989: 97). Vessels may be left to dry in the sun and/or shade, although perhaps there were no pre-designated locations for drying ceramic vessels. However, it is clear that quick or uneven shrinkage of a vessel may result in the formation of cracks. Likewise, dry weather conditions are absolutely necessary for this stage as humidity retards drying and causes deformations. Therefore, vessels are carefully watched, relocated and examined during the drying process to avoid breakage or cracks. This task requires the presence of one or more individuals.

Theoretically, if agricultural activities and pottery production had to be practiced in the same season (e.g. summer), then scheduling conflicts would be created and ultimately would result in a sexual division of labor. This means women would have to deal with ceramic production, since women are generally associated with “low risk tasks close to

home” and men with high risk tasks that are distant from home (Eriksen 2001: 128). As a result, women might have to stay at home and supervise the drying process while undertaking other tasks, such as taking care of children, cooking or spinning. Such a correlation is clearly demonstrated from ethnographic research that revealed that 31 out of the 37 studied agricultural societies in Central and South America had female potters (Arnold 1989: 103-105). Nevertheless, in the absence of scheduling conflicts such correlations based on sexual divisions of labor cannot be inferred.

In the case of Ulucak, a gender-based division of labor might easily have occurred since most labor-intensive and critical agricultural activities were practiced during the summer and fall (i.e. harvesting wheat and barley). A division of labor between men and women could have allowed for both activities to be simultaneously accomplished by the community. If this was the case, women who overtook the task of pottery production could have also trained their daughters. But given the fact that the work in the fields requires more labor force than is available, women and children joined the work force for the simple reason that subsistence takes precedence over ceramic production (Arnold 1989: 100). However, there are other factors which undermine the above mentioned assumptions. If the rainfall and humidity are not extreme during spring and winter pottery production could have been practiced year-round, such as in some parts of Pakistan and Greece, which removes the necessity of a sexual division of labor (see Arnold 1989: Table 3.1).

Another important factor that affects the organization of production is the amount of ceramic vessels produced annually by each household. Estimations made on Greek EN sites revealed low rates of production ranging from 5 to 90 pots (Perlès 2001: 214). For instance, it is suggested that at Nea Nikomedeia 25-90 vessels were annually produced (Pyke and Yionu 1996: 185). At Gökeyüp, where female potters produced vessels using the coiling technique, Crane (1988: 17-18) reports that in six to eight hours one potter could easily produce 20 *güveç* (cooking pots) and 15-20 *bardak* (beakers). Three to fourteen hours were necessary for building vessels of different sizes with the coiling technique for potters of Shipibo-Conibo and three to seven days were elapsed until they were fired individually and ready to be used (see Arnold 1989: Table 8.1). These figures indicate that the pottery requirements of one household can be produced in a short time period. If during the Neolithic low production rates were indeed prevalent, then there would not appear to be any scheduling conflicts since, given that optimal weather

conditions were available, actual pottery production (i.e. forming, drying and firing) would last only 2-3 weeks.

At Ulucak, there is one interesting case where all the vessels in one house (Building 30) were found preserved completely *in situ*. In this building, 15 ceramic vessels of varying types and sizes were recovered and provide us with a good indication of the number of vessels one household possessed at one time. Similarly, 7-8 vessels were recovered in Building 8 (IVb) which was destroyed by fire. Annual production can only be equal to or smaller than this figure since broken vessels needed to be replaced. For instance, among Kalinga of the Philippines 6-12 pots are produced by a single household to replace the broken ones; while only 2-5 are produced annually by Tarahumara of Mexico, who possess 7-19 pots per household (Arnold 1989: Table 6.4). Even if we generously assume that each household produced 10-15 vessels annually, this would make around only 120-180 pots for the 15 houses belonging to settlement IVb. In other words, despite the time-consuming coiling technique and finishing techniques, each household was able to produce its own ceramic vessel needs in 1-2 weeks. This would neither demand full-time specialists nor a sexual division of labor. This model is especially plausible for Ulucak V, where large-sized vessels that demanded weeks to complete are completely absent. Labor intensive surface finishing practices required by some Ulucak vessels might even have been a result of low production rates which then allowed enough time for such investments. As a result, both ethnographic and archaeological data indicate that at Ulucak pottery production rates were low, meaning scheduling conflicts were avoided and each household could produce its own needs as long as know-how and skills were available to the individuals (see also *G. Degree of specialization*).

### ***E. Firing***

Firing, a physical and chemical process that turns clay into ceramic, is an irreversible final step. It is highly critical for the successful production of pottery. When the shaped vessels are dry, they are then ready to be fired. Although right before firing, the vessels may additionally be pre-heated close to a hearth or oven; this is generally an optional step that but might be necessary for open fires.

There are two major ways of firing pottery: open firing and kiln firing. For both procedures substantial amounts of fuel is needed. Fuel should create temperatures of about 550°C so that clay is chemically transformed into ceramics. Various types of fuels

have varying burning properties, like the maximum temperature they can reach, the length of their burn, and the type of smoke and ash they produce. All these factors can determine whether a firing process is successful or not (Shepard 1980: 77). For instance, in 40 minutes dung can reach 900°C but its cooling process is very rapid and therefore could impede complete firing or oxidization. Similarly, grass can reach high temperatures but also loses heat quickly. On the other hand, juniper wood reaches 900°C in only 21 minutes and its cooling-off process is very slow and gradual without the fluctuations in temperature that might be sought after by the potters (see Shepard 1980: Fig. 4). However, it should not be concluded that wood is superior to dung as fuel material or vice versa. Different potters preferred different fuel and the choice may have depended on ecological factors as much as the firing technique employed or the desired end result (Arnold 1993: 31).

For EN pottery from Greece, it is usually assumed that open firings (i.e. bonfires) or pit firing, were the main firing technique used (Wijnen 1982: 24; Perlès 2001: 213). Pottery from Sesklo is said to be fired below 812°C and similarly, Early Neolithic pottery from Nea Nikomedeia is estimated to be fired under 800°C; both sites employed open fires (Pyke and Youni 1996: 70).

Archaeological evidence for pottery baking in ovens is seldom verified. Theoretically, ovens located inside the houses would not be used for this purpose because of the high danger of accidental fire. Ovens in open areas, in courtyards or areas close to the settlement may have been used to fire pottery and are actually seen in different parts of Southeast Europe during the Neolithic (Petrasch 1986: 49). Petrasch (1986: 49) points out that since the atmosphere in such ovens cannot be controlled, the results must look similar to open-fired ceramics. On the contrary, Arnold asserts that oven firing can create higher temperatures than open firing. More importantly, he asserts that although the draft and atmosphere cannot be fully controlled, oven structures provide insulation and thereby keep the heat inside longer, making the products less vulnerable to the weather conditions (Arnold 1989: 214). Additionally, oven firing requires less fuel than open firing. According to Arnold (1989: Table 8.4), the ratio of ceramics to fuel, in terms of weight, is 1:3.1 in open fire and 1:2.8-2.5 in oven firing. Therefore, technologically oven firing can be considered more advanced than open firing but the question of whether Neolithic pottery was oven or open fired remains disputed. Since direct archaeological evidence cannot be recognized in most cases or is so sporadic for oven firing, it is

commonly assumed that the primary technique of firing Neolithic pottery was by bonfire.

Open fires are effective in terms of firing pottery but are not without their disadvantages, such as their relatively short duration of maximum heat, their tendency for incomplete or uneven firing, their susceptibility to weather conditions (e.g. wind), and the mottling and fire clouds they can produce on their end products (Rice 1987: 155-157). Neolithic pottery from West Anatolia and mainland Greece, having moderate hardness, inoxidized cores, mottled surfaces, and fire clouding, should have been fired in open fires that could have reached temperatures of up to 900°C, but were found to have mainly been fired at ranges between 600-850°C. There is one big oven located in an open area in Ulucak IVa that might have been used for pottery baking but direct archaeological evidence eludes us. Almost all ovens excavated at Ulucak are located in houses, which prevents their identification as pottery ovens. Finally, no pottery kilns were found at Neolithic Ulucak.

Macroscopically Ulucak pottery has all the characteristics of openly fired containers. Mottling and sooting are frequently observed on Ulucak wares, the former resulting from irregular firing atmospheres while the latter from contact with fuel. The amount of sooted pottery increases in Level IV to V from 4 to 8%, whereas mottling is observed on 5% of IVb pottery and 10% of Vb pottery. Clearly, Level V pottery had to go through a less developed firing procedure, where potters had a hard time controlling the firing atmosphere, duration, temperature, and other conditions. By Level IV, there is clearly a technological improvement in terms of the firing process, which dramatically reduced the number of mottled and sooted vessels (although they could never have been entirely eliminated).

Another piece of evidence that supports the open fire argument for Ulucak pottery is the high number of inoxidized cores present in the assemblage. Open fires, since they are of a brief duration (i.e. typically lasting 2-3 hours), may succeed in oxidizing the surface of a vessel but fail in fully oxidizing the core. In this situation, the result is a dark-colored core or a three-layered core with an inoxidized center. Dark cores usually result from carbonaceous material in the clay, which due to inadequate temperature, duration and atmosphere could not combine with oxygen by forming CO<sub>2</sub>, and therefore cannot escape the clay (Rice 1987: 334). At Ulucak, 66% of Early IV pottery is inoxidized and an additional 15% is incompletely oxidized. In Level V, 60% is inoxidized while 14% is incompletely oxidized. When contrasted with oxidized surface colors, which make up

83% of the assemblage in IVb, these figures clearly indicate a similar scenario for Ulucak ceramics, where open firing manages to oxidize the surfaces but fails to oxidize the cores.

The firing temperature is also important for the end result. One way of estimating the firing temperature is to make observations on calcitic inclusions in the paste, such as shells, limestone or calcite (Rice 1987: 97-98). At Ulucak, lime is occasionally found in the paste and in some cases observed on the surface because it spalls the clay body when fired at certain temperatures. It is known that calcite decomposes when fired at around 850-900°C and at that point it changes its chemical composition from  $\text{CaCO}_3$  to  $\text{CaO}+\text{CO}_2$ . If, after reaching the aforementioned temperature range, there is a drop in the temperature, the calcite will pick up moisture from the air and become what is called “quicklime” ( $\text{Ca}[\text{OH}]_2$ ). In turn, this will put stress on the walls and surface of the pottery, resulting in volume expansion (Rice 1987: 98). The lime particles observed in the paste or on the surface of some Ulucak pottery is a result of this process. If the firing temperature is below 700°C or exceeds 1000°C rehydration does not occur, meaning there will also be no expansion of the volume.



**Figure 5.6: Heavily burnt anthropomorphic vessel found in Building 8.**

There are additional lines of evidence that can be used to argue for rather low temperatures at Ulucak. The bright surfaces seen on more than 70% of Ulucak’s ceramic assemblage can be used as evidence for low temperatures (below 1000°). Shepard (1980: 124) makes it clear that there is a correlation between shiny surfaces and firing temperature; he asserts that the higher the firing temperature, the less the surface is lustrous. Hence, the great majority of Ulucak pottery speaks for temperatures below 900-1000°C. Non-bright examples from Ulucak, which could have been the result of high firing temperatures, make up roughly 20-25% of the assemblage. If Ulucak potters were aware of this correlation through their long-

term experimentation, they might not have craved achieving the high firing temperatures

that would cost them their shining surfaces; because they created these lustrous surfaces by high labor investments during the formation processes.

More evidence for low firing temperatures is seen in the red fracture colors of vessels that were exposed to extreme heat (i.e. secondary firing) before their final deposition. Red fracture colors are solely detected on vessels that are very hard, have matte surfaces, are cracked, and are covered with a transparent whitish layer. For instance, the anthropomorphic vessel found in Building 8 of IVb carries all these characteristics, as do all the other vessels found in the same building (Fig. 5.6). What does this tell us? First, since red clay color is not normally observed on other Ulucak vessels, these were not fired at temperatures that would create a red fracture color. Secondly, the temperature that fired these vessels in Building 8 caused that red surface color to disappear. Rice points out (1987: 335) that red color created by iron compounds is not stable if fired above 1000°C. This means that the matte pottery with red fractures found in Building 8 was secondarily fired at temperatures above 1000°C. This is a stark contrast to the normal pottery from Ulucak, which is incompletely oxidized, has oxidized cores, is bright, and has red-colored surfaces. Once again, if Ulucak potters made the observation that red color disappears when fired above certain temperatures, then they might have intentionally kept firing temperatures below 1000°C.

As a result of these observations concerning Ulucak pottery, we propose that the usual firing temperatures at Ulucak were roughly around 700-900°C. Temperatures around 700-800°C seem feasible but are not a rule; higher temperatures were clearly achieved as suggested by lime spalling, whether intentionally or unintentionally. Another implication made by our observations is that firing in low temperatures might have been intended by the potters to make sure that red color and brightness do not get lost, the former was obtained by preparation of a special clay suspension and the latter by a time-consuming and skill-requiring polishing process. After all, to achieve oxidized cores was probably not the primary concern of the potters nor was it significant to the community, as it would not provide any additional technological advantages to the user. On the contrary, physical appearance, surface color and brightness were important to the potters and community.

Evidently, not every open fire can reach the same temperature or duration, and fire conditions will clearly vary. Technological advances observed on the Ulucak IV pottery might not necessarily point to higher firing temperatures reached by that period but are

evidence for better control of the overall firing process, especially concerning the firing atmosphere. This improvement in firing management should have resulted from continuous experimentation with different clays, tempers, paints, fuel type, and the laying out of the fire, as well as through good judgment of weather conditions. Increase in the variety of forms and vessel size likewise speak for technological improvement in pottery production.

Generally, time allotted to the open firing of vessels ranges from 45 minutes to a few hours depending on, among other things, the amount of pottery to be fired. As low production rates are deemed as much more plausible for Neolithic periods, due to the low number of ceramics uncovered in Level V, the duration of fires should accordingly be rather short. It is even possible that pots were fired singly or in small numbers, as they are produced, and were done so without stacking. Therefore, small pits with ashes or evidence of fire might also have served for pottery firing. Alternatively, the complete annual production of vessels might have been fired all at once through a good preparation of fuel and under optimal weather conditions.

Finally, we should stress the fact that risk is involved every time pottery is fired. Loss rates for open firing range from 0-100% (Rice 1987: 173). This means that there is always a possibility that the major part of or, in the worst case, the complete production will be destroyed during firing. In turn, this would inevitably prolong the pottery production season. Such risks are one of the major reasons why in many traditional societies pottery production and individuals practicing it are associated with witchcraft and taboos.

### ***F. Post-firing Treatments***

Successfully fired ceramic vessels are removed from the firing area when the potter decides that the firing process came to an end and/or vessels are cooled enough. There is no mandatory post-firing treatment, although some traditional societies apply various substances or decorate vessels after firing. At Ulucak, there is no obvious indication of such a practice. Decoration was executed before firing.

### ***G. Degree of Specialization***

As rightly stressed by Costin (1991), for archaeologists and exciting as it is, the issue of craft specialization in prehistoric societies has been subject to hyper-simplification. This



was mainly a result of vague definitions of the term and misinterpretation of the archaeological data.

The existence of specialized production or craft specialization has already been suggested for Anatolian and mainland Greek Neolithic communities by several researchers. Özdoğan (1999: 230; 2007: 452), Hodder (2006: 248) and Balkan-Atlı and Binder (2007: 220) discuss evidence of specialized production in Anatolian Neolithic societies with different points of view. According to Özdoğan, the production of certain technologies in PPN, such as *terrazzo* floors or well-made stone bowls, require certain levels of “know-how” that can be possessed only by certain individuals in a community. Moreover, according to one of Özdoğan’s examples, standardization observed on stone bowls might indicate the existence of mobile-craftsmen who offered their craft in exchange of food. Hodder (2006), on the other hand, avoids using the term “craft specialization;” instead he prefers to call the increased labor investment and know-how, observed in lithic and ceramic industries in the upper levels of Çatalhöyük, “specialized production.” Finally, for Balkan-Atlı and Binder (2007) the standardization observed in producing naviform core technology and the organization of exchange are good evidence for specialized individuals. Although none of these researchers explicitly defines what they mean by “craft specialists” or “specialized production,” it is obvious that there are several factors which they take as good indicators of such a phenomenon. These are know-how, labor intensity, standardization, and the existence of regional exchange mechanisms.

In order to argue for or against craft specialization in the Neolithic, one needs to define the concept and its parameters. Additionally, one should be able to put archaeological evidence in a perspective that would allow testing the case.

There are several definitions offered for craft specialization that vary from one another considerably. Specialization can be defined as “*skills practiced by certain individuals whose products are transferred to non-dependents*” (Clark and Perry 1990). A more detailed definition is made by Costin (1991: 4):

“..specialization is a differentiated, regularized, permanent, and perhaps institutionalized production system in which producers depend on extra-household exchange relationships at least in part for their livelihood, and consumers depend on them for acquisition of goods they do not produce themselves.”

As Perlès and Vitelli point out (1999: 96), according to the first definition specialists exist even in the Paleolithic period. Production that fulfills the parameters required for the second definition is however difficult to prove even for the Neolithic period. As a result, “identification” of craft specialization in any prehistoric society will inevitably rely on the definition preferred by the researchers. For instance, Miller identified labor intensive but low-skill requiring and low-scale production of cockle shell beads at Early Neolithic Franchthi as a specialized activity; but acknowledged the fact that more restricted definitions provided for specialization would not allow this specific case to be classified as “craft specialization” (Miller 1996: 31-32). Perlès (1992: 150-151) argues for a specialized lithic industry in Greece from the Early Neolithic onwards, which is to a large extent supported by the archaeological data. She even considers the existence of specialized “middlemen” who would acquire obsidian from Melos, pre-form the cores and exchange it with communities on the mainland who would possess neither the skills of seafaring nor core preparation. Vitelli (1993) argues that during the Early Neolithic, pottery production may have been specialized to a certain degree with a great deal of innovation going on. Such studies and available archaeological data make it clear that craft specialization in various forms and degrees existed already in the Neolithic period (if not earlier). The question for our case is whether such mechanisms emerged in the case of ceramic production as well.

In her detailed survey on craft specialization, Costin explains different degrees and types of specialization which encompass variables from simple to complex societies. The degree of specialization is defined as “*the ratio of producers to consumers,*” where high numbers of specialists in relation to consumers would result in low degrees of specialization. As the number of specialists remains low and the number of consumers increase, the degree of specialization will get accordingly higher.

The types of specialization are defined through social and economic conditions. Four parameters for determining the type of specialization are defined as the context, concentration, scale, and intensity of production. The first one refers to any control on the production, which can be either “attached” or “independent” depending on whether any social class or group constitutes the demand. Concentration of production refers to spatial organization of the production, whether specialists are organized into aggravated workshops or work in dispersed locations. Scale of production is indicated by the total number of individuals involved in the production process; while intensity is measured by

the total amount of time invested for the production which can therefore be classified as “part-time” or “full-time” specialization. Although full-time specialization is rightly associated with complex societies, such as states, part-time specialization occurs both in complex and simple societies with low populations.

Costin (1991) points out that archaeologists have several kinds of indicators for identifying specialization, its degree, and type. The identification of workshops, activity areas, the intensity of products or wasters, tools used in the manufacturing process, and the location of the production loci, as well as questioning the level of standardization, skills, regional variation, and labor intensity, are appropriate methods of extracting answers from the archaeological data.

By using these parameters one can determine whether Ulucak pottery production was specialized or not; and if yes, then to what degree and of what type. If one uses the restricted definition parameters, we should ask whether Neolithic Ulucak ceramic production was differentiated, regularized, permanent, or institutionalized, and do the producers depend on their products at least partially for their survival? Techniques used to produce fine pottery at Ulucak might have not been shared by the whole community which would have made it differential. Production, since it should be seasonal, is regularized but not in the sense that there were certain working hours. As pottery is among the common utilitarian objects, its production has to be permanent, and archaeological evidence clearly supports this statement. Evidence of institutionalization cannot be inferred through the available archaeological data. Whether pottery manufacturers depended wholly or partially for their living on their skills is also difficult to assess. Given that certain individuals or households carried out pottery production without getting involved in agricultural production, the rest of the population must have then provided them with food in exchange of ceramic vessels. The archaeological record does not help in this respect, however ethnographic records show that small-sized agro-pastoral societies might have developed part-time specialists (in this case farmer-potters).



**Figure 5.7:** An activity area identified at Ulucak in Grid N11, Phase IVc. A clay platform, one grinding stone, stone tools and implements, one pestle, and several large lumps of clay are visible in the picture. These loaves of clay, probably prepared for manufacturing of pottery, were fired and preserved during the fire that destroyed the settlement.

If we try to determine the degree of ceramic production specialization at Ulucak, taking the points made above into consideration, one can infer some of the parameters that are needed to identify specialization. First, archaeological data presents us with several indicators, such as the location of working areas within domestic quarters accompanied by lumps of clay, stone tools, platforms, and flat stones used as batts. The location of working areas within the domestic quarters indicates household-based production (Fig. 5.7). The absence of monumental architecture, segregated living quarters for a wealthy class, pottery kilns, and of aggravated workshops would likewise imply specialization that is household-based and independent.

Climatically-required seasonality of ceramic production restricts production to the summer-fall seasons. If scheduling conflicts appeared between agricultural and pottery production, a division of labor between gender groups might have emerged. Such a division could have required women to stay at the house to produce pottery along with exercising other domestic activities. The production of pottery by a certain gender is already a step towards specialization, especially if the skills are transmitted from say,

mothers to daughters. Independent of whether such a division of labor occurred or not, the skills possessed by the potter should be transmitted to the next generation, creating the accumulation of know-how and knowledge. In terms of specialization, another interesting issue is whether every individual in one household needed to learn the craft or if only certain age-sex individuals were targeted. However, labor intensive, time consuming manufacturing techniques and surface treatments, coupled with standardized fabric and morphology at Ulucak, indicate specialization existed at least on a household basis. But these points do not approve the following statements: 1. Pottery was regionally exchanged; 2. Pottery producers depended partially on their products to ensure a living; 3. Consumers depended on these products.

Ulucak pottery production does not seem to be a result of genuine craft specialization. Archaeological indications support household-based production, developed “know-how” of pottery technology, labor intensive production stages, and standardization. The context of production is clearly within the house, where activity areas are confirmed. The scale of production, meaning the number of individuals involved, is probably low. I tend to imagine that different stages of production, such as clay mining and transportation, might have involved small groups; meanwhile the forming of vessels was performed by single individuals who were assisted by a family member, ideally the person who is learning the craft and developing the skills and motor habits required. Certain competence and knowledge is definitely required for every stage of pottery production and is something which Ulucak potters seem to be capable of. A number of production stages, especially thinning of vessel walls and surface treatments, demand high labor investment. Similarly, the building of large vessels, of which some were found at Ulucak IV, also requires a considerable amount of time and energy. The relatively small size of vessels from Ulucak V may indicate that potters were not able to build large vessels or such vessels were not in demand. Moreover, forms encountered at Ulucak V are simple; composite or carinated vessels were not found, which indicates that vessel formation was not a labor intensive stage and technical investment was low. Simple and low varieties of shapes can be achieved by many, resulting in low levels of specialization. Form variety and size increase in Level IV, implying advancements in pottery technology, an increasing investment of labor and an increase in specialization. In comparison to the hole-mouth jars of Level V, the manufacture of anthropomorphic vessels, for instance, requires developed “know-how” and knowledge, as well as labor investment. Such

developments indicate a gradual increase in pottery technology from Level V to IV, which might have necessitated specialized individuals.

Categories	Ratio	Context	Concentration	Scale	Intensity	Labor Input	Know-How	Production
Evidence	Low	Independent	Dispersed	Low	Part-time	Medium-high	Medium-high	Low
Description	Ratio of specialists to consumers low	No demand from other social classes	House as workshop; no aggravation of workshops	One individual to small groups involved	Seasonal production; 2-3 weeks	High for large vessels and surface treatment	From raw material procurement to firing	100-150 vessels annually by whole settlement

**Table 5.1: Properties of pottery production at Ulucak IV-V.**

At Ulucak, intensity of production was low and not year-round. Production may have been limited to several weeks in summer, depending on the rate of production and loss rates during firing. Likewise, the rate of production is low with each house producing its own ceramic container needs (Tab. 5.1). Exchange at a regional scale is not shown, although is certainly not out of question, but circulation within the settlement is highly likely. Ethnographic records show cases, for example, where pregnant women or young mothers are not able to produce pottery for their own needs, which is then acquired from other women (i.e. widows or old women) who have plenty of time to produce more pottery than their household need (Arnold 1989: 107). Cases such as this, or mechanisms like gift exchange may have triggered circulation of pottery within and outside of the settlement. Perhaps it is more appropriate to call this stage “initial specialization.” It encompasses only a few of the parameters while the most indicative ones are still lacking – most importantly, the economic parameter. Initial specialization of pottery production can be described as household-based, independent, small-scale, and of low intensity. Moreover, there is no indication of regularized exchange within or outside of the settlement. It is thus not possible to argue that households which produced pottery relied partially on their products for their livelihood.

## ***H. Function of Ceramic Vessels***

Conventionally it is assumed that ceramic vessels are utilitarian objects which serve purposes of storage, food processing, cooking, and transfer. It is usually assumed that jars are associated with storage and cooking, whereas bowls and dishes are associated mostly with serving. However, ethnographic and archaeological research fail to demonstrate such simplistic correlations between vessel form and function (Arnold 1989). Archaeologists should consider many variables in an attempt to discover the specific functions of vessels they examine. Size, technological properties, fabric, surface

treatment, functional attachments, and morphology are the most obvious hints for interpreting function. Another important indicator when analyzing ceramics are their recovery contexts which may or may not support the original interpretation of their function. Although there is a close relationship between subsistence strategies, food preparation techniques, storage habits, and the ceramic containers produced by the community, ceramics are not exclusively used for utilitarian purposes. Ritual use of ceramics was proven both archaeologically and ethnographically. The important role of ceramics in social events in prehistory has also been recognized by archaeologists (e.g. Sherratt 1987). Moreover, certain fine wares or vessels with certain forms might transmit messages related to the societal status of the owner. Therefore, it should be recognized that ceramic vessels might entail functions that are beyond activities related to cooking, serving or storage.

There are several indicators which help ceramic analysts understand vessel functions beyond immediate observations on their morphology. Morphology can be examined in terms of vessel capacity, stability, accessibility, and transportability (Rice 1987: 224-226). In terms of fabric, wall thickness, resistance to mechanical stress, thermal behavior, porosity, and surface treatment, these are significant indicators when determining function. Below, these parameters will be briefly discussed by using examples from the Ulucak assemblage.

The capacity of a vessel does not clearly tell us its function but combined with other evidence can provide us with answers. Unfortunately, few vessels could be measured in terms of volume at Ulucak. One short-necked jar from Level Va can contain 6.9 l liquid, whereas a jar without a neck from IVb has a volume of 9.8 l. Another jar without a neck from Va can contain only 0.32 l. One bowl with a 's'-shaped profile and an height of 6.8 cm from Level Va can hold 0.34 l of liquid. Two jars from Level IVb, with heights of 65 and 81 cm, are clearly capable of containing more than 50 l.

Rice states (1987: 225) that the "*stability of vessel refers to its resistance to tipping or being upset, determined by shape, proportion, center of gravity and, breadth of the base.*" One striking property of Ulucak bowls and jars is their stability. This stability is largely achieved by their globular bellies and flat bases that are proportional to the vessel body. In particular, bowls with convex profiles, bowls with 's'-shaped profiles, deep bowls of the oval variety, as well as hole-mouth jars with globular bodies can be designated as stable. Globular bellies do not only increase the capacity of containers but

also enhance stability, eliminating many unwished for accidents that result in the loss of stored material.

Accessibility is determined through the type of orifice that is found on the vessel and is commonly used by archaeologists to determine vessel function. Vessels with restricted orifices would imply that the contents were not supposed to be easily accessed. Restricted orifices may serve to protect the contents from outside effects while unrestricted orifices enable people to access the contents to be processed, served and/or mixed with other materials. Therefore, restricted orifices are usually associated with storage and transport vessels, while serving, processing and cooking would require unrestricted orifices. At Ulucak, restricted vessels make up almost half of the assemblage. Necked jars also exist, especially in Level IV. This means the ratio of storing-transporting vessels to serving-processing vessels is roughly 1:1 at Ulucak IV-V.

Transportability is also affected by size, form and weight of the vessel. For example, handles would enhance transportability and the existence of handles might indicate that these vessels were used to transfer liquid or dry contents. The quasi-absence of handles on Ulucak pottery is indeed interesting in this respect. This does not mean that vessels were not used to transport at Ulucak. Small-sized jars, mostly accompanied with pierced lugs, were definitely used to carry materials, whether liquid or dry. However, the small size of jars and the absence of handles on vessels prevents us from identifying water jars at Ulucak. Moreover, water jars normally have rough surfaces to prevent slipping which, with the exception of impressed pottery from Ulucak, cannot be found in the assemblage. In my opinion, the transport of liquids that required containers with high volumes was undertaken by containers that were made out of other materials. Baskets or leather containers might have been preferred for such purposes.

Although these parameters help us understand some of the relationships between form and function, they fail to provide satisfactory answers. For pottery from Ulucak, one especially needs to first examine whether cooking vessels existed at all. The notion, raised by several archaeologists (Vitelli 1989; Perlès 1992: 143; Wijnen 1993: 324; Hodder 2006: 53-54), that Neolithic ceramic vessels were not initially produced for cooking purposes makes us examine Ulucak Neolithic pottery with this possibility in mind. For instance, the earliest cooking pots identified at Çatalhöyük East originate from Level VII, although ceramic production was known to the community centuries before (Atalay and Hastorf 2005: 118).



It is suggested that cooking vessels should be coarse-grained, porous, coarse-textured, perhaps roughened, and resistant to thermal shock (Rice 1987: 226-232). On the contrary to this general description, Ulucak pottery is essentially dominated by fine wares, thin walls, small-sized inclusions, non-porous, and smooth surfaces, which make them inappropriate for cooking. The number of coarse wares that may were used for cooking is low. So how did Ulucak people cook their food? There are several ways of cooking food which did not necessarily involve ceramic containers. Roasting, grilling, baking, and stone boiling are efficient and common ways of cooking food as attested to in prehistory. The presence of open hearths, ovens and clay balls at Ulucak houses indicate that all of these cooking methods were employed by the community. Unfortunately, convincing evidence for cooking inside ceramic vessels on direct fire cannot be demonstrated. Perhaps other cooking methods were considered more effective, or habits and taboos of the community did not allow ceramic vessels to be placed directly on fire.

Another function that Ulucak pottery did not fulfill was bulk grain storage. If one considers the average amount of annual nutritional requirements per person to be around 100-300 kg of cereals (see Bogaard 2004: Table 2.1), it becomes even more obvious that the capacity of Ulucak ceramics is far below these figures. Storage of agricultural products in Level V took place in clay bins in the houses. Building 30 of Level Vb contained 11 clay bins of varying volumes but none of the vessels from this building had the capacity



to serve such storage purposes. Except the two very large collared jars and the occasional medium-large-sized jars from

**Figure 5.8: Jar used as a storage vessel from Level IVb (H: 82 cm). The repair holes on the belly of the jar indicate that the potter had a hard time building and stabilizing the vessel.**

Level IVb, storage was here again provided through bins; although, at this stage there was a considerably lower number of bins detected inside the houses (Fig. 5.8). To use ceramic containers as food storage devices emerges only at the end of the Neolithic period. This change signifies a remarkable transformation in the storage practices of the community. Daub bins are gradually replaced by large ceramic vessels. Evidence of food



**Figure 5.9: Clay lid with mat impressions used to seal containers, found in Building 13 (IVb).**

storage in jars has also been verified by clay jar lids, some of which have experienced secondary firing and survived. It is known that such lids are used to cover the mouths of the vessels in order to prevent the stored material from coming in contact with air (Özdoğan, E. 2007). At Ulucak, the clay jar lids have mat impressions on them, indicating that the mouth of the jars were first covered with a mat and then sealed with clay (Fig. 5.9). This method must have been effective and was especially implemented to protect major food

resources like cereals and pulses from moisture, air, insects, and rodents.

Apparently, small jars were used to store material, organic or otherwise. The pierced lugs were attached to the jars or bowls in order to remove them from the ground level. This was probably done to protect the vessel contents from animals such as rats or insects and to create more space in the house. Various plants, ground cereals, eggs, salt, honey, meat, shells but also paints, pigments, stone tools, various raw material, and even clay might have been stored in these vessels for short durations. As a result, storage was achieved through the use of ceramic vessels, but only restricted amounts could be stored in them and probably only for short durations of time. However, the storing of annual agricultural yields took place somewhere else.

This analysis leaves us with *servicing* as the main function of ceramic vessels. The size and shape of most Ulucak vessels are indeed very appropriate for serving purposes, especially unrestricted shapes like bowls with convex profiles and bowls with 's'-shaped profiles which are perfect candidates for serving and eating food. An absence of dishes and plates in Level V is indicative of alternative ways of consuming dry food. It seems more probable that grilled meat or dry food in general were not put in containers but probably placed in organic materials such as baskets, mats or tree leaves. Only various liquids and porridges or stew-like meals were served in ceramic bowls. A high number of bowls with 's'-shaped profiles and convex profiles, and capacities around 0.3-0.5 l, indicate eating/drinking out of these vessels was common at Ulucak IV-V. Deep and

large bowls with 's'-shaped profiles were perhaps used to store fruits, nuts, grains, and so forth, as opposed to being employed for serving purposes.

To summarize, one can state that at Ulucak pottery served two main purposes: as storage for small amounts of material and to serve food. Storage of agricultural yield in big jars began only with Level IV. Small-medium sized hole-mouth jars with pierced lugs were used for storing a variety of materials, organic and non-organic. Bowls were utilized for serving food that included liquids. Otherwise ceramic containers were not preferred for serving dry food.

It seems like most conventional functions attributed to ceramic vessels were either absent or secondary for Ulucak society. As already stated, thin walls, red color and bright surfaces are constantly the intended results by the potters through Levels IV and V. These craftsmen spent considerable time and energy in acquiring these specific effects on their ceramic vessels. The visual appearance of pottery was obviously a priority for the community. *But why?* The answer seems to be partly related to the symbolic function of serving ceramics which, besides their apparent function, also transmitted messages about their owner. The red color and brightness of the surface might be a manifestation of prestige. In the case of the Ulucak community, red as a color seems to have had significant symbolic implications as it is continuously and increasingly preferred by the community from Level V to IV. Red painted lime floors from the early phase VIa demonstrate that this color had a symbolic meaning for the society since the beginning of the habitation on the mound.

It needs to be highlighted that technological determinism does not suffice to explain the insistence on red surface color for pottery at Ulucak. This point is made clear by the fact that technologically, the Ulucak community was able to produce pottery with a variety of surface colors and very probably had a well-established knowledge of the properties of various clay sources in the vicinity of the site. In my opinion, red as a color is symbolically embedded in the daily life of the Ulucak community, who consciously reproduced red-colored items. In the Neolithic period, red-colored floors and walls are well-attested at sites like Aşıklı, Çatalhöyük and Hacılar. This evidence indicates that the symbolism of red can be easily traced back to early stages of sedentism (Özbaşaran 2003). Red-colored wall paintings have also been recorded at Ulucak IVb. As a result, it seems reasonable to suggest that color symbolism played an important role for the Neolithic society at Ulucak who perpetually used red on their pottery.

The second property that increases the visual effect of Ulucak ceramics is their bright surfaces, which were likewise intended by the potters and demanded by the community. In this respect, all vessels at Ulucak, whether for serving or storage, symbolized something to the viewer. It is precisely these qualities of Neolithic ceramics that led Perlès to suggest that their actual function was to be remarked at social events (Perlès 1992: 144). In this sense, pottery acquires a role beyond its basic utilitarian function as food containers. Pots become important components of social events such as marriage ceremonies, gift exchanges, feasts, mortuary practices, and rituals of other types, a phenomenon ethnographically recorded all over the world (see Arnold 1989: 159). The fact that most Ulucak pottery was used for serving supports the idea that these ceramics were produced to be used in social events of various types. Whether special substances were served inside these bowls, such as milk or fermented beverages, remain unknown for the time being.

At this stage, the archaeological evidence from Ulucak is surprisingly pointing towards a non-utilitarian use of ceramic vessels which reminds us of the theory developed by Hayden who coined the concept of “competitive feasting” in the transition to farming. According to Hayden (1995; 2003), at first ceramic vessels and their contents were used by aggrandizers in trans-egalitarian societies to impress the guests at feasts whose main function was to display wealth, create social coalitions and acquire political power. For him, even the first domesticates like wheat, barley, rice or cattle, were luxury foods whose possession provided certain socio-political power to the individuals who organized feasts to display their societal status and enhance political coalitions (Hayden 2003: 460). Data from various parts of the world where early pottery was essentially fine and/or elaborate, virtually unsuitable for cooking, were already explored through the insights provided by the “competitive feasting” hypothesis (see for example Pratt 1999 for Colombia; Halstead 2004 for Greece). Likewise, feasting deposits were identified at the PPN site of Musular (Özbaşaran *et al.* 2007: 281) as well as at Çatalhöyük, where the earliest ceramic containers were not manufactured for culinary purposes (Hodder 2006: 172, 199).

The ceramic record from Ulucak also seems to match well with the feasting theory. Ongoing analyses on osteological and botanical remains may shed more light on the possible existence of feasting activities at Ulucak IV-V. Therefore, we will restrict ourselves here to underline the fact that functional analysis of Ulucak pottery fits well

with the data known from Early Neolithic Greece and Turkey, where early ceramics were not necessarily produced to enhance cooking techniques. On the contrary, storage and serving were the primary functions of the early pottery which, considered together with feasting deposits at Neolithic sites, makes us contemplate the competitive feasting hypothesis as a plausible explanation of the archaeological record. Red color and glossy burnish stand out as the most remarkable properties of the LN-EC pottery at the site and suggest that ceramics might have played a role in the social and ritual activities.

Large-scale cereal or food storage at Ulucak begins only with the beginning of the 6<sup>th</sup> millennium BCE. Storage of agricultural products took place in daub bins prior to this change at the site.

# Intra-regional and Inter-regional Comparisons of Ulucak Ceramics

### **A. Central-West Anatolia**

Central-West Anatolia can be defined as the area covered by modern provinces İzmir and Manisa. The most predominant geographical features are the lower Gediz River with a number of tributaries.

The pre-Neolithic sub-stratum in the region is virtually unknown due to lack of research. Two hand-axes of lower Paleolithic type were found in Urla and Narlıdere in district İzmir which remains as single find spots (Kansu 1963; 1969). Another Paleolithic open-site named Kızıldağ near Çine in province Aydın was identified, but the lithic material remains unpublished so far (Akdeniz 1997: 240). Pre-Neolithic assemblages in the area have been positively identified at one site during the Central Lydian Archaeological Survey (CLAS) directed by Chris Roosevelt and Christina Luke of Boston University since 2005 (Roosevelt and Luke 2007). An open-air site, 5 km to the south of Lake Marmara in Salihli-Manisa, stretching to 12 hectares has been intensively surveyed which revealed lithic material dating from Lower-Middle Paleolithic to the Epi-Paleolithic/Mesolithic periods indicated by choppers, Tayac points, Levallois cores and flakes, microlithic cores and tools (Cooney *et al.* in preparation). The site is the first open-air site ever discovered in Central-West Anatolia which has been used as camping-knapping site at least since the Middle Paleolithic. Presence of Mesolithic toolkit at the site is significant as it implies the existence of possible post-Pleistocene hunter-gatherers in the region. The precise dating of the site remains elusive. Further research is needed in the area to understand the nature of pre-Neolithic communities. Current knowledge is supporting the diffusionist view of neolithization in Central-West Anatolia which might

have been triggered by dispersal mechanisms like demic diffusion, leapfrog colonization and frontier mobility following maritime and land routes.<sup>49</sup> For the time being, one can assume that the region was not void of occupation prior to the arrival of early farming communities.

The Neolithic stratum is defined by several sites which have been excavated since middle 1990's. Below we will present the material from these sites in detail and compare the ceramic data with Ulucak in order to define the regional ceramic traits and construct a relative chronological order.

## 1. Yeşilova

Yeşilova is a partly submerged prehistoric mound with an altitude of 14 m. above sea level, discovered during urban construction activities, and is situated on Bornova alluvial plain east of İzmir. To the north of the site Manda Stream is located which provided the water source for the site's inhabitants as well as is responsible from the many flood deposits that are identified on the mound. The site is salvage-excavated since 2005 under the direction of Zafer Derin by a team from Ege University, İzmir (Derin 2007: 377).

The current chrono-stratigraphical sequence developed for the mound is as follows:

Level I: Late Roman- Early Byzantine period

Level II (with 2 sub-phases): Chalcolithic Period

Level III (with 8 sub-phases): Neolithic Period

One carbon estimate from Level III.7 provided 7507±37 BP (Derin 2007: 383). Calibration with OxCal 3.10 reveals a time range 6440-6360 cal. BCE (at 1  $\sigma$ ). It is indicated that the oldest deposits at Yeşilova reach back to mid 7<sup>th</sup> millennium BCE.

Neolithic remains are reported to constitute the thickest cultural levels at the mound, reaching to 3 m of accumulation. Flood deposits are observed at many locations during excavations. The occupation on mound has probably ceased due to the flooding of Manda Stream as evidenced by the flood deposits covering the latest Neolithic settlement. The architectural remains from the site are comprised of features identified as "mud-floors" and "burnt-surfaces" which contained archaeological finds like pottery, lithics and so on. Absence of true architectural features such as mudbrick walls or stone foundations have been interpreted as evidence of building techniques and material that

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<sup>49</sup> For definitions of these mechanisms see Zvelebil 2001: 2.

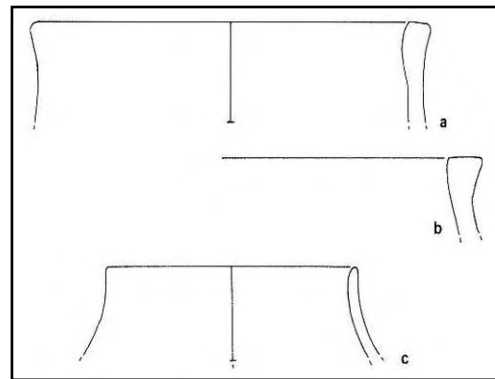
are perishable. It is suggested that houses were made out of wood, reeds and other organic materials whose evidence did not survive (Derin 2007).

Among other Neolithic finds from Yeşilova, clay stamps, stone bowls, anthropomorphic figurines and various lithic and bone tools can be mentioned. Lithic industry is dominated by blades produced made on prismatic blade cores, which are knapped from various flints and to a lesser extent obsidian.

## Ceramics

Derin (2007: 380) distinguishes three main developmental phases in the ceramic assemblage from the eight Neolithic sub-phases he identified. First (or the youngest) phase, III1-2, is characterized by light brown and red slipped monochrome pottery which includes small grits and mica particles in the fabric. It is mentioned that some thick walled examples also include organic inclusions. There is an increase in the red surface colored pottery in this late phase. Among the common ceramic shapes from this phase are jar with long necks and everted rims, hole-mouth jars with flattened rims, shallow bowls with straight and 's'-shaped profiles (Fig. 6.1). Tubular lugs, with variants, are common in the assemblage. Morphologically they are classified as "long-thin", "short-thick" and "large" tubular lugs. Bases are mostly flat, slightly raised, hollowed. Ring bases are very seldom. This phase also includes pottery with impressed decoration.

In the middle phase which encompasses sub-phases 3-5, red slipped pottery is increasingly accompanied by brown toned ceramics which are likewise slipped. Red slipped as well as light brown-cream colored examples are thin walled but bright surfaces are rather rare (Derin 2007: Fig. 9). In this middle phase, the most common form is likewise hole-mouth jar with globular bodies. Bowls with 's'-shaped profiles increase. Shallow bowls with flaring



**Figure 6.1 Jars with flattened rims and one jar with short vertical neck from Yeşilova III1-2 (modified after Derin 2008: Res.4)**

profiles, jars with everted necks and everted or flattened rims, very shallow bowls with semi-globular shapes and everted rims constitute the rest of the ceramic repertoire. Tubular lugs continue while painted and plastic decorations are observed on a number of ceramics. Plastic decorations show for instance *bucrania* and frog motifs. The paint, comprised of single bands or wavy lines, is described as reddish brown colored on



reddish yellow surface (Derin 2007: 380; Derin: online). The bases are mainly carinated flat type, some bearing sooting traces on the bottom (Derin 2007: Fig. 9).

The earliest horizon at Yeşilova, sub-phases 6-8, comprises by and large similar pottery fabrics and shapes to the upper phases. In addition to fine mineral tempered pottery (wall thickness range between 4-7 mm) with red and brown toned surfaces, cream colored examples increase in this stage. It is noted that on most examples slip seems to have disintegrated due to high humidity (Derin 2007: 380). Forms are dominated by hole-mouth jars with everted or flattened rims and globular bodies, jars with everted necks, bowls with straight bodies, deep bowls with 's'-shaped profiles and semi-globular bowls. It is noted that flaring shallow bowls are encountered only in this early horizon. Tubular lugs do persist, and are usually of long-thin variation. Vertically placed circular handles are mentioned too. Bases are either flat or carinated flat type.

## **2. Ege Gübre**

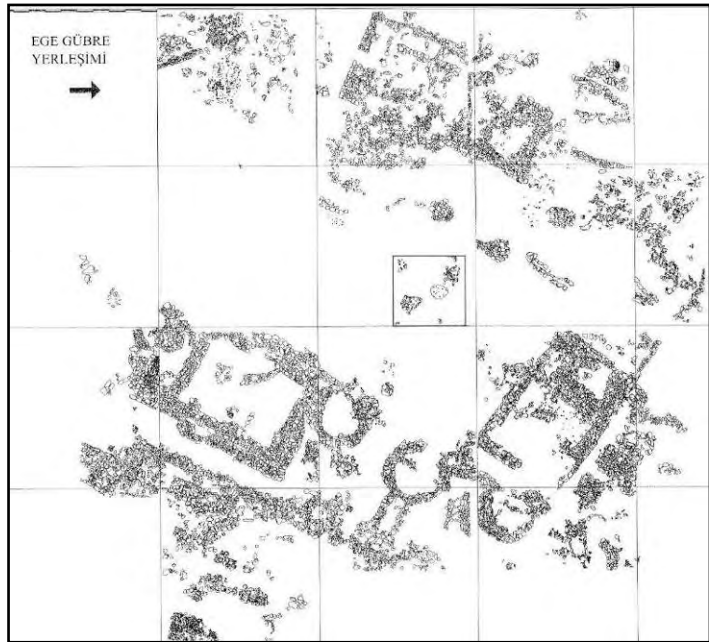
Ege Gübre is a multi-layered flat settlement on Nemrut Bay located in province Aliğa, north of İzmir. The site is buried 3-4 m under the current surface and is only 1 km distanced from the sea. To the East of the site Hayıtlı Stream flows. Geomorphological studies point out that site was situated on the coast, adjacent to a swampy area. Small scale soundings have been previously realized by Turan Özkan and Sebastiana Lagona who confirmed existence of Neolithic remains at the settlement. Excavations have been conducted as a salvage project by İzmir Archaeological Museum and Ege University under the direction of Haluk Sağlamtimur between 2004-2008 (Sağlamtimur 2007: 373). Five carbon dates are available from the site which shows two overlaps. One cluster is dated to 6000-5800 cal. BCE and another clustering occurs between 6230-6000 cal. BCE (Sağlamtimur 2007: 376). These measurements indicate that Ege Gübre was settled at the end of 7<sup>th</sup> – beginning of 6<sup>th</sup> millennium cal. BCE.

The architectural remains unearthed by the excavations are composed of stone foundations belonging to rectangular and circular structures as well as an enclosure wall with a tower which was according to Sağlamtimur probably built for protection against floods. In the later stages a ditch was added to the outer side of the wall (Sağlamtimur 2007: 374). Sağlamtimur distinguishes two separate occupations dating to 7-6<sup>th</sup> millennia

BCE which are called Level 3a-b and Level 4. Level 4, being the earlier, is exposed in a very limited area and contain architectural remains that belong to circular structures.<sup>50</sup>

Co-existence of circular and rectilinear structures at Ege Gübre is unique in the region. Comparable circular and rectangular structures are known from Transitional-Early Halaf sites like Sabi Abyad in Northern Syria (Verhoeven and Kranendonk 1996: Fig. 2.7), otherwise, circular plans are abandoned following PPNA period in Southwest Asia, persisting only on Cyprus for a long time (Peltenburg 2004).

No evidence of mudbrick as building material has been identified at the site. It is suggested that the upper structures were built with wood and mud implementing wattle-and-daub technique. Flat stones have been spotted in the walls which were used to support the wooden posts and finally the roofs of the structures. The structures, both rectangular and circular, have their door openings



**Figure 6.2: Ege Gübre prehistoric settlement (after Sağlamtimur 2007: Fig. 20)**

towards a central open-air area which is surrounded by these buildings. Rectangular buildings (with sizes 9 x 7 and 9 x 6 m) contain two rooms, one of them being always much smaller in size than the other. Circular structures have walls that are 70-80 cm thick and are 4 m in diameter. It is interesting to note that all the circular buildings are placed adjacent to a rectangular building, indicating that they were part of a building complex or at least in association with each other (Fig. 6.2). Rectangular buildings contain hearths and ovens while in circular structures such features do not occur. It is mentioned that central courtyard included a number of fire installations, midden areas and production workshops (Sağlamtimur 2007).

Lithic industry, exclusively out of chert, includes single-platform prismatic blade cores and blade based lithic production. Some of the typical Neolithic finds have been found at

<sup>50</sup> This information is kindly provided by Haluk Sağlamtimur (02.03.2009).

Ege Gübre. Grinding instruments, stamps, figurines, polished axes, various bone tools and lithic tools constitute some of the material cultural assemblage.

## Ceramics

Pottery from the site is described as brown-gray cored, small grit, sand, mica and /or shell tempered, red-brown slipped, smoothed and predominantly burnished. There are also coarse, brown and cream slipped wares in the assemblage which however remain in low quantity compared to RSBW (personal observation). Ceramics decorated with impressions is very common at the site. These appear with or without red slip applied to the outer surface. Impressions are mostly intensive, deep and nail impressions forming half circles. Shallow and irregular impressions appear as well (Sağlamtimur 2007: Figs. 8-9). Among other decoration types encountered at the site plastic, barbotine<sup>51</sup> and painted decoration are worth mentioning. One plastic decorated vessel showing a steatopygous woman raising her arms is very articulate<sup>52</sup> while more abstract designs are observed as well (Sağlamtimur 2007: Fig. 6b). Excavators indicate that pottery with plastic decoration stem mostly from lower levels (personal communication). One white-on-red painted sherd has been observed by the author.

Ceramic assemblage includes vertically placed tubular lugs and to a lesser extent single and double knobs. Few of the tubular lugs are placed inside the bowls which seems to be peculiar to this settlement in Central-West Anatolia.<sup>53</sup> Bases are mainly disc shaped and ringed. One high pedestal base is also present in the assemblage (personal observation). It is not known whether the pedestal base is a common feature of Ege Gübre ceramics. Rectangular raised bases in the shape of a stepped-cross are likewise peculiar to the Ege Gübre assemblage<sup>54</sup> (Sağlamtimur 2007: 375).

Ceramic typology is predominantly composed of deep bowls and jars with everted rims, globular bodies and 's'-shaped profiles. Thick flattened rims occur as well (personal observation).

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<sup>51</sup> Barbotine is understood as a decoration type made by applying small clay lumps on the surface of a vessel.

<sup>52</sup> This piece remains unpublished and was kindly shown to me by Ali Ozan.

<sup>53</sup> Tubular lugs inside the vessel has been illustrated in Hacilar publication from Level VI (Mellaart 1970: Pl. LIV).

<sup>54</sup> Same feature is mentioned and illustrated at Hacilar VI (Mellaart 1970: p. 107; Pl. 57;12-13)

### 3. Çukuriçi Höyük

Çukuriçi is a mound located in the vicinity of ancient city of Ephesos and on Küçük Menderes Plain, close to the river with the same name which flows into the Aegean Sea. Geomorphological studies indicate that coastal line was reaching to the close proximity of the site in ancient times. Currently the mound is surrounded by tangerine orchards and is under threat by agricultural activities. The mound has been discovered and investigated in 1995 by archaeologists from Efes Museum, who made sondages on the mound and collected archaeological material, including many pottery and lithic tools of Neolithic age (Evren and İçten 1997: 112-113). Systematic excavations are undertaken at the site since 2007 by an Austrian team under the direction of Barbara Horejs.

The stratigraphical order on the mound according to the current research is reported to be composed of at least five occupational levels which span, on the basis of ceramic comparisons, from Late Neolithic-Early Chalcolithic (LN-EC) to Late Chalcolithic and Early Bronze Age I-II. Neolithic remains from the site include two parallel mud walls with stone foundations, probably a house, whose destruction debris contains various archaeological material including large amounts of obsidian and chert tools and debitage (Horejs 2008).

#### Ceramics

The pottery from the early levels, designated as “LN-EC”, is characterized by fine-medium pottery with mineral non-plastic inclusions; some fabrics have intensive mica presence in the paste and on surface. Majority of the wares are of red-orange slipped and burnished type but CSBW as well as gray-brown colored unburnished impressed wares are likewise present in the assemblage. Impressed decoration, mostly of nail-like shapes, can also occur on red slipped surfaces.<sup>55</sup> The most commonly occurring forms are hole-mouth jars with short necks or without necks that have ‘s’-shaped profiles and globular bodies (Horejs 2008: Figs. 13-14). Vertically placed tubular lugs (small-thin to big-thick variations), small loop handles and single knobs are commonly observed too. Painted pottery from the site is expectedly low in number. One bodysherd painted with white dots over red surface is interesting as it implies presence of white-on-red pottery in this region.

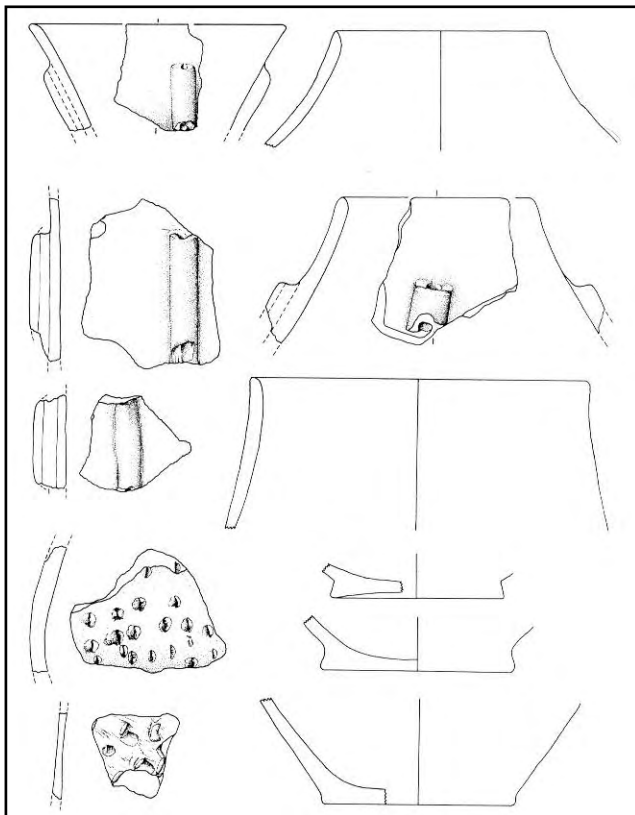
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<sup>55</sup> This information relies on my own personal observation. I would like to thank Barbara Horejs for allowing me to inspect the material from Çukuriçi.

#### 4. Dedecik-Heybelitepe

Dedecik-Heybelitepe is a flat settlement situated to the west of Torbalı Plain, on the slopes of Bozdağlar, in the vicinity of ancient city of Metropolis to the 40 km south of İzmir. Small scale excavation took place at the site in years 2003-2004 under the direction of Clemens Lichter and Recep Meriç, who laid out six sondages on the site and were able to uncover LN-EC remains in one of the grids under the Late Chalcolithic layers. The site also houses a Byzantine cemetery as well as Roman residential areas (Lichter and Meriç 2007: 385-386).

Four levels have been identified at the site (Levels A-D). Level A designates the earliest stratum founded directly on the bedrock which is unfortunately highly damaged by the later levels such as burials. The Neolithic accumulation at the site is around 70 cm thick and void of any meaningful architectural remains. In grid V, partly damaged remains of two walls (4.5 m and 1.4 m in length) have been exposed. They are connected to each other and probably belong to a structure, however, the plan of the building cannot be inferred due to the damage caused by the younger deposits (Herling *et al.* 2008: 20).



The pottery assemblage of Level A is dominated by fine, mineral tempered and well fired plain burnished pottery. Surface colors are dominated by red, reddish brown and brown hues as a result of oxidizing firing conditions. Burnishing and smoothing are typical surface treatments observed. Coarse wares are completely missing in the assemblage. Cream-white colored slip has been attested on five pieces. Wall thickness of this pottery ranges between 0.5-1 cm (Herling *et al.* 2008: 20-21).

**Figure 6.3: Pottery from Dedecik-Heybelitepe Level A (after Herling *et al.* 2008: Abb. 4)**

In terms of vessel forms, jars with short necks and globular bodies, vessels with 's'-shaped profiles and deep bowls are frequent. Vertical tubular lugs of varying size and shape are very common while base typology is dominated by disc bases (Fig. 6.3). Decoration is rarely found although 1% of the assemblage showed impressed decoration. Impressions are made with finger tips or with a pointed instrument (Lichter and Meriç 2007: 386; Herling *et al.* 2008: 21).

Apart from pottery, one stamp seal with concentric circles was recovered during the excavations (Herling *et al.* 2008: Abb. 8.3). Lithic industry is predominated by retouched blades, end-scrapers and side-scrapers. Typical for the blade cores is the conical shape and these are rightly categorized as "bullet cores" (Herling *et al.* 2008: 46; Abb. 20.1-4).

Additional remarkable information is the source of obsidian that is brought to the site. Neutron activation analysis conducted on ten pieces of obsidian demonstrated that 9 out of 10 pieces originate from Island Melos whereas only one fragment was procured from sources around Çiftlik in Central Anatolia (Herling *et al.* 2008: Abb. 23 and Abb. 24). The evidence suggests that maritime exchange route was more actively used by the community than the overland exchange routes. It is also proven that the obsidian originates from at least two sources on Melos, confirming an ongoing maritime exchange during this period (Lichter and Meriç 2007: 386).

## **5. Agio Gala Lower and Upper Caves**

Agio Gala is a cave located on a coastal cliff on the north-western corner of island Chios, around 15 km distanced from the Karaburun Peninsula of İzmir. Pottery from the site has already been collected by von Oertzen and subsequently published in 1888 by Studniczka. Excavations at the site took place in 1938 by Edith Eccles of British School of Archaeology at Athens who investigated an area of 25 m<sup>2</sup> and made a seven m deep sounding on the slope where archaeological material seemed to be rich. Stratified deposits did not exist in the excavation area; indeed pottery found is thought to have fallen from another cave above. Upper Cave is located above the lower cave to the left of it. Excavations took here in the main chamber in 1938 by Edith Eccles. Upper Cave's earlier deposits contained pottery types excavated at the lower cave (Hood 1981: 11-13).

According to Hood, pottery assemblage from Lower Cave is by and large homogeneous. The standard ware contains mineral inclusions, mica, having grey to red fractures, mostly red, light brown and burnished surfaces. Surfaces are frequently mottled and

sooted. Main vessel forms are shallow bowls with flaring bodies, jars or deep bowls with vertical or slight 's'-shaped profiles. Short necked jars appear as well (Hood 1981: Figs. 5-6). Bead rims are seen on Hood 1981: Figs. 7-26, 27, 28). Bases are flat or carinated flat. Tubular lugs, single knobs and pierced knobs are commonly observed. Tailed tubular lugs, a characteristic trait peculiar to this site, on jars are frequently seen as well. Some cups, jars and rims demonstrated on Hood 1981: Figs. 6 and 7 seem to belong to later stages of Aegean prehistory, such as those with incised decorations. White painted and plastic decorated examples are however known from the assemblage and can easily be considered as LN-EC.

Lower Cave's archaeological assemblage also includes well-made stone bowls, one figurine head, chipped stones (few obsidian), shell pendants and various bone tools (Hood 1981: 64-65).

Upper Cave's lower levels revealed thin-walled and small sized pottery. Clay is grayish to reddish brown, tempered with mineral and organic inclusions. Mica is present here too. Outer surfaces are burnished with red being the dominant surface color. Such fine red burnished examples tend to have three-layered inoxidized cores and mottled surfaces. Brown burnished wares are also existent in the assemblage (Hood 1981: 29). Bowls with convex profiles, shallow bowls with flaring sides, deep bowls with 's'-shaped profiles, jars with everted necks are represented in the assemblage from the lower levels (Hood 1981: Figs. 17-18). Some horizontally pierced tubular lugs are certainly intrusive as such lugs are typical characteristic of Emporio VIII. Bases are flat and decoration is very rare. Relief decorated pieces occur.

A number of the vessels considered under title "without context" seem to date to Aegean EN period such as the hole-mouth jars on Fig. 31:186,189, 190; short necked jar on Fig. 34: 211; jars with vertical necks on Fig. 35: 213, 214; jar with vertical neck on Fig. 37: 226; flattened rim on Fig. 38: 241; tubular lug on Fig. 40: 265 and finally oval base on Fig. 41: 272.

Small finds from Agio Gala Upper Cave are comprised of polished axes, one loom weight, marble bracelets, various pendants and even metal objects (Hood 1981: 66-68). Marble bracelets especially are known to have a younger date than the Aegean EN as they first appear in this area in the second half of 6<sup>th</sup> millennium BCE (Ünlüsoy 2002).

## 6. General Overview of the Sites Surveyed

There are a few number of important surveys carried out in Central-West Anatolia which revealed evidence of a good number of LN-EC sites. French (1965, 1969), being the pioneer, Meriç (1993), Lichter (2002, 2005), Erdoğan (2000) and Derin (2004; 2006) either conducted surveys or documented sites belonging to this age. The contribution of these investigations to West Anatolian prehistory is remarkable however interpretations based on the data from surface surveys must be made with caution.

The dating of the material at these locations were expectedly made with ceramic comparisons, especially with the material known from Lake District, NW Anatolia and other Central-West Anatolian sites. One common characteristic of pottery identified as “Neolithic” or “Early Chalcolithic” from these survey sites is their red, brown, orange colored burnished surfaces, vertical tubular lugs, vessels with ‘s’-shaped profiles. Flattened (aka “inner thickened”) rims and impressed pieces are occasionally attested (see French 1965; Meriç 1993; Lichter 2002; Derin and Batmaz 2004; Derin 2006). French called this ware in his publications as “plain burnished ware”. Flattened rims and red-on-cream painted pieces were also recovered during these surveys for instance at Moralı (Dinç 1997: 266; Takaoğlu 2004: Fig. 2) and Araptepe-Bekirlertepe (Lichter 2002: 162). French (1965: Fig. 4) collected flat, carinated flat and ring bases at Moralı. Dinç (1997) additionally found a fragment of dark colored burnished and decorated “Fikirtepe box” (aka “offering table” or “polypod prismatic vessels”) at the same site (Takaoğlu 2004: Figure 3.25). Such vessels were likewise recovered at Çaltidere and Höyücek II to the north of İzmir by Meriç (1993) during his surveys. Clearly “Fikirtepe type” incised polypod vessels were produced in areas to the north of İzmir.

Among other survey sites from Central-West Anatolia, Nemrut Höyük and Yenmiş Höyük are of great interest for this study as they are situated in the Nif Valley in close proximity to Ulucak. Neolithic pottery, basically RSBW, collected from these sites is very similar in terms of fabric and morphology to the material known from Ulucak, although it is noted that ceramics from Ulucak have a higher quality in comparison (Derin and Batmaz 2004: 78). Hole-mouth jars, flattened rims, tubular lugs and carinated flat bases are identified in the survey assemblage. Other types of wares, such as coarse, impressed, painted or cream slipped, are not mentioned in the report.



## 7. Comparisons with Ulucak Ceramics and Relative Chronology of the Sites

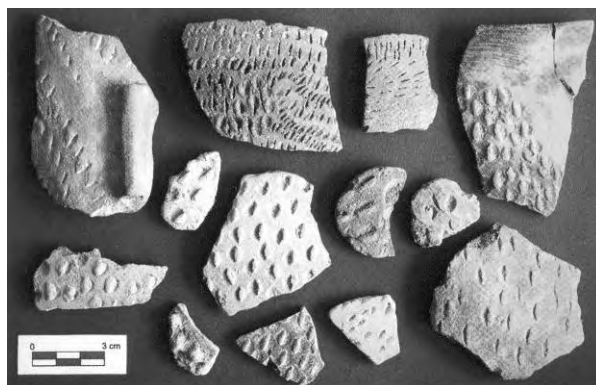
A general description of ceramics from the above presented sites suffices to make us realize the immense reminiscence of all the sites with the studied material from Ulucak. Fabrics, dominated by fine-medium red burnished wares are basically the same, perhaps only containing dissimilarities resulting from the chemical properties of local clay sources that are exploited. It is however worth mentioning that all sites had pottery tempered with minerals such as small grits, mica and sand. Organic inclusions, specifically chaff, have been observed at Yeşilova III Late, Ulucak IV and Agio Gala. At Ulucak, with phase Vb organic inclusions are not detected anymore which indicates a deliberate change in the type of inclusion used by the potters. Similarly, at Yeşilova III Early-Middle organic inclusions are absent (Derin 2007: 380). It seems plausible that before 6000-5900 BCE pottery was solely tempered with mineral materials. Chaff as clay temper is used only with the beginning of 6<sup>th</sup> millennium BCE in the region which is indicated by the data from Ulucak and Yeşilova. This indicates that mineral tempered red burnished pottery from Çukuriçi and Dedecik-Heybelitepe should date to a period before the beginning of 6<sup>th</sup> millennium BCE.

It is clear that each and every site from Central-West Anatolia produced RSBW in big amounts. Both survey and excavation sites confirm this statement. What is more intriguing is to detect wares other than RSBW. During surveys these wares most probably remained unrecognized; therefore it is more meaningful to concentrate on excavated sites. At Yeşilova, both cream and brown colored wares are reported to exist in Level Early-Middle III while in the latest stage RSBW dominates clearly (Derin 2007). Similarly, deposits from Ege Gübre revealed both brown and cream wares, however no chronological order is provided for their appearance (Sağlamtimur 2007). They seem to co-exist with RSBW and impressed wares throughout the entire sequence. Çukuriçi pottery assemblage does include fine examples of CSBW (personal observation). Hood (1981: 29) mentions brown colored pottery from the upper cave, but the stratigraphical issues makes it difficult to construct a sequential order for that site. At Dedecik-Heybelitepe only five cream slipped sherds have been recorded (Herling *et al.* 2008: 13). Sporadic appearance of painted sherds, be it red-on-cream, cream-on-red or white-on-red, almost at every site in the region do not form a meaningful assemblage enabling us to compare and contrast. Ulucak examples are, except the red-brown painted

anthropomorphic vessel from IVb, confined to single bands or “V” shapes on small sized body- or rimsherds. One base fragment with a red painted cross inside and outside is unique to the site and to the region.

Impressed pottery is attested at Ege Gübre, Çukuriçi Höyük, Yeşilova III Late, Ulucak IV and Dedecik-Heybelitepe Level A, while it seems to be completely lacking at Agio Gala. There seems to be no variations about the way in which impressions are applied to the surface among these sites. Ege Gübre, Dedecik-Heybelitepe, Çukuriçi and Ulucak examples are almost identical, both sites having red slipped and gray-brown unburnished varieties. One of the most important characteristics of the impressed wares in our region is that the impressions, independent of their shapes, are unconnected to each other (Fig. 6.4). This observation is crucial as it presents a contrast to some Levantine-Southeast Anatolian as well as to Mediterranean impressed examples which do show continuous impressions. In Central-West Anatolia the impressions are formed with the help of fingertips, fingernails or sharp pointed instruments.

Müller (1988: 106) classifies the former type with unconnected impressions as “*Impresso A*” while the latter is called “*Impresso B*”. *Impresso A* and *B* refer to different chronological zones in the development of impressed pottery, although short-term overlapping is observed as *Impresso A* goes out of fashion. The development of the impressed wares can be well observed in the Dalmatia



**Figure 6.4: Impressed sherds from Ege Gübre (after Sağlamtimur 2007: Fig. 9)**

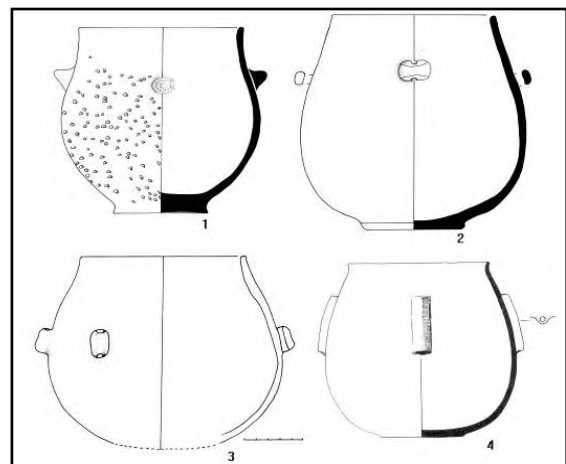
where *Impresso B* evolves into Tremolo style. Similarly, in Levantine-Cilician-Southeast Anatolian area, both *Impresso A* and *Impresso B* types are documented (Balossi-Restelli 2006). In our region, only the first type (*Impresso A*) is observed whereas the later developmental stages in the impressed pottery are not represented at all. Instead, RSBW remain dominant in the EC assemblage while in Lake District and Konya Plain cream-on-red painted pottery is produced in large amounts. Unfortunately, we do not know the cultural developments in Central-West Anatolia after 5800 cal. BCE. All the mounds which are subject to research have been evidently abandoned prior to mid 6<sup>th</sup> millennium cal. BCE. In other words, we are not in a position to tell whether *Impresso B* trend has

ever been received or adapted in our region. But it is worth making the point that none of the excavations and surveys in West and North Anatolia produced Impressed B type of impressed wares with continuous zig-zags or lines made with a comb. In this light, we can tentatively suggest that impress B impact has never affected the Aegean. In other words, it seems to have by-passed the Aegean but followed the East-West axis of the Mediterranean.

Plastic decoration is ubiquitous in the region but usually confined to abstract or geometric forms. The most elaborate example known so far from the region comes from Ege Gübre depicting a woman in action.<sup>56</sup> Elaborate ones from Ulucak actually come from level V showing *bucrania* or wavy lines. Barbotine decoration is known from few examples from Ege Gübre and Ulucak Vc. Pinching however is seen only at Ulucak Va on an 's' profiled bowl. Equivalent of what we call "mica glimmer ware" seems to have been identified only at Ulucak Vb-f so far.

The sequence established for Ulucak, where earliest levels are devoid of impressed wares but are rather dominated by brown burnished wares along with RSBW and CSBW, seem to be echoed solely at Yeşilova III Early. This has several implications. First, it is indicated that the developmental stages at Ulucak were not unique to the site and may be regionally applicable. Secondly, this observation entails implications about the positions of Central-West Anatolian sites in a regional chronological system.

As with the fabrics, vessel shapes seem to repeat itself in every settlement. There are, as one realizes, limited number of vessel shapes or morphological elements appearing in the region. Fantastic or carinated forms, known for instance from Lake District, are almost absent in the assemblages. The only "fantastic" form that is available is the anthropomorphic vessel, two of which were uncovered from Ulucak IVb and nowhere else in the region. Vessel shapes in general seem to

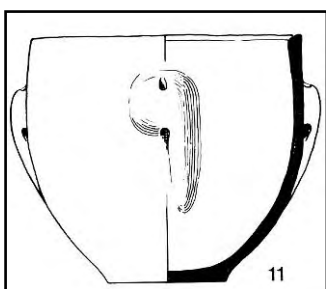


**Figure 6.5: Jar with globular body and four lugs is one of the most typical vessel shape of Central-West Anatolian LN-EC sites. 1: Ulucak IVh 2. Ulucak Vb 3. Yeşilova III6-8 (after Derin 2008: Res. 6) 4. Agio Gala Lower Cave (after Hood 1981: Fig. 6).**

<sup>56</sup> This piece is not published yet. I would like to thank Haluk Sağlamtimur and Ali Ozan for allowing me to see it.

cluster around two major forms: Hole-mouth globular shapes and ‘s’-shaped shaped profiles. Former associated mainly with jars while the latter is observed on both jars and bowls. For example, Ulucak V is almost exclusively composed of these two forms without much innovation or variety. Ulucak IV experiences some innovations such as jars with long vertical and everted necks, but the basic forms persist into the Level IV. Hole-mouth globular jars, jars-deep bowls with ‘s’-shaped profiles, bowls with convex profiles and bowls with flaring profiles are characteristic of all the settlements we presented above.

One typical small sized hole-mouth jar with a lower globular body and tubular lugs has been recovered at Çukuriçi Höyük whose best parallels are found at Ulucak Va (Excavation Unit: DGI 14259), Ulucak Vb (Excavation Unit: EPC 18528) and Agio Gala Upper Cave (see Hood 1981: Fig. 31,186- without context). Medium sized jars with globular bodies, without necks or with short necks, are likewise very typical for the entire region (Fig. 6.5). Jars with necks however are specifically mentioned for Yeşilova III Early-Middle-Late. Some comparable jar fragments with long necks are also illustrated for Agio Gala Upper Cave. It is unclear from the descriptions whether other sites did also possessed jars with long necks. One form that also seems to be only unearthed at Ulucak V is the spouted jar. Spouts in general are unknown in the region and only two examples are observed at Ulucak V. Their altogether absence in level IV is also remarkable. It implies that ceramic vessels specifically for purposes of pouring were not produced.



**Figure 6.6: The so-called “Agio Gala Lug” from the Lower Cave (modified after Hood 1981: Fig. 5)**

Rim types also seem to be more or less identical in the entire region. Everted, simple and flattened rims are encountered at each site. At Ulucak, flattened rims are especially frequent in the upper building phases IVa-e representing 18-30% of the rim types in these layers. Flattened rims however do exist in the earlier phases too. Everted rims are more numerous in the Level V but do clearly continue into the latest stages without a break. One rim type is however rarely found, e.g. the bead-rim. Only at Ulucak and Agio Gala such rims are reported. It is not known whether other reports overlooked the bead-rims or they are really non-existent. At Ulucak they solely appear in IVb, e.g. in the very late stage of the settlement.

The most well-known characteristic of West Anatolian Neolithic pottery is the vertical tubular lug which serves as a distinct feature of Neolithic pottery especially during surveys. Tubular lugs of various sizes and lengths are found at Ulucak IV-V, Yeşilova III Early-Middle-Late, Ege Gübre, Agio Gala, Çukuriçi and Dedecik-Heybelitepe Level A. There are slight variations which need to be mentioned here. First of all, at Ulucak their amount increases in Level V, making up 70-80% of all lug assemblage. They are slightly longer and thinner in level Va-b than in the upper levels and may be applied in pairs on jars. Long-thin tubular lugs are likewise more frequently observed in early phase of Yeşilova III (Derin 2007). At Agio Gala Lower Cave the tubular lugs are also pretty thin-long and set in pairs (Hood 1981). Besides, they have a unique characteristic that is attested nowhere else. A good number of tubular lugs found there have a tail on one side (Fig. 6.6). Such a technique is clearly an innovation of Chios potters that has no comparisons on the mainland.

Some Ege Gübre vessels also show a curious application of tubular lugs to the inside of the vessel mouth. As far as I know, application of tubular lugs to the inner side of the vessel is not found at other Central-West Anatolian sites, but very analogous lugs have been found at Hacılar VI and basal Menteşe (Mellaart 1970: Pl. LIV and Roodenberg *et al.* 2003: Fig. 13 respectively). As a result, in the light of Ulucak data one can tentatively associate long-thin tubular lugs, especially when they are set in pairs, with earlier stages of Neolithic than the later phases. In later phases, tubular lugs decrease in amount and they tend to be shorter but the transition is so gradual and without meaningful patterning it would be misleading to apply solely this criterion to date material.

Detailed descriptions of other types of lugs and knobs have not been provided in most reports. Single knobs, double-knobs and pierced knobs appear in the Ulucak assemblage and, except for the double-knobs, are observed throughout the sequence. Double-knobs disappear with building phase IVi onwards and are not found in Level V. Single knobs are known from Yeşilova III and Agio Gala too.

Handles are very rare during the Neolithic in the entire region and are only attested at Yeşilova III Early-Late and Ulucak IV in small numbers. At Late Ulucak IV, small vertical handles placed on the rim of necked jars can be considered typical. Another peculiar feature of the same stage is the horizontal knob right below the rim. Both of these features do not exist in Level V. Small vertical handles on the vessel bodies appear occasionally at both levels, except at Level Vb.

Another morphological feature that seems to be limited to few of the Central-West Anatolian sites is the ellipsoid bodies and oval bases which is a well-defined feature of Ulucak IV. Only at Ege Gübre and Agio Gala (one piece on Hood 1981: Fig. 41, 272) similar oval variants of bases are attested. Ulucak IVi-Vb is also devoid of ellipsoid forms and oval bases. Oval forms seem to be a peculiarity of late stages at Ulucak and in the region appearing only around 6000-5900 cal. BCE. Absence of these at Dedecik-Heybelitepe, for instance, is an indication of LN occupation of the site (Herling *et al.* 2008: 21).

Another significant morphological change observed on bases is the increase of the simple flat bases at Ulucak IV while Ulucak V included almost exclusively disc bases which are found all over the region. Since disc bases continue into the later stages of Neolithic sequence, it is hard to utilize this trait as a chronological marker. Nevertheless, it would not be wrong to associate the disc bases with pre-6000/5900 BCE occupations and simple flat bases with EC settlements. For instance, it seems like the dominance of disc bases at Dedecik-Heybelitepe (Herling *et al.* 2008: 21) is chronologically meaningful and point to a pre-6000 BCE inhabitation of the site. Ring bases appear scarcely in the region, apparently not preferred by the potters. Yeşilova III Late, Ulucak IV-V and Agio Gala have few examples of ring bases. There are base types which are observed only at Ege Gübre: Rectangular, pedestal and 'stepped-cross' shaped bases (personal observation). All types are innovative features observed only at Ege Gübre in the region. Presence of high pedestal base is especially meaningful but may imply post-5700 BCE occupation at the site or an influence from Karanovo or Sesklo ceramics production.

To conclude, by taking the ceramic data from Ulucak IV-V into consideration, one can establish few but significant chronological traits that can be used to create a sequence. Among the early ceramics, morphological traits like hole-mouth jars with globular bodies and thin-long vertical tubular lugs set in pairs, disc bases, maybe spouts can be considered. A later, or developed ceramic phase, would consist of vessels with larger sizes (like storage vessels from Ulucak IVb), jars with long necks, thick flattened rims, more variety of knobs and lugs (double-knobs), less dominance of tubular lugs, tendency to produce containers with simple flat bases, anthropomorphic vessels and ellipsoid forms having oval bases. Oval bases, anthropomorphic vessels and large sized storage vessels are peculiar to the late stage at Ulucak IV (specifically to IVb), which are lacking

at Çukuriçi, Dedecik-Heybelitepe and Yeşilova. For the time being, it can be suggested that the habitation at these three sites ended before Ulucak IVa-b. Oval bases, but no anthropomorphic vessels and large storage vessels, are attested at Ege Gübre and Agio Gala Upper Cave which make us believe that both sites might have been continued to be inhabited until Ulucak IVb.

In terms of fabric, RSBW is present in both stages without a distinctive change in the appearance. The most important change observed at Ulucak is the preference of mineral inclusions in the early stage (Va-b) whereas chaff becomes ubiquitous in the upper levels (Level IV). A similar phenomenon is observed between Yeşilova's Early-Middle and Late III phases. However since a clear-cut distinction is not available, one has to be cautious about using this criterion singly to date archaeological material.

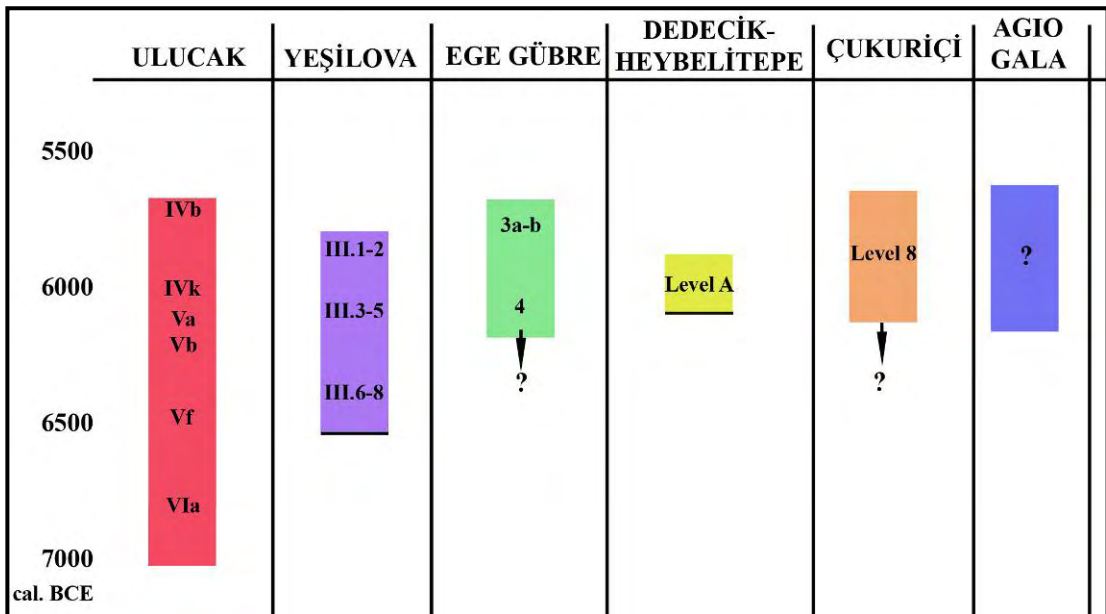


Fig. 6.7: Suggested relative chronology for Central-West Anatolia.

There are however additional transformations in the wares that assist us for relative dating. Presence of CSBW and brown burnished wares in the early levels at Ulucak, especially sudden increase of brown burnished wares with phase Vb, provide us with clear chronological distinctions. Yeşilova III Middle-Late, Ege Gübre, Çukuriçi and Agio Gala have CSBW in their assemblages. Five pieces of cream slipped pottery fragments are also identified at Dedecik-Heybelitepe (Herling *et al.* 2008: 21). Cream slipped and red slipped wares co-exist at Ulucak in both levels.

Brown burnished wares, however, are not known in other sites. It is worth noting that in Ulucak Vb brown burnished ware makes up 24% and in Level Va around 30% of the assemblage. Their number drop to 15% with late phases of Level IV (IVh-k) while in the later stages their amount decreases gradually but CSBW never disappears completely. On the other side, absence of impressed wares in Vb (and earlier phases Vc-f), is an important signifier for us. In level Vf, brown burnished wares constitute 36% of the ceramics.

Impressed pieces, whether on RSBW or Gray Wares, make up around 3-5% of ceramics at Ulucak's single building phases with only exception of phases that are earlier than Vb. Disappearance of impressed wares with a certain level is only seen at Yeşilova III whereas Çukuriçi, Dedecik-Heybelitepe and Ege Gübre seems to have yielded impressed pottery in all of its excavated deposits. Presence of earlier deposits without the impressed wares cannot be excluded for Ege Gübre and Çukuriçi as possible early deposits remain unexcavated. However, at Dedecik-Heybelitepe there is only one layer with LN-EC pottery is identified which includes 1% impressed pottery (Herling *et al.* 2008: 21). This indicates that the site was founded after the impressed pottery production in the region began.

Mica Glimmer Ware, another trait of Level V, is seemingly solely found at Ulucak, therefore cannot be utilized for correlation with other settlements. These early wares have not been attested at Dedecik-Heybelitepe which however might result from the limited scale of the excavations carried out at the site. With the available data we can set Dedecik-Heybelitepe contemporary with Ulucak Early IV (6100-6000 cal. BCE). Existence of stone foundations, mineral temper, the vessel forms, long-thin tubular lugs, presence of cream slipped wares, disc bases and impressed wares all point out a horizon that corresponds to Ulucak's early building phases of IV. Yeşilova III Early without the impressed wares can be set contemporaneous with Ulucak's Vb-f. In order words, the basal Yeşilova should have been settled around 6500-6400 cal. BCE when an occupation at Ulucak already existed. Ege Gübre's earliest deposits however do not go as early as Ulucak Vb-e as impressed wares are found in all levels. Interestingly, Agio Gala publications do not include any impressed sherds however presence of bead-rims and oval bases at the caves make us suggest that the sequence there covers both Ulucak V and IV. Especially forms from the Agio Gala Lower Cave with thin-long tubular lugs set in pairs on jars and presence of brown wares indicate an earlier date for that specific



material. Since the stratigraphical situation at the caves is not reliable, it is suffice to say both stages known at Ulucak are found there. We conclude that Ege Gübre, Dedecik-Heybelitepe and perhaps Çukuriçi are not as early as Ulucak's Vb-e. Çukuriçi is of great interest since the ceramic forms, especially the hole-mouth jar mentioned above and presence of CSBW, considered with the absence of oval bases, anthropomorphic vessels and big sized jars, indicate contemporaneity with Ulucak Va-b than Ulucak IV. Yeşilova III presents a longer sequence which shows many parallels to Ulucak sequence (Fig. 6.7).

## ***B. Southwestern Anatolia (Muğla and Aydın)***

There are no systematic excavations conducted in this part of Turkey that investigate specifically Neolithic period. There were however few surveys which revealed archaeological material that is of interest to us. We will include in this section, material discovered from one trench at Aphrodisias-Pekmez, the Latmos rock paintings and surveys conducted by E. Akdeniz (1997), S. Günel (2003; 2006) and S. Yaylalı (2006).

The Aegean islands (the Dodecanese) in close proximity to the Southwest Anatolian coast were not permanently inhabited during the 7-6<sup>th</sup> millennia BCE (Cherry 1990: 170).

### **1. Aphrodisias-Pekmez**

Aphrodisias is located close to town Karacasu in province Aydın on an alluvium plain in a valley formed by Dandalas River which is a tributary of Büyük Menderes River. The site is 600 m above the seas level. Baba Dağ, 2308 m, rises to the north of the site. The mound where the prehistoric remains were excavated is called "Pekmez" which has a height of 13 m and diameter of 125 m and is located to the East of ancient city of Aphrodisias (Joukowsky 1986: 19). Two trenches were excavated on this mound, one of which revealed pottery similar to Hacilar IX-VI (Joukowsky 1986: 431). The "unit 1599" or "Level VIIC" from Trench II described as a whitish clay deposit revealed a few red-on-white painted pottery (Joukowsky 1986: 59).

The pottery from this deposit is mainly monochrome with dark cores, red slipped, burnished and mottled. Upon her comparison of the pottery from this unit with Hacilar pottery stored at British Archaeological Institute in Ankara, Joukowsky (1986: 431) points out that the most similar wares are found among Hacilar VII material. The pottery from this deposit included also four impressed sherds, which are illustrated on a black

and white photo in the final publication. These are catalogued as “incised coarse ware” and described as weak coarse red ware with black core. From the photo it is clearly visible that these are the same wares of what we call “Central-West Anatolian type impressed wares” (or the so-called ‘Impresso A’). The impressions are irregular, shallow and look like nail impressions and continuous impressions are not observed. Tubular lugs, single knobs and double knobs are also recorded. As a result, red slipped and burnished pottery and impressed pottery are attested at Pekmez confirming the existence of LN settlements in the region and presence of impressed pottery in this inland area. Presence of impressed pottery points out similarity with Central-West Anatolian sites while it poses a contrast to Lake District sites where impressed wares are sporadically attested (see below). No mentioning of Hacilar type painted pottery is made in the report.

## **2. Latmos (Beşparmak) Mountain**

In this section we would like to summarize results of a survey conducted on mountain Latmos and its surrounding area by Peschlow-Bindokat (2003: 18; Abb.13) who discovered 125 caves and rock shelters that housed rock paintings as well as some pottery. Latmos is a mountain range located to the east of Lake Bafa, which was one of the most important bays in the southern Aegean coast prior to 3<sup>rd</sup> century BCE before the massive silt brought constantly by Menderes River cut its connection from the sea. The rock art discovered during the surveys is homogeneous in style and execution. The paint is in most cases red, made with iron oxides. The shapes are usually naturalistic and stylized anthropomorphic designs, men and women can be distinguished, while geometric or abstract shapes and hand motifs accompany these. Animal representations are rarely encountered (Peschlow-Bindokat 2003: 60).

Associated with the rock art in some cases pottery and lithic material, blades and polished axes, were found. Most of the pottery cannot be dated due to heavy weathering of the surface (Peschlow-Bindokat 2002: 256). However pottery and idols of Late Chalcolithic-EBA age is reported to be found in one of the case called Malkayası. Presence of grinding stones and other lithic material indicate habitation of the cave. One rimsherd from Malkayası has red painted designs on its cream colored inner surface. The design is a lozenge shaped net pattern. Red-on-cream painted pottery indicates presence of EC in the cave.

### 3. General Overview of Sites Surveyed

In addition to above mentioned projects, several extensive surveys have been conducted in the region by several archaeologists. French (1965: 18-19) discovered three sites, Hamidiye, Karakurt and Kavaklıkahve, in the upper Büyük Menderes Valley in provinces Aydın and Denizli where he found fine RSBW with organic inclusions. One LN-EC site called Çandır Höyük in Denizli Region discovered by Todd is mentioned in TAY (Harmankaya *et al.* 1997). Akdeniz (1997) undertook a survey in the Büyük Menderes Valley where he designated Tavşan Adası as “Neolithic”. On Saplıada however he could not identify distinct Neolithic finds in contrast to Voigtländer. Kilittepe, a mound close to Miletos, contained prehistoric material including RSBW and tubular lugs (Voigtländer 1983). Lohmann (1995: 304) reports finding seven “*Fischeramps*” in the vicinity of Miletos which he dates to LN-EC.

Altinkum Plajı in Aydın is another find spot which was dated roughly dated to between to 5500-3900 BCE by Gebel (1985). During surveys directed by Günel in Aydın (2003, 2006) mound Tepecik yielded red-on-cream pottery while Köprüova contained red slipped pottery with tubular lugs which indicated LN occupation at the site. Excavations have begun at Tepecik-Çine in 2004 which confirmed existence of cream-on-red painted pottery at the mound, although corresponding architectural remains are not excavated extensively yet due to the overlying Bronze Age deposits (Günel 2007).

Finally, Yaylalı summarizes the prehistoric find spots from Muğla Province, some of which have been tentatively dated to Neolithic or LN-EC in the light of pottery and lithic evidence that is compared to Hacılar. These potentially “Neolithic” find spots are called Pınarlık, Malkayası, İsa Mağarası, Fethiye-Eceler Höyük and Girmeler Mağarası (Yaylalı 2006: 11).

As a result, in the light of these researches one can easily confirm that Aydın and Muğla Regions were inhabited during the LN-EC period. Habitation was distributed to several ecological environments, i.e. coastal areas, alluvial plains and mountains. The high density of Latmos rock art is important to recognize with respect to the existence of settlements that preferred high elevations on mountains. Unfortunately, except for Aphrodisias and Tepecik-Çine, none of the data comes from excavations but are restricted to random surface collections. Presence of RSBW, red-on-cream wares, impressed wares and tubular lugs are confirmed thorough these projects which point out

habitation especially at the time of Ulucak IV, but detailed comparisons have to await systematic excavations.

### ***C. Troas and Gökçeada***

Troas is one of the regions in Turkey where Neolithic horizon is not well-defined due to the lack of Neolithic-oriented surveys and excavations. Systematic surveys which targeted pre-Bronze Age find spots have been undertaken by Özdoğan and his team in the 1980's. These extensive surveys which concentrated both on the alluvial plains and littoral areas such as Çan, Biga and Bayramiç, revealed around 15 prehistoric sites, from the Paleolithic to Iron Ages, mainly belonging to Kumtepe IB or Troia I era. Among these find spots such as Çalca, Gavurtarla and Anzavurtepe contained lithic material which is dated to Mesolithic-Neolithic age (Özdoğan 1989).

Özdoğan and Gatsov (1998: 214-219) propose that Aceramic permanent settlements might have existed in the area in the light of material collected from Çalca and Musluçeşme. Çalca Mevkii is located on a river terrace belonging to Karlidere Stream in Çan district, covering an area 250 x 150 m. At the site, evidence of mound formation and presence of macro-blades, end scrapers, single-platform cores when considered with absence of pottery points out to the existence of a PPN site. Anzavurtepe and Gavurtarla in Biga district revealed similar lithic material, flint and obsidian, characterized by blade based industry which may also belong to an EN horizon (Özdoğan 1989: 447-450).

Yet another possible PPN site, Musluçeşme, identified through the high concentration of lithics and polished axes, has been documented in Manyas-Balıkesir, located on one of the high terraces of Lake Manyas (Özdoğan and Gatsov 1998: 214). Musluçeşme lithic assemblage contains mostly flint but also obsidian micro-cores, single-platform cores, end-scrapers, blades and notched tools. Özdoğan, drawing on the nature of the lithic material collected from these sites and absence of pottery, envisages a possible PPN horizon in Troas and Marmara Region in general, although he asserts that systematic excavations are needed in order to test the accuracy of this statement (Özdoğan and Gatsov 1998: 223).

There is only one pottery Neolithic find spot from the southwest of Troas, Coşkuntepe, which is worth mentioning as it presents us with ceramics material that is highly analogous to Ulucak. Another site from LN-EC horizon has been discovered on Gökçeada which is called Uğurlu. Material from both sites has been preliminarily

published in several short articles (Seeher 1990; Takaoğlu 2005; 2006; Harmankaya and Erdoğan 2003 and Erdoğan 2003). Coşkuntepe was subject to an intensive survey while excavations are planned at Uğurlu on Gökçeada by the surveyors.

## **1. Coşkuntepe**

Coşkuntepe, a flat settlement on the southwestern tip of Biga Peninsula in Troas, is located on a promontory overlooking the Aegean Sea from 230 m above sea level. There is a freshwater source very close to the site. The surface finds contained pottery from multiple periods ranging from Neolithic, Chalcolithic, Early and Middle Bronze Age to Hellenistic and Roman periods (Seeher 1990: 9). Green and opaque properties of the obsidian from Coşkuntepe led the researcher to interpret the source of the raw material as the Melos Island (Takaoğlu 2005: 424).

Takaoğlu (2005: 424) suggests that the site was used as a quern-production site during the Neolithic as many pounding and grinding stones in different stages of production have been found on the slopes located 200 m away from the settlement area. This is an interesting hypothesis but how Takaoğlu dates these grinding instruments specifically and solely to the Neolithic age remains unmentioned in his article. It is known that site was occupied in later prehistoric and historic periods and typologically it is almost impossible to date grinding-pounding instruments.

Ceramic material collected from the surface is highly reminiscent of RSBW of West Anatolia which indicates a LN-EC occupation on the site. Seeher (1990: 11) and Takaoğlu (2005: 422) describe the Neolithic pottery as fine, grit tempered, slipped and well-burnished. Surface colors are dominated by red, dark red and yellowish red. Painted examples and chaff as temper are completely absent. The most common forms are jars with flattened rims, bowls with convex and 's'-shaped profiles. Vertically placed tubular lugs, pierced knobs and carinated flat bases are also very common. One fragment of incised and white filled Fikirtepe box fragment has also been found by Seeher (Seeher 1990: Fig. 1.22). During the systematic surface collection undertaken by Takaoğlu, fragment of an incised stamp has been recovered which he compares to specimens known from Körös and Starčevo sites (Takaoğlu 2005: Fig. 4.12).

## **2. Uğurlu**

Uğurlu is described as a low mound located on the western side of Gökçeada (Imbros), only 2.5 km away from the current coastline between Capes İnce and Aktaş

(Harmankaya and Erdoğan 2003: Fig. 1). The site owes its name to the nearby village which is situated 1 km to the Northeast. Surveys undertaken by Burçin Erdoğan of University of Thrace and Savaş Harmankaya of Istanbul University in 1997-1999 identified the site along with other eleven prehistoric sites, all of which post-date Neolithic age.

Uğurlu covers an area of 300 x 100 m. The mound formation has been damaged by various constructions of road and irrigation canals (Harmankaya and Erdoğan 2003: 463). Early Bronze and Chalcolithic Age pottery is accompanied by “EN” pottery. The “Neolithic” dating of the site relies on the pottery which is well comparable to West Anatolian red slipped wares. The surface pottery is mineral and chaff tempered, red slipped, burnished and occasionally mottled. Apart from the red slipped wares, black burnished specimens have also been observed. The walls are thin. Bowls with ‘s’-shaped profiles, bead-rims, vertically placed tubular lugs, short and long variants, and ring and flat bases are commonly found in the assemblage. One fragment of zoomorphic vessel has also been detected. Lithics, all out of flint, indicate a blade based industry (Erdoğan 2003: 16; Fig. 4; Erdoğan 2005: 97-98).

### 3. Comparisons with Ulucak Ceramics

Both sites are highly significant as to the presence and nature of LN-EC settlements in the Troas and on Gökçeada. Uğurlu is additionally important because virtually nothing is known on the colonization of Gökçeada by early farmers. The fact that they produced almost exclusively fine red slipped pottery with tubular lugs and ‘s’-shaped profiles indicates their West Anatolian connections and perhaps origin.

When compared to Ulucak IV-V assemblage, many parallels are detected in the pottery fabrics and morphology.

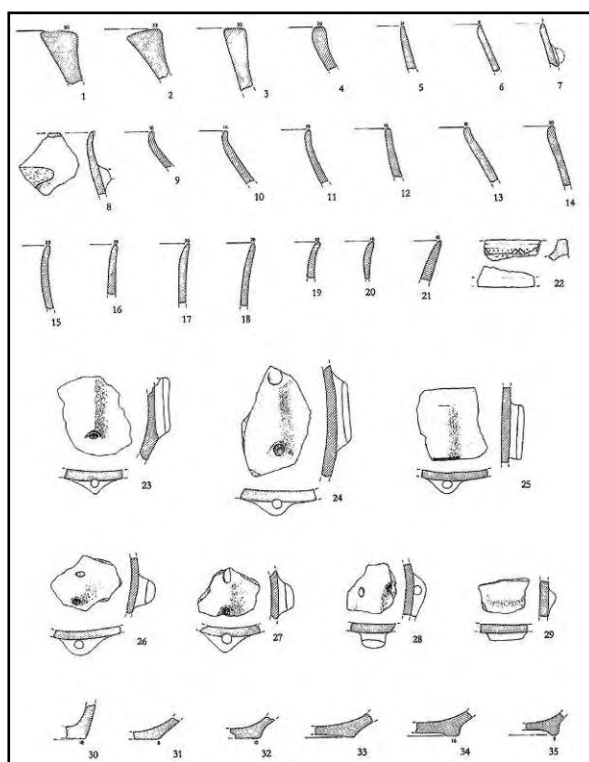
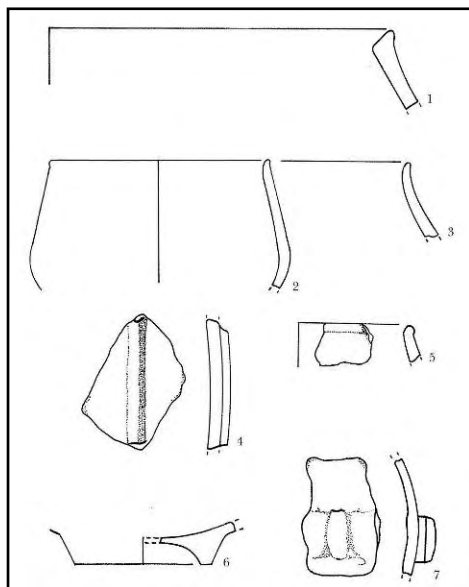


Figure 6.8: Neolithic pottery from Coşkuntepe (after Seher 1990: Abb. 1)

Jars with thick flattened rims from Coşkuntepe are very well comparable to Ulucak IV jars. Bowls with convex and 's'-shaped profiles with simple or everted rims are likewise very typical for Ulucak V-IV. Tubular lugs, short and long variants, and pierced knobs are found at both levels in Ulucak, too. Flat carinated bases are especially a feature of Ulucak V but they definitely continue into the latest phases of Level IV (Fig. 6.8).

Coşkuntepe pottery differs from Ulucak pottery due to its grit temper. At Ulucak, especially with Level IV, chaff is commonly used as tempering material while Level V is clearly dominated by wares with mineral temper. One clue about the dating of Coşkuntepe pottery might be the absence of necked jars, oval forms and carinated forms which would have indicated EC horizon than LN. On the contrary, jars without necks and 's'-shaped profiled bowls together with tubular lugs are well-defined characteristics of LN pottery in this region. On the other hand, cream slipped and dark colored burnished wares seem to be lacking at the site. This situation does not seem to be a result of the sampling strategy. Lack of cream slipped wares and dark colored burnished wares might be related to regional characteristics of Troas or, another alternative is, that Coşkuntepe was settled for a short time at the very end of the LN period when red slipped wares clearly dominated the pottery assemblages just like at Ulucak IVb. For the time being, it is simply not possible to be more precise about dating of Coşkuntepe beyond what Seeher and Takaoğlu already suggested.



**Figure 6.9: Red slipped pottery from Uğurlu (after Erdoğan 2005: Fig. 1)**

Uğurlu Neolithic pottery has many similarities with Coşkuntepe and Ulucak as well. However, the type of well-defined bead-rims from Uğurlu (Erdoğan 2003: Fig. 4) are not matched at Ulucak. Bead-rims are found at Ulucak only in level IVb which is dated to the early 6<sup>th</sup> millennium cal. BCE. Bead-rims are not common in Lake District or Central Anatolia, but rather a feature commonly found on pottery from Tepecik-Çiftlik and Köşk Höyük. In other words, bead-rims are more associated with the EC horizon and they are absent in the LN assemblage from Ulucak. Ring bases are

likewise rarely found at Ulucak, but they appear in both levels. Long-thin vertically

placed tubular lugs, as observed on Fig 6.9, are more characteristic of Level V than Level IV at Ulucak. They indicate a LN date than EC. Harmankaya and Erdoğan (2003: 464) compare some black burnished and black-red-cream sherds to Hoca Çeşme III material. The pottery from Uğurlu contains both mineral and chaff temper. At Ulucak, chaff tempered pottery is ubiquitous in Level IV whereas mineral temper is associated more with Level V. It is not clear for now if same association goes true for Gökçeada and Troas Region. If this is the case, we can perhaps suggest that Gökçeada pottery belong to two successive horizons.

In the light of available published material from this region, it is not possible to infer more on the nature of Neolithic communities who inhabited the region. What more or less clear is their strong organic ties to the West Anatolian communities as indicated by the fine red slipped and burnished pottery. Characteristics of Fikirtepe Culture pottery is almost absent, except for the incised “Fikirtepe box” fragment from Coşkuntepe.

#### ***D. Lake District***

Lake District is one of the best researched regions in Turkey with regards to the Neolithic horizon. Region’s karstic geomorphology is an advantage for extensive surveys. In contrast to Central-West Anatolia, alluvial silting is not a problem that buries the settlement mounds, making them invisible from the surface. The pollen record indicates that with 6700 cal. BCE onwards mixed forests of oaks, pine and juniper and low herbs were predominating the vegetation in the area (Kuzucuoğlu 2002: 42).

Mellaart’s excavations at Hacılar in 1957-1960 have been followed by Duru’s successive excavations in the region since the early 1990’s. Moreover, initial surveys of French (1965) have been followed by long-term surveys undertaken in Burdur and Isparta districts by M. Özsait of Istanbul University which spotted numerous sites with evidence of Neolithic-Early Chalcolithic occupation as inferred through the red slipped monochrome or mostly red-on-cream painted pottery which show typical traits such as hole-mouth forms, ‘s’-shaped profiled open forms, carinated bowls and vertical tubular lugs (Özsait 1985; 1986; 1993). Extensive surveys of Özsait confirmed the high occupation density in this karstic region during the pottery Neolithic and Early Chalcolithic.

Despite intensive research concentrating on the early sedentary villages, pre-Neolithic sites are documented at a very few find spots. Of these, Baradız is probably the most



important as it is the only site which was subject to small-scale excavations by Şevket Aziz Kansu in 1944. Baradız is a small open-air site southwest of Isparta, located on one of the sand-dunes which belong to Lake Burdur. Kansu's excavations revealed existence of a microlithic industry characterized by micro-burins, geometric-tools and microlithic cores which are dated to the Mesolithic period (Harmanakaya and Tanındı 1996).

Existence of terminal Paleolithic and Epi-Paleolithic in the region is supplemented by cave occupations on the Mediterranean coast. At Öküzini Cave, Antalya, stratigraphy covering a time span from late Upper Paleolithic to Neolithic has been unearthed which is divided into four phases. The carbon determinations point out that the cave was used as a spring-summer camp-site from 16000-7000 cal. BCE. The late Upper Paleolithic phase, phase I, is defined by non-microlithic industry which produced elongated blades. The early Epi-Paleolithic remains, 14000-13000 cal. BCE, at the cave are composed of microlithic tools such as trapezes, triangles and lunates, bones of ovicaprines as well as beads and marine shells as bodily ornaments. Late Epi-Paleolithic phase, 13000-10500 cal. BCE, is likewise characterized by geometric microliths, accompanied by end-scrapers, retouched blades and perforators as well as bone awls, needles and spatulas. It is noted that the latest deposits defined by a Neolithic burial with ceramics and polished axe contained lithics which carried both microlithic and Neolithic features (Otte *et al.* 1995).

Data from Baradız and Öküzini point towards the presence of Mesolithic occupations in the region. Especially, Öküzini is extremely important, as it constitutes the only well-dated and excavated site which encompasses deposits that are immediately preceding the Neolithic occupation of the area.

Except for the doubtful Aceramic phase at Hacılar, no pre-pottery Neolithic sites have been identified in the region. The nearest positively identified and excavated PPN site is Suberde which is located on the western shore of Lake Suğla. We will present the data from the site more in detail in the next section. However it should be note here even the earliest phases contained few crudely made organic tempered ceramic sherds (Bordaz 1965: 32) indicating that the inhabitants were not entirely "Aceramic" in the sense that is known from Southeast Anatolia. As a result, an "Aceramic" stage preceding the early pottery Neolithic similar to Çatalhöyük East cannot be argued to have existed for the region.

Archaeological evidence indicates that a gradual adaptation of agro-pastoral lifestyle by Mesolithic hunter-gatherers did not take place in the region. The high number of sites point out the dense occupation in the region during LN-EC periods. Below we will present in detail the excavated Neolithic sites in the region.

## 1. Hacılar

### 1.1. General Overview of the Archaeological Research

The mound is located 26 km southwest of Burdur, 8 km south of Lake Burdur and 1.5 km west of village named Hacılar on the northern slopes of Taurus Mountains on an altitude of more than 900 m. Koca Çay flows on the west side of the site. The site, with a height of around five m from the ground level, was discovered by Şadi Balaban who contacted James Mellaart and opened the way to archaeological investigations by the latter. The excavations took place on the mound between 1957-1960, supervised by J. Mellaart of British Archaeological Institute at Ankara. Mellaart uncovered occupational levels that cover “Aceramic Neolithic”, “Late Neolithic” and “Early Chalcolithic” periods on the mound represented by sixteen layers.

In 1985-1986, small scale excavations have been carried out by R. Duru in the vicinity of Hacılar, who found in situ ceramics on a red painted floor in the vicinity of Hacılar, a trait of “Aceramic Hacılar”, therefore he claimed that there are no Aceramic levels at Hacılar as J. Mellaart once proposed (Duru 1989). It is worth here emphasizing that the red colored hard surfaces found by Duru and his team were not located on the mound Hacılar but 80-90 m away from it.<sup>57</sup> This implies that the red colored floors found by Mellaart and Duru do not correspond to the same deposits or even to same site. It therefore becomes methodologically problematic to correlate both features.

On the other hand, Mellaart (1970) himself points out that a very limited area was excavated from the aceramic level. Additionally, there is one statement in the second preliminary report for Çatalhöyük, which makes us increasingly doubtful about the presence of aceramic levels at Hacılar (Mellaart 1963: 44): “Pottery is so scarce even in Level VI that it would have been possible to dig a 5-metre wide trench through the E complex without finding a single sherd!” Therefore, it is clearly possible that where pottery production is low in scale, discovery of sherds is also proportionately low. Hacılar’s early deposits may also correspond to an early period in which pottery

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<sup>57</sup> This interesting fact was mentioned by Duru on a conference held in Istanbul (02.03.2009).

production was limited. Another contra-argument against aceramic Hacilar is the presence of mudbrick architecture found in these deposits as this building material first appears following mud-slab in Central Anatolia and wattle-and-daub in West Anatolia towards the end of 7th millennium BCE in Anatolian Neolithic. One of the reasons for Mellaart to argue for an early date for these levels was a single carbon date from charred wood sample obtained from “Aceramic V” which provided the result 8700±180 BP (8200-7550 cal BCE). It is not known whether this old date was correct, a result of old-wood effect or wrong measurement. In short, “Aceramic Hacilar” might well have been, as Reingruber puts it, a result of the *Zeitgeist* but also of small-scale excavation.<sup>58</sup>

The stratigraphy of the site originally constructed by Mellaart is as follows:

Final occupation	IC-D
Fortress	IA-B
.....Hiatus.....	
Fortified Settlement	IIA-B
Early Chalcolithic	V-III
Late Neolithic	IX-VI
.....Hiatus.....	
“Aceramic Neolithic”	I-VII

Mellaart assigns seven sub-phases (I-VII) to his Aceramic settlement which lies directly on virgin soil and is 1.5 m thick. In general Aceramic phases are badly preserved. Aceramic IV-V have relatively better preserved architectural features including walls, a courtyard, postholes, storage bins, hearths and ovens. One large courtyard (5 m wide and more than 15 m long) and small rooms with a rectangular plan (around 4.5 m in width) whose mudbrick walls did preserve up to an height of no more than 25 cm make up the best preserved remains. Some of the walls contained stone foundations and plaster. A number of floors were paved and subsequently plastered and even in some cases painted. Fire installations were in the courtyard which according to Mellaart was a precaution against danger of fire (Mellaart 1970: 4-5). One polished axe, several fragments of marble bowls, stone and marble beads, chipped stones and various bone tools are among the material cultural inventory. Three human skulls found on the various parts of the courtyard from Phases VII, V and III are of interest as they might be representing remains of a “skull cult” typical of Southwest Asian PPN but also found at Çatalhöyük and Köşk Höyük. For our purposes, it is more interesting that Mellaart’s statement: “...not a single potsherd was found and there was no figurines” (Mellaart 1961a: 73).

<sup>58</sup> See Reingruber (2005: 157) who lists the EN sites in Greece which are also identified as “aceramic” during the late 1950’s and early 1960’s.

Not even one sherd in an area of around 150 m<sup>2</sup> and 1.5 m thick accumulation may sound convincing for designating these levels as “Aceramic” but, as we already mentioned, a similar case was experienced at Çatalhöyük (Mellaart 1970: 2; see also Mellaart 1970: Figs. 3-4). Mellaart believes that the aceramic occupation was abandoned and there is a hiatus following this event.

The LN period at the site is built partly on virgin soil partly on the so-called aceramic settlement. The earliest deposits from this period, the Levels IX-VII, are badly preserved, being confined to less than one meter of accumulation consisting of stone foundations, floors, midden areas and pits. Levels VII-VIII are identified in area B, R and E which yielded only scanty remains of walls, floors accompanied with pottery. Remnants of Level VII, which Mellaart later called VIA, have also been excavated in areas P and Q below massive remains of Level VI (Mellaart 1970: 9-11).

Level VI is the best-preserved LN level at Hacılar and has been excavated mainly in areas P and Q, later also areas E and F. A number of adjacent rectangular mudbrick houses with well-preserved inner architectural features as well as lightly covered courtyards and open central areas have been exposed from this level. The houses that rise on stone foundations have sizes that range from 5.5 x 6.5 to 5.5 x 10.5 m. Inner divisions, window openings and screen walls are observed in most buildings. Roofs are flat constructed and supported with wooden frames. Both walls and floors showed traces of successive plastering. The entrance to the house is provided by a door opening, marked with a wooden threshold, on the oblong side which faces a flat-topped oven and a rectangular hearth on the opposite side. These were mostly in association with platforms and benches. Rectangular clay boxes are also common feature found in the buildings which according to Mellaart served as “fireboxes” (Mellaart 1970: 14). Square shaped silos arranged side by side have been excavated in many buildings along the walls. Lightly covered activity areas belonging to each house have also been found. These included features like fire installations, grinding instruments, platforms, querns and storage bins. Mellaart also describes areas called as “upper floors” which were used as activity areas in the houses.

Hacılar VI contained substantial amounts of archaeological material. Apart from what Mellaart calls “monochrome pottery”, human and animal figurines, well-made stone bowls, lithics, polished axes, grooved stones, grinding stones, querns, loom weights,

stamp seals, bone spatula, sickles, pendants, beads, ear plugs, bracelets and limestone slabs are among the archaeological finds uncovered in the deposits of Hacilar VI.

Hacilar V consists of badly preserved scanty remains of courtyard floors with painted pottery and other types of finds. Mellaart notes that the new settlement was not erected directly above the burnt remains of VI, but was rather moved to the south and east of Hacilar VI. Hacilar IV, excavated in areas Band P, is likewise not substantial in appearance; only one mudbrick house has been allotted to this settlement. Piles of sling stones are common in these levels. The following level, Hacilar III, is similarly badly preserved but apparently containing the same architectural traditions of the previous levels. The settlement is again moved to further north and east (Mellaart 1970: 23-24).

Hacilar II is a settlement with size of 2000 m<sup>2</sup>, much smaller than Hacilar VI, but surrounded by a thick (1.5-3 m) mudbrick wall with towers and gates, the reason why Mellaart calls this phase as “the fortified village”. The houses have their rear walls adjacent to the surrounding wall while their entrances face central open areas, which Mellaart calls “West Court,” “North Court” and “South Court.” The houses are made out of mudbrick and have porticoes. Mellaart identifies residential areas with a “granary”, a potter’s workshop, a well and two shrines in the settlement (see Mellaart 1970: Pl. 19). Shrines are identified as such because of the vast variety of painted pottery vessels, objects and painted plasters found as well as burials built under the floors. On the other hand, they also possess all the features domestic buildings have such the plan, ovens, storage bins etc. Pottery workshops, an areas of three buttressed mudbrick buildings are identified through the absence of some domestic features, such storage bins, platforms, and presence of querns and mortars with red and ochre, lumps of ochre, stored clay, many tools and objects that might be related to pottery production. Figurines, marble containers, lithics, stamps, various bone objects and beads are unearthed from this settlement.

Hacilar I, labeled as “the fortress”, was built following the destruction of Hacilar II, but not directly above it, and following intensive leveling activities. Mellaart (1970: 75) describes the architecture of Hacilar I as being “*far more massive than anything ever previously seen at Hacilar.*” The excavated houses are clustered along the enclosure wall around a central open area. Mudbrick walls, with thickness of two m and even more, are built on one row of stone foundations and were plastered on both sides. Matting is observed extensively in the houses. Apart from usual elements like hearths, ovens,

platforms and postholes, buttresses and staircases are frequently observed too. Door openings could be located rarely, probably access to the houses was provided from the second floor. The occupation of Hacilar I comes to an end with a sudden fierce fire which is evidenced by human skeletons found in the buildings (Mellaart 1970: 75-76). Interestingly, no specialized areas such as shrines and pottery workshops, were identified at Hacilar I.

Hacilar IC-D building phases are few architectural remains, stone foundations and one courtyard that are found above the burnt remains of Hacilar I.

Hacilar has been inhabited by an agro-pastoral community from the “Aceramic” levels onwards who cultivated einkorn wheat, emmer wheat, bread wheat, barley and various pulses (Halbaek 1970). Interestingly, the only domesticated mammal species from Hacilar was dog whereas sheep-goat, red deer, roe deer, fallow deer, wild cattle, mouflon and pig were consumed (Westley 1970: 245-246).

The lithic industry is dominated by blades and micro-blades produced from prismatic cores. One cache of 363 micro-blades from Level VI is worth-mentioning. Flint clearly dominates the raw material, although obsidian from Acıgöl-Topada has been attested at the site (Mortensen 1970: 154-156).

Apart from the one sample from Aceramic V discussed above, four carbon dates are available from LN Hacilar and two additional dates are measured from levels IIA and IA. Hacilar IX sample provides 7340±94 BP. Hacilar VII is dated to 7770±180 BP. Two dates from Hacilar VI is as follows: 7550±180 and 7350±85 BP. These provide a time span from 6300-5700 cal. BCE for Hacilar IX-I (Thissen 2002: 318).

## **1.2. Ceramics**

Mellaart (1970: 99-101) defines two wares at Hacilar: Monochrome and painted. He distinguishes the monochrome ware of Levels IX-VIII from VII-VI in terms of their surface colors; the former having predominantly light grey and cream surface colors. The paste, composed of “fine clays of Burdur area” includes small sized mineral inclusions (grit) and mica. The surfaces are always burnished and shiny. Coarse wares are absent.

Pottery from Level IX is fine with mineral inclusions (including mica), monochrome, sometimes mottled, unslipped, burnished, mostly light grey-cream-light brown (“buff”) colored commonly accompanied by red slipped examples. Although rare, painted

examples are already present in the assemblage. Coarse wares and cooking wares are almost absent. Common vessel shapes are small bowls, cups, bowls with flaring and deep bowls with 's'-shaped profiles and jars with short necks. Everted rims are very common. One deep bowl with basket handle distinguishes from the rest of the assemblage (Mellaart 1970: Figs. 47,39). Tubular lugs and pierced knobs, mostly set in pairs, on jars and deep bowls are common. One bowl with tubular lugs inside is likewise a rare piece. Bases are carinated flat.

Pottery from Level VIII, low in quantity, is in many ways similar to the pottery of the preceding level. Grey, cream, light brown colors persist while red washed and red painted examples are present too. In the assemblage, hole-mouth bowls and jars, bowls and deep bowls with 's'-shaped profiles, jars with short necks as well as at least one jar with oval and long neck is observed. Tubular lugs, rather short and thick, as well as pierced knobs are common. Carination becomes more emphasized. Two bead-rims are mentioned by Mellaart (1970: 104).

Level VII is characterized by an increase in the red-buff and brown slipped wares together with painted wares. The vessel shapes from the previous levels do continue. Lentoid jars with big globular bodies accompanied with thick-short tubular lugs or small handles on shoulder and belly are characteristic of this early stage (see Mellaart 1970: Pl. 49; 16,17).

Level VI pottery is described as excellent in quality, slipped and burnished, red, red-brown and buff with frequent mottling. Slip and paint, being the same material, are obtained with a suspension of clay mixed with hematite (Stoves and Hodges 1970: 144). Painted wares make up around 10% of the pottery. Among red-on-cream, few white painted examples have also come to light, which is not observed until level I again. One bowl with cross inside and another with on its outer side of its base (called "red cross bowl" by Mellaart in his report from 1961a) reminds us the Ulucak Va example. The patterns observed on painted vessels are simple, being confined to horizontal or vertical bands, nets or "V" shapes. Bowls and deep bowls with 's'-shaped profiles, bowls with convex profiles, deep bowls with oval mouths, hole-mouth jars with globular or ellipsoid bodies, jars with short necks are common. Tubular lugs, small vertical handles, pierced knobs continue. One tubular lug with horns coming out it is of interest. "Jars with ledges below rim" are distinctive. Several rare forms include one jars with rectangular or lozenge shaped mouths, pedestals, theriomorphic vessels, one cup with the shape of a

human face, and lug in the rim. Jars with anti-splash rims are also worth mentioning. Relief decoration on vessels, executed in a variety of forms, be it abstract or animal-shaped are first attested in this level. *Bucranium*, mainly in upside down position, are very common. Ibexes and scorpion are likewise attested. Human hand and one woman face are seen on two separate examples (Mellaart 1970: 107-109).

In Level V, RSBW continues but they become less fine, while red-on-cream painted ware increases in number and are extremely fine. Mellaart notes (1970: 110) that the size of the monochrome vessels is smaller compared painted jars. Motifs on painted vessels are more varied than in previous levels. Apart from wavy lines, bands, zig-zags, hatched surfaces, hanging garlands, steps, and triangles, what Mellaart calls a “fantastic style” is also observed. “Fantastic style” bears representations of *bucrania*, birds, various animals and human forms in a stylized abstract fashion. In terms of forms, many parallels are observed with Level VI. Especially bowls, display clear carination on the belly and shoulder. Oval mouths are still seen. The so-called “offering tables” also found in the assemblage. Tubular lugs are less frequent, animal head handles are becoming common.

Level IV pottery is composed of monochrome, red-brown or buff burnished wares, and red-on-cream painted pottery which now constitutes 35% of pottery. Bowls, especially with carination and ‘s’-shaped profiles, jars with necks and globular or carinated bodies are common. Animal head handles are likewise common whereas tubular lugs are extremely rare. Some rims are incised or grooved. Bead-rims are also present. Bases are flat, there are also few pedestals. Mellaart’s fantastic style, making 20% of all painted examples, reaches a high point in this level. *Bucrania*, hand motif, birds and curving-spiral shapes are commonly found.

Monochrome ware decreases further while painted wares increase in Level III. The miniature bowls are presented as a new feature of monochrome wares from this level. Plates, oval cups, carinated bowls and jars, jars with necks are common. A lentoid jar with tubular lugs, typical of Levels IX-VI, has their last specimen from this phase. Animal head handles are frequent; one example even contains obsidian inlays where the eye of the animal should be (Mellaart 1970: 114).

In Level IIA-B, orange-buff burnished wares, but also red slipped wares, are still in existence. Painted vessels dominate the assemblage with 65%. Miniature cups, carinated bowls, jars with short and long necks, oval shaped deep bowls are very common.



Biconical jars are distinctive. Carination is very pronounced. Vertical small handles, animal-head handles and knobs are seen, mainly right under the neck on jars. Decorations are diverse, ranging from spirals, crosses, birds to complex designs and human hands-arms. Relief decoration is also seen. Pouring elements on vessels in the shape of animal heads is also an important feature of this level (Mellaart 1970: P. 99; 2).

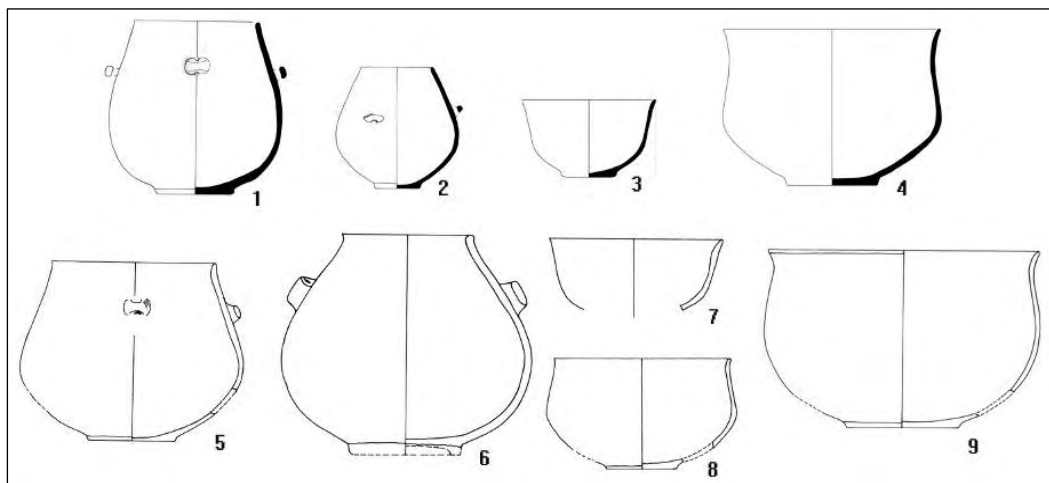
Level I pottery is very much dominated by red-on-cream wares, although some white-on-red examples have also been found. But fantastic style ends, motifs are linear while *bucrania* are kept. Concentric circles or lozenges inside the bowls which can have large diameters up to 60 cm. are common (Mellaart 1970: 136). Hanging garlands are especially seen on white-on-red vessels. Forms are in a way similar to the previous phase, with more emphasized carinations and deep bowls, jars with long vertical necks, ovoid (egg shaped) jars and two small handles. Beakers, mugs, some jar types, wide short bowls, square-rectangular bowls, vases, cups with inner partitions, horn handles, spouts and anthropomorphic vessels are new. This level also witnesses, although very few in number, incised, ribbed and impressed decorated sherds and vessels. One impressed vessel is made on “coarse buff ware”.

### **1.3. Comparing Hacilar with Ulucak**

According to the radiocarbon dates from the sites, Ulucak Vb and Hacilar IX-VIII may be contemporary. Hacilar VI, dated roughly to 6000 cal. BCE, corresponds to Early Ulucak IV (IVg-k). Hacilar V-I is roughly contemporary with Ulucak IV Early. Carbon dates indicate that Hacilar I and Ulucak IVa have been abandoned in the same century, around 5700 cal. BCE. Below we will evaluate the ceramic evidence from both sites.

Unfortunately a quantitative and technological analysis is not available in the final report of Hacilar which impedes precise comparisons between two sites. At first sight there are both close parallels and clear distinctions between the ceramic assemblage from Hacilar and Ulucak. Absence of coarse wares or cooking wares at both sites is one important aspect that is underlining similar attitudes towards pottery use and function. Absence of a developed painted pottery tradition at Ulucak and in Central-West Anatolia in general, is a very remarkable difference that proved to be hard to explain satisfactorily. I will try to make a detailed account of these similarities and differences in terms of fabric and morphology in order to construct a relative chronological scheme.

The fact that even the pottery from the earliest Hacilar Level IX includes red-on-cream painted wares, CSBW and RSBW should not be ignored. It seems unlikely from the descriptions of Mellaart “brown burnished ware” of Ulucak V was present at Hacilar. In his catalogue (Mellaart 1970: Pl. 45), there are descriptions like “polished grey ware”, “black burnished ware”, “blackish grey burnished ware” or “buff burnished ware” which might however correspond to our “CSBW” and “Brown Burnished Ware”. Mellaart’s (1970: 101) general description of Hacilar IX-VIII pottery also indicate an assemblage made of fine burnished wares with variety of colors including red, but with dominance of grey and cream, with usually mottled surfaces. This might mean that the earliest pottery at Hacilar was more comparable to Early Ulucak IV, especially IVh-k, and Va. Absence of dark colored burnished wares at LN Hacilar, a significant ware group of Ulucak Vb, might indicate that dark burnished wares were not adapted at Hacilar IX. Another similarity with Ulucak Early IV-Va is the dominance of mineral inclusions at Hacilar, which however seem to have stayed as a rule until the end of the settlement, therefore is not helpful in terms of dating. The transition to chaff tempered wares in Ulucak IV Late is not attested at Hacilar.



**Figure 6.10: 1-4: Ulucak Vb 5: Hacilar IX (after Mellaart 1970: Pl. 46:6) 6: Hacilar VI (after Mellaart 1970: Pl. 54: 10) 7: Hacilar IX (after Mellaart 1970: Pl. 45:21) 8: Hacilar IX (after Mellaart 1970: Pl. 46:27) 9: Hacilar VI (after Mellaart 1970: Pl. 51: 14)**

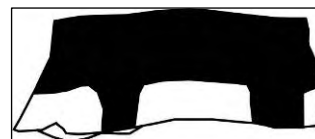
Forms from Hacilar IX are extremely reminiscent to Ulucak V form repertoire, although similarities with Ulucak IV are also observed. Dominance of bowls with ‘s’-shaped profiles, hole-mouth jars with globular bodies, globular jars with short necks are well-defined characteristic of Ulucak V. Hacilar IX bowls and jars would be equally at home at Ulucak Va-b (Fig. 6.10). Presence and frequency of tubular and pierced lugs, especially the way they are set in pairs on jar shoulders, is also attested well in Ulucak

V. Preference of carinated flat bases is another characteristic of Ulucak Va-b that is echoed at Hacilar IX.

One important distinction I have noticed is the presence of carination on some Hacilar IX bowls (see Mellaart 1970. Pl. 45: 12,13,27) which is not known from Ulucak V at all. Additionally, the bowl with basket handle and footed vessels are features that are unknown from Ulucak IV-V. Tubular lug that is placed inside of a vessel is absent at Ulucak but is observed at Ege Gübre.

The following levels, Hacilar VIII-VII, encompass all features of the previous level in terms of fabric and forms. What is different is one rim fragment belonging to a jar with everted neck that has an egg-shaped mouth (Mellaart 1970: Pl. 48, 20). Such jars are found in the entire Ulucak assemblage, but egg-shaped mouths are completely absent at Ulucak. Small handles are also present in the Hacilar assemblage, a very rare feature for Ulucak pottery, although not totally absent. Hole-mouth bowls from Hacilar VIII remind us the same type of bowls from Ulucak Va-b. One vessel type that is very peculiar to Hacilar IX-VI and never appears at Ulucak are the so-called “lentoid vessels”. No parallels can be established for this vessel form in the entire Central-West Anatolia.

The quantity of pottery from Hacilar VI is higher and more varied in comparison to earlier levels from the site. There is a clear tendency towards more production of RSBW and CSBW, while at the same time red-on-cream wares increase gradually. RSBW from this level are extremely fine with clear red-dark red surfaces and burnishing that make them extremely shiny. Painted



**Figure 6.11: Red-on-cream painted rim sherd from Ulucak Early IV (IVi). Vertical bands that run from rim towards the vessel body is a trait of Hacilar VI.**

vessels have usually motifs that are composed of vertical bands. Except for the increase in painted wares, there is not much to distinguish at both sites at this stage. Cross shaped paint inside bowls from Hacilar VI (see Mellaart 1970: Pl. 59.8-9) can be easily comparable to the bowl with cross inside from Ulucak Va. Linear designs are actually the only type of decoration seen on painted sherds from Ulucak, however they are mostly confined to small sized bodysherds therefore it is hard to make any assumptions on the motif painted on the entire vessel body. Upside down “V” shape seen on a cream-on-red rimsherd from IVi can be compared to geometric and zig-zag paintings on Hacilar V vessels. Another rimsherd from the same deposit displays one horizontal band on rim and two vertical bands that protrude from this thick horizontal band (Fig. 6.11). This

type of decoration is known from two major Lake District sites, e.g. Hacılar VI and Kuruçay 12. One interesting point we can make here about the painted pieces from Ulucak is that the ones from Level IVb are of red-on-cream type, like the ones from Hacılar VI-II while sherds found in earlier building phases (IVh-k) are mostly cream-on-red. Red-on-cream wares are also attested at Level Va which does not allow us to make chronological correlations depending on the color of the paint. Both varieties might have been produced at the site and were transported from somewhere else.

The typical 's'-shaped profiled and convex profiled bowls make up important part of the Hacılar VI assemblage while bowls with rather flaring profiles are also there. Deep bowls and jars with 's'-shaped profiles and hole-mouth jars with globular bodies, very well known from Ulucak IV-V, are also represented. Parallel to Ulucak ceramic assemblage tubular lugs, rather short, are still commonly seen on Hacılar VI bowls and jars. Two illustrated small sized jar with four lugs on shoulder (Mellaart 1970: Pl. 54.11; 55.1) have their "twin sisters" from Ulucak IVh, Va and Çukuriçi Höyük.

Jars with long vertical necks, oval shapes, plastic decorations, and bead-rims, especially well-known from Ulucak IVa-c, are seen at Hacılar VI which, in my opinion, are important chronological markers. Decrease in the number of tubular lugs is also paralleled at Ulucak where with Level IV there is a marked decrease in the number of tubular lugs in general. There are however a good number of Hacılar traits that remain unmatched at Ulucak: Lentoid jars, anti-splash rims, carination on bowls, lugs on the inside, pedestals, lozenge shaped vessel mouth, jars with ledges below rim, cross shaped bases and animal shaped vessels. Cross shaped bases and tubular lugs inside a vessel are at least attested at Ege Gübre in Central-West Anatolia while others are completely absent in the entire region. It is probable that these shapes and applications are specific to Hacılar and Lake District pottery production tradition. Therefore it would not be far-fetched to interpret these traits as "local" instead of placing Hacılar VI somewhere later than Ulucak IVb.

One should also mention that there is one vessel shape at Ulucak that is not found at Hacılar until Level I, e.g. the anthropomorphic vessel. One effigy jar in the shape of human face from Level VI is the most comparable specimen to human shaped vessels from Ulucak, both representing a woman. Two examples of such vessels are found at Ulucak IVb, one of them is red-on-cream painted, the other monochrome red slipped and burnished. The appearance of real anthropomorphic vessels as late as Hacılar I is

intriguing in terms of dating, because none of the elements that are peculiar to Hacilar I can be found at Ulucak IVb.

A close inspection of anthropomorphic vessels from Ulucak IVb and Hacilar I reveals that Hacilar example is extensively painted while Ulucak example is modestly decorated (Fig. 6.12). They are both red-on-cream painted. Ulucak vessel was exposed to secondary firing therefore surface color or any evidence of burnish

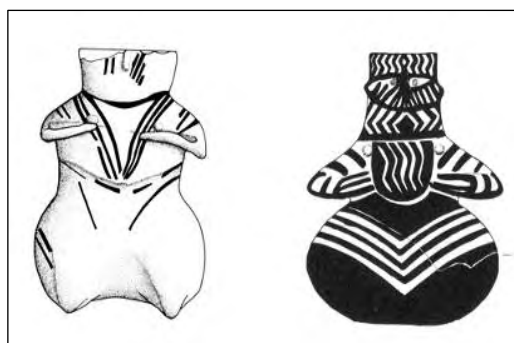


Figure 6.12: Left: Ulucak IVb; Right: Hacilar I.

was lost. Both have their hands bended and attached to body, but Hacilar example holds a cup in hand while Ulucak example holds her tiny breasts. Hacilar vessel has obsidian inlays where the eyes should be. The face unfortunately is not preserved on Ulucak vessel. In Ulucak example the feet are slightly articulated while the lower body of Hacilar vessel was re-constructed by Mellaart. The painting on the Ulucak specimen show parallel fine lines on the front and vertical fine zig-zags on the back. Hacilar vessel likewise has vertical zig-zags on its back, but they are not as fine as the Ulucak painting. Despite differences in style the concept is the same. However it should be mentioned here that Hacilar vessel was recovered during an illicit excavation and was sold to a museum in Istanbul. Mellaart claims to have found sherds belonging to this vessel “*at the bottom of robber’s trench in Room 6*” (Mellaart 1970: Fig. 249). As fragments of other effigy vases were found in level I, this dating seems to be correct.

Another feature that is not found in pre-Hacilar I assemblage is the impressed wares that are represented at Ulucak IV making up around 5% of pottery. Impressed wares seem to be lacking at northern Lake District, while a number of examples have been published from Höyücek “Mixed Accumulation” in the southern Lake District region (Duru-Umurtak 2005: Pls. 95-96). The presence of impressed vessels, though rare, in Hacilar I repertoire is interesting because when considered together with the anthropomorphic vessel, these may imply contemporaneity which seems to be supported by the carbon data. Level IVb is dated to 5900-5700 cal. BCE through two carbon samples. On the other hand, apart from these two traits, parallels between Hacilar I and Ulucak IVb assemblages are not extensive.

Same interpretation goes for Hacilar V-IV, which by and large remains very similar to Hacilar VI fabrics and typology, but witness a clear increase in “fantastic style”, animal head handles, grooved rims, and “offering tables”. What is striking about Hacilar V pottery is the pronounced carination on bowls and deep bowls which become slowly a defining trait of Hacilar pottery. Jars from Level V, whether with long or short necks, having larger volumes, find their close parallels at Ulucak IV. With Hacilar IV, jars are likewise made with sharp angles on the belly. Almost all jars have a rounded body at Ulucak, only exception is the big storage jar from Ulucak IVb.

Offering tables might also help relative dating Ulucak IV. Two offering tables are found at Ulucak’s IVb deposits. At Hacilar these appear with Level V-IV and continue into Hacilar II.

Levels III-II at Hacilar are associated with the Fortified Village described above. These are levels in which red-on-cream painted wares become dominant while monochrome wares are confined to red and cream slipped burnished wares. Carinated bowls with ‘s’-shaped profile, bowls with lower wide bellies, jars with long necks, hole-mouth jars with widening bellies and handles, oval or ovoid shapes, lentoid vessels, offering tables, animal shaped handles, pedestals and shallow bowls constitute the vessel forms from these levels. Although they reflect a clear continuation from the immediate lower levels of Hacilar they become more and more distinct in nature from Ulucak IV-V types especially because of the pronounced carination, animal shaped spouts, and pedestal bases. Spouted small cup with one loop handle is a form never recorded at Ulucak IV-V. Same goes for pedestal bases with windows. Moreover, tubular lugs become extinct with these levels and there is a clear tendency of producing small handles than any type of lugs that is clearly distinguished from Ulucak where tubular lugs, although in gradual decrease, are nevertheless frequently encountered until the end of the settlement.

Level I pottery bears some similarities to previous Levels IV-III and Ulucak IV. In this level red-on-cream wares make up 70% of all pottery. Monochrome wares are red and cream-light brown burnished. White-on-red examples are also found in this level but are quantitatively far below red-on-cream wares. Mellaart’s “fantastic style” disappeared from the assemblage. Painted motifs are linear. White-on-red ware is unknown at Ulucak, although few cream-on-red pieces have been found in IVi-k. Some major shapes from Hacilar I have no parallels at Ulucak at all. Vessels with partitions, mouths with rectangular-square shape, pedestals, tankard like cups with handles, squarish beakers-

mugs, carinated bowls with large diameters, stylized animal head handles, jars with widening ovoid forms, pot stands, straight sided vases are not present at Ulucak at all. What is however comparable to Ulucak is the presence of anthropomorphic vessels and impressed wares (see above). The Hacilar I assemblage is related to Ulucak IV assemblage in a way that one can say both assemblages have common origins but have diverged through time. Hacilar I has many traits that are absent at Ulucak IVb-a that makes us suggest that Hacilar I represents a further stage in pottery tradition that lacks at Ulucak; and that despite the presence of anthropomorphic vessels at both sites. If Ulucak was not abandoned with IVa maybe we were going to observe a similar direction in the pottery shapes.

As a result, Ulucak V wares and forms show strong similarities to Hacilar IX-VI while a gradual increase of RSBW observed at Ulucak V-IV is echoed in Hacilar VI-IV. What is not echoed at Ulucak is the gradual increase of painted wares, although sporadic appearances are attested in Ulucak V and IV. The linear execution of Ulucak painted sherds can be compared to “Linear Style” of Level VI, prior to the appearance of the so-called “fantastic style”. Existence of two anthropomorphic vessels from Ulucak IVb is compared to Hacilar I specimens, but complete absence of Hacilar I forms at Ulucak IVb indicates an earlier date for the latter.

Another important indication for dating is related to carinated vessels. At Hacilar, pronounced carination is observed starting with Level V, but clear increase is observed in Levels II-I. On the contrary, carination never becomes an identifiable feature of Ulucak pottery, although the IVb forms show certain tendency towards carination.

Another important feature is the development of necks on jars. At Ulucak IVb, these are encountered as fully developed and are found frequently. Jars with developed necks occur already in Hacilar V and continue until Hacilar I. What is missing at Hacilar are short necked jars with knobs or handles on neck. As such forms are found at Kuruçay 11Üst-7, we may allow us to correlate Ulucak examples with these, as such forms may have appeared in the gap between Hacilar II and I. However, we should mention here that at Ulucak horizontal lugs are never attested directly on rim, as some Kuruçay examples. At Ulucak IVb, lugs always remain below the rim while small vertical handles may be attached to rim. Nevertheless, matching of such jars at Kuruçay 11-7 is important as these phases pre-date Hacilar I. Jars with small vertical handles on rims have also been attested at Ilıpınar VII-VI, where Kuruçay-type jars with lugs on rim also appear. In

the light of carbon dates and these correlations one might suggest that Ilıpınar VII-VI and Ulucak IV Late correspond to a similar chronological zone which falls into the gap between Hacılar II and I.

Tubular lugs are extremely rare with Hacılar V onwards, but they continue until Hacılar II, whereas tubular lugs are present in the Ulucak assemblage as long as the Level IV habitation continues on the mound. It is true that their quantity decreases towards the end of the occupation at Ulucak, but they remain to be used nevertheless.

Our comparisons and available carbon dates indicate that Ulucak IVb should be placed to the gap between Hacılar II and I, together with Kuruçay 11-7. But, then, how can we explain the occurrence of impressed wares and anthropomorphic vessels at Ulucak IVb and Hacılar I? Is it possible that impressed wares at Ulucak which are found from Level Va to IVa was a result of earlier interactions with communities in the Aegean and Eastern Mediterranean, if we assume that they originated in the littoral Eastern Mediterranean.

Another question would be how can we explain the absence of carinated bowls at Ulucak? Carinated bowls seem to be one of the definitive forms of EC in the Lake District and Central Anatolia, even in Northwest Anatolia. Many traits indicate contemporaneity of Ulucak IV with Hacılar V-II, but how can be the carinated bowls lacking at Ulucak? Can we explain it as a cultural resistance, similar to the non-adaption of painted wares in the region? It is intriguing to try to explain the divergences in both sites. Some of the answers however seem to be hidden in the Hacılar II-I gap. Others have to do with differing ceramic traditions at both regions which through time diverged from each other. Quasi-absence of painted wares at Ulucak IVb is a good proof of how in different directions both regions had developed during the EC.

Another question is whether Ulucak Va-b pre-date Hacılar IX. It is unfortunate that in Hacılar publication photos of ceramics from levels IX-VII are not included. From the brief description of these early wares, we understand that similarities do indeed exist with Ulucak V wares. Mellaart's description of Hacılar IX-VIII pottery probably corresponds to our "brown burnished ware" and "cream slipped burnished ware". Light grey and cream burnished fine wares constitute important portion of the wares in Ulucak V. Nevertheless 37% of the Vb assemblage is constituted by RSBW (with stark contrast to 83% of IVb). In the absence of precise ceramic data from Hacılar IX, it is hard to



make arguments on dating relying on the fabric but we have other evidence in hand to guide us.

In terms of vessel shapes Ulucak Va-b is closely related to Hacilar IX, despite some divergent features. For instance, basket-handles are absent at Ulucak Va-b and impressed wares at Hacilar. Both traits therefore cannot be used for relative dating purposes. The only feature that might help in relative dating is the oval shaped base. These are already present at Hacilar IX but are not found at Ulucak earlier than building phase IVi. Hence, if we are to use this morphological trait in our analysis, the situation suggests that Ulucak IVk-Vb are pre-dating Hacilar IX.

In terms of other material cultural elements that might assist in dating architecture takes precedence as in general in Anatolia mudbrick as building material is preceded by mud-slab or wattle-and-daub (Düring 2006). Concerning the building technique used at Hacilar IX-VII, Mellaart does not make any inferences. It seems like he considers them to be of mud-brick because already in “Aceramic Hacilar” he excavated mudbrick structures as well as in the subsequent level VI. Wattle-and-daub architecture excavated at Ulucak Va and Vb are therefore crucial with regards to their earlier dating than Hacilar IX. On the other hand, one should be careful when making correlations using architectural techniques because it is known that a variety of techniques might be employed at a single site and inter-regional comparisons of architectural development may not work as one assumes. In other words, wattle-and-daub architecture is not necessarily an indication of earlier date.

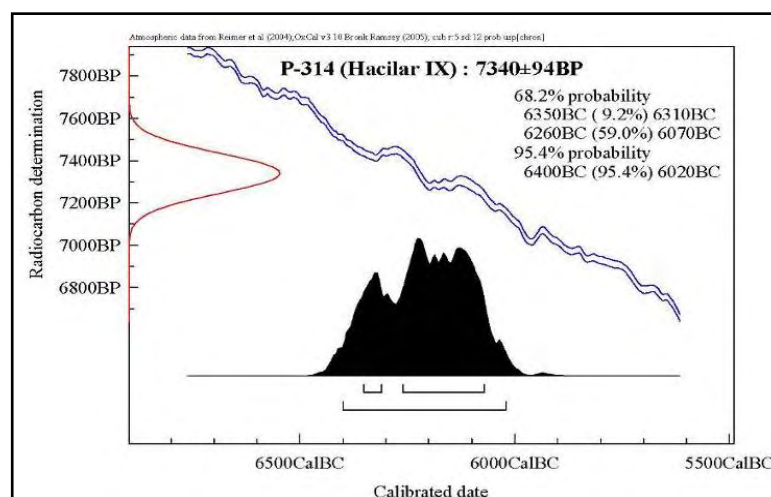


Figure 6.13: The only dated sample from Hacilar IX.

Yet another indication for Ulucak V being earlier than Hacilar IX can be further supported by the fact that anthropomorphic figurines are not encountered with Ulucak Vb whereas two fragments of figurines have been found at Hacilar IX (Mellaart 1970: 166).

In the light of these arguments it is conceivable to propose that “Ulucak V Culture” is coinciding with and preceding Hacilar IX. Obviously they are strongly related to each other. The carbon dates support our claim. Ulucak Vb covers a period from 6200-6100 cal. BCE which corresponds to Hacilar IX (Fig. 6.13). Ulucak Vc-f pottery, characterized by dark colored burnished wares and hole-mouth pots, as suggested by the carbon dates, is clearly earlier than Hacilar IX.

## 2. Kuruçay

### 2.1. General Overview of the Archaeological Research

The mound is located 15 km South of Burdur, and 1.5 km southwest of village Kuruçay. The mound is 960 m above sea level, on a 10 m high small natural mound close to the southeast of Lake Burdur. The mound itself is around 8 m high from ground level and is 90 m in diameter. To the north of the mound Bağ Deresi flows which is a seasonal water system.

Already in 1964, J. Birmingham from Hacilar excavation team, collected material from the mound. M. Özsait made survey in the area and collected material from the mound between 1972-1975 as well. The mound has been excavated between 1978-1988 by Refik Duru of Istanbul University. The final excavation report has been published in 1994 by Duru.

#### Stratigraphy and Periodization (Duru 1994)

EBA I-II	Levels 1, 2
.....	Hiatus.....
Late Chalcolithic	Levels 3, 3A, 4, 5, 6, 6A
.....	Hiatus.....
Early Chalcolithic	Levels 7-10
LN	Level 11
EN	Level 12
.....	Hiatus.....
EN	Level 13
Virgin Soil	

The earliest level from Kuruçay, 13, is devoid of any architectural remains, identified in two deep pits that were dug in two areas. Duru points out (1994: 9) these pit deposits might be secondary but he is convinced that these are earlier than Level 12 as they are found under elevations that revealed remains of Kuruçay 12. Kuruçay 12 is divided into two sub-phases labeled as “12 *alt*” (12 Lower) and “12 *üst*” (12 Upper). A rectilinear building (8.5 x 4.5 m on one side and 8.5 x 5.3 m on the other) with 1.1 m thick stone foundations and pebble pavements (Building 1) and an adjacent building with curvilinear walls (Building 2) to its East, are assigned to lower phase of Level 12. Inside Building 1, around 40 grinding instruments, grinding stones and pestles, have been found. The curvilinear building has a horse-shoe shaped oven and another hearth in it, again with a number of grinding elements scattered on the floors, and apparently connected to the first building. 12 *üst* contains another rectilinear building that is attached to the southern side of first building, having a similar plan and stone foundations. Another wall which resembles the stone foundations of the other structures have been excavated to the south of Building 3. All three buildings and the stone foundations of this early are aligned at a North-South direction and have attached walls.

Level 11, likewise divided into phases called “*Alt*” and “*Üst*” is characterized by an enclosure wall of at least 26 m in length, whose foundations have a thickness between 1.1 to 1.2 m. On the wall two curvilinear towers, one of which contained a grave, can be distinguished. Another wall that runs parallel to the enclosure wall with 4 meter distance to the latter has been detected. No meaningful domestic architecture from this level has been found.

EC levels follow Level 11 with four occupation Levels from 10-7. Few and damaged stone foundations are assigned to Level 10. Two houses are assigned to Level 9, one of which preserved relatively well. It is observed that the floor, made of compacted clay, was renewed at least three times and housed one quern and one grinding stone. Level 8 includes damaged remains of five free-standing rectilinear houses that do not possess a unified alignment.

Level 7 is reported to include better preserved architectural remains that belong to seven quasi-square planned houses that have varying sizes. Houses are either attached to each other or have narrow alleys in between. Remains of mudbrick from the superstructure have been detected for the first time in this level. Houses are plastered and inner

buttresses, ranging from two to four, are evident which makes us recall the Hacilar I and Can Hasan 2B houses.

It is seen that in general architectural remains from Kuruçay are confined to stone foundations and from Levels 12-8 much spectacular changes in the building techniques and house plans cannot be observed. Enclosure wall of Level 11 is of interest as it attests a need for protection. What seems to have changed is also settlement layout, which in level 8 shows free-standing and in Level 7 clustered buildings. Inner buttressing of the walls is an innovation Level 7 which serves as an important dating parameter for this settlement as analogous plans and building techniques are known in several other Anatolian settlements.

Very few carbon dates are available from Kuruçay. These were taken from Levels 13,12 and 11. Sample from Level 13 yielded a date 6230-6070 cal. BCE (7310±70 BP) whereas Level 12 (7140±35 BP) and Level 11 (7045±95 BP) cluster around 6000-5800 cal. BCE (Duru 2007: 337). Two dates are available from Level 7, these gave the results 7214±38 BP and 5170±70 BP, the latter interpreted as an intrusion from upper levels (Thissen 2002: 322).

## **2.2. Ceramics**

Kuruçay 13-7 ceramic repertoire is classified into seven categories named by Duru as “Ware A-F” and “coarse wares”. The wares are defined according to their fabrics and surface treatments. At least on photos some distinct wares seem to be identical to us (See Duru 1994: Lev. 246 and 247 for photos of different Kuruçay Wares). All are fine tempered with mineral inclusions, but with varying surface treatments and surface colors. Five of these wares are fine red-on-cream painted wares with mineral inclusions. However it is likely that pastes and firing of these wares were distinct from each other and therefore classified under different categories, which naturally cannot be inferred through photos. Therefore we cling to the scheme developed by the excavator.

Ware A with its three sub-groups, is equal to what I call “RSBW”, “cream slipped burnished wares” and “red-on-cream painted wares” which constitute in each building level around 90% of the assemblage. The paste is very clean, even without temper, grey, cream or brown colored. Mica is increasingly observed with Level 10. Chaff inclusions are totally absent while some big sized vessels include mineral inclusions like grit. It is noted that on some examples slip is easily detached from the surface, although on most

ceramics the slip well adheres to the body. The ceramics are very fine and burnished, some very thin walled examples are mentioned from Levels 13-12. Sub-groups refer to some coarser specimens, mottled surfaces, porous surfaces and darker fracture colors of essentially the same ware (Duru 1994: 19).

Ware B is described as having red-brown paste with gray centers, mineral inclusions, self-slip and occasionally burnished. Some of the examples are red-brown painted on cream-yellowish surface. They generally have thick walls. They become increasingly similar to Ware A (Duru 1994: 23).

Ware C makes up small portion of the Kuruçay ceramic assemblage having grey colored pastes and mineral inclusions. Surfaces are porous and unslipped or self-slipped, unburnished. Firing is poor and mottled surfaces are common (Duru 1994: 25)

Ware D is likewise quantitatively low in the assemblage (only 2%). Paste is gray to buff (light brown). Mineral inclusions, small grits, are common. Neither slip nor burnishing is attested. Vessels are thick-walled and well-fired.

Ware E, associated with Levels 10-9, has dark grey pastes without any trace of temper. They are described as “porcelain-like” due to high firing temperatures. Surfaces are slipped and burnished (Duru 1994: 26-27).

Ware F is peculiar to Level 7 with light grey- light brown pastes and mineral inclusions such as sand, mica and small grits. Cream-light brown (“beige”) colored slip and surfaces are common which are painted with red colored motifs. Surfaces are burnished (Duru 1994: 28).

Duru mentions existence of “coarse wares” in every building phase from 13 to 7, which he suggests as being “cooking wares” which are defined as gray-black colored, brown pasted, unslipped and lightly burnished wares (Duru 1994: 29).

All the 150 pottery sherds that are uncovered from Level 13 belong to Ware A, especially to categories A2 and A3 with dark colored pastes and mottled surfaces. A3 variant has also porous surfaces. Very few painted specimens confined to single bands, dark brown paint on dark colored surface, have been found in the debris. Relief decoration, one in the shape of a human with raised arms, is also present. Fineness of the pottery is especially emphasized (Duru 1994: 31). The forms are mostly associated with jars. Bowls with convex and flaring profiles, deep bowls with ‘s’-shaped profiles,

beakers, hole-mouth jars, jars with short necks and jars with long necks (funnel necks) are identified in the assemblage (Duru 1994: 20-21). Short-thick tubular lugs, horizontal pierced knobs and vertical small handles are also seen. Presence of oval bases is worth mentioning (Duru 1994: 30). Duru notes (1994: 9) that pottery from Level 13 (two pits) are dissimilar to anything known from Kuruçay' other levels, although, to our eyes, all the wares and forms that are identified in this level continue and are perfectly matched in later levels.

Level 12 with its *Alt* and *Üst* phases, has Wares A, B and C. In this level Ware A1, fine RSBW and CSBW including painted specimens, becomes dominant. Wares B and C are apparently in few numbers. Painted wares are already common and are confined to simple bands, geometric shapes and fantastic motifs. Concentric "V" shapes, *bucrania* and stair motifs recall Hacilar Fantastic style. Relief decoration, especially *bucrania* but also human figures, is attested. Few bodysherds with incisions are also present. Common forms include bowls with convex profiles, bowls with flaring profiles, bowls with 's'-shaped profiles, beakers, vases, hole-mouth jars, hole-mouth jars with globular bodies and short necks, oval mouthed jars with globular bodies, jars with necks and jars with spouted rims (Duru 1994: 20-21). Animal shaped handles also appear with this level. Short-thick tubular lugs are still observed as well as an increase in vertical or horizontal handles. Especially horizontal handles placed right below the mouth on deep bowls and jars in common.

Pottery from Level 11, both phases, include Wares A, B, D and E with Ware A again being the predominant. The painted wares, red-on-cream, continue to increase in number with a variety of motifs being applied from geometric to fantastic shapes. Ware B is especially associated with red painted decorations. On bowls, inner side of the vessel carries concentric circles. Lugs that are placed inside of a vessel, associated with coarse Ware D, is observed for the first time in this level. Many of the forms from the previous levels continue while carinated bowls become visible in the assemblage. Circular horizontal lugs right on rim of hole-mouth jars are seen in this phase (Duru 1994: Lev. 95).

Ceramic assemblages of Levels 10-8 are by and large identical to each other. Ware A still dominating, other Wares such as B, C, D and E appearing in small numbers. Painted wares continue in big numbers while there seems to be an increase in the number of vessels with fantastic designs. One important change is the decrease in the number of

tubular lugs and appearance of ring bases and pedestals with windows. One interesting fact is appearance of a lentoid vessel, known from Hacilar IX-VI and III. Small cups with or without handles are also common. Oval forms continue. Shallow plates become more common. Typical are also jars with horizontal handles on the rims. Ovoid jar mouths are again attested in Level 8. Footed vessels are also observed in the same level.

Level 7 witnesses some innovations in the ceramic fabrics and forms. Ware F appears in this level. Red-on-cream wares continue but with limited variety of designs. Forms that are known from previous Levels 10-8 continue into the Level 7. Small cups, spouted cups and deep vases seem to have appeared in this level. Jars with ovoid mouths, lentoid jars, small sized hole-mouth bowls are absent in this level.

### **2.3. Relative Dating of Kuruçay**

The relative chronology of Lake District has already been presented in detail by Schoop (2005a: 172-191) who was able to solve a number of problems related to the relative and absolute chronology of this region through his methodologically sound, objective research-historical and relative chronological analysis. In this section, we will restrict ourselves to ceramic comparisons, wares and forms, between Hacilar and Kuruçay without going into the details of historical background of chronological misinterpretations.

A short summary to explain why we write this section would suffice here: For several reasons, Duru sets Kuruçay 13 contemporary with “Aceramic Hacilar” and Çatalhöyük 12; and provides a date around 7000-6800 cal BCE for this horizon (see Duru 1989; Duru 1994: 51; Duru 1999: 189; for a detailed critique see Schoop 2002). He also makes clear distinctions between Kuruçay 13 and 12 (his “EN”) by separating them from each other by roughly 400 years; Level 11 and 10-8 by calling the former “Late Neolithic” and the latter as “Early Chalcolithic”. As a result, the clear continuity and gradual development of Kuruçay ceramic assemblage in its entirety falls victim to this terminological choice. This ongoing arbitrary use of chronological terms such as “Early Neolithic”, “Late Neolithic” and “Early Chalcolithic” impedes healthy constructions of relative chronology in this region. Why Levels 13-12 are labeled as “EN”, Level 11 as “LN” and Level 10 as “EC” is a question that is left unanswered. Finally, a fundamental misinterpretation of absolute dates from the region pursued Duru to build unjustifiable relative chronologies (Schoop 2002). As a result, I find it useful here to present an account of to what extent Hacilar IX-I and Kuruçay 13-7 assemblages are analogous.

One can easily state that there are fundamental similarities between the entire Hacilar and Kuruçay ceramic assemblages even without making detailed comparisons. Duru (1994: 53) actually makes this point by stating that the ceramics from both settlements might have been produced at the same workshops. The dominance of RSBW and CSBW from the earliest levels of Kuruçay, presence of oval bases, short tubular lugs, painted pieces, hole-mouth jars with globular bodies and bowls with 's'-shaped profiles point out that even Kuruçay 13 fits well into the "LN" ceramic assemblages of Hacilar IX-VI. Absence of long tubular lugs set in pairs, a trait for rather early phases, and presence of red-on-cream vessels already at Kuruçay 13 might even indicate a later date for this settlement than Hacilar IX-VI. There is however one example from Kuruçay 12 *Alt* which shows two pierced knobs set in pairs which we should indicate here as an "early-looking piece". On the other hand, the forms and wares are *defining* types (*Leitformen*) of what in Central and West Anatolian terms "LN".

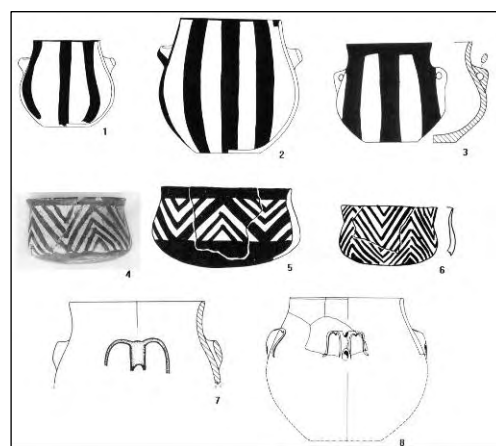
A2 and A3 variations of Ware A, as depicted on Duru (1994: Lev. 246), might be equal to what Mellaart defined as "monochrome wares" with mineral inclusions and surface colors that are predominantly grey, light brown and cream. In my opinion, such differences in surface colors, fracture and surface properties (for example mottling) do not necessarily indicate separate "wares" but an outcome of undeveloped firing methods and especially of open-firing used commonly in the Neolithic. Therefore, it is rather questionable whether we are dealing with "different wares" or same wares which went through different firing processes. In any case, presence of fine pottery with various surface colors (Wares A2 and A3) is not only encountered at Level 13, but also in Levels 12-7, which indicates that these "wares" were not time-specific but are present in all Levels from 13 to 7.

The continuity in the fabrics and forms from 13 to 12 and into 11-8 and 7 is nothing but obvious. Increasing fineness of RSBW and red-on-cream is observed at Hacilar in the Levels from IX to VI and especially gradual but steady increase of painted wares with Level VI-IV. A similar story seems to repeat itself at Kuruçay where this increase is noted by Duru from level 13 into 12 and 11. Therefore an earlier date for Kuruçay 12-11 than Hacilar IX-VI, as suggested by Duru (1999: 189) remains unjustified. There are a number of crucial traits between Kuruçay 13-7 and Hacilar VI-I, to suggest that these settlements were *not* contemporarily settled would be perverse. The first and most important are the near- absence of coarse wares, dominance of RSBW and an ever



increasing number of cream-on-red painted wares with identical motifs from both mounds. Let's recall Duru's (1994: 19) statement: "Ware A makes 90% of the assemblage in all phases." Secondly, the identical forms from both settlements from their earliest phases make it clear that we are dealing with partly or completely contemporary settlements.

There are other distinctive traits that helps develop the argument of contemporaneity on a more detailed level. Such traits include ovoid jar mouths, lentoid jars, horn handles, identical motifs of paint (especially Mellaart's "fantastic style"), *bucranium* shaped lugs, relief decoration, lugs attached to the inside of vessels, pedestals with windows, footed vessels, and horizontal lugs on rims. For instance, it is impossible to overlook the execution of concentric "V" design on a red-on-cream Kuruçay 13 bowl with 's'-shaped profile and the same design on an identical form from Hacılar V (Fig. 6.14). Another striking similarity is observed between the three jars painted with thick vertical bands (see Duru 1994: Lev. 35: 9; Lev. 39; 1 and Lev. 98:2) which were found in Levels 13, 12 *Alt* and 11 *Üst*<sup>59</sup> respectively. The same jar is well-known from Hacılar VI, likewise painted with thick vertical bands in red (Fig. 6.14). An identical jar form, with short neck, two vertical



**Figure 6.14: 1. Hacılar VI (after Mellaart 1970: Pl. 59.1) 2. Hacılar VI (after Mellaart 1970: Pl. 59.14) 3. Kuruçay 11 *Üst* (after Duru 1994: Lev. 74.1) 4. Kuruçay 13 (after Duru 1999: Fig. 9) 5. Hacılar V (after Mellaart 1970: Pl. 62.1) 6. Hacılar V (after Mellaart 1970: Pl. 62.2) 7. Kuruçay 12 *Alt* (after Duru 1994: Lev. 40.3) 8. Hacılar VI (after Mellaart 1970: Pl. 56.3)**

small handles on belly and flat base, is also illustrated on Mellaart 1970: Pl. 75 for vessel shapes from Hacılar IIA. It is obvious that this vessel form continues at Hacılar from VI- IIA. The paint, vertical thick bands, is very well attested at Hacılar VI, on more than one jar. These direct comparisons indicate clearly that Kuruçay 13-11 are representing successive stages without any cultural hiatus. According to our understanding these levels should be contemporary with Hacılar VI-V and cannot be earlier than that.

<sup>59</sup> This vessel was attributed to Level 11 *Üst* in the original publication from 1994; to Level 12 in Duru 1999: Fig. 9 and again to level 11 in Duru 2007: Fig. 22. We take here the designation in the 1994 publication as correct and assign the vessel to Level 11 *Üst*.

Decrease of tubular lugs for example another development that runs parallel at both settlements. At Hacilar with level V and at Kuruçay with Level 11, a decrease in the number of tubular lugs is mentioned. At Hacilar IV and Kuruçay 10 there are no vertical tubular lugs anymore. Similarly, an increasing carination on bowls is observed at Hacilar VI-V and Kuruçay 11 which continue into later levels at both levels. Fantastic style is first observed at Hacilar V and “fantastic shapes” at Kuruçay is attested already with Level 12-11, increasing in Levels 11-8. Large shallow plates are a very well defined characteristic of Hacilar I while they seem to appear at Kuruçay already at Levels 11-9 as well as Level 7.

Painted wares from Kuruçay 11 find their strong parallels at Hacilar IV. Pedestals are first observed at Hacilar VI, then in subsequent levels until Level II, while they are seen at Kuruçay in Levels 10-8 and 7. The horizontal lugs that are placed on rim seen mostly on hole-mouth jars are known from Hacilar I and Kuruçay 11-7. Theriomorphic vessels of Hacilar VI and IV are found at Kuruçay 11. Offering tables are only known from “Early Chalcolithic” levels of Kuruçay while they appear at Hacilar between Levels V-IIB, likewise called “Early Chalcolithic”. Bead-rims, anti-splash rims and grooved rims, appearing at Hacilar VI-IV, are not mentioned in the Kuruçay report. Disappearance of “fantastic style” in Kuruçay 7 and Hacilar I can be likewise treated as chronological signs. Especially when one thinks that squarish mudbrick architecture with inner buttresses appear with Kuruçay 7 and matched only at Hacilar II-I. These point out that Kuruçay Levels 11-7 are in strong correlation with Hacilar V-I. Probably Kuruçay 11 is rather contemporary with Hacilar V-IV. As mentioned by Schoop (2005a: 180) the appearance of carinated bowls with concentric lozenges, concentric circles, hatched and linear patterns, at Kuruçay in Levels 10-9 and its continuation into Level 7, provide us a correlation between Kuruçay 10-7 and Hacilar I.

Many similar developments at Kuruçay 7 and Hacilar I make us think that these settlements were chronologically close. What is interesting is that the wide variety of forms, some big sized jar forms with exaggerated widening bodies and carinations on belly accompanied by small handles, square shaped mugs and beakers and anthropomorphic vessels are never seen at Kuruçay. Incision, seen only at Hacilar I, is attested at Kuruçay 12 and 7. Schoop (2005a: 193) envisages Kuruçay 11-7 as a natural continuation of Hacilar IX-V tradition in the “Early Chalcolithic”, but slightly before Hacilar I. This seems to be the optimal solution for the data provided by the both sites. In

any case, Hacılar I is chronologically one step further than Kuruçay 7 when it comes to form variability.

All these traits, their absence and presence, are important signifiers for a relative chronology that can be established between these two neighboring settlements. In the light of comparisons it seems possible to suggest that Kuruçay 13-8 is roughly contemporary with Hacılar VI-II while Kuruçay 7 can be slightly earlier than Hacılar I. In other words, Kuruçay's first settlement is later than Hacılar IX-VII and Kuruçay's latest "Early Chalcolithic" settlement is earlier than Hacılar I. These indicate a shorter time-span of inhabitation at Kuruçay compared to Hacılar.

### **3. Bademağacı**

#### **3.1. General Overview of the Archaeological Research**

The mound is 2.5 km northeast of town Bademağacı, which is located 50 km north of city Antalya. The mound is situated on a small plain surrounded by Taurus Mountains, to the south of the actual Lake District in an area separated from Northern settlements like Hacılar and Kuruçay. Its altitude is 780 m above sea level. The mound is located few kilometers North of Çubuk Beli, a natural pass that links the inner plateau with the littoral plain (Duru 1996: 784). The cultural remains go under the current level of the plain.

The mound was discovered in 1958 by David French. It has been mentioned by Mellaart as "Kızılkaya" in his publications (Mellaart 1961b). According to Duru (1996), the site should be called "Bademağacı." The excavations at the mound started in 1993 by Refik Duru of İstanbul University, and still continue under the direction of Refik Duru and Gülsün Umurtak from the same institution.

The most recent periodization provided by the current excavators is as follows (Duru 2007):

Late Roman-Byzantine Church  
.....Hiatus.....  
MBA                                      Sub-phases 1-2  
EBA II                                     Sub-phases 1-3  
.....Hiatus.....  
Late Chalcolithic (?)  
.....Hiatus.....  
Early Chalcolithic (?)  
LN                                         Sub-phases 1-2

.....	Hiatus.....
EN II	7 sub-phases (1-3,3A,4,4A,4B)
EN I	5 sub-phases (5,6,7,8,9)
Virgin soil	

The EN accumulations from the site reach 6 m height. The earliest archaeological material collected from two deep sondages that are stratigraphically unconnected was designated as the earliest cultural deposit ENI-9 (see plan on Duru 2007: Fig. 54). First true architecture comes from ENI-8 which yielded a so-called “*terrazzo*” floor, floor made of hardened lime tempered with sand, which covers an area of 2 x 2 m. Duru (2007: 344) notes that red and black residues on the floor might indicate that it was originally painted. Additional architectural remains related to this floor are not present. The sub-phases ENI- 7-5 are composed of thin burnt floor deposits identified in sections without any positive architectural elements attributed to them (Duru 2007).

Earliest houses from the settlement are known from sub-phases ENII 4B, 4 and 4A which revealed relatively small sized rectilinear mudbrick structures which included flat topped ovens that are built to the longer wall that faces the door opening. Eight additional buildings are uncovered from the upper phase, ENII-3. These are mainly free-standing one roomed rectilinear buildings with sizes around 5 x 3.5 m to 6 x 4 m. Stone foundations do not exist. The corners of the houses are rounded and floors plastered. Mud was the main building material while wood was used at least to support roofs and lay out thresholds. From the descriptions it is clear that in addition to plano-convex bricks, mud-slabs were also used in the wall constructions (Umurtak 2000: 684). In this phase, there is one house with two rooms in which eight human skeletons were excavated. (Duru 2007: 344-345). Three of the houses (Houses 2, 3 and 4) share walls having their doors facing the same direction towards an open area which contained a mud storage unit with six compartments (Duru 2007: Fig. 54). There are scattered stone rows and foundations found in different parts of the mound that are attributed to this phase.

The following phases ENII-2-1 are defined with few rectangular mudbrick structures and walls. One of these structures contained wall plaster with red paint in triangles (Duru 2007: Figs. 60-61). In 2006, more architectural remains, especially storage units, from this phase have been excavated (Duru and Umurtak 2007: 7).

LN remains, two houses and various walls, from Bademağacı are unearthed on the eastern slope of the mound. The houses are rectilinear mudbrick with 80-90 cm thick

stone foundations. The corners are not rounded anymore, probably indicating use of real mould-made mud-bricks.

Among typical material culture from the site clay stamps, female figurines, bone spatula and sling missiles can be named (Duru 2007: Figs. 67-82; Umurtak 1999-2000: Res. 3)

Eight carbon dates are available from the EN deposits. The earliest of these was obtained from sub-phase ENI-8 and provided a range between 7035-6705 cal. BCE (7949±31 BP). Six dates are available from EN3-4 phases which cluster around 6440-6210 cal BCE. EN1 revealed one date which falls between 6220-6080 cal. BCE (at 1  $\sigma$ ) (Duru 2007: 349). These figures indicate that ENI-II periods at the site cover ca. 900-1000 years from 7000 to 6000 BCE.

### **3.2. Ceramics**

The excavations at the site showed that even the first settlers who founded their settled on the virgin soil produced pottery. Ceramics from ENI-9, collected from two small sized pits, are low in quantity and small in size. It is not possible to establish connections from such a small sample size without any distinctive forms. Scarcity of pottery, however, is meaningful, especially when one considers the possible age of this deposit. Bademağacı ENI-9-8 might well correspond to the initial production stage of pottery in the region.

Pottery for the entire ENI is fairly homogenous. Paste is mica tempered, moderately fired, self-slipped, grey, brown, light brown, cream colored and lightly burnished. Paste color may range from pink, light brown, cream to dark gray (Duru 2007: 347). Shapes are limited to small-medium sized bowls with convex profiles, deep bowls and hole-mouth jars. Rims are simple, slightly everted or inverted. Flattened rims are observed with ENI-5. One carinated bowl with an inverted profile that is illustrated by Duru (2007: Fig. 64b) is worth mentioning. Bases are flat while few vertically placed pierced lugs are encountered.

ENII pottery assemblage is a continuation of the previous phase with change observed on surface colors that include among light colors like light brown, cream, light grey also increasingly red, dark gray and brown. A photo of ceramics from this phase in Duru 2007: Fig. 66a clearly shows that light colors are still dominating in the assemblage. Red slip, not well adhering to the body, is also clearly in trend. Hole-mouth jars, large bowls with 's'-shaped profiles, simple bowls with convex profiles, thick-short tubular lugs,

pierced knobs, anti-splash rims and flat as well as disc bases are important characteristics of this phase. Tubular lugs set in pairs are commonly found. Lentoid vessels with tubular lugs and oval shaped mouths are also in the assemblage. In some cases lids or lid grooves on rims have been preserved. One rectangular shaped vessel, called as “box”, has been found in ENII-3 phase (Duru 1999: 181). One basket handled deep bowl with convex profile found right next to the mud silo with six compartments (Duru 1997: 721) is also of interest in terms of dating. Relief decoration in the shape of *bucranium* is observed on a jar with short neck. Paint on some vessels has been attested (Duru 2003: 559), one of which showed linear vertical bands that run from rim towards base. One big sized storage jar is uncovered from ENII-1 (Duru 2003: 559).

Concerning the pottery from LN-EC strata, information is available in the preliminary report from 1996, which are described as cream-on-red or white-on-red painted. Carinated bowls with linear paintings of both sides and jars with funnel necks are seen on Plates 9 and 14 (Duru 1996). Female figurines from the same deposits were also recovered. Duru (1999: 181) mentions finding few sherds that were white-on-red painted stemming from an area where they found parallel stone foundations mentioned above. These sherds he tends to date to LN-EC.

Last but not least, one impressed bodysherd is illustrated on Duru 1996: Levha 14 but without contextual information.

### **3.3. Relative Dating of Bademağacı**

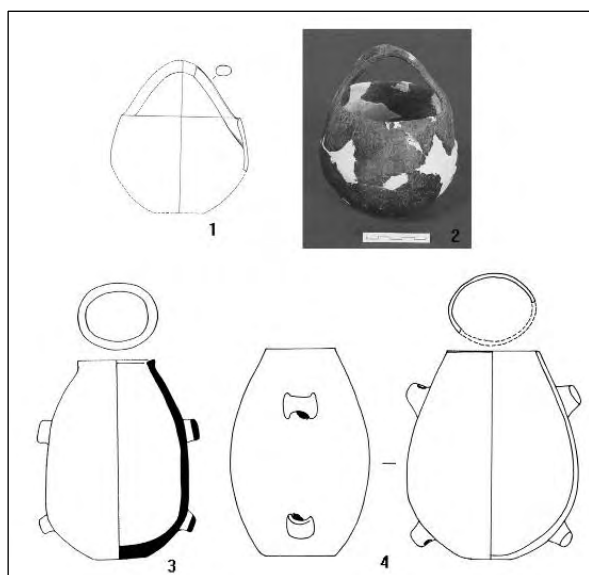
Duru tends to date the earliest remains from Bademağacı to 7000 cal BCE based on one carbon date (7949±31) obtained from charred wood. This, he sets contemporary with Kuruçay 13, Höyücek ESP and Hacılar “Aceramic”; even before Çatalhöyük 12 (see the chart in Duru 1999: 189). Duru (1999: 187) asserts that “...evidence among the finds suggests that the oldest levels at Çatalhöyük are as old as, or slightly older than, the earlier settlements at Bademağacı, Höyücek, Hacilar and Kuruçay.” For the following ENII phase, Duru (1999: 727) suggests contemporaneity between Bademağacı ENII-3 and Çatalhöyük VI. According to the carbon data, Çatalhöyük VI is dated to around 6600 cal. BCE whereas Bademağacı ENII-3 to 6400-6200 cal. BCE (see Thissen 2002: 326; 334). Obviously carbon dates are indicating a LN age for Bademağacı’s ENII levels. Below we will argue that Bademağacı ENI-ENII is closely related to Hacilar LN (especially IX-VIII) while ENI 9-6 at Bademağacı probably predate Hacilar sequence. Bademağacı “LN-EC” deposits are clearly EC in age.

The early monochrome pottery from the site, the so-called “ENI” is a fine-medium ware with a variety of surface colors which is clearly an outcome of the open firing technique. The cream-light brown color however is definitely predominating. This description makes us recall the Hacilar IX-VIII pottery as described by Mellaart (1970: 9): “*pottery which is mainly cream or light grey in color.*”

However one needs to compare the forms in order to obtain a firm ground. The forms that are from ENI 9-5 include bowls with convex profiles with simple rims which are known from Hacilar IX-VIII (see Mellaart 1970. Pl. 45: 1,7,5,6; Pl. 48: 13,14 and 18). At least one bowl with ‘s’-shaped profile is depicted on Duru 2007: Fig. 64b which finds good parallels at Hacilar IX-VI in general. Shallow plates and bowls with incurving or outcurving rims are rather a feature of Hacilar VI (see Mellaart 1970: Pl. 50: 11-18). The carinated bowl seen again on Duru 2007: Fig. 64b finds its best parallel in Hacilar V (see Mellaart 1970: pl. 60:1). Hole-mouth jar with pierced knobs is likewise attested at Hacilar IX (see Mellaart 1970: Pl. 46.11). What is however missing at Bademağacı’s ENI repertoire is the vertical tubular lug, a trait very well known from Hacilar IX-VI. This may be an indication of a period when tubular lugs have not appeared yet. Presence of flattened (inner thickened) rims from Bademağacı ENI is unmatched at Hacilar. Interestingly, such rims are typical of Central-West Anatolia attested well at Ulucak IV and Dedecik-Heybelitepe. Anti-splash rims that are observed at EN levels of Bademağacı is a trait of Hacilar VI. The bowl with basket handle from Bademağacı EN finds its twin at Hacilar IX (Fig. 6.15). It remains however unclear from the limited information provided on ENI-9 pottery to what extent Hacilar IX and basal Bademağacı differ from each other. Despite certain morphological similarities, the pottery from Bademağacı ENI seems coarser, clumsily made, therefore, technologically inferior to Hacilar IX. Here we have to rely on the carbon date from ENI-8, which suggests that basal Bademağacı might be 400-700 years earlier than Hacilar IX.

The variety of forms from Bademağacı EN I belong to various stages as is the case from the excavation which virtually lacks any architectural deposit except the *terrazzo* floor from layer ENI-8. Pottery with light surface colors and burnishing is definitely found at Hacilar IX. Early pottery from Çatalhöyük is likewise light colored (cream-grey) but Çatalhöyük XII-IX pottery is porous, 1-2 cm thick and straw tempered. These features are not found at Bademağacı and may point to different traditions and technologies, if not different time periods. It seems likely that the earliest accumulations from

Bademağacı precede Hacılar IX as ‘s’-shaped profiles appear slightly later at Bademağacı whereas they are already present at Hacılar with the earliest phase. The absence of tubular lugs but presence of pierced knobs from Bademağacı ENI is likewise intriguing and might indicate an early stage without tubular lugs. More data needs to be published from these phases but for the time being it can be argued that Bademağacı ENI 9-6 is earlier than Hacılar IX.



**Figure 6.15: 1. Hacılar IX (after Mellaart 1970: Pl. 47.39) 2. Bademağacı EN (after Duru 1999: Fig. 37) 3. Bademağacı EN II (after Duru 2007: Fig. 65) 4. Hacılar VI (after Mellaart 1970: Pl. 56.2)**

Bademağacı EN II 4-1 assemblage includes forms that are already known from the earlier levels but there are some new elements in the assemblage too. These levels are dated more safely through seven carbon dates which nicely cluster roughly between 6400-6000 cal. BCE (see Duru 2007: 349). Tubular lugs, painted decoration, lentoid vessels, oval mouths, anti-splash rims, relief decoration, and disc bases are new ceramic traits in this level. Bowls and jars with tubular lugs or pierced knobs are abundantly

available from Hacılar IX-VI. The earliest example of a lentoid jar comes from Hacılar VII. This form continues into level VI and even into Hacılar III. Oval shaped mouths are first attested with Hacılar VI (see Mellaart 1970: Pl. 51.13). Anti-splash rims are likewise attested first at Hacılar VI. Relief decoration in the shape of a *bucranium* is again found at Hacılar VI (Mellaart 1970: Pl. 56.1,56.3) as well as at Kuruçay 12 *Alt* (Duru 1994: Lev. 40.3). Finally, the paint seen on some Bademağacı sherds, thin or thick vertical lines that run from mouth towards the body are not foreign to Hacılar IX-VI. Very similar painted motifs are seen on a number of vessels from Hacılar IX (see Mellaart 1970: Pl. 47). Vertical thick bands are also well known from Hacılar VIII, VII and VI which Mellaart called “linear style”. As a result, Bademağacı EN II carries the strongest links with Hacılar IX-VI. Most apparent matches are seen however with Hacılar VI. Therefore, it would not be far-fetched to state that Bademağacı ENII is contemporary with Hacılar VI.



There are additional material cultural elements from Bademağacı EN that supports the above dating proposal. These are architectural tradition, stamp seals, female figurines, marble bowls, bone spatula, bone “belt hooks” and obsidian arrowheads. The houses from ENII-3, as already discussed in detail by Umurtak (2000), with their shapes, sizes, building material and inner arrangement are highly similar to Hacılar VI houses. The mud square storage units and flat topped ovens are likewise very well-known from Hacılar VI (see plan Mellaart 1970: Fig. 7). The figurines found in EN debris are also indicative in terms of dating, because figurines make their first appearances at Çatalhöyük only with *Level VI* and are never found in EN levels of Çatalhöyük (Çilingiroğlu 2005). Figurines with wooden peg heads, as described by Duru for EN specimens (1997: 722), are again a typical trait of Hacılar VI (Mellaart 1970: 167). The stamp seal with concentric circles from Bademağacı ENII-3 has many parallels, including Ulucak IVb, in LN-EC of Anatolia and Early-Middle Neolithic of mainland Greece and Bulgaria as demonstrated by Lichter (2005: Figs. 3-4). Duru notes the similarity between Bademağacı and Çatalhöyük stamps which he uses to justify his suggestions for an early date of Bademağacı EN levels (Duru 2001: 590).

The obsidian arrowhead from Bademağacı EN (Duru 1999: Fig. 40) is perfectly matched with the specimens excavated from Tepecik-Çiftlik Level 3 (see Bıçakçı *et al.* 2007: Fig. 29) which is dated to the EC period. The remaining material cultural finds from Bademağacı EN find their parallels in many Anatolian Neolithic settlements and these are rather hard to date precisely as they appear from PPN into PN. Clear parallels are again available at Hacılar VI-I. In short, Bademağacı ENII architecture and material culture is well matched from LN and EC levels of many Anatolian sites.

The “LN-EC” pottery from Bademağacı with its red-on-cream painted designs on carinated bowls with small knobs on carination and the jars with funnel necks are easily comparable to Hacılar I and Kuruçay 10-7 pottery assemblages. Presence of white-on-red wares is likewise matched at Hacılar I. Absence of “fantastic style” is another indication for a date that is closer to Hacılar I. Therefore, there is no doubt as to whether this horizon represents LN or EC. It is a very clear EC assemblage.

From our account it becomes clear that what Duru calls EN II is actually Mellaart’s LN. And what Duru calls “LN-EC” is without doubt EC. The difference that is observed between the pottery from Bademağacı ENI-II and Hacılar IX-VI is not necessarily their dates but their quality. This is exactly why Mellaart dated Bademağacı (then Kızılkaya)

to EN during his 1958 survey, although he recognized clear similarities to Hacılar IX-VI (Mellaart 1961b). Duru (1996: 795), as he states in his first preliminary report, adapted Mellaart's dating.

Finally, Bademağacı's earliest levels (ENI-9-5) probably predate Hacılar IX but more data and carbon dates are needed to define this early stage at Bademağacı which is extremely important to reconstruct the neolithization process in this region and in West Anatolia in general.

## 4. Höyücek

### 4.1. General Overview of the Archaeological Research

Höyücek is located 4 km to the East of town Bucak, on a small plain (870 m above sea level) in the southern portion of Lake District, 30 km south of city Burdur on the road to Antalya which passes Taurus Mountains through a natural pass. To the northwest of the site is located Lake Kestel. The mound reaches a height of 4 m over the plain while around 2-2.5 m remain submerged under the plain's ground level. The excavations at the site have taken place between years 1989-1992 in four excavation seasons by Refik Duru and Gülsün Umurtak of Istanbul University (Duru and Umurtak 2005: 1-3).

According to the excavators the mound included occupations that were not built of domestic buildings but of cult buildings ("shrines" and "temples"). The periodization of the excavated levels follows this interpretation (Duru and Umurtak 2005: 5):

The mixed accumulation	EC and post-EC
.....Hiatus.....	
"The Sanctuaries Phase"	LN
.....Hiatus.....	
"The Shrine Phase"	EN II
.....Hiatus.....	
"The Early Settlements Phase"	EN I
Virgin Soil	

No architectural remains have been identified from "Early Settlements Phase" (ESP) which is comprised of 35m<sup>2</sup> area in a deep sounding excavated in order to reach the virgin soil. Several burnt and ashy layers have been detected during excavations. The excavators divided this 4 meter accumulation into more or less arbitrary three phases. The youngest phase (ESP 1) comprises the first 1.7 m from the mound's surface; ESP 2 the following 1.73 m and finally the 1.57 m the oldest accumulation on the mound is

called ESP 3. It is suggested that wattle-and-daub building technique was used for the houses from this early stage due to lack of any identifiable architectural structure (Duru and Umurtak 2005: 6-7).

The “Shrine Phase” with two sub-phases, the earlier not preserved, includes five rectilinear mudbrick buildings that were built in an alignment adjacent to each other (Fig. 6.16). The houses are constructed of plano-convex bricks which form walls that may reach to 1m. The walls and floors are mostly plastered (Duru and Umurtak 2005: 8).

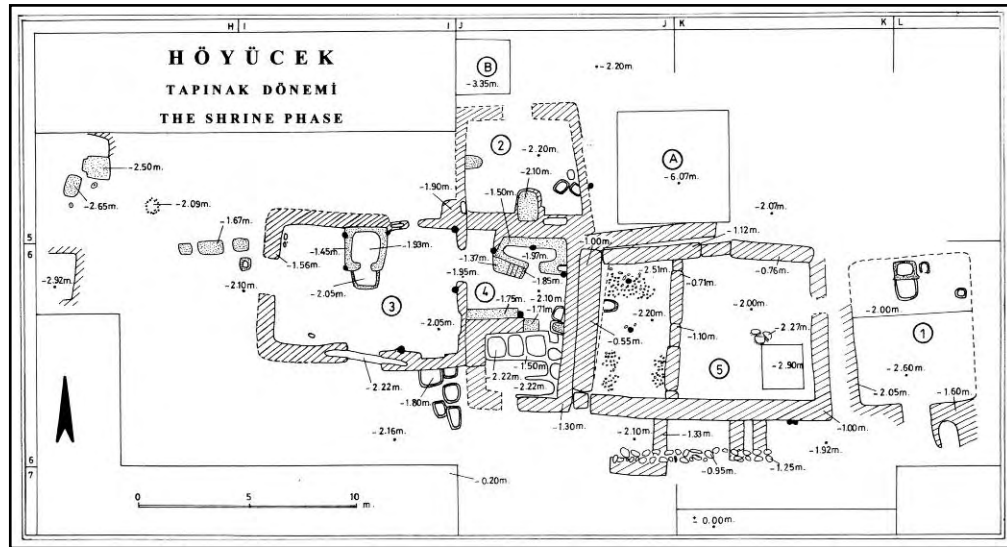


Figure 6.16: Plan of the Shrine Phase at Höyücek (after Duru and Umurtak 2005: Pl. 5)

Preservation state varies from one building to the other. Buildings 3 housed a flat-topped oven, storage units and niches on the walls. The oven is situated on the long wall that faces the door opening, a well-known feature of Hacilar VI and Bademağacı ENII-3 (Umurtak 2000; Umurtak 2005). Building 4, with a size of 8 x 5 m, has two main divisions. The southern division houses mud silos and boxes that are apparently used for storage purposes. The northern section has an additional storage area divided from the main room by a wall. Adjacent to this wall was a staircase with six steps. Inside the cell-like area, variety of finds was uncovered. These include deer horns, cattle mandibles and knuckle-bones as well as marble bowls and various pottery vessels in the niches inside of this area.<sup>60</sup> In front of the staircase was a large marble bowl. Behind the staircase, buried under the floor were “thousands of flint blades” were recovered. According to Duru and Umurtak (2005: 10), Building 3 with the oven is a temple while building 4 is its “*Adyton*” (the most sacred part). Building 5 (11.5 x 8.5 m) is another mudbrick building

<sup>60</sup> Such niches, found in Hacilar VI houses, are called by Mellaart as “peepholes” (see Mellaart 1970: Fig. XIV).

adjacent to Buildings 3 and 4 on the same axis. The excavators interpret this as the house of the priests.

The following occupation, the so-called “Sanctuaries Phase”, at the site is said to follow a hiatus. Architectural remains are confined to five plastered mudbrick wall segments (0.35-0.45 m in thickness) and some plastered areas which revealed concentrations of around 100 human figurines, idols and polished axes. Three cult areas have been defined from this occupational phase due to the presence of high number of finds, mainly of figurines (Duru and Umurtak 2005: 19-22).

The mixed debris contained material from prehistoric to modern periods.

The lithic industry is clearly dominated by pressure flaked blade-based production on site using both local flint sources and Central Anatolian obsidian throughout the entire sequence (Balkan-Atlı 2005: 136). Although extremely rare, pressure-flaked projectile points have been also encountered in the assemblage which are construed as “foreign” to the region. Balkan-Atlı indicates that the obsidian has been brought to the site as pre-forms but knapped in the same way as the flint (Balkan-Atlı 2005: 135).

Three carbon dates from the Shrine Phase fall between 6400-6200 cal. BCE (7556±45, 7551±46 and 7349±38 BP). Only one date is available from ESP2 (7393±38 BP) and it gives the range 6360-6220 cal. BCE (at 1  $\sigma$ ) (Duru 2007: 342).

## **4.2. Ceramics**

The pottery collected from the deep sondage is homogenous in character, being monochrome with colors that range from grey to tone of brown, slipped and burnished. Pottery from the earliest stage (Ware1) is confined to mineral tempered, self-slipped, moderately fired and dark colored (black, dark gray, gray) examples.

In the following stage, ESP 2, Ware 1 is accompanied by Wares 2 and 3, which are likewise mineral tempered. Ware 2 is characterized by large non-plastic inclusions and light gray, pale brown self-slipped surfaces while Ware 3 is basically a mineral tempered, red slipped and burnished fine ware. The surfaces are commonly mottled and sooted. The pottery is fine, having thin-middle thick walls.

In ESP 3, Wares 1, 2 and 3 are still present however a decline in Ware 1 is observed (Duru and Umurtak 2005: 28-29). It is seen that RSBW and tubular lugs are already present in this early deposit from ESP 2 onwards. Forms are restricted to simple shallow

bowls, open shapes with 's'-shaped profiles, bowls with convex profiles, hole-mouth jars and straight sided jars (Duru and Umurtak 2005: Fig. 6). Jars with vertical necks are also present in the latest ESP phase. One of them has brown colored paint made in horizontal parallel lines on the neck (Duru 2002: Pl. 4). Rims are simple or slightly everted. Bases are flat, disc or ringed. Oval bases are observed too (Duru 2002: Pls. 3-4; Duru and Umurtak 2005: Pls. 33-43).

In the following phase, pottery is said to be much more developed. The paste is grey-brown and clean. The surface colors are mainly red, reddish brown and orange-brown. Duru (2007: 340) states that non-plastic inclusions (temper) were not found in the paste. The firing is so good that Duru is convinced of the use of pottery kilns for the production. In addition to the Wares 1,2 and 3 from the previous phases, Ware 4 is also encountered in the "Shrine Phase". Ware 4 is described as mineral tempered, self-slipped, well-fired and burnished with surfaces that have brown, dark reddish-brown hues (Duru and Umurtak 2005: 29). Bowls and deep bowls and jars with 's'-shaped profiles are the predominant in the ceramic morphology. Straight sided jars with two vertical handles as well as anti-splash rims are likewise observed. Slight carination is observed on several deep bowl types such as "Ça/E2" and "Ça/E5". Lentoid vessels, jars with necks and basket handles are likewise found in the ceramic assemblage from Shrine Phase. Vessels with "fantastic shapes" such as "boot shaped" or "kidney-shaped" vessels are recovered. Tubular lugs are observed on the vessels frequently. Plastic and incised decorations are seen on few sherds. Animal shaped handles are also encountered in the assemblage (Duru and Umurtak 2005: Pls. 44-64).

Pottery of the next occupation, "Sanctuaries Phase", is reported to be of less quality. In this level, Ware 1 is completely disappeared. Ware 2, 3, 5 and 6 comprise the whole assemblage. Ware 5 is mineral tempered with extensive burnishing marks on the surface which is mainly brown, dark red or reddish brown. Characteristic for this ware is clay lumps sometimes applied to the surface or the rim. Ware 6 is basically fine burnished wares with occasional cream or whitish paint. White-on-red painted ware is also found in this level. Vessels with pronounced 's'-shaped profiles are still dominating the assemblage. There is a clear tendency towards carination in this level and tubular lugs have disappeared. Bowls with oval mouths and spouts are also observed. Pedestals with windows are another characteristic of this phase.

Finally the mixed accumulation contained a variety of wares which is dominated by red-on-cream and cream-on-red painted examples. Impressed pottery (Ware 9) is also present, although in smaller numbers (1-2%) compared to the painted wares. Paint is mostly executed in linear designs, sometimes on both sides. Carinated bowls, plates and necked jars are prevalent. Bowls with lugs inside and relief decorated sherds are also seen (Duru and Umurtak 2005: Pls. 84-96).

### **4.3. Relative Dating of Höyücek**

The early ceramics from Höyücek's ESP3 are fine-medium wares with a variety of dark surface colors and no burnishing. Only seven examples are demonstrated in the monograph (Duru and Umurtak 2005: Pl. 33). The forms are simple open shapes without clear morphological characteristics. The following ESP2 pottery with its fineness, variety of surface colors, red slip and burnishing as well as the presence of tubular lugs, oval bases and bowls with 's'-shaped profiles, find their best parallels in Hacılar IX-VI, Kuruçay 13-12 and Bademağacı ENII. Clear presence of RSBW from the early horizon might suggest a date closer to Hacılar VII-VI, then IX-VIII which are known for their pottery being light grey-cream. Existence of a painted jar neck from the horizon points out production of painted pottery already in this stage. The parallels I could find for such linear decoration on neck are rather late. They come from Hacılar I (compare Mellaart 1970: Pls. 141-145), Kuruçay 11 *Alt* (Duru 1994: Lev. 58.2) and Kuruçay 7 (Duru 1994: Lev. 171.8).

The following phase has the dominance of RSBW with highly typical vessels with pronounced 's'-shaped profiles and tubular lugs. Anti-splash rims from this level are not foreign to the region either, appearing at Hacılar VI and Bademağacı ENII. Animal shaped handles are a trait of Hacılar VI. The fantastic shaped vessels from Höyücek seem to be peculiar to this settlement and give the impression of being churns due to their body shapes. Finally the deep marble bowl with 's'-shaped profile from Höyücek has exact parallels at Hacılar VI (see Mellaart 1970: Pl. CXII).

Two "offering tables" from Höyücek are also worth mentioning in terms of dating. Duru (1993: 132) dates these objects initially to LN by arguing that there are fundamental similarities between the architectural remains from "Shrine Phase" and Hacılar VI. However, for some reason, the same level is dated to "EN II" in the final publication. The so-called "offering tables" have a widespread distribution in Anatolia and Southeast Europe. Similar vessels are known in Lake District from Hacılar V, IV and II as well as

from Kuruçay 10-7, also from Çatalhöyük West, thus a feature of more EC than LN. Çatalhöyük East Level III yielded one example which suggests a date of LN-EC transition (for details see Schwarzberg 2005). In any case, an EN designation for these objects is simply incorrect. LN-EC transition seems to be best option for a date from this level, relying on the available archaeological data. Duru's initial dating of the offering tables from Höyücek seems correct.

The next level is more related to EC of Hacılar with carination on bowls, disappearance of tubular lugs and existence of cream-on-red painted wares. Besides, the decreasing quality of pottery remarked by Duru is echoed by Mellaart (1970: 133) for Hacılar I pottery which "*does not reach the sophisticated standard of the Hacılar II ware.*" Disappearance of tubular lugs, which is observed at Hacılar IV and Kuruçay 8, is another morphological change known from EC pottery.

White-on-red painted wares from this level are also encountered at Bademağacı LN-EC level and at Hacılar VI and I. The motif seen on Duru 2007: Fig. 40 corresponds to Mellaart's "fantastic style" and finds good parallels in Hacılar II. Pedestals begin to appear with Hacılar VI and continue into Hacılar II. Thus the pottery from this final settlement fits well into the advanced stages of EC but clearly preceding Hacılar I.

Our relative dating from the region concludes that Höyücek ESP-SP levels are of "LN" age, probably contemporary with Hacılar VII-VI whereas "Sanctuaries Phase" is EC. Sanctuaries phase pre-dates Hacılar I. Existence of an "EN" settlement, similar to Çatalhöyük's early Levels XII-VIII, cannot be justified at Höyücek as suggested by the excavators. However the earliest pottery recovered from the deep sondage is an indication of a horizon before the appearance of RSBW at the site which might be contemporary with or earlier than Hacılar IX. Unfortunately low sample size from this particular phase makes it hard to draw reliable conclusions. The carbon dates indicate that the site's basal deposits are probably date to the mid 7<sup>th</sup> millennium cal. BCE.

## **5. Comparing Lake District with Central-West Anatolia**

The above analysis was intended to present not only the general characteristics of Lake District ceramic assemblages but also to demonstrate certain chronological problems related to misinterpretation of these assemblages. As Schoop (2002: 434) already stated, it is now clear that an "EN" stage in Lake District, similar to early levels of Çatalhöyük East (XII-IX), cannot be established for the region. The comparative analysis of

Çatalhöyük ceramics with Lake District sites seem to have confirmed Schoop's arguments regarding the pre-7000 cal. BCE dates for basal Bademağacı as proposed by Duru (Last 2005: 138; Cessford 2005: 97). Based on the radiocarbon determinations from Çatalhöyük East and Bademağacı ENII Cessford (2005: 97) proposed that Bademağacı ENII 4-1 could correspond to late Çatalhöyük sequence spanning Levels VI-II and even later.

Even the earliest pottery from the region bears distinct similarities to Hacılar IX-VI horizon. The ENI 9-5 pottery from Bademağacı might be an immediate predecessor of Hacılar IX and can easily antedate Hacılar IX, however very limited sample size from these levels impedes precise relative dating. In terms of absolute dating, there is unfortunately only one carbon date from early accumulations from Bademağacı (ENI-8) which dates to 7035-6705 cal. BCE (at 1  $\sigma$ ). This single date (together with the famous BM-127 date from Hacılar's Aceramic Phase V) are used by Duru (1999; 2007) to justify his EN dating of Bademağacı contemporary with Çatalhöyük XII, although he admits that there is not a single correlation between Çatalhöyük XII-X ceramics and Lake District's "EN I" ceramics (Duru 2007: 356).

Despite the flimsy nature of the data, the single date from Bademağacı ENI-8 is significant and cannot be argued away. Especially if one considers the early dates from Ulucak Vf-VIa, basal Menteşe, possible 7<sup>th</sup> millennium remains from Aşağı Pınar and PPN levels at Keçiçayırı, the possibility that Western Anatolia was already inhabited by early farming communities at the end of the 8<sup>th</sup> millennium BCE gains strength. Therefore, more sites which date to 7000-6500 cal. BCE in Western Anatolia can be expected to be discovered in near future.

What Duru as "ENII" labeled should be corrected as "LN", because "ENII" levels of Bademağacı and Höyücek, in terms of the entire material culture but mostly through ceramic comparisons, show strong parallels to Hacılar VI. At Kuruçay however the pottery even from the earliest debris (Levels 13 and 12) seem to be post-dating Hacılar VI, thus falling into the transition from LN to EC.

Finally, the Bademağacı "LN-ECh", Kuruçay 12-7 and Höyücek "Sanctuaries Phase" and "Mixed Accumulation" are obviously EC in date having numerous similarities to Hacılar V-I. All these sites can be differentiated from Hacılar I on grounds of their ceramics. Kuruçay 7 is among them is chronologically closest to Hacılar I but ends prior



to it. At Höyücek, the “Sanctuaries Phase” likewise ends before Hacılar I. In my opinion, a relative date of Hacılar II would be appropriate for Bademağacı “LN-ECh”, Kuruçay 11-7 and Höyücek “Sanctuaries Phase”. Schoop (2005a: 190) suggests that the gap between Hacılar II and I can be filled with Kuruçay 11-7 as these contain major elements seen in Hacılar I but, as we already mentioned, lack the form variability. Appearance of inner buttresses at Kuruçay 7 is also echoed at Hacılar II-I, providing an important argument for dating. Thus before we go into the comparison of two regions, one can propose the following equations:

$$\text{Early Neolithic I}_{\text{Duru}} \leq \text{Early-Late Neolithic}_{\text{Mellaart}}$$

$$\text{Early Neolithic II}_{\text{Duru}} \approx \text{Late Neolithic}_{\text{Mellaart}}$$

$$\text{Late Neolithic-Early Chalcolithic}_{\text{Duru}} \approx \text{Early Chalcolithic}_{\text{Mellaart}} \pm [\text{Hacılar I}]$$

A clarification of issues of relative chronology was of enormous significance in order to begin our ceramic comparison with Central-West Anatolia. Above, ceramic comparisons of Hacılar and Ulucak have already been provided in detail. The reason why we exclusively compared these two mounds lies in Hacılar’s stratigraphically and chronologically reliable data as well as its detailed report. Through such a one-to-one comparative approach, it was possible to demonstrate that Ulucak Vb-f dates earlier than Hacılar IX but is sturdily associated with it, probably an immediate predecessor. Early Ulucak IV may well be contemporary with Hacılar IX-VII. On the other hand, the final occupation at Ulucak IV should be set contemporary to Hacılar VI-II. We suggested that Hacılar I is later than terminal Ulucak IV.

Relying on our comparative approach for the Central-West Anatolian sites which suggested contemporaneity of Agio Gala Lower Cave, Yeşilova Early-Middle and Çukuriçi with Ulucak V-Early Ulucak IV, one can establish correlations with Lake District sites easily. According to our results from the above analysis, it is possible to suggest that these sites were inhabited contemporarily with Lake District LN horizon, e.g. Hacılar IX-VI, Bademağacı ENI-II, Höyücek ESP-Shrine Phase and Kuruçay 13. Indeed pottery assemblages from the both regions contain extreme similarities in both fabric and morphology.

### **5.1. Fabric and Wares**

First of all, the quasi-absence of coarse wares at both regions is a fundamental common approach to pottery production that is of great importance as it indicates that cooking on

fire was not the primary function attributed to pottery. Pottery was produced to function as serving-pouring and storage containers. The nature of monochrome wares with their thin walls, fineness, mainly slipped and carefully burnished surfaces are equally matched at both regions. The ever increasing and dominating production of RSBW is another major common trait that links these regions. Existence of CSBW from the both areas only adds to the extensive resemblances detected.

Although for Central-West Anatolia change from mineral to organic inclusions can be used as a chronological trait, it is not possible to do the same between Lake District and Central-West Anatolia. Mineral inclusions in Central-West Anatolia are known from Yeşilova Early-Late, Ege Gübre, Çukuriçi, Agio Gala and Ulucak V whereas Ulucak IV, Yeşilova Late and Dedecik-Heybelitepe pottery contained organic non-plastics. In any case, organic inclusions are completely absent in Lake District where both Duru and Mellaart underline the fact that clays are clean and inclusions are only mineral in nature. There are some other common traits in the fabric and wares such as the presence of white-on-red pottery, although sporadic, at Ege Gübre, Çukuriçi and Agio Gala, indicating that the EC horizon is also present at these settlements. It is worth noting here that one white-on-red bodysherd from Çukuriçi that shows dots as paint decoration, unfortunately from an unstratified deposit,<sup>61</sup> finds a nice parallel at Hacılar I (see Mellaart 1970: Pl. CXI).

What is clearly not matched in these regions in terms of wares is the amount of red-on-cream painted wares in Central-West Anatolia. Around 20 pieces, mostly small bodysherds, are unearthed from Ulucak IV-V. However for instance at Hacılar VI they already constitute almost 10% of the entire pottery assemblage. In Hacılar V, as Mellaart (1970) states, already 20% is composed of cream-on-red painted pottery! As we already pointed out, Ulucak IV is most probably abandoned prior to Hacılar I. If both regions showed a parallel development with regard to painted wares we should have identified a gradual increase in the painted pottery at Ulucak Late IV. This is clearly not the case. Apart from the red-on-cream painted anthropomorphic vessel from Ulucak IVb and few bodysherds painted wares are by no means increasing in quantity. The situation cannot be related to the excavation strategies or small sample size either, as large-scale horizontal excavations have been conducted especially on this level. Besides, none of the other excavations and surveys revealed painted pottery in high amounts. It is always, as a

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<sup>61</sup> Personal communication with B. Horejs.

rule, confined to few bodysherds. There are two possible explanations for the described situation:

1. Production of painted pottery is never adapted in Central-West Anatolia.
2. Early Chalcolithic sites with high quantities of painted pottery are yet to be discovered in Central-West Anatolia.

The first explanation is supported by the current archaeological evidence from Central-West Anatolia. It is clear that Central-West Anatolian groups are technologically capable of producing painted pottery and they are also aware of the production in neighboring areas, yet, they do not choose to follow the trend. This reminds us of ethnographic and historic examples provided by Lemonnier (1993: 1) who suggests that knowledge of a new technology or technique does not automatically result in acceptance by a given society and that social conditions and circumstances play a vital role in the adaptation of any technical novelty. For instance, Pétrequin (1993: 46-47) argues that the cord-impressed beakers were not adapted by farmers in the Jura Mountains as a result of cultural rejection. A similar case is detected in Northwestern Anatolia where at “Fikirtepe sites” painted pottery is virtually absent despite possible contemporaneity with Hacilar LN. Only at Demircihöyük in Eskişehir around 150 sherds of Hacilar cream-on-red type were identified from unstratified debris (Seeher 1987). Therefore, transition from monochrome to painted wares is not a phenomenon that is universally detected in Anatolia. On the other hand, it should be brought up here that, contrary to Central-West Anatolia, at Fikirtepe sites RSBW is never accounted as the dominating ware. This is an important observation that implies a development scheme for Fikirtepe sites that is from the beginning dissimilar from the Lake District sequence. It is not the place here to discuss the possible origins of Fikirtepe Culture, but for our purpose it is significant to recognize the divergent origins of Northwest vs. Central-West Anatolian Cultures. Hence, it remains unclarified why Central-West Anatolian cultures did not adapt Hacilar style painted pottery, although previous ceramic traditions show stark parallels. In my opinion, cultural rejection on the side of the Central-West Anatolian communities is plausible.

The second possibility is admittedly made on negative evidence. There is one expression archaeologists like to remind for such cases: Absence of evidence is not evidence of absence. The current data from the excavated sites in Central-West Anatolia indicate a simultaneous abandonment of settlements in the beginning of EC period. The cause of

this region-wide event is for the time being not clearly understood, although arid conditions created by an abrupt climate change around 6200 cal. BCE can be held responsible for it (Weninger *et al.* 2005). Consequently, the new settlements were not located on old mounds anymore but different locations were preferred for newly founded settlements. It seems like these settlements never became mounds due to socio-economical instability. As a result, as it is the case with the mounds, they are buried under thick alluvium accumulations or inundated by the rising sea levels around 5500 cal. BCE, thus cannot be detected by surveys anymore. As stated above, this is a scenario based on absence of evidence and some assumptions that need testing. For the time being, both possibilities are seemingly plausible depending on the viewpoint. Özdoğan, for instance, holds the second scenario much more plausible.<sup>62</sup>

Not less exciting than the question of painted wares is the issue of impressed wares. The situation is, in a way, the reversed version of the painted wares. Why impressed pottery is not produced at Lake District sites while it makes up 5-10% of LN assemblages in Central-West Anatolia? It is a well-known fact that impressed pottery, also known as “*Cardial*” or “*Impresso*”, is the most distinctive and characteristic trait of littoral EN Mediterranean horizon (Barnett 2000: 93; Binder 2000: 122). It was previously assumed that this pottery originated in Greece and Mersin-Yumuktepe where similar wares have been discovered (Garstang 1953). Recent excavations at Mezraa Teleilat on Euphrates, in Urfa Region, and Tell Sabi Abyad in Balikh Valley revealed that impressed pottery was produced towards the end of pottery Neolithic by these inland communities to a large extent too. Impressed pottery from these sites displays a variety of decoration techniques, from single to continuous impressions that create wavy lines, dots, or other motifs (Özdoğan 2007a; Güldoğan 2007; Nieuwenhuyse 2007: 169). It is not our intention here to discuss the origins of impressed wares from the Western Mediterranean. It suffices us to demonstrate that Neolithic impressed pottery is attested in the entire Mediterranean, including some inland regions like Urfa and Northern Syria. In these regions, impressed wares and red slipped pottery are produced simultaneously in the later stages of the pre-Halaf period and in transitional period where they completely disappear with the beginning of Halaf period (Nieuwenhuyse 2007: 162-169; Özdoğan 2007a).

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<sup>62</sup> Personal communication with M. Özdoğan (03.03.2009).

As mentioned above, impressed pottery is likewise known from Central-West Anatolian sites, including Ulucak. The impressed pottery from Central-West Anatolian sites are very analogous to each other showing clear divergences from the specimens known from Eastern Mediterranean such as Mersin, Mezraa Teleilat and Tell Sabi Abyad. Ulucak impressed decoration are made on either RSBW or what I called “Gray Wares” (unslipped and unburnished medium wares) with single impressions that cover the entire surface of a vessel. Continuous execution of impressions, made with a comb-like instrument or a mollusk shell, is not attested in the assemblage. Same goes true for the other Central-West Anatolian sites such as Yeşilova Late, Ege Gübre, Çukuriçi and Dedecik-Heybelitepe, where impressed decoration show almost identical characteristics, both in terms of ware and type of impressions, to Ulucak examples. As a result, one can easily speak of a “Central-West Anatolian type” of impressed pottery which is made on RSBW or Gray Wares which basically lacks continuous impressions of any type. Müller (1988: 106) termed such impressed wares as “Impresso A” which precedes “Impresso B” with continuous impressions.

At the Lake District sites, impressed pottery is sporadically found. At Höyücek’s latest “Mixed Accumulation” a number of impressed pieces, which are morphologically and visually similar to Central-West Anatolian impressed wares, have been discovered. They are found on bowls and deep bowls with convex or ‘s’-shaped profiles as well as on jars (Duru and Umurtak 2005: Pls. 95-96). It is a pity that these ceramics were found in stratigraphically disturbed contexts. However, generally the “Mixed Accumulation” yielded pottery which can be securely dated to the EC period. This might indicate that impressed pottery was also produced or brought to the site during this period. Such a dating is also in accordance with Ulucak IV where analogous impressed wares have been excavated.

There are two additional exceptions from the region which are of interest to us. First example is a jar fragment from Hacılar I with impressions (Mellaart 1970: Pl. CXI.5) that cover the whole surface. The impressions are irregular and confined to shallow thin and short horizontal shapes. Mellaart (1970: 131) maintains that the few impressed pottery found in Hacılar I has nothing to do with the “*barbotine and cardium decorated wares of the Balkans and Thessaly.*” Second is a small bodysherd from an unstratified Bademağacı context with intense, regular upside down triangular impressions (Duru 1996: Lev. 14). All of these examples would be equally at home in Central-West

Anatolia however this does not undermine the fact that impressed pottery was not produced in Lake District in similar quantities to Central-West Anatolia. As a result, the sporadic occurrence of impressed wares in the Lake District impedes a clear chronological connection with Central-West Anatolia but may be implying cultural contacts that were not commonly shared by both regions. In other words, presence of impressed pottery at Central-West Anatolian sites might be an outcome of social and cultural contacts established with coastal cultures of Aegean and Mediterranean. Such contacts might not have been established in Lake District due to its inland location far from the littoral areas. The nearest connection to the sea and littoral settlements is provided by the Çubuk Pass on Taurus Mountains, on which Bademağacı is located. Similarly, Höyücek is also located in the southern section of Lake District, geographically close to the littoral areas. Impressed sherds from Höyücek and Bademağacı might have been an indication of contacts with the coastal region. Positive evidence confirming presence of EC inhabitation is proven by a corresponding deposit from Karain Cave Chamber B where a paved surface and red-on-cream painted pottery, even a complete jar with funnel neck, have been excavated (Yalçınkaya 2008: 473; Res. 1). Yalçınkaya indicates that the painted designs on the sherds resemble the “fantastic style” of Lake District region, and thus may belong to the Hacılar V-II and Kuruçay 10-8 horizons. Karain as the only littoral site excavated in the region with evidence from EC period verifies that the analogous ceramic tradition to Lake District was prevailing in this region and that both areas were in contact. The reason why impressed sherds are so infrequent in the Lake District while red-on-cream pottery is clearly adapted by the littoral population is not clear.

## **5.2. Morphology**

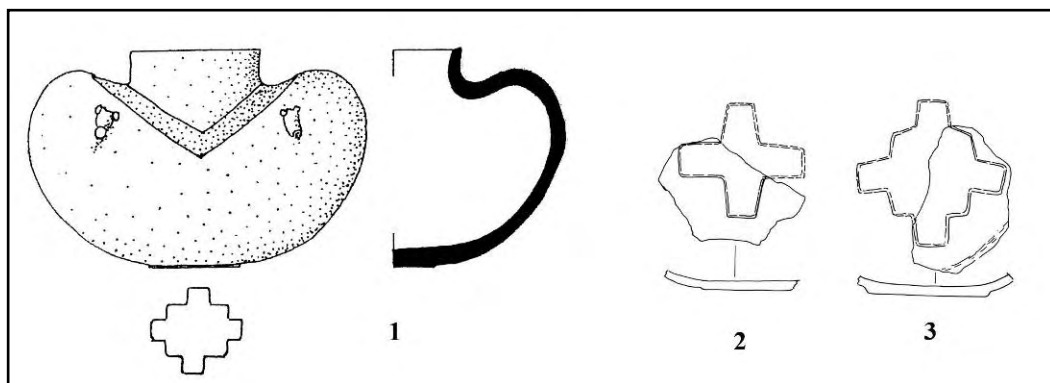
Almost all major vessel shapes that define LN ceramic assemblages of Lake District find their perfect match in Central-West Anatolia. Bowls and deep bowls with ‘s’-shaped profiles, hole-mouth jars, jars with globular bodies, bowls with convex profiles, hole-mouth bowls, jars with short necks and jars with funnel necks are major common elements that are abundantly encountered in both regions. The divergences between the two regions are hidden in the small details so to speak.

Vertically placed tubular lug is another morphological feature that occurs in both regions in the LN horizon. Tubular lugs are in the early stages of LN, in both regions, high in quantity, mainly thin-long or short-thick in shape, frequently set in pairs on jars. In the

following stage, there is a decrease in their numbers in both regions. Other types of lugs and handles replace their function. In Central-West Anatolia, horizontally or diagonally placed single knobs on vessel body as well as double-knobs are seen. Double-knobs, a feature of Ulucak IV pottery, are not attested at Lake District LN sites where animal shaped handles and pierced knobs are preferred. Small loop handles are found at both regions, though rare. Basket handles are absent at Central-West Anatolia where as in Hacilar IX and Bademağacı EN they are present.

Oval bases, a trait of post-Hacilar IX, are known, besides Ulucak IV, at Ege Gübre and Agio Gala. Oval bases and in general oval forms are a characteristic of advanced stages of LN and early stages of EC. In Ulucak V, not a single oval shaped base or vessel was recovered. On the other hand, disc bases are produced in both regions from LN into EC. At Ulucak, we were able to demonstrate that carinated flat bases decrease sharply in number from Level V into Level IV. Flat bases are a defining feature of late Ulucak IV. However disc bases by no means disappear entirely from the assemblage. At other Central-West Anatolian sites both types are encountered. Ring bases are on the other hand rarely produced at both regions. At Hacilar they are found with Level III, at Kuruçay with Level 11. Sporadic appearance of ring base is attested at Ulucak V and IV but as in Lake District is not a major trait of pottery assemblage.

One peculiar base type links Central-West Anatolia with Lake District: Stepped-cross shaped raised base. Such bases are known from Hacilar VI, Höyücek Shrine Phase and Ege Gübre (Fig. 6.17).



**Figure 6.17: Stepped-cross or cross shaped bases. 1: Höyücek Shrine Phase (after Duru and Umurtak 2005: Pl. 60.3) 2-3: Hacilar VI (after Mellaart 1970: Pl. 57.12-13)**

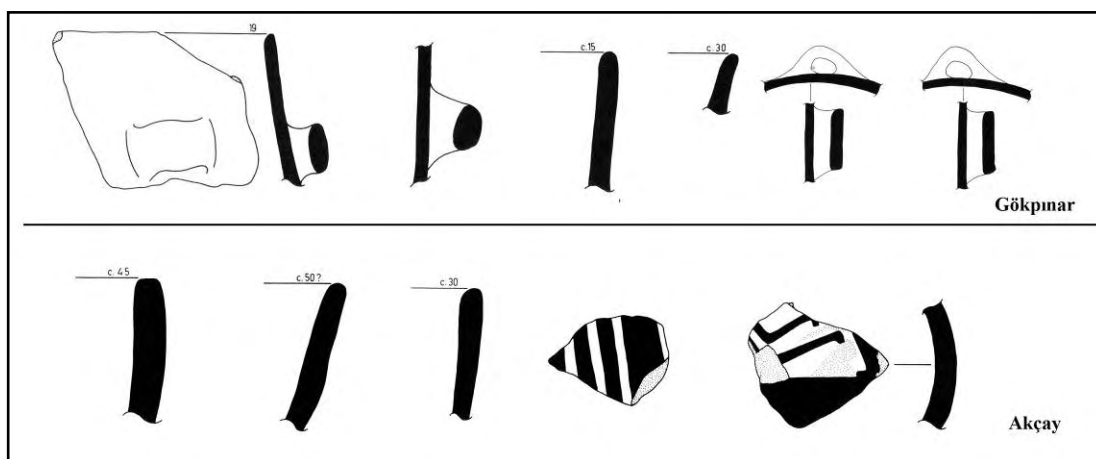
An altogether absence of carinated forms from Central-West Anatolia, if it is not a local characteristic of Lake District, can be construed as a chronological marker as it suggests

that all of these settlements were abandoned prior to advanced stages of EC or the occupation was very brief in nature in Central-West Anatolia. This statement suggests that sequence available from Kuruçay 11-7, Höyücek Shrine-Early Sanctuaries Phases and Hacilar V-I is not represented in this region at all. Carination is clearly a feature of EC that cannot be matched in Central-West Anatolia.

Other strong material cultural resemblances between Lake District and Central-West Anatolia, apart from implying contemporaneity, also point out close cultural affiliations, long-term social contacts and common origins.

### ***E. Elmalı Plain Sites***

There are three sites which yielded LN-EC pottery during the surveys carried out by Mellink in the 1970's from Elmalı Plain which we would like to summarize here as they represent the only archaeological material of this age from this particular region between the littoral Antalya and inland Lake District. Elmalı Plain is a inter mountain plan that is located on an altitude of more than 1000 m. The survey material from these sites has been published by Christine Eslick in 1992 which we will use as our main source of information. The survey sites where LN-EC material was discovered are named Gökpınar, Akçay and Tekke. Gökpınar was detected as a villager dug a well while Akçay and Tekke were surveyed by M.S.F. Hood and M. Mellink.



**Figure 6.18: Possible LN-EC pottery collected during the Elmalı Plain survey from Gökpınar and Akçay (modified after Eslick 1992: Pl. 79 and 77)**

It is understood that the collected pottery from these sites were small in size. The ware is fairly homogeneous having mineral (grit and schist) inclusions. The cores of pottery from Akçay and Gökpınar have dark colored centers. The surfaces are slipped which is



usually streaky. The color of the slip ranges from brown, dark red to red and orange. The pottery has thin walls and fine appearance.

Among the common vessels shapes are hole-mouth bowls, jars with necks, jars with inverted rims and deep bowls (Fig. 6.18). Tubular lugs and loop handles are attested. Bases are flat. A number of painted sherds, pink-red to light brown over white slip, have been encountered at Akçay and Tekke. Paint was made in linear bands or of swags. Incisions are also attested at Akçay (Eslick 1992: 59-64).

The pottery described by Eslick has certain similarities to wares from Bademağacı ENI-II, especially the presence of a streaky red slip. Presence of painted wares indicates a possible EC occupation at Akçay and Tekke. Tubular lugs, jars with funnel necks and hole-mouth jars find good parallels in the entire LN-EC horizon of Lake District. At Ulucak, jars with funnel necks are more related to younger phases of the sequence (IVb-c), although they persist into Early IV. Unfortunately the bad preservation and small size of the samples prevent us from making more precise correlations.

## ***F. Beyşehir-Suğla Basin and Konya Plain***

Beyşehir-Suğla Basin and Konya Plain are characterized by open-woodland and grassland emerged after the onset of Holocene which brought ever increasing humidity during the Neolithic period which presented various habitats including mixed forests, well-watered plains and wet lands, suitable for hunting-gathering as well as farming activities (Kuzucuoğlu 2002: 39-43). Permanent settlements founded by hunter-gatherers in transition to a food-producing economy have been well recorded at Can Hasan III in southern Konya Plain as well as at Aşıklı and Musular in the neighboring region along the Melendiz River (see below). Area A at Pınarbaşı and Çatalhöyük East's pre-XII deposits are most likely permanent aceramic occupations which are currently being investigated. Further evidence regarding aceramic Neolithic sites has been recorded during Konya Plain survey (Baird 2002: Fig. 7).

Epi-Paleolithic sub-stratum in this region is documented during Konya Plain survey conducted by D. Baird (1996 and 2002) which recorded four find spots with microlithic elements indicating a date prior to 7500 cal. BCE. Good evidence of Epi-Paleolithic occupation of the region comes from a single site, Pınarbaşı, which is excavated on and off since 1994 by T. Watkins and D. Baird of Liverpool University (for details see Watkins 1996 and Baird 2007). Pınarbaşı Area B is a rock shelter used as a seasonal

camping-hunting-fishing site which produced microlithic industry predominated by obsidian geometrics, lunates and micro-scrapers which is, for the time being dated, dated to pre-9000 cal. BCE (Baird 2007: 289). Baird pinpoints significant similarities in the material culture and burial customs as a result of mobility and exchange relations with Natufian and Southeast Anatolian sites while the lithic industry is in the similar lines as Öküzini in Antalya (Baird 2007: 294).

Despite the low number of excavations in the region that focus on the pre-Neolithic occupation of the area, current archaeological evidence indicates that mobile hunter-gatherer-fisher groups exploited the natural resources and raw materials available in the region, prior to the onset of Holocene. The rich environmental resources and suitable climatic conditions created by Holocene conditions even permitted for permanent villages to be founded which did not entirely rely on food-producing economy in their earlier stages. In this respect, Beyşehir-Suğla Basin and Konya Plain, actually Central Anatolia in general, resembles Southwest Asian transitional stages to sedentism and farming and contrasts with West Anatolia (Schoop 2005b).

## **1. Suberde**

Suberde is a mound discovered during a survey in 1963 by R. Solecki and W. Farrand and subsequently excavated by J. Bordaz between 1964-1965. The village with the same name is located 11 km southeast of Seydişehir in the Taurus Mountains on an altitude of 1070 m. The site is located on 30 m high limestone ridge that is located in close proximity to Lake Suğla (Bordaz 1965: 31).

Three levels of occupation have been identified through the excavations. The surface layer (1.5 m thick) included Neolithic finds as well as Roman-Byzantine-Ottoman material. The second and third layers which were heavily disturbed by the upper layers, are identified as “Neolithic” and contained remains of mudbrick houses and plastered floors as well as clay bins (Bordaz 1966: 32). Bordaz (1965: 32) mentions finding coarsely made pottery with organic inclusions and walls that are 1.5-2 cm thick, but in the following report Bordaz (1966: 32) maintains that these belonged to a “lining of the basins” not to a jar. Hence, Bordaz (1973: 283) asserts that Suberde was an “Aceramic Neolithic village”, despite the presence of clay figurines. The material culture also includes polished axes, a copper wire, obsidian tools and cores.

The ceramic material collected during Bordaz excavations, 16 ceramic sherds, and since then stored in Konya Museum has been studied by Serap Özdöl who distinguishes two wares: Coarse, large organic and brown grit tempered, porous ware and another less coarse ware with occasional red slip. The only vessel form she could identify from the small assemblage is a bowl with inverted rim and convex or globular body (Özdöl 2008a: 378-379).

It is seen that Suberde is not an “Aceramic” village as proposed by the excavator in the early 1970’s. It was probably the *Zeitgeist* which pursued him to designate Suberde as an “Aceramic” village. However the very low number of ceramics from the site is still meaningful and should not be dismissed as an indication of an Early Pottery Neolithic stage. One carbon date from the site gave the calibrated result of 6570±140 BCE.

## **2. Erbaba**

Erbaba is located 10 km northwest of town Beyşehir and 1.5 km East of Lake Beyşehir on a natural hill. The excavations were carried out between 1969-1978 by a team directed by J. Bordaz.

The site contained three levels all belonging to the Neolithic period. Archaeological material from later periods was not present at all. The latest level revealed well-preserved structures made out of uncut limestone blocks which cover an area of 5000 m<sup>2</sup>. The houses are clustered and square to rectangular in plan with thick foundations (see Bordaz 1982: Lev. 33). It is suggested that the entrance to the houses were provided through the roofs as no doorways were excavated (Bordaz 1982: 87). The lower layers were void of real architecture and contained “superimposed mud floors” and “large number of brown, black and red-burnt lenses and rubble” (Bordaz 1982: 89; Bordaz 1966: 7-8). A piece red painted plaster has also been found in the lower Layer II. Layer III is heavily destroyed by the upper occupations but contained remains of walls and floors as well as other archaeological material (Bordaz 1982: 90).

Two ceramic wares have been distinguished at the site. These are “thin-gritty ware” which is the only ceramic ware of Layer III and “shell tempered ware” which makes up 2/3 of the assemblage in Layers II-I. Bordaz and Bordaz (1976: 42) describe the first ware as follows: “*thin, gritty monochrome fabric, usually black-smudged but also brown-buff and red in color.*”

Shell Tempered Ware has likewise grey-buff surface with occasionally brown and red examples. Bordaz and Bordaz (1976: 42) point out that the clay used for the production of this ware contained large quantities of gastropod shells in its *natural* state. In other words, shell was not a real temper but a natural non-plastic inclusion already available in the clay when it was mined. Other qualities of Shell Tempered Ware are identical to Thin-Gritty Ware.

The most frequently appearing forms at the site are hole-mouth jars, bowls with straight sides and jars with slightly everted necks (Bordaz 1982: 88). Bases are mainly simple flat. Pottery from Layers II-I with gastropod inclusions show some distinctive morphological traits like ring and pedestal bases, crescentic shaped ledge handles, vertical tubular lugs, few carinated profiles, relief decoration including the form of *bucranium* and rarely red bands on rim (Bordaz and Bordaz 1976: 42).

### **3. Çatalhöyük East**

Çatalhöyük is located in close vicinity of Küçükköy, 52 km southeast of Konya, 11 km North of Çumra. The mound is located on the eastern bank of Çarbamba River, one of the most important fresh water sources for Konya Plain that originates from Beyşehir Lake. The mound, with a height of 21 m below and above the present plain level, is 980 m. above sea level and covers an area of 13.5 hectares. The founding of the settlement follows the early accumulation of alluvium in the plain directly on lake-marl deposits around 8000-7500 cal. BCE. The immediate environment of Çatalhöyük is described as an active alluvial fan and wetland occupied by marshes (Rosen and Roberts 2005: 45-48; Fairbairn, Near and Martinoli 2005: 145).

Çatalhöyük was discovered during 1958 survey of Mellaart, French and Hall (Mellaart 1961b). Excavations under the direction of J. Mellaart have taken place between 1961-1965. Recent excavations at the site are directed by I. Hodder since 1993 which not only apply post-processual approach to field practice (Hodder 1997) but also produce immense amounts of data concerning multiple aspects of past environment and lifeways at Çatalhöyük published in six monographs edited by I. Hodder (1996, 2000, 2005a, 2005b, 2005c, 2006).

Mellaart identified 12 levels on the mound, from 0-XII, which has been adapted by Hodder's team to a large extent. Byzantine and Hellenistic remains are also encountered on the surface. The levels which were excavated in large-scale by Mellaart are VII-II,

with VII, VIA and VIB being the most well-known. The earlier levels have been excavated in limited areas whereas the Level XII was reached after a deep sounding (Mellaart 1966: 167). Accumulations that pre-date XII are called as “XII A-D” which designates pre-pottery levels at the site (see Hodder 2007: Fig. 2). Pre XII-E and even older deposits may exist at the site (Cessford 2005: 68).

The occupational layers at Çatalhöyük East are composed of rectilinear mud houses without stone foundations that are clustered around “neighborhoods” of which 140 were completely excavated (Mellaart 1962: 46; Cutting 2005: 161). Düring (2006: 60) states that the earlier level houses were made out of mud-slab whereas mudbrick is observed only in the later stages. The roofs are flat and were used as activity areas. The entrance to the houses which might contain a second-storey was provided by stairs and through the roof. Burials are found frequently under the floors in the houses. Alleys and open areas are located between such clustered house complexes. The houses have inner divisions, screen walls or raised areas that were used for different purposes. A constant change of the inner organization of architectural elements, platforms, bins, ovens and stairs, and renewal of the wall plaster are typical features for Çatalhöyük houses. Wall paintings and platforms of or embedded bull horns, molded figures are found occasionally in the buildings which led Mellaart to identify such buildings as “shrines”. The current project asserts that such buildings were used as domestic units but contained “ritually elaborate” elements (Hodder 2007). The paintings might depict hunting scenes as well as floral-geometric motifs.

The process of filling houses with sterile soil is attested well at Çatalhöyük East which contributed enormously to the building of the mound and well-preservation of the remains including organic substances. The continuation in the architecture is reported to be clear between Levels VII-III. With Levels III-II the buildings are not arranged so packed as in the earlier levels (Cutting 2005: 161). Düring observes remarkable change in the spatial organization of the houses with Level VIA-V which also encompass various other changes in the material culture ranging from the ceramics, figurines to lithic industry (Düring 2002: 221-222).

The subsistence relies mainly on domesticated sheep-goat supported by lower amounts of cattle, pigs, deer and *equus* (Russell and Martin 2005: Fig. 2.1) and cultivation of cereals (various wheat and barley types) and legumes predominated by lentil, bitter vetch

and pea while a wide variety of food sources such as nuts, wild fruits and tubers (Fairbairn *et al.* 2005: 172-175).

In the lithic technology, which comprises of more than 90% obsidian, a sudden change from a flake-based to blade-based technology has been noticed around Level VI. Multi-platform flake cores and tools on flakes are associated with Levels X-VIB. Blades are typically produced on prismatic cores starting with Level VI and continue until Level II. Some special objects such as obsidian mirrors and flint dagger are likewise seen after the transition to blade-based production (Conolly 1999: 76).

Large number of carbon dates are available from the site (see Cessford 2005). They indicate that the mound was continuously settled from around 7400-7100 until 6200-5900 cal. BCE (Hodder 2005: 5). Level II at the site is dated to 6310-6220 cal. BCE (at 68% probability) whereas Levels I and 0 are not dated in absolute terms (Cessford 2005: 75; see also Cessford 2005: Tab. 4.2).

## Ceramics

One remark made by Mellaart indicates that pottery, in contrast to usual archaeological practice, was not considered a find category that is of primary concern. His remark is as follows (Mellaart 1963: 101): “*If one single category of finds at Çatalhöyük might be described as relatively rare and unimportant, then it is pottery.*” It is understood that the quantity of pottery from all Neolithic levels from Çatalhöyük

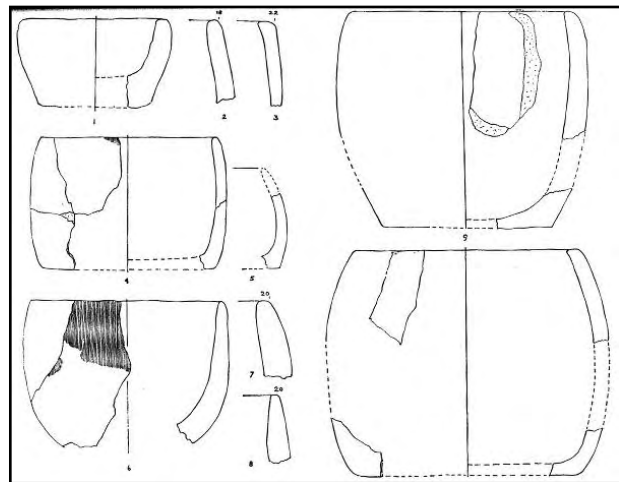


Figure 6.19: Cream burnished organic tempered coarse pottery from Çatalhöyük XII-XI (after Mellaart 1966: Fig. 4)

were low and became lower as one reached the earlier deposits. Mellaart (1966: 170) points out that only 300 sherds were unearthed in a deep sounding made in 1965 that covered Levels XII-VIB. Despite the low number of pottery from the site, certain developments in the wares and forms could have been established which we will present below.

The pottery from the lowest levels (XII-XI) are described as “heavy buff, cream or light grey ware, with grits and straw, but already burnished” which Mellaart (1966) names “Cream Burnished Ware” while the current project prefers the designation “Cream Organic Ware” (Yalman 2006). The organic material used as temper in clay is identified as chopped grass or cereal (wheat and barley) straw (Last 2005: 104). Last interprets the presence of shell fragments in the paste as natural inclusion in the clay. Vessels are low-fired, porous and fractures are dark grey-black colored. The mean wall thickness is 1.1 cm. Mottling on surface is very common. Red wash was observed on some examples while paint is confined to few pieces (Fig. 6.19). Another group of pottery has been identified in these early levels which are characterized by their mineral (sand) tempers and slightly thinner walls (mean value=8.6 mm) from the above described group (Last 2005: 105). The prevalent vessel shapes in this very early stage are “deep bowls with heavy flat bases”, “simple bowls”, “shallow basins” and few “oval vessels”. Squat forms and flat rims are prevailing. Functional additions to vessel body such handles and lugs are absent (Mellaart 1966: 170).

“Dark Burnished Ware” or “Dark Mineral Standard Ware” is the name of a fabric that appears in Çatalhöyük sequence in Level VIII (Fig. 6.20). This fabric is considered typical for Levels VII, VIA and VIB but continue in decreasing numbers until Level I. A sudden increase in the Dark Burnished Ware is documented with Level VII (Last 2005: 106). It is thin-walled (mean value= 5.9 mm), grit tempered and mainly burnished with reddish-brownish-black surface colors. The walls are considerably thinner and larger diameters are encountered than the Cream Organic Tempered Wares indicating a clear improvement in the ceramic technology as well as a possible transformation of the pottery function. Last indicates that mineral tempered wares are more suitable to cooking purposes which has been collaborated by the data obtained from organic residue analysis (Last 2005: 128). The mineral temper includes mainly quartz together with various volcanic-originated minerals such as feldspars, amphiboles and hornblendes (Last 2005: 105). In addition to this finer mineral tempered ware, chaff tempered pottery continue to be produced. Last (1996: 116) points out that 70% of Level V rimsherds belong to hole-mouth (restricted)



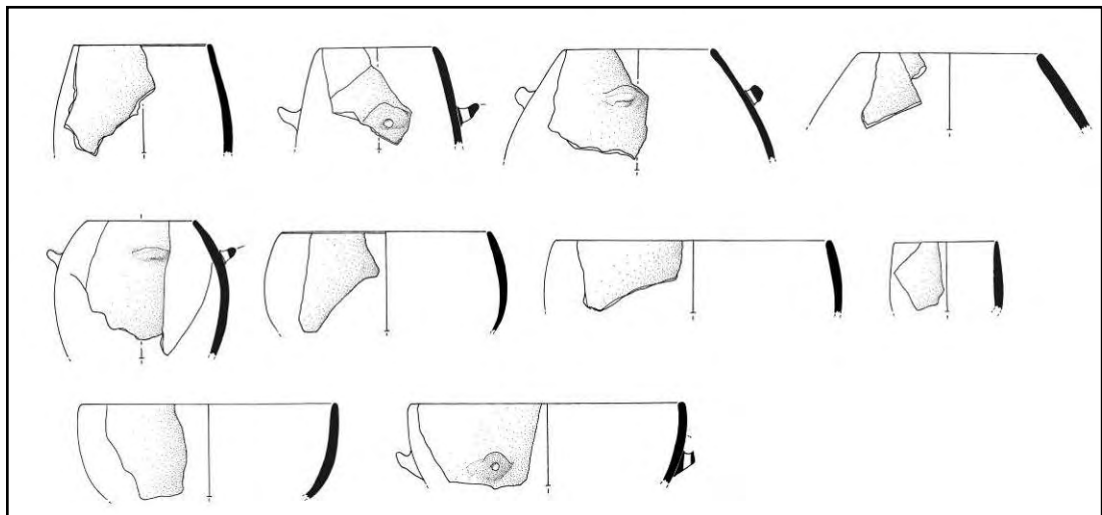
**Figure 6.20: Typical dark burnished hole-mouth jar from Çatalhöyük VII-IV (after Özdöl 2008b: Res. 2)**

forms. Only with Level IV does one encounter more developed forms which show angles, short necks and ‘s’-shaped forms (Last 2005: 111).

Lighter colors are increasingly encountered with Level V onwards where cream, orange, red colors are observed more frequently. The so-called Orange Paste Ware and Cream Mineral Ware are current names preferred by Çatalhöyük project to label such fabrics that predominantly occur in Levels IV-I (Yalman 2006). The dark colored fine burnished wares are continued to be produced but in lower numbers and new fabrics are distinguished in the assemblage (Yalman and Özdöl 2003: 89).

Özdöl (2008a: 379) mentions that mineral tempered red slipped wares occur with Level VI onwards. The most common form is hole-mouth jar with globular body (Fig. 6.21). Lugs are very rarely found before Level VI. When they are found, they appear commonly on hole-mouth vessels. Last distinguishes three types of lugs, all pierced, according to their profiles: Pointed, flaring and straight. He asserts that pointed lugs to be found in every level whereas the flaring lugs appear later than straight profiled lugs. Pointed lugs with double perforations cease with Level V. The only animal head handles at the site are known from Level V (Last 1996: 118). Basket handles were found on the systematic surface collection and are assigned to Levels VI-V (Last 1996: Fig. 9.5.6; Yalman and Özdöl 2003: 92).

Vessels with necks are encountered only with Level III while unrestricted vessel shapes increase rapidly in Level II. In the same level, pierced lug handles are replaced with ledge handles while with Level II disc bases and tubular lugs appear in the assemblage. Mellaart (1967: 217) also mentions red-on-cream painted examples from these young levels. In the upper levels (III-I), bowls with ‘s’-shaped profiles appear and everted rims become more common. Incisions are also recorded very rarely on pottery from V-III



**Figure 6.21:** Typical hole mouth and open shapes that are associated with “dark mineral standard wares” of Çatalhöyük VII-IV (modified after Özdöl 2008b: Çiz. 1, 2).



(Last 1996: 115-118). Base forms observed from the surface collected pottery are simple flat, oval flat, carinated flat and ring bases (Last 1996: Fig. 9.5). Ring and carinated flat bases are apparently late features of pottery that becomes common only with Level III (Yalman and Özdöl 2003: Fig. 56).

In summary, parallel to Özdöl's (2008a and 2008b) and Last's (1996 and 2005) observations, one can distinguish three developmental stages in the fabrics and morphology at Çatalhöyük East. The earliest horizon is defined by organic tempered light colored porous coarse pottery with squat shapes and deep bowls. Second stage is dominated by fine dark colored burnished wares with hole-mouth shapes and pierced horizontal lugs. The last stage witnesses increase in lighter surface colors and finer pottery. Red slipped pottery is a trait of this latest stage. Hole-mouth forms do continue but existence of 's'-shaped profiles, ring bases, tubular lugs and occasional decoration speak for a much more developed and varied pottery production in the very late occupational levels at Çatalhöyük East.

#### **4. Çatalhöyük West**

The mound is located to the west of Çatalhöyük East and on the opposite side of the old Çarşamba River Bed. It is about 7.5 meter high and has a diameter of 400 m. The material from mound's surface has already been preliminarily published by Mellaart and the painted pottery was dated to "Early Chalcolithic" (1961b). In the same year as the publication, he made two soundings on different parts of the mound which recovered open areas, floor deposits, and a badly-preserved rectilinear house with buttresses which Mellaart compares to Can Hasan 2B architecture (Mellaart 1965: 135-136). The current project conducts excavations on the West Mound which revealed, in addition to a Late Roman-Early Byzantine cemetery, EC domestic architecture which was however heavily disturbed by younger deposits (Biehl *et al.* 2006). It has also been suggested, based on new AMS determinations from East and West mounds, that there was either no interval between the occupation of East and West mounds or there was little time lapse between two occupations (Cessford 2005: 95). Two absolute dates from West Mound provided combined result of 7024±37 BP, beginning centuries of 6<sup>th</sup> millennium BCE (Cessford 2005: Fig. 4.10).

The pottery from the site was initially classified as Mellaart "EC I Ware" and "EC II Ware", the former referring to red-on-cream painted pottery compared to Mersin pre-Halaf painted wares, the latter to "dark on light painted wares" that display brown or

black paint on white surface and distinctive decorative patterns. The second one is compared to “Can Hasan 2B” wares, which according to French belonged to the transitional phase from Early to Middle Chalcolithic (French 1963: 37). As this stage is beyond the chronological framework of this study, below we will only concentrate on the pottery from the older EC pottery.

“EC I ware” is basically buff or red pasted, fine, mineral tempered, well fired fabric that is cream to orange colored, burnished and painted in red to light brown colors. The decoration is as Mellaart describes it “linear”. Continuous “Z” motif on the neck of the jars and horizontal zig-zags, wavy lines, lozenges or simple horizontal lines are seen on the vessel body (Fig. 6.22). Bowls are decorated with similar designs and some contain decoration on the inner surface with concentric circles or zig-zags. In some cases, the empty areas between “Z”s were filled with dots (Mellaart 1965: 136-137). Among the pottery that was recovered from these deposits were also fine monochrome examples, Fine Cream Burnished Ware and coarse wares, which are called “Coarse Red Ware”, “Coarse Buff Ware” and simply as cooking pots (Mellaart 1965: 151).

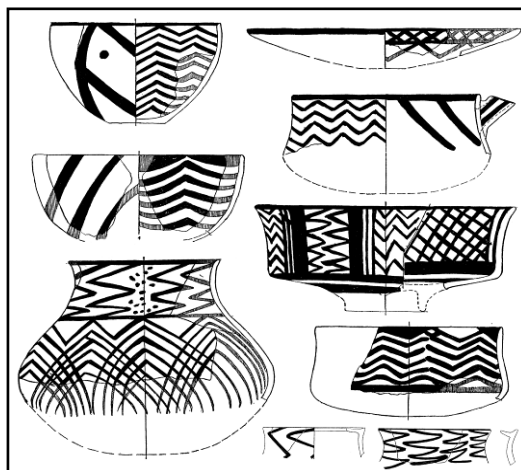


Figure 6.22: A selection of typical “EC I Ware” forms from Çatal West (modified after Mellaart 1965: Figs. 3, 4, 5; Mellaart 1961: Fig. 13)

Among the pottery that was recovered from these deposits were also fine monochrome examples, Fine Cream Burnished Ware and coarse wares, which are called “Coarse Red Ware”, “Coarse Buff Ware” and simply as cooking pots (Mellaart 1965: 151).

The predominate vessel forms that appear on painted vessels are globular jars with vertical and everted necks, necked jars with carination, bowls with convex profiles shallow bowls with flaring profiles, bowls with ‘s’-shaped profiles and bowls with carination which might have knobs on carination and pedestal bases (Mellaart 1965: Figs. 2-5; 11; Last 1996). Basket handles and anti-splash rims are also encountered on painted and monochrome vessels. The “cooking pots” with deep globular bodies and crescent shaped lugs reminds Çatalhöyük East examples. Additionally, there are incised square shaped footed vessels which make us recall the “offering tables”.

## 5. Can Hasan

Can Hasan is a 5 m high mound located 13 km northeast of Konya-Karaman on a fertile plain which is situated around 1000 m above sea level. The site is to south of the Central Plateau, closer to the northern slopes of Taurus Ranges, not far from the Göksu Valley

which leads a way to the littoral Mediterranean. The site was probably discovered by Kökten and visited during the 1958 survey of British Archaeological Institute archaeologists including David French who began excavations in 1961 with the intention to establish links with Mersin's Halaf sequence and complete the sequence of Konya Plain (French 1962: 27-29). In fact, the reason why Can Hasan was chosen to be excavated was related to a one Halaf-type bodysherd and polychrome rimsherd found during surface survey on the site (French 1962: 29). The research on the mound lasted seven seasons, ended in 1967.

Seven occupational levels were identified by the extensive excavations on the site. Surface layer included material from Iron Age, Hellenistic, Roman and early Byzantine periods (French 1998: 59). The prehistoric layers are dated on the basis of ceramic analogies established with Mersin and Çatalhöyük East-West Mounds:

Layer I	Late Chalcolithic
Layer 2A	Middle Chalcolithic
Layer 2B	Transition Early/Middle Chalcolithic
Layer 3	Early Chalcolithic
Layer 4-7	Late Neolithic

Below we will concentrate on the data obtained from Levels 2B, 3 and 4-7 as they constitute the only comparative material for Ulucak. The natural soil on the site was not reached due to the ground water (French 1998: 20).

The earliest levels at the site were excavated in 1966 through a deep sounding which revealed a mudbrick building with at least four floor deposits. There are indications that the walls of this building were red plastered (French 1967: 175-176). In the following year, French excavated rectilinear mudbrick houses without stone foundations and storage facilities from Levels 4-5. Some of these houses contained red plaster. He points out that the mudbrick walls are remarkably thinner than the younger periods at the site and mudbricks were not mould-made (French 1968: 51-52; French 1998: 20).

Level 3 was likewise excavated in a limited area. Houses from this level are seemingly not free-standing, rectilinear in plan with thick mudbrick walls and wall plasters. Walls of earlier phases were used as supporting elements for the houses of this occupation. French (1968: 47) indicates clear similarities in settlement plan and architecture to the subsequent Layer 2B.

Level 2B on the mound, excavated extensively, is characterized by rectangular mudbrick buildings with thick walls and extensive use of inner buttresses that are sometimes preserved up to 2.5 m (French 1966: 117). The houses are arranged tightly but do not share party walls (French 1963: Fig. 1). The settlement layout and architectural techniques clearly remind us Hacilar I and Kuruçay 7 as well as Aktopraklık.

Six radiocarbon dates are available from Can Hasan 2B which, when combined, provide a time range between 5715-5635 cal. BCE at one sigma value. Absolute dates from Levels 7-3 are not available. One carbon determination from Level 2A (P-789: 6980±79 BP) is interpreted as being too old (Thissen 2002: 326-327).

## Ceramics

Detailed descriptions of the fabrics and forms are not available in the Can Hasan preliminary reports but the final publication provides key information on the pottery from Levels 7-4. The pottery excavated from the earliest levels is basically what French calls Dark-Face Burnished Ware. These are mineral tempered (rarely chaff) fine wares with burnished surfaces. The fractures are black; while surfaces can be black, dark red, dark reddish brown or “chocolate” brown colored. Burnishing is well-made. “Black-Brown-Red Burnished Ware” and “Dark Red Burnished Ware” are also assigned to Levels 7-4 which however lack clear stratigraphical contexts. The former is associated with crescent-lugs and ledge rims while the latter is characterized by its high quality (French 2005: 16-17).

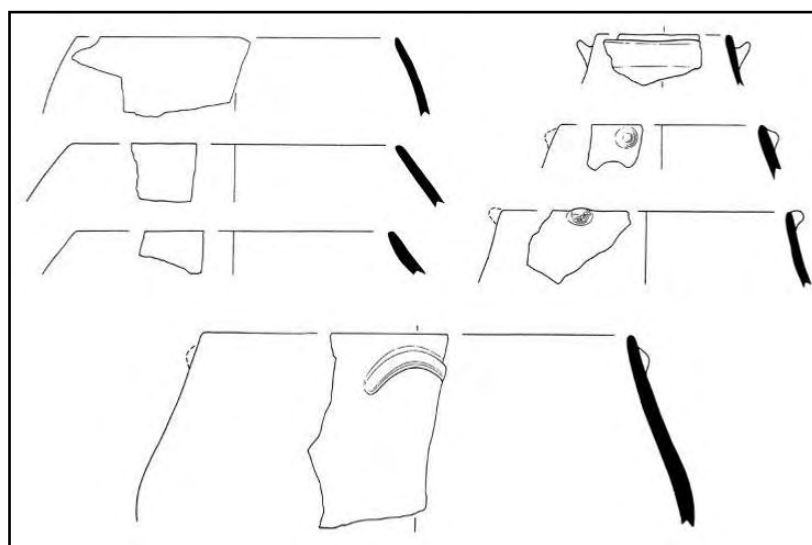


Figure 6.23: Major hole-mouth forms from Can Hasan Levels 7-4 (modified after French 2005: Figs. 37, 39 and 41)

The typical shapes are hole-mouth jars, bowls with 's'-shaped profiles and jars with short necks (French 1967: Fig. 6; French 1968: 52; French 2005: 16; Fig. 6.23). Carinated bowls are associated with dark red burnished and black-brown-red burnished wares. A crescent shaped lug is seen on an 's'-shaped profiled bowl (French 1968: Fig. 5). Rims are simple or everted to sharply everted and bases are flat or disc bases. It is understood that the painted pottery was not produced at this stage however a number of sherds with impressed/incised zig-zag decoration were found (French 2005: 17).

Pottery from Level 3 is low in numbers compared to the younger phases. Two fabrics are distinguished: "Fine burnished ware" and "patterned ware". Patterned wares are painted with two distinct styles. French (1968: 48) describes these techniques as follows: "*Red or brown paint on a natural clay ground, often burnished while the paint was still wet, producing a blurred effect; bright red paint on a thick white slip.*" Bowls with carination, shallow plates, simple bowls, jars with short necks and one squat bowls with flaring sides are found in the assemblage (French 1968: Fig. 2). It is noted that most forms from Layer 3 continue into Layer 2B.

Pottery from Layer 2B is mainly painted, although incised and plain burnished wares are also present in the assemblage. Three types of painted wares are found in this layer. These are labeled as "red patterned", "red/black matt patterned" and "brown/black patterned" wares which have various sub-variations. Plain burnished wares such as "buff/grey", "brown/red" and "brown/buff" wares are also encountered in this assemblage. These might be burnished or decorated (French 2005: 15). The decorations are confined to zig-zags, vertical lines, net motif, "Z" motif and dots. The incised wares are filled with white substance. Plain burnished wares are mostly red or brown slipped (French 1962: 32; French 1967: 173). The pottery from this layer is divided into three developmental stages by French who asserts that dark-on-light wares appear only with the last stage whereas cream-on-red linear painted wares dominate the early developmental phases together with plain burnished wares (French 1966: 118). In layer 2B, large sized vessels seem to be associated with painted wares (French 1962: 32). Jars with everted necks and globular bodies, bowls with pronounced carination, jars with anti-splash rims are commonly found in the assemblage.

## 6. Pottery Sequence of the Region and Comparisons with Central-West Anatolia

Beyşehir-Suğla Basin and Konya Plain is one of the best and problem-oriented researched areas as far as the Anatolian prehistory is concerned. The temporal range of the sites allows us to reconstruct the pottery sequence from the beginning of the 7<sup>th</sup> millennium BCE into the late stages of EC. In this respect, this region is unique and provides firm reference points for the whole Anatolian prehistory.

The early portion of the sequence is very well-documented at Çatalhöyük East with corresponding comparable material from Süberde and Erbaba. It is understood that Çatalhöyük XII-XI pottery is together with Süberde III are among the earliest examples, not only in the entire region, but also throughout the Southwest Asia dating to 7000-6900 cal. BCE (Last 2005: 127). These are manufactured in low numbers and were fired in low temperatures. The walls are extremely thick, reaching 2 cm, paste is heavily organic tempered. The colors of these wares are mainly cream and orange, red wash is attested on some of the examples. The surfaces are lightly burnished. There is virtually not much morphological variation. The vessels are simple and have cornered (squat) shapes which are mainly interpreted as imitation of wooden vessels. Despite their “primitive” appearances these wares cannot be *the* earliest production of pottery but yet earlier examples eludes us.

The following stage is characterized by dark colored burnished wares which are basically fine monochrome wares with rather dark surface colors and mineral temper. The contrast to the previous stage is clear in terms of the improvement in the manufacturing as well as firing techniques. These wares appear with Çatalhöyük VIII and display an increase in Level VII which is dated to 6600 cal. BCE. It is indicated that dark burnished wares continue to be produced until the end of the settlement on the East Mound. Thin-gritty ware and Shell tempered ware of Erbaba are obviously equivalent of dark burnished wares, only in the latter gastropod fragments are available in the natural clay. At least, some of Can Hasan’s Dark Face Burnished Ware of Levels 7-4 may correspond to the same ceramic group. Forms from Erbaba and Çatalhöyük are again fairly limited in range. The most typical vessel shape associated with this ware is the hole-mouth vessels which can appear as jars or bowls. Jars with short necks and deep bowls with slight ‘s’-shaped profiles begin to appear in the second stage as well. Small pierced lugs are likewise observed on this ware.

Above described stage is named as “Middle Tradition” by Özdöl (2008b) which will be mentioned in several discussions in the following text and is highly important for reconstructing Anatolian Neolithic ceramic sequence. Özdöl’s “Middle Tradition” as defined through Çatalhöyük VII-IV and Erbaça III-II ceramics find good parallels in Mersin XXIX-XXVIII, Amuq A2 and Tell el-Kerkh 2b on the one hand, and in Northwest Anatolian sequences such as basal Menteşe, Demircihöyük Ware A and B and Archaic Fikirtepe on the other. Although contemporary sites exist in Lake District (such as basal Bademağacı and Höyücek) these sites are devoid of typical dark colored burnished wares. Last points out that Kuruçay 13, Höyücek ESP and basal Bademağacı may well correspond to Çatalhöyük VI-V, especially when considered that certain lug and handle types at those sites do not appear at Çatalhöyük before level VI (Last 2005: 138).

The third ceramic stage is represented by Çatalhöyük III-0 where a clear tendency of light colored pottery production is recognized. These are monochrome fine wares with predominantly red-orange slip and burnishing. Although the dark colored burnished wares persist, quantity of fine light colored pottery increases. Furthermore, some new morphological traits are detected in the assemblage such as vessels with ‘s’-shaped profiles, tubular lugs, basket handles, ledge handles, oval bases, ring and disc bases.

Çatalhöyük East sequence ends here but Can Hasan 4-7 can be considered as a continuation of this stage. As mentioned above, Can Hasan 4-7 pottery is fine, monochrome and well-burnished with surfaces that are mainly red, brown and black. The forms are mainly hole-mouth but open vessels with ‘s’-shaped profiles and carinated forms are found in the assemblage as well. Crescent shaped lugs, similar to the ones seen on “cooking pots” from Çatal West (Mellaart 1965: Fig. 11), are also found. These early layers from Can Hasan, which are unfortunately excavated in a very small area, can be representing a parallel stage to Çatalhöyük I-0 and probably a little later. French placed Can Hasan 7 to a timeline that immediately succeeds Çatalhöyük 0 (French 1967: Chart 2). Since not much is known about the nature of Çatalhöyük 0, we should limit ourselves to indicate that Can Hasan 7-4 might be representing the very late phase of LN in the region, although some of the forms attributed to Can Hasan 7-4 by French clearly EC in date. Especially developed carinated bowls and cooking pots with ledge handles on rim are typical EC shapes.

The following stages of pottery sequence should be sought in Çatalhöyük West and Can Hasan 3-2. The research conducted on Çatal West has failed to demonstrate that LN occupation exists on the mound. The current picture indicates a clear break between Çatalhöyük 0 and Çatal West. Çatal West red-on-cream pottery with its “linear” designs and sharply carinated forms, pedestal bases and incised pot stands reminds us Hacilar I and Kuruçay 7 horizons from the Lake District which indicates that even the early Çatal West horizon, the “EC-I Ware”, represents an advanced phase of EC.

Pottery from Can Hasan 3 (French 1968: Fig. 2) seems likewise chronologically closer to Çatal West, Hacilar I and Kuruçay 7 than Hacilar V-II, e.g. early EC. The hole-mouth forms from the earlier deposits are not found in the assemblage anymore. Painted wares are as common as monochrome wares. The bowls with small knobs on the carination (French 1968: Fig. 2) have clear parallels in Hacilar I.

The following occupation at Can Hasan, 2B, is in terms of pottery a developed phase of the Level 3. The big jars with everted necks, vessels with anti-splash rims and bowls with carination reflect a gradual development in the morphology. The gradual transition from red-on-cream to dark-on-light pottery is detected solely in this phase in the entire region. The dark-on-light painted wares are new in this level and find their close parallel in Mellaart’s “Çatal West EC-II Ware” which both archaeologists link to Mersin’s pre-Halaf phases (French 1967: Chart 2; Mellaart 1965: 155). White-filled incised and impressed vessels were also found in this level.

Dark-on-light painted pottery from Can Hasan 2B is indeed at first sight similar to certain Halaf fine painted wares, especially the net motif combined with triangles, is a well-known Halaf motif (see Nieuwenhuyse 2007: Pls. 94-96). Moreover, the sharp carinated bowls are also typically found at Early Halaf sites (such as at Sabi Abyad 7-6/7; see Nieuwenhuyse 2007: Pls.100-101). The nature of the organic relations between these two regions however is not archaeologically demonstrable for the time being. The Halaf-style painted sherd from the surface collection at Can Hasan remains isolated until today.

The similarity of architectural techniques between Can Hasan 2B and Hacilar I and Kuruçay 7 is hard to oversee and support an argumentation for complete or partial contemporaneity. Schoop (2005a: 147) suggests that Can Hasan 2B and Çatal West I-II



should be contemporary with each other, and also with Mersin XXIV-XX, whereas clear parallels between these littoral and inland regions lack before this period.

A comparison of Neolithic pottery sequences of Central-West Anatolia and Konya Plain is not straightforward as it might have seemed. From our above account it becomes clear that some major developmental stages in the pottery are not represented at all in Central-West Anatolia. These are the first two stages we described from Çatalhöyük East that are characterized by cream organic tempered ware and mineral tempered dark burnished ware. It should be mentioned however earliest deposits excavated at Ulucak (Vb-f) have produced increasing amounts of mineral tempered dark (dark brown) colored and burnished wares typically associated with hole-mouth jars, which might well be a parallel reflection of dark mineral wares of Central Anatolia. In terms of absolute chronology, Ulucak Vb-f is roughly contemporary with Çatalhöyük VI-IV which coincides with the Central Anatolian “Middle Tradition” defined by Özdöl (2008b). As mentioned above, this horizon is characterized by mineral tempered dark colored burnished pottery and hole-mouth jars. Current data from Ulucak’s early deposits fits perfectly with the “Middle Tradition” both in terms of absolute chronology and ceramic assemblage. On the other hand, Ulucak Vc-f also includes fine cream burnished ware which is different from dark colored burnished wares and not as fine as cream burnished ware. Fine cream burnished wares may be similar to Hacilar IX-VIII examples. It is possible that both Lake District and Central Anatolia ceramic traditions influenced Ulucak ceramic tradition. Further research will aim to clarify this issue in the coming years.

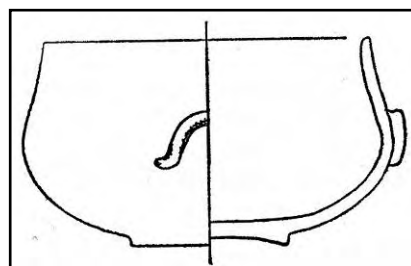
Çatalhöyük II-0 and Can Hasan 7-4 horizons with light colored fine burnished pottery, red slips, disc bases and tubular lugs can be linked to Ulucak V-IV and the general LN-EC stage of Central-West Anatolia. Certain important forms, especially carinated bowls are lacking at Ulucak and other Central-West Anatolian sites. The following evidence from Konya Plain, Çatal West and Can Hasan 3-2B, is again archaeologically absent in Central-West Anatolia where, as we have seen before, Hacilar I type of pottery, whether painted or not, is not detected. Same goes true for Çatal West II and Can Hasan 2B Wares.

In Konya Plain, however, the sequence from LN into the EC eludes us which is partially represented at Ulucak IV. As a result, the only common horizon in both regions is confined to LN. In this sense, it is unfortunate that especially pottery from this period

was not satisfactorily published from Çatalhöyük and Can Hasan. Nevertheless, there are some common and deviating traits concerning the red slipped wares that need to be mentioned from both regions. First of all, in both regions red slipped wares constitute the fine wares. Both in Central-West Anatolia and Konya Plain they follow wares with darker surface colors and increase through time gradually. At Ulucak, the brown burnished wares of Level Vb might be corresponding to the very late phase of second developmental stage in which “dark burnished wares” of Central Plateau are attested. In both regions, there is a tendency to produce light colored fine burnished pottery in oxidized firing conditions in the beginning of 6<sup>th</sup> millennium BCE. This stage corresponds to Çatalhöyük East’s II-0, Çatal West Early and to Can Hasan 7-4. In Central-West Anatolia RSBW clearly dominate the assemblages with 80-90% whereas in Konya Plain dark burnished wares, including black examples from Can Hasan 7-4, continue to be produced. On Çatal West, surface collection showed that 20-30% of pottery had red wash (Last 1996: Tab. 9.11).

In Central-West Anatolia, RSBW is accompanied by impressed wares which completely lacks in the Central Plateau.

Another distinction between the two regions is the type of non-plastic inclusions in the paste. At Ulucak, Level V wares, whether red slipped or brown burnished, have mineral inclusions in the clay whereas with Level IV chaff is increasingly preferred by the potters. In Konya Plain, except for the earliest pottery from Çatalhöyük XII-XI and Süberde III, organic temper is not attested at all.



**Figure 6.24: A deep bowl with slight “S” profile and crescent shaped lug from Can Hasan 5 (after French 1968: Fig. 5)**

Only in Erbaba, pottery with shell inclusions has been detected, but this is a feature of the local clay. In terms of fabrics, we can pinpoint as common traits the growing tendency to produce fine light colored pottery and wares with red slip and burnish in both regions.

In terms of vessel morphology, hole-mouth jars, bowls with convex profiles and bowls with ‘s’-shaped profiles are common to both regions and this repertoire is found at Çatalhöyük East II-0 and Can Hasan 7-4 (Fig. 6.24). These forms are also encountered on Çatal West Ware I. Moreover, the jars with short necks and jars with everted necks find their parallels in Ulucak IV. The main difference that makes us suggest that Çatal

West (horizon related to “Ware I”) is inhabited later than Ulucak IV is the presence of carinated forms and anti-splash rims. Carinated forms are also already seen in Can Hasan 7-4, therefore it is possible that Can Hasan 7-4 is later than Çatalhöyük 0. Otherwise, the vessel forms from Çatal West contain clear continuations from the latest Çatal East (Last 1996: 152).

In terms of lugs, except for the appearance of tubular lugs in Çatalhöyük East II, similarities are rare. The pierced knobs of Ulucak IV-V are very well comparable to straight and flaring profiled pierced knobs of Çatalhöyük East V-0 (see Last 1996: Fig. 9.5.3 and 9.5.5). Ledge handles, double pierced knobs, and crescent shaped handles are not found in Central-West Anatolia. Basket handles from Çatal West, also a known trait of Lake District, is not known so far in the Central-West Anatolia.

The base types however show some certain similarities. The disc bases, associated with late levels on Çatal East, are found in Ulucak V-IV in considerable amounts. Ring bases are found in both regions, but in Central-West Anatolia rather rare. One oval base depicted on Last (1996: Fig. 9.5.14) has parallels in the entire Central-West Anatolia as well as in the Lake District.

Lack of detailed ceramic reports from Çatalhöyük II-0 and Can Hasan 7-4 limits the depth of our comparative analysis. In any case, it is clear from the available information that basic form morphology in LN of both regions is fairly similar. Certain lug and handle shapes seem to be differing, however. As a result, one cannot detect numerous parallels between Central-West Anatolia and Konya Plain as we have done for the Lake District. Apparently the geographical distance resulted in fewer social-cultural contacts played a role in the deviating development of the ceramic assemblages in both regions. However the common trends in both fabrics and morphology may be indicating social-cultural bonds provided through the filter of Inner-West Anatolia and the Lake District communities. Ongoing excavations on Çatal West have the potential to fill the temporal gap between the East and West mounds. It can also reveal the missing comparative material between Konya Plain and Central-West Anatolia. For now, Ulucak IV seems to be falling exactly into this gap while Ulucak Va-b might be contemporary with late Çatal East (II-0) if we take tubular lugs as a chronological trait. The increase of light colored burnished pottery is detected with Çatal VI-V but such wares become clearly visible in the Çatalhöyük assemblage only with Level III. Therefore, Ulucak V, with its 40% of

RSBW, cannot pre-date this transition but might be reflecting a similar trend in the pottery production techniques.

Carinated forms of Çatal West and Can Hasan 7-4 and 3 on the other hand might post-date Ulucak IV, but as mentioned before when we compared Hacılar with Ulucak, absence of carinated bowls at Ulucak might be a reflection of local pottery production as certain EC forms such as jars with vertical-everted necks, necked jars with small vertical handles on rim and jars with horizontal knobs below rim are encountered frequently at Ulucak IVb, which is dated to 5900-5700 cal. BCE. This might indicate that Ulucak IV is chronologically compatible with Çatal West and Can Hasan 7-4.

### **G. Melendiz and Bor Plains (Aksaray and Niğde Regions)**

Few Lower and Middle Paleolithic find spots are known in the area, which are usually located in close proximity to the obsidian sources (Harmankaya and Tanındı 1996). Exploitation of rich obsidian sources in the region has been proven by the evidence from “Kaletepe Deresi 3” deposits which are currently excavated by a French-Turkish joint team. These deposits contain 12 levels which are associated with Lower to Middle Paleolithic cultures with regards to the lithic technology which is characterized by bifacial hand-axes and cleavers as well as Levallois elements (Slimak *et al.* 2007: 9-10).

The obsidian sources in the area have been extensively used during and after the Neolithic period, too. One of the workshop sites, Kaletepe located on the northern slopes of Göllü Dağ, is excavated in 1997-2001 by a joint team directed by Nur Balkan-Atlı of Istanbul University Prehistory Department. The reconstruction of the operation chain at Kaletepe showed high standardization in the production of blades from bipolar and prismatic blade cores with pressure-flaking technique. Interestingly, these techniques are *not* attested at the PPN sites in this region, but rather in PPNB Levant. Balkan-Atlı and Binder questions the possible existence of mobile groups with a Levant origin who are craft-specialists operating as part of a highly-developed and well-organized long-distance exchange mechanism, reaching 900 km in distance from the source, which covered the entire Levant, Southeast Anatolia, Northern Syria, and Cyprus, where Göllü Dağ obsidian has been attested (Balkan-Atlı 2007: 220; Binder 2002: 80).

Melendiz Valley is one of the few areas in Central Anatolia where permanent settlements without any use of pottery have been documented (Todd 1980) and subsequently excavated (Esin and Harmankaya 2007; Özbaşaran *et al.* 2007). Aşıklı and Musular,

covering a period from 8400-6600 cal. BCE, are well-documented sites which were subject to extensive horizontal excavations which provided substantial information on the settlement organization, architectural techniques, subsistence strategies and material culture of PPN sites. Moreover, pollen record from Acıgöl provides reliable information on the vegetation and the landscape from terminal Pleistocene to Early Holocene, which basically indicates a transition from an arid steppe vegetation to grassland-woodland vegetation caused by the increasing humidity (Woldring 2002: 63). With the appearance of grassland-woodland vegetation in the region around 10860-8600 BP, one sees the first permanent settlements. Especially Aşıklı, with its agglutinative clustered mud-slab architecture pre-echoes Çatalhöyük. The subsistence strategy at the site is based on consumption of cultivated cereals and pulses as well as of wild caprines and aurochs (Asouti and Fairbairn 2002: Tab. 1; Martin *et al.* 2002: 196-197).

Another interesting feature which has been common to Aşıklı and Musular is the buildings with red painted lime floors (for details see Özbaşaran 2003). Such floors, mainly associated with ritual practices, are known from a good number of PPN sites in Southeast Anatolia, Levant, Iran and Northern Syria (Garfinkel 1987: 69). Recently Baird (2007: 296) has identified similar floor constructions at Pınarbaşı Areas A and D which are dated to 9<sup>th</sup> millennium cal. BCE. We may also add here that red painted lime floors have been found in Western Anatolia, at Bademağacı ENI-8, Hoca Çeşme Level 7 and Ulucak VIa, indicating that the geographical distribution of this practice was much broader than it was supposed until recently.

## **1. Musular**

Musular is a small shallow mound located in Kızılkaya Village of province Aksaray-Gülağaç which is a region characterized by volcanic landscapes. To the south of the area four volcanic massifs, Melendiz Dağı, Keçiboydoran, Küçük Hasan Dağı and Hasan Dağı, all above 2500 m, are located. Immediately to the northwest of the site Salt Lake is situated. Prehistorically exploited local obsidian sources like Göllü Dağ, Nenezi, Kayırlı and Kömürcü are likewise within reach of one day walk. The settlement is inside a fertile valley on the west bank of River Melendiz on an altitude of 1120 m above sea level. The cultural accumulation on the site is confined to 0.7 m, covering an area of 220 x 120 m and situated right above the bedrock which is volcanic tuff. Its discovery was made in 1993 by M.K. Davis as the excavations were under way at Aşıklı, a major PPN mound, only 400 m distanced from Musular (Özbaşaran 1999). Material from Musular was

collected by S. Gülçur during her extensive surveys in the region. Excavations on the site were carried out between 1996-2004 under the direction of Mihriban Özbaşaran of Istanbul University Prehistory Department.

Two distinct inhabitations have been detected on the site: Aceramic and Ceramic Neolithic. To a lesser extent, EBA and medieval pottery was also present in the surface collection (Özbaşaran *et al.* 2007: 279).

Aceramic occupation is confined to a rectilinear building with red plastered floor (Building A), stone channels carved into the bedrock, midden areas and building “Z” which is likewise carved into the bedrock and made out of stones. In addition, eight burials have been excavated from this level (Özbaşaran 2000b: 137). The excavators suggest that the whole site should have been associated with meat and leather processing as well as feasting activities after hunting. The lithic and osteological evidence support this hypothesis. Moreover, absence of domestic residential units indicates that the site did not function as a settlement (Duru and Özbaşaran 2005: 23; Özbaşaran *et al.* 2007: 277-8).

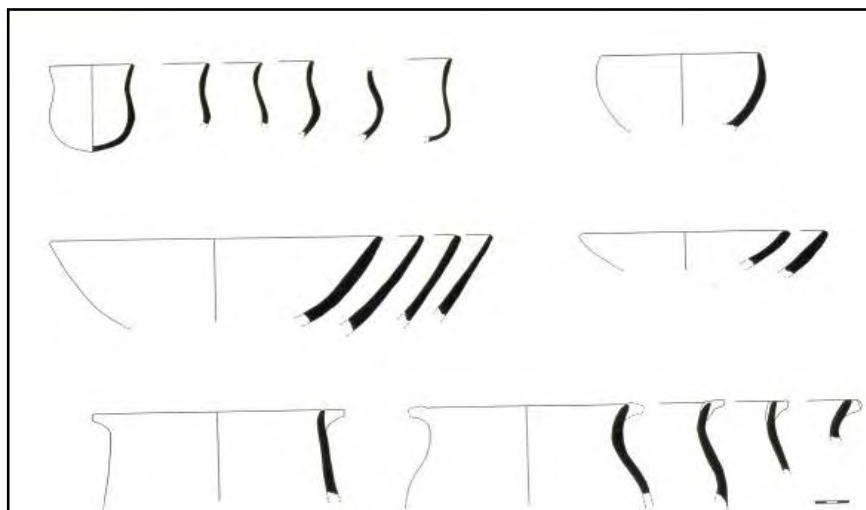
Ceramic Neolithic deposits from the site are unfortunately highly damaged due to their erosional exposure. Stone foundations of a building with multi-rooms have been nevertheless excavated from this level. The foundations indicate that this building has two small square rooms, one elongated room and another bigger room. The one meter thickness of the wall foundations might be indicating presence of a second storey (Özbaşaran 2000a: 49). Other features from the site include pits, a workshop area and open areas. Carefully made circular stone constructions are interpreted as silo bases (Özbaşaran *et al.* 2007: 278-9).

Nine carbon dates are available from PPN deposits which fall between 7600-7000/6600 cal. BCE (Duru and Özbaşaran 2005: 26). No carbon dates are measured from the PN occupation.

## **Ceramics**

Ceramics from the upper occupational level are of great interest to us as they contain substantial amounts of RSBW. Unfortunately the preservation of the vessels is very low. Only three complete profiles could have been recovered from the site (Özbaşaran 2000b: 131).

The entire pottery assemblage from this level contains large amounts of organic non-plastic inclusions (chaff) which was added to two local clay compositions used for ceramic production. These are characterized by clays with feldspar, alkali and mica on the one hand and clays with volcanic originated minerals. Mottling and sooting are observed frequently.



**Figure 6.25: Various vessel shapes found at Musular (after Özbaşaran 2000b: Fig. 17)**

Four different wares have been distinguished from this level. These are red slipped wares with pinkish buff paste, red slipped wares with brownish-red paste, dark colored wares and buff (light brown) colored wares. Red slipped wares, both varieties together, make up around 70% of the entire ceramic assemblage. The slip is rather streaky in the pinkish buff variety while in the second type the slip is thicker and adheres well to the body. Both types are burnished, however the second red slipped variety is reported to be much better burnished than the first one. Dark burnished wares constitute around 15% of the assemblage. The distinctive trait of this fabric is its surface colors which mainly range from grey, brownish grey to black. The vessels are lightly burnished. Finally the buff colored wares, 17% of the assemblage, are as the name implies buff or light brown colored with lightly burnished or smoothed surfaces (Özbaşaran 1999: 151; Özbaşaran *et al.* 2007 279-280).

In terms of vessel shapes, deep bowls with straight and 's'-shaped profiles constitute more than 50% of the assemblage. Beakers with 's'-shaped profiles, jars with short necks and globular bodies, shallow plates with straight sides, large jars with everted rims, bowls with flaring sides and hemi-spherical simple bowls are also seen in the assemblage to a lesser extent (Fig. 6.25; Özbaşaran *et al.* 2007). Cooking pots, especially

with small lug handles on rim, are associated with dark colored wares (Özbaşaran 2000a: 49; also see Özbaşaran *et al.* 2007: Fig. 29). Flattened rims are very commonly found in the assemblage. Two pieces contained painted decoration, but the surfaces are very worn-out, impeding better identification (Özbaşaran 2000b: 132; Özbaşaran 2000b: Fig. 12).

## 2. Tepecik-Çiftlik

The mound is located 1 km East of town Çiftlik in the Niğde province. Geographically it is situated in the Melendiz plain formed by the volcanic silt and surrounded by volcanic mountains. Göllü Dağ, a major obsidian source, is located immediately to the east of the mound (Todd 1980: 114). The site was discovered during the extensive surveys by I. Todd in 1966 who initially dated the pottery and lithics collected from the site as “Neolithic.” S. Omura also collected material from the site in 1990. Large-scale excavations started in 2000 by a team from Istanbul University Prehistory Department supervised by Erhan Bıçakçı.

The mound is partially damaged by the modern agricultural activity. It is oval shaped and 4-9 m above the present plain level. The surface finds that belong to the mound cover an area of 6 ha (Bıçakçı *et al.* 2007: 237).

Four occupational levels have been identified so far on the mound. These are Late Roman-Byzantine (Level 1), Middle Chalcolithic (Level 2), Early Chalcolithic (Level 3) and Neolithic (Levels 4 and 5).

Early Chalcolithic houses are rectangular with 2-6 rows of massive stone foundations. Superstructures are constructed from mud-slabs as no mud-brick has been detected in the collapsed deposits of houses. The buildings are either single-roomed or multi-roomed, mostly with inner partitions and leveling. Clay silos and platforms were also excavated. Some buildings were added new rooms and additions through time. A number of primary and secondary burials have been identified from this level (Bıçakçı *et al.* 2007: 239).

In an area which served as an open activity area in Level 3, below these remains, a 0.8 cm thick light yellow colored sterile deposit, called Level 4, with sixteen burials were found. To the same occupational level belong heavily damaged remains of stone foundations and plastered floors of houses as well as obsidian knapping areas and caches (Bıçakçı *et al.* 2008: 487-488). Burnt wooden beams were also excavated in one of the



houses from this level. A skeleton of a baby inside a ceramic vessel was found on a plastered floor in association with a fire installation. Yet an older level was met in a small-size deep sounding which revealed burnt remains of an oven and hearth as well as a fill deposit that contained ash and charcoal (Bıçakçı *et al.* 2007: 240-241).

The most distinctive material cultural elements from the site are pressure-flaked bifacial obsidian points, idols made out of knuckle bones (*phalanx*), bone polishers, polished axes and a stamp with concentric circles (Bıçakçı *et al.* 2007; 2008: 488).

## **Ceramics**

Pottery from Levels 4-5 is classified into three major groups. These are “Mottled Wares”, “Dark Colored-Black Burnished Wares” and “Red Slipped and Relief Decorated Wares”. It is suggested that the black burnished wares have been fired in a reducing atmosphere. In the assemblage there are also black burnished wares with mineral inclusions which are according to the excavators non-locally produced (Bıçakçı *et al.* 2007: 242). All of the groups contain fine organic non-plastic inclusions. RSBW from this phase have surface colors that range from brownish orange to dark red. Godon considers red slipped wares found in Level 5 contexts as intrusion from Level 3 (Godon 2005: 94). The surfaces are smoothed or lightly burnished. One typical feature related to red slipped wares is the relief decoration, mostly zig-zag or hanging garlands, either applied to the surface or created by wiping. One impressed piece on black burnished ware is illustrated on Bıçakçı *et al.* 2007: Fig. 44c. The impressions are shallow very thin horizontally applied curving lines that seemingly applied with a shell.

The common forms are jars with bead-rims, hole-mouth jars, bowls with convex profiles, shallow bowls with straight sides and jars with vertical necks. One interesting trait of the ceramics from Levels 4-5 is the total absence of handles and lugs, although few fragments of basket handles have been found in Level 4 (Bıçakçı *et al.* 2008: 487). Bead-rims are frequently observed on vessels necks (Bıçakçı *et al.* 2007: Figs. 42-46).

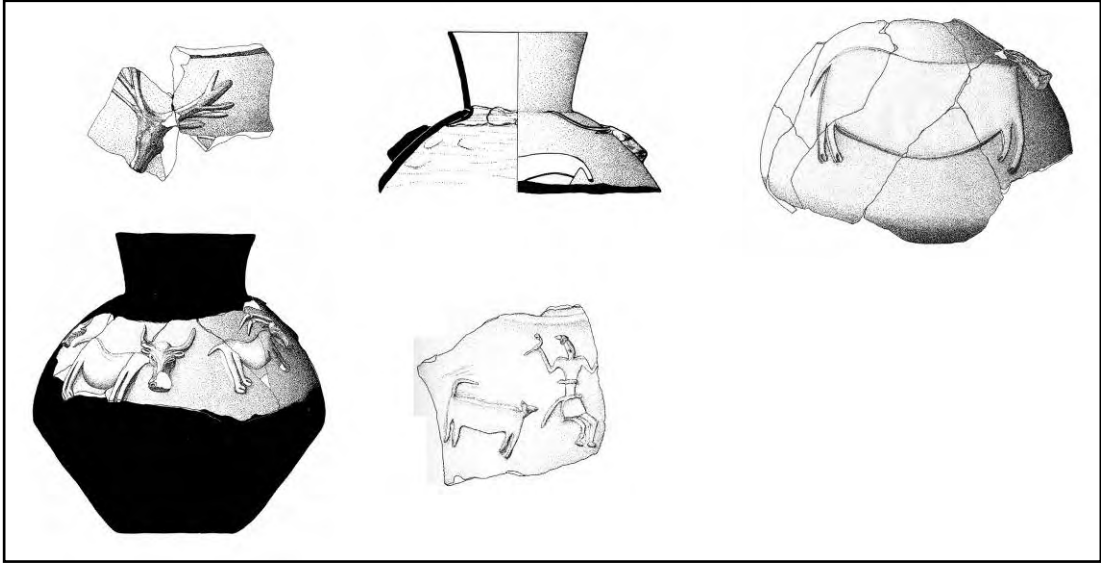


Figure 6.26: Relief decorated jars from Tepecik-Çiftlik Level 3 (modified after Bıçakçı *et al.* 2007: Fig. 35)

In the following younger Level 3, there are remarkable changes in the fabrics and morphology. The amount of organic temper in the paste increases considerably. Especially big sized jars are produced with high amounts of organic temper. In relation to the increase in the amount of organic non-plastics the surfaces become more porous (Bıçakçı *et al.* 2007: 242). The RSBW as well as black burnished wares persist well into this level. In terms of morphology, carinated forms and big sized jars appear for the first time in this level (Godon 2005: 95). Secondly, the plastic decoration applied to the surface of red slipped wares become highly elaborate and detailed, depicting scenes from the daily life (Fig. 6.26). Both anthropomorphic and theriomorphic applications are observed. Especially cattle are depicted on jars with necks. Animal shaped handles and flaring bowls with high pedestal bases are likewise encountered in Level 3 (Bıçakçı *et al.* 2007: 243; Figs. 30-41).

### 3. Köşk Höyük

#### 3.1. General Overview of the Archaeological Research

Köşk Höyük is a mound located on a natural hill on Bor Plain, close to town Bahçeli in Niğde province. Bor Plain is located to the South of volcanic massifs Hasan Dağı and Melendiz and Northwest of Aladağ and Bolkar Mountains, on 1100 m above sea level (Todd 1980: 41). The hill is 15 m above the present level of the plain and mound covers an area of 100 x 90 m. Natural springs are located in the close vicinity of the site which were even exploited during the Roman period. The mound was discovered already in

1964 by R. Harper and M. Ramsden. Material from the site was also collected and published by Todd (1980). First excavations have been carried out between 1983-1990 by Uğur Silistreli. Current research is directed by Aliye Öztan of Ankara University since 1995 (Öztan 2007: 223).

Five levels that are dated to “Neolithic” (Levels V-II) and “Early Chalcolithic” (Level I) have been identified through the excavations on the site. Additionally, late Iron Age, late Hellenistic, Roman, Byzantine, Medieval and modern remains have also been detected. Level V is the oldest occupational stratum that is founded on the bedrock. “Early Chalcolithic” occupation is abandoned after a fire incident not to be settled again until the Iron Age (Öztan 2007: 223-224). Few Ubaid-type pottery and Halaf type seals were also recovered from Levels III-I (Özkan 2001), which together with a carbon date from Level I that yielded 4883±120 cal. BCE, indicate that the latest occupation on the mound continued well into the early 5<sup>th</sup> millennium BCE. Newton and Kuniholm (2002) took nine dendro dates from a single tree from Level I which provided a time span from 5100-4700 cal. BCE for Köşk Höyük Level I (see also Thissen 2002: 308; 324).

Good comparisons for these seals, apart from Halaf sites in East Anatolia, come also from Hacilar II-I which Mellaart called “pseudo-stamp seals” (Mellaart 1970: Pl. 187). This indicates that the transition from Early to Middle Chalcolithic might have been represented on the site, similar to the Can Hasan 2B-A levels. According to Schoop’s relative and absolute chronological comparisons, pottery from Levels III-I are more related to Can Hasan 2A and Güvercinkayası than true “Early Chalcolithic” assemblages from Can Hasan 3 and Çatal West (Schoop 2005a: 133-134).

The architecture from Levels V-II is characterized by rectilinear-square houses built with limestones and mortar. The walls and floors are plastered, rarely in white or orange colors. A wall painting from Level III, which depicted a hunting scene with 20 individuals and one deer-like animal was also discovered (Öztan 2007: 225). There are few cases in Levels III-IV, where mudbrick houses were also encountered. Houses are clustered around open areas, multi-roomed structures with evidence of continuous re-arrangement of the plan. Silos, benches and hearths are as a rule found inside the houses. Level V houses are built of mould-made mudbricks and midden areas carved into the bedrock are considered typical for this level houses (Öztan 2007: 225).

One of the most distinctive traits of this settlement is the existence of plastered-modeled skulls in the houses, of which 16 are excavated so far. These belong to individuals of various age and sex whose skulls were removed after the initial burial which is always accompanied by gifts. Moreover, burials belong to infants and children are also found inside the houses and under the benches (Özkan 2007: 225-226).

### **3.2. Ceramics**

The ceramics from the youngest level, Level I, are recovered on the mound surface that contained monochrome wares and red-on-cream and brown-on-cream painted wares which are compared to “Can Hasan 2B Wares” (Özkan 2002: 59). Two “Ubaid type painted pottery” were also recovered from this phase (Özkan 2001: 19). Finally, Silistreli mentions polychrome painted pottery, on light background brown and black painted, from the same level (Silistreli 1985: 32).

Pottery from the earlier levels, II-IV, is homogeneous, monochrome and mineral tempered. Özkan (2007) distinguishes between two main groups. First one is grit tempered, gray-brown-buff colored, dark colored cored and streaky red slipped and sometimes lightly burnished wares. The second group is finer, mica-sand tempered black, red, brown slipped and well-burnished. Both wares can appear with relief, paint and incised decorations, but their numbers are in all levels low. It is reported that 20% of pottery from Köşk Höyük II-III is decorated. Incised and white filled incisions, usually spirals and pseudo-meanders, make up 3% of decorated wares (Özkan and Özkan 2003: 447). Painted decorations are usually applied on red surface with yellowish-white and cream tones. Decorations are confined to spirals, single bands and “V”s. One ware group associated with the Levels V-IV are gray-buff colored, self-slipped and mineral tempered (grit and lime) wares which are low fired and have dark colored cores (Özkan 2007: 227).

There is high variety of vessels from Köşk Höyük. Big sized jars, vases, bowls, deep bowls, plates, “fruitstands”, boxes, beakers and small cups are encountered in the assemblage. Fine RSBW are mainly associated with middle-small sized jars, bowls and boxes. Jar with long vertical neck with globular body is a very common vessel shape. These have deep grooves where necks and bodies juncture. Bead-rims and carination are also frequently observed on bowls. Flat as well as disc bases are found on vessels. In Levels III-II anthropomorphic and theriomorphic vessels are found.

One special treatment of red slipped vessels is with plastic decorations which display a rich repertoire of motifs and scenes. These vessels are found both in burial and normal domestic contexts. Similar to the specimens excavated at Tepecik-Çiftlik, hunting scenes with bow and arrow, anthropomorphic figures and cattle are depicted. One example with man harvesting wheat and another with cow milking scene are significant as they provide us first-hand snapshots from the daily life of Köşk Höyük community. Some of the relief decorated vessels are also painted with white. On one example, the skirt of the man and his head are white painted. On another, horns of a deer are white painted as if to emphasize its impressive size (Öztan 2007: Figs. 13-18).

### 3.3. Relative Dating of Köşk Höyük

The earliest pottery from the site is brown-buff colored and unburnished with mineral inclusions. The following levels are dominated by fine and coarse varieties of RSBW. Relief decoration with painting is peculiar to the site. Forms include carination and jars with funnel necks. There are some forms and decoration types that speak for a rather late date for Köşk Höyük's "Neolithic" levels. These are carinated forms, jars with long funnel necks, white-on-red paint, anthropomorphic vessels, theriomorphic vessels, fruitstands and incised decoration with white filling. These features are not associated with LN assemblages, neither in Konya Plain nor in Lake District. Carinated forms appear at Hacilar only with Level V and at Kuruçay with 11-7 whereas on Konya Plain they are encountered at Çatal West, Erbababa I-II and Can Hasan 3-2, not before. Jar with necks, especially long vertical necks like the ones from Köşk Höyük, are mainly associated with the very late stages of LN (Çatalhöyük II-0) and EC (Çatal West).



Figure 6.27: 1. Incised bowl from Gelveri (after Esin 1993: Abb. 11) 2. White-on-red painted jar from Köşk Höyük III (after Öztan 2007: Res. 14) 3-4: White-on-red painted sherds from Galabnik (Lichardus-Itten 1993. Abb. 7) 5-6: White-on-red painted sherds from Kovačevo (Lichardus-Itten 1993: Abb. 7)

White-on-red painted decorations, usually associated with EN cultures of Southeast Europe, are very rarely found in Anatolia. Only examples are known from Hacilar I, Bademağacı “LN-EC” and Höyücek “Sanctuaries Phase”, all are settlements that date to the advanced stages of “Early Chalcolithic”. At Hoca Çeşme Phase II, in southern tip of Thrace, white-on-red painted pottery was also found (Özdoğan 1993: 448). The spiral-like motif executed on white-on-red painted bowl from Köşk Höyük III is similar to the incised motifs seen on other Köşk Höyük II-IV vessels (Öztan and Özkan 2003). Moreover, the Gerveri bowls and Tepecik-Çiftlik 2 (Bıçakçı 2007: Fig. 31) which are compared to Gumelnitsa and Precucuteni Cultures of Southeast Europe (Esin 1993: Figs. 3-4) are also comparable to Köşk Höyük incised vessels with spiral-like curving motifs (Fig. 6.27). But the real white-on-red comparisons with the same style of spirals are known from advanced EN stages from Southeast Europe like Karanovo I and Early Starčevo from sites such as Gâlâbnik and Kovačevo (Gimbutas 1991; Lichardus-Itten 1993: Abb. 4). These traits are indeed categorized as “*Weiss/Spiraloid*” by Schubert who assigns these to “Proto-Starčevo” and “Classic Starčevo” cultural horizons which are dated to ca. 5900-5800 cal. BCE (Schubert 1999: Taf. 68). Such a comparison might sound far-fetched at first sight, but when one considers the major material cultural similarities between the Anatolia and Southeast Europe from LN into the Late Chalcolithic, it is not that surprising at all to find analogous fabrics and decoration types in both areas. Köşk Höyük indeed a very good example for testing the extent of “Anatolian-Balkan Cultural Complex” once proposed by Childe (1956) and Esin (1993).

Anthropomorphic vessels are known again from Hacilar I and Ulucak IVb, both EC settlements, former being later. Theriomorphic vessels are known from Hacilar VI, IV and Kuruçay 11, e.g. late LN and EC. Finally, the ever-present incised pottery with white filling from Köşk Höyük is a trait of Can Hasan 2B-2A.

On the other hand, some typical features of LN assemblages such as open shapes with ‘s’-shaped profiles, hole-mouth jars and tubular lugs are not found in the Köşk Höyük assemblage, apparently not even in the oldest Level V. These indicate in any case a date *after* Çatalhöyük 0, where these traits are well represented (Last 1996). As already mentioned above, the “Halaf-type” seals found in Levels 3-1 also betray their dating, which is at least towards the end of EC period.

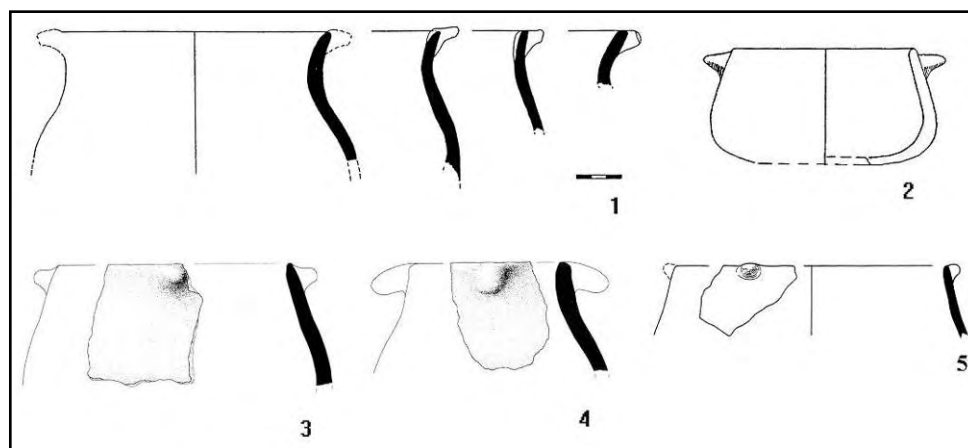
As a result, the earliest Level V with its monochrome pottery might be representing the last stages of LN, although some typical morphological features are absent at Köşk

Höyük however this might be a result of the few published specimens from this level so far. The upper levels (III-II) should be placed into the EC on typological and decorative grounds. Level I with its “Can Hasan 2B-A” pottery and Ubaid-type painted wares and polychrome sherds is clearly later than EC, and should be set somewhere between Can Hasan 2A and Güvercinkayası as the single carbon date indicates the same (Schoop 2005a: 134).

#### **4. Chronological Sequence of the Region and Comparisons with Central-West Anatolia**

In comparison to the long pottery sequence that is observed in Konya Plain, the sequence in Melendiz-Bor Plains is fairly restricted. Even the oldest available assemblages from Musular, Tepecik-Çiftlik and Köşk Höyük are post-dating Çatalhöyük II-0. In other words, none of these assemblages can be placed safely into the LN. On the contrary, some major traits find their best parallels in the EC ceramics from Çatal West and Can Hasan III. Here it should be emphasized that even the monochrome assemblages from Musular, Tepecik-Çiftlik 3 and Köşk Höyük due to their morphological attributes should be placed closer to EC period than LN. At all three sites, the earliest monochrome wares are either red slipped and burnished or black burnished which clearly correspond with the RSBW horizon of LN whereas dark mineral wares similar to Çatalhöyük VII-IV is completely missing in Melendiz-Bor Plains. Morphologically, existence of jars with necks at all these three sites from the earliest levels onwards is an indication of later date as such jars develop only at the end of the LN period at Çatalhöyük where the morphological developments can be easily followed.

The dark colored and buff colored wares from Musular with ledge handles on the rim are reminiscent of Çatal West “cooking pots”, Can Hasan 7-4 and Yarikkaya-Plateau vessels (Fig. 6.28). The sooting marks and untreated surfaces of these wares might indeed be indicating their function as cooking pots. On the other hand, near-absence of painted wares from Musular might be pointing towards its chronological position immediately preceding the appearance of painted wares. What is however striking about the pottery from this site is the absence of crescent shaped lugs and carination (known from Çatal West) and tubular lugs (known from Çatalhöyük II-0). Whether this is a local preference or a result of the poor preservation of these levels is not clear for the moment. Looking at these characteristics we can tentatively place Musular between Çatal 0 and Çatal West Early, perhaps contemporary with Can Hasan 7-4.



**Figure 6.28:** 1. Vessels with ledge handles on rim. 1: Musular (after Özbaşaran 2000b: Fig. 17) 2: Çatal West (after Mellaart 1965: Fig. 11) 3-4: Yarıkkaya-Plateau (after Schoop 2005: Taf. 25) 5: Can Hasan 7-4 (after French 2005: Fig. 41)

There are also clues in the architecture that one might contrast to the Konya Plain sites, e.g. the cell-like divisions inside the houses excavated both at Tepecik-Çiftlik 3 and Musular (see Bıçakçı *et al.* 2007: Fig. 4 and Özbaşaran *et al.* 2007: Fig. 24). Interestingly cell-like divisions in the houses is also found at Mezraa-Teleilat IIB2, which is, in ceramic terms, associated with the impressed pottery and early RSBW, preceding the pre-Halaf painted wares (Özdoğan 2007a). It seems possible to establish connections among these sites based on the architectural plan of the houses. Origins of this house plan cannot be traced back in the preceding stages of Konya Plain at all.

At Tepecik-Çiftlik, Levels 4-5, might be corresponding to a similar stage as Musular, as here too monochrome pottery prevails, tubular lugs are absent, necked jars are already in use and carination is not found. Hole-mouth jars, simple jars with bead-rims and bowls with convex profiles fit well into the advanced stages of LN. Bead-rim is an interesting feature that appears first at Hacılar VIII, then again in Hacılar IV and at Ulucak IVb and Agio Gala in very low numbers. On these comparisons, it becomes clear that bead-rims appear in the LN and continue into the EC. However bead-rims are very frequently encountered both in the Tepecik-Çiftlik and Köşk Höyük (V-II) assemblages and might be a characteristic of Bor Plain. The undeveloped nature of relief decorations from Tepecik-Çiftlik 4-5 is important in terms of dating these levels before Köşk Höyük III-II. Interestingly, handles and lugs are again missing from the entire Tepecik-Çiftlik assemblage, although few fragments of basket handles were found in the levels 4-5. Basket handles are known from Çatal East VIII-0, Çatal West, Bademağacı ENII and Hacılar IX, therefore a trait that is found during LN and EC alike. Tepecik-Çiftlik 5



might therefore be belonging to Can Hasan 7-4 horizon where fine monochrome well burnished wares with red, black and “chocolate brown” surfaces were excavated (French 1968: 52). The vessel shapes from both sites are also well-comparable except the existence of crescent shaped lugs from Can Hasan 7-4.

The direct follower of this horizon is characterized by fine RSBW with developed relief technique that might or might not be white painted. Tepecik-Çiftlik 3 and Köşk Höyük III-II deposits belong to this phase which is, as we have argued above, without doubt, EC in date. The dating of Öztan (2007) these phases to “Neolithic” cannot be justified based on ceramic as well as other material cultural comparisons (such as seals). The developed relief decoration finds no exact parallels anywhere in Anatolia and is best interpreted as a locally developed pottery decoration technique. The relief decoration from Hacılar, Kuruçay or Ulucak is in no way comparable to the high standard and elaboration of the examples from Tepecik-Çiftlik 3 and Köşk Höyük III-II. The only comparison comes known to the author comes from Ege Gübre where a naturalistic steatopygous woman figure is applied to the red slipped jar, but again this is a unique instance.

The appearance of incised decorated pottery in Köşk Höyük III and Tepecik-Çiftlik 2 is another indication for their post-Neolithic date. Incisions are commonly found in this region at Can Hasan 3-2B assemblages. The white-on-red painted bowl with spiral-like motif and the anthropomorphic vessels from Köşk Höyük III are probably the best evidence for dating this level to the EC. Indeed, Bıçakçı *et al.* (2007: 238) compares Tepecik-Çiftlik Level 2 pottery to Gelveri assemblage with *Furchenstich* motifs, which is dated to 6000-5800 BCE by Schoop who argues that *Furchenstich* technique is well-known from Ilıpınar VIII and Yarımburgaz 4, the spirals from Hacılar II while the Gelveri vessel shapes are reminiscent of Kuruçay 11-8 (Schoop 2005a: 228).

If we put the relative chronological concerns to aside for a moment, it will become clear Melendiz-Bor Plains display strong local characteristics, especially morphologically, that are clearly distinguished from what we presented from Lake District and Konya Plain. The developed phase of the relief decoration from Tepecik-Çiftlik and Köşk Höyük are obvious reflections of a technique locally developed and preferred. Bead-rim is another typical morphological feature of pottery in this region. On the other hand, well-known characteristics of Konya Plain EC pottery such as cream-on-red paint, anti-splash rims or crescent shaped lugs are not matched in Melendiz-Bor region. This is not to say however there are no relations among these regions. On the contrary, in terms of fabrics (RSBW

and black burnished ware) and basic vessel shapes (hole-mouth jars, jars with vertical necks, bowls with 's'-shaped profiles) clear parallels are detected. But again, one needs to acknowledge the high level of local input in terms of ceramic production.

Musular, Tepecik Çiftlik and Köşk Höyük earliest assemblages might be dated to the gap between Çatal 0 and Çatal West, maybe contemporary with Can Hasan 7-4. If there is no gap between Köşk Höyük V-IV and III-II, then "Çatal West Ware I" is not represented in Niğde Region. Instead, as mentioned above, monochrome wares with plastic applications are produced here. Nevertheless, as Schoop indicates (2005a: 134) various painted sherds in Can Hasan 2A style, seals of Halaf-type, white filled incised vessels and white-on-red painted sherds disclose the date of these assemblages.

A comparison in the light of this sequence with Central-West Anatolia has to ignore the above described late stage from Tepecik-Çiftlik and Köşk Höyük, as it is out of the chronological scope of this study. Besides, this stage is not represented at Ulucak which ends in the very early stages of EC period. This leaves us with Musular, Tepecik-Çiftlik 5-4 and Köşk Höyük V-IV horizon which we compared to Can Hasan 7-4 that is a period that can only be contemporary with Ulucak IV.

The high quantity of RSBW from Melendiz-Bor and Central-West Anatolian sites should not be ignored as a significant common trait. RSBW can be followed here as one dominant stage in Melendiz-Bor sites which is not really surprising. The increase in the organic inclusions at Tepecik-Çiftlik and use of organic temper at Musular is fascinatingly matched at Ulucak IV and Yeşilova Late, where chaff as temper commonly preferred. The differing fabrics are as important as common traits too. Black burnished wares and buff wares are not found in the Central-West Anatolian ceramic assemblages. This might well be a reflection of the dating of especially Tepecik-Çiftlik and Köşk Höyük, as black burnished ware might be dating to a period not represented at Ulucak. It is known that black burnished wares are present at Can Hasan 7-4 which we dated to a period after Çatalhöyük 0. It is highly likely that such wares from Melendiz-Bor sites correspond to the same stage, if not later. On the other hand, impressed wares and CSBW, in contrast to Central-West Anatolia, seem to be absent from the region. One impressed sherd from Tepecik-Çiftlik level 5 is not made in the "Central-West Anatolian style" but is more reminiscent of Mezraa Teleilat IIB2 examples. The relief decoration from Tepecik-Çiftlik 5-4 and Ulucak IV-V is stylistically not comparable, although some

of the relief decoration made with wiping from both sites with zig-zag shapes can be mentioned here as matching comparison.

Basic vessel shapes like vessels with 's'-shaped profiles, bowls with convex profiles, jars with hole-mouths and jars with vertical necks that again allow us to establish links between both regions that are not directly connected to each other. There are also other features like flattened rims from Musular or bead-rims from Tepecik-Çiftlik and Köşk Höyük that find their parallels at Central-West Anatolian sites. Especially the presence of flattened rims at Musular is surprising as such rims are absent in Konya Plain and Lake District and very typical for Central-West Anatolian sites.

Another point which we would like to raise here is about the other material cultural elements. As mentioned above, the seals from Köşk Höyük are stylistically and chronologically not matched at Central-West Anatolia, however the clay stamp with concentric circles from Tepecik-Çiftlik 5 is perfectly matched at Bademağacı ENII-3, Ulucak IVb and Dedecik-Heybelitepe. In my opinion, this is a very good archaeological parallel between these sites in terms of relative dating. We have already outlined that the oldest level from Tepecik-Çiftlik, in the light of ceramic comparisons, might well be contemporary with Ulucak IV. Our suggestion seems to have been supported by the very presence of this object whose occurrence can be traced from northern Syria (Tell Halula) to mainland Greece (Sesklo) (Lichter 2005: Fig. 4). This on the one hand strengthens our already mentioned architectural connection to Southeast Anatolia, as apparently the common traits are not restricted to architectural techniques. Secondly, it also provides us with additional archaeological evidence with western part of Anatolia. Especially the "Tepecik-Çiftlik 5- Bademağacı "EN3"- Ulucak IVb" connection is significant in terms of relative dating, which implies, not necessarily strict contemporaneity, but a more or less similar horizon for all these settlements.

Second type of object we would like to discuss here is the pressure-flaked obsidian points. Bıçakçı *et al.* (2007: 249) emphasize the fact that these objects are found in LN as well as EC assemblages. At Tepecik-Çiftlik, Levels 5-3, yielded many examples of such points. Similarly, at Köşk Höyük, pressure-flaked points are found in Levels IV-I, and reflect a clear continuation in the manufacturing techniques in these levels (Erek in Öztan 2007: 231-232). As discussed above, ceramic comparisons with Konya Plain and Central-West Anatolia show that Tepecik-Çiftlik 5-4 and Köşk Höyük V-IV belong to the end of LN while the following levels at both sites penetrate well into the EC. Now

what we would like to bring up here is the absence of sling stones at both settlements in *both* stages which sets a clear contrast to Central-West Anatolian sites where sling shots constitute the only weapon and points are extremely rare. Özdoğan indicates that in Southeast Anatolia arrowheads are associated with the DFBW Horizon while sling missiles replace them in the upper stage which corresponds to the appearance of red slipped wares and early painted pottery in ceramic terms (Özdoğan 2002a: 438). The disappearance of arrowheads and appearance of sling stones is a phenomenon that can be observed only at Mezraa-Teleilat in Urfa. At Ulucak, for instance, sling stones are found even in the early deposits (such as Vf, ca. 6400 cal. BCE) and continue to be used in large amounts until the abandonment of the settlement. In Lake District, Hacılar VI, is a good example for extensive sling missile use. Prior to this level, e.g. in Hacılar IX-VII, no sling stones were found (Çilingiroğlu, Ç. 2005: 7). Similarly, at Çatalhöyük the earliest sling missiles are known from Level VIB (Mellaart 1967: 217). However, at Çatalhöyük, projectile points are encountered from XII to II where later levels are characterized by large tanged points and earlier by small sized points (Conolly 1999: 75; Graph 6.5). This means there is no clear-cut transition from points to sling missiles at this site. The reason we are giving this detailed account is to demonstrate that sling stones are not used as weapon instead of arrowheads Anatolia-wide in LN-EC. Melendiz and Bor Plains are, for some reason, out of this trend where communities continue to produce arrowheads both during the LN and EC. The existence of arrowheads at these sites is not necessarily an indication of their early dates, this is a local cultural preference which avoided using sling missiles as weapons while their neighboring regions apparently adapted this strategy. Proximity of these sites to the obsidian sources and the deep rooted tradition of pressure-flaked production of points might have been the reasons why obsidian points persist into the later stages of EC. Existence of such points even in Köşk Höyük I (Özkan 2007: Fig. 22b) indicates that even in the transition to Middle Chalcolithic the tradition persisted in the region. Schoop (2005a: 134) underlines the fact that at Mersin these objects are produced until Level XX and only with Halaf levels at the site points disappear. Hence, on one hand, we can emphasize the absence of arrowhead-sling shot transition in Melendiz-Bor Region. On the other hand, we can contrast rest of Anatolia (even mainland Greece and Bulgaria) with Melendiz-Bor Plains. In this respect, pressure-flaked points lose their chronological value when it comes to comparing communities who have differing preferences in terms of hunting-defensive

devices. There are obviously geographical niches where arrowheads continued to be produced well into the EC.

## ***H. Porsuk-Sakarya Basin (Eskişehir- Kütahya Region)***

Porsuk-Sakarya Basin during the pre-Neolithic and Neolithic period is scantily known. No excavations focusing on the Neolithic period have been conducted in the region. PPN occupation of the area has been suggested by Efe who drawing on the lithic evidence from Keçiçayırı and Asarkaya which seem to contain typical PPN elements similar to that of Aşıklı and Musular, even Göbeklitepe (Efe 2005: 111-112). Salvage excavations began at Keçiçayırı in 2007 promises to reveal more on the possible presence of PPN stratum in the region (Şahin 2008). Özdoğan also considers these as pre-pottery sites together with Çalca and Musluçeşme in the Marmara Region, having macro-blade industries without ceramics (Özdoğan 2000: 167). Such implications have to be tested with extensive excavations. What we know about Neolithic cultures in the region relies on Demircihöyük excavations and extensive surveys of Turan Efe which will be covered below in detail.

### **1. Demircihöyük**

Demircihöyük is located on an alluvial plain, 25 km west of Eskişehir and southwest of town Çukurhisar in Northwestern Anatolia. Accumulations above the plain are dated to EBA which revealed 16 cultural layers. Pottery from earlier periods, Neolithic and Chalcolithic, has been discovered in the collapsed debris of EBA. Seeher (1987: 13) suggests that pre-bronze age material discovered here was not transported from another settlement but belonged to an earlier settlement on the Demircihöyük mound.

At Demircihöyük small scale excavations by K. Bittel took place in 1937. Systematic excavations have been carried out by M. Korfmann between 1975-1978. Pottery of Neolithic and Chalcolithic ages have been analyzed and published in a detailed report by J. Seeher (1987).

Seeher distinguished seven ware groups belonging to pre-EBA era. These are named as Ware A-G. Ware groups F and G are dated to Late Chalcolithic and are thus out of the interest of this study. We will provide a summary of wares A-F since these are essentially dated to “Neolithic” period (Seeher 1987: 18-22; Fig. 6.29).

Ware A (*Schiefer Ware*) is defined by big sized mica schist temper which can be observed in the paste as a flat layer. The paste is gray, gray-brown or gray-beige. Ware A carry frequently red or dark red slip and the surface is smoothed or lightly burnished. Only 44 examples have been assigned to this ware. The most frequently appearing form is hole-mouth jars, flat squat bases and lids. Seeher compares Ware A with its thick walls and squat forms chronologically with Çatalhöyük XII-IX pottery (Seeher 1987: 46).







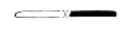

	Klasse	Typ	Variante	Ware A	Ware B	Ware C	Ware D	Ware E
<b>TÖPFE</b>	1	a		23	30	30		67
		b			251	195	5	814
	2				1	6		778
<b>SCHALEN</b>	1					5		34
	2				4	56	46	3597
<b>KÄSTEN</b>					9	11		145
<b>DECKEL</b>	1			5	1	3		16
	2					2		13

Figure 6.29: Relation of vessel forms to wares from Demircihöyük (after Seeher 1987: Abb. 3)

Ware B (*Glimmer Ware*) is characterized by the high amount of mica particles and small grits in the paste. The surface is burnished but mica shine is more obvious than the burnishing. There is no slip and the outer surface is mainly light brown, gray-beige and in olive-tones. 473 sherds were assigned to this ware group. Hole-mouth jars, bowls with 's'-shaped profiles and Fikirtepe boxes are associated with this ware. It is suggested that *Glimmer Ware* is same with DFBW of Mersin XXXII-XXVII and Çatalhöyük VIII (Seeher 1987: 48). Seeher also asserts that Ware B and C are related to each other and jar types that are seen with Ware B are also known from Fikirtepe pottery assemblage. However Ware B is seen only on hole-mouth jars and this is the reason why Seeher places Ware B chronologically somewhere between Çatalhöyük and Hacilar (Seeher 1987: 49).

416 sherds are defined under the name Ware C, also known as “*Fikirtepe Ware*”, which is a lime tempered, dark colored and burnished ware. Surface colors range from dark brown to beige, but the dark colored examples are predominant. As the name implies Ware C is associated with Fikirtepe Culture of Northwest Turkey. Ware C appears on hole-mouth jars, jars with short necks, bowls with convex profiles, bowls with ‘s’-shaped profiles and Fikirtepe boxes.

Ware D (*Rotbemalteware*) is red-on-cream painted ware which is compared to Hacilar EC painted wares on stylistic and morphological grounds (Seeher 1987: 51). This group is mineral tempered and slipped with beige or gray-beige colors while the paint can be reddish brown or brown colored. The vessels were burnished after the paint. The characteristic form associated with Ware D is the bowl with ‘s’-shaped profile.

Ware E (*Steingrusware*) is defined through its quartz temper. It is not slipped but burnished with surface colors from dark brown to light brown. Ware E constitutes the majority of the Neolithic wares with 7231 sherds. All the vessel forms identified for pre-Bronze Age Demircihöyük can be found on Ware E. Mostly they are seen on bowls with ‘s’-shaped profiles and jars with short necks. Ware E can appear from late Çatalhöyük into the entire Hacilar sequence. Therefore, it is hard to date this ware group more precisely. The forms, such as ‘s’-shaped profiles, indicate a date from LN into EC (Seeher 1987: 52-53).

Concerning the decoration, Ware D, Ware B, C and E showed occasional incised decoration which shows triangles, step motifs, checkerboard motif and parallel lines. Plastic decoration is confined to *bucrania*, which are well-known from Hacilar LN assemblage. Impressed and pinched sherds have been identified too. Finally painted examples show linear, zig-zag motifs, concentric “V” shapes and triangles.

In terms of dating of Demircihöyük material there are several interpretations. As we have mentioned, Seeher does not think that Wares A-E were contemporaneous. On the contrary, he sees a continuous development from A to E, covering a period from Çatalhöyük XII-IX to Hacilar EC, in other words, almost 1000 years. It is hard to argue for such an early date for Demircihöyük Ware A. The description of the ware does not correspond to Mellaart’s description of earliest Çatalhöyük ceramics which are light colored, lightly burnished, heavy organic tempered and with two cm thick walls. It is true that squat shapes are found in the earliest Çatalhöyük pottery but they also appear in

Hacılar I assemblage. Besides the Ware A lids illustrated by Seeher (1987: Pl. 1) are one of the characteristic features of Fikirtepe Culture. These coarse red slipped examples might belong to Classic Fikirtepe phase as red slipped wares increase in this phase (Özdoğan 1999a: 213). Finally, pottery of 8th millennium BCE has not been found in West Turkey at all. Consequently, Seeher's very early dating of Ware A cannot be verified.

Özdoğan (1997: 21) initially dates Demircihöyük Wares A-E to "developed Fikirtepe phase" which is characterized by Ilıpınar VIII and Yarımburgaz 4 assemblages. He suggests that "*Steingrusware*" has to represent a later phase of the Fikirtepe culture as the meander and curving incised decoration, associated with this ware, appear late in the sequence (Özdoğan 1989: 203). Recently he has proposed that various ware groups of Demircihöyük material encompasses all three phases of Fikirtepe Culture which covers a period of 500 years (Özdoğan 2007b: 412). Schoop (2005a: Beilage 1) dates Demircihöyük material to the beginning of 6<sup>th</sup> millennium BCE, contemporary with Fikirtepe-Pendik material and Ilıpınar X-VIII. Schoop's (2005a: 295-296) main argument is the homogeneity of the Demircihöyük wares and forms, which show various strong correlations to Fikirtepe Culture assemblages such as the hole-mouth jars, boxes, incised decorations and lids. The painted examples are also an indication of a rather late date, at least for Ware D which is comparable to Hacılar V-II tradition.

As a result, the small spectrum of vessel forms from Demircihöyük Wares A-E indicates a relative short time span of the material. All of the forms from the site are well-known from the Fikirtepe Culture as defined by Özdoğan (1997; 1999a). Especially hole-mouth jars and bowls with 's'-shaped profiles are well-defined vessel shapes of West Anatolian LN-EC. In my opinion, total absence of necked jars is meaningful as to the pre-Yarımburgaz 4 dating of Demircihöyük material. Bowls with 's'-shaped profiles, the so-called "boxes" and lids are well-known forms of Fikirtepe Archaic-Classic phases. The impressed and pinched sherds are also interesting in terms of dating because at Ulucak they appear only in Levels IV and at Va, but not earlier. This implies that Demircihöyük material may not go far back into the early stages of LN. The linear-geometric motifs on the painted pottery from Demircihöyük have parallels in Hacılar V. However most of these decorative shapes are found at Hacılar from V-I. The negative painted eye-drop motif on one rimsherd from Demircihöyük (Seeher 1987: Taf. 8.16) is matched at Hacılar IIA-B (Mellaart 1970: Pl. 113). The hanging garlands are found from Level V to



Level I at Hacılar. It is however important to underline the fact that developed and composite forms of Hacılar I have not been detected at Demircihöyük. Moreover, carination is also absent on bowls. As mentioned above, jars with funnel necks are likewise absent in the assemblage. Demircihöyük assemblage stems from a time when necks on jars, carinated forms and composite forms were not developed. Therefore, when compared to Hacılar, it seems more probable that Demircihöyük dates to the end of 7<sup>th</sup> millennium BCE, perhaps to the transition from LN into EC.

## **2. General Overview of the Sites Surveyed**

Turan Efe's surveys (1989-1990; 1991; 1995) in Porsuk Valley in provinces Bilecik, Eskişehir and Kütahya recorded a number of prehistoric settlements, which include possible Neolithic ones. Among them Fındık Kayabaşı (Eskişehir) and Akmakça (Kütahya), both flat settlements, provide ceramic material that is well comparable to the ceramic assemblage from Ulucak and other Central-West Anatolian sites. Additionally, Keçiçayırı, north of Afyon, is another find spot where Efe collected "Neolithic" ceramics and lithics (Efe 2005: 109-111).

Pottery collected from Fındık Kayabaşı is mainly grit tempered, brown colored, unslipped and burnished. Forms are restricted to globular hole-mouth jars and bowls with 's'-shaped profiles. Bases are flat or ringed. One fragment belonging to a "Fikirtepe box" has also been found. Additionally there is one sherd with red paint on cream colored thick slip from the site. A similar example has also been found at a mound called Hacıhamza (Efe 1995: 107; Res. 2).

In contrast, Akmakça pottery is mainly slipped and burnished. The wares are mineral tempered and well fired. The color of the slip is either reddish brown or pinkish red. Unslipped brown burnished pieces and three red-on-cream sherds have also been identified. Hole-mouth jars with short necks and 's'-shaped forms are commonly found in the assemblage. Flat bases and vertically placed tubular lugs are also frequent. Rims are everted, simple or flattened. One basket handle and incised "Fikirtepe box" fragments are also seen in the Akmakça assemblage (Efe 1995: 108; Res. 3).

Keçiçayırı is yet another mound located on a small plain which is drained by one of Sakarya River's tributaries. Apart from Phrygian and Byzantine ceramics, some red slipped sherds and a Fikirtepe box which, according to Efe similar to Demircihöyük Ware A, have been collected. Efe (2005: 111) dates these sherds to EN because Ware A

is dated to EN by Seeher. Efe (2005: 111) also indicates that the pressure flaked points and scrapers collected from the surface reflect a PPN technology known from Göbeklitepe, Aşıklı and Musular. Rescue excavations are conducted at the site since 2006 which revealed three Neolithic layers. The upper two layers contain pottery which is compared to Çatalhöyük's Middle Phases (presumably Levels VIII-IV) whereas the lowest layer is void of ceramics. Initial observations on the lithic assemblage from the lowest stratum endorsed the PPN character of the tools (Şahin 2008: 25-26). Forthcoming analysis and excavation results from this site are very important with respect to the understanding of the early stages of neolithization process in Northwest Anatolia and its origins.

At first sight, all three sites seem to be contemporary with LN-EC sites of Northwest Anatolia and Southwest Anatolia. The hole-mouth jars with short necks and tubular lugs indicate LN occupation at Fındık Kayabaşı and Akmakça. Bowls with 's'-shaped profiles are commonly encountered both in LN and EC assemblages of Central-West Anatolia and Lake District. The illustrated Keçiçayırı pottery by Efe (2005: Fig. 8) shows parallel features to Akmakça and Fındık Kayabaşı pottery. However absence of carinated forms in all assemblages, a typical feature of developed EC pottery, might indicate a pre-EC date for these sites. Fikirtepe boxes, available from all three sites, point to contemporaneity with "Classic Fikirtepe" phase while red-on-cream painted sherds from Akmakça are best correlated with EC of Southwest Anatolia. Basket handles are known from Çatal East VIII-0, Çatal West, Bademağacı "ENII-3", Tepecik-Çiftlik 4 and Hacılar IX, thus not really helpful in terms of precise dating. Similar to Demircihöyük Wares A-E, Akmakça, Keçiçayırı and Fındık Kayabaşı can also be dated circa to the end of 7<sup>th</sup>- beginning of 6<sup>th</sup> millennium cal. BCE. Excavations at Keçiçayırı may reveal unknown early horizon in the region which may even stretch back to PPN period.

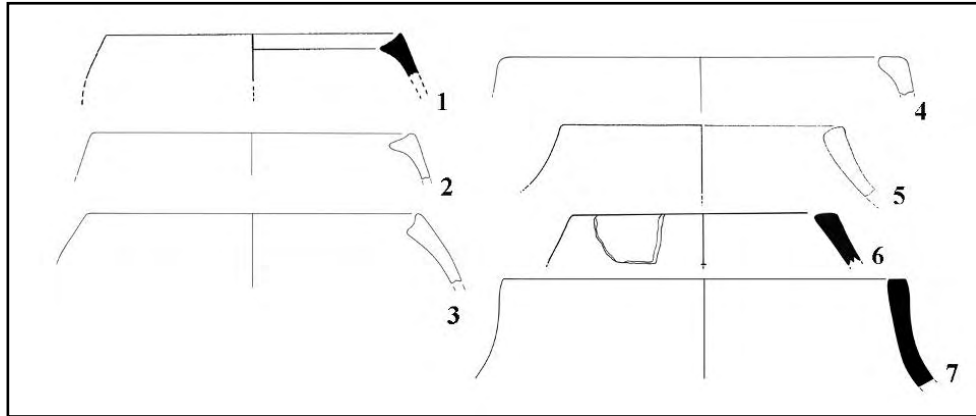
### **3. Comparisons with Central-West Anatolia**

Both Demircihöyük and Fındık Kayabaşı-Akmakça-Keçiçayırı assemblages contain similarities and differences to Central-West Anatolian ceramic assemblages. As mentioned above, all of these sites bear strong ties to Fikirtepe Culture which we will discuss in detail below. The incised rectangular vessels ("boxes"), lids, horizontal handles and certain decoration types are peculiarities of Fikirtepe assemblage. Nevertheless, in terms of wares and forms one can detect analogies between Porsuk

Basin and Central-West Anatolia too. In this section, we will concentrate on these features.

First of all, it is seen that there are extensive divergences among the ceramic fabrics of Central-West Anatolia and Porsuk Region. RSBW and CSBW are hardly found at Demircihöyük. The relation of the coarse red slipped examples with squat forms (Ware A) from Demircihöyük to Central-West Anatolian fine red slipped wares is uncertain. Red slipped wares however are present in the Akmakça and Keçiçayırı assemblages and given that these sites are located further south in Kütahya-Afyon province, it is meaningful to find RSBW here. At Fındık Kayabaşı however, brown unslipped and burnished wares have been found which may correspond to Ulucak V brown burnished wares. Red-on-cream wares are known sporadically from Central-West Anatolia. They also appear in low numbers at Demircihöyük. Few pieces have been found during Efe's surveys at Akmakça and Fındık Kayabaşı. Both regions, Porsuk Valley and Central-West Anatolia, were outside of the core area where painted pottery was produced in large numbers. The description of *Glimmerware* from Demircihöyük is surprisingly very similar to Mica Glimmer Ware from Ulucak Vb. Mica Glimmer Ware is found in low numbers but they are an important category in terms of dating as they appear with Ulucak Level Vb and continue in earlier levels. Similar to Demircihöyük, at Ulucak Vb too, mica glimmer ware is mostly seen on hole-mouth jars. It is difficult to conclude however Demircihöyük Ware B (*Glimmerware*) may be contemporary with Ulucak Vb. This possibility is not implausible.

*Steingrusware* is probably a variant of the *Fikirtepe ware*. Vessel shapes associated to *Steingrusware* range from bowls with 's'-shaped profiles to jars with short necks and footed vessels and *bucrania* applications. The short necked jars with small vertical handles on the neck remind us the similar jar forms from Ulucak IVb. Such jars with handles are most peculiar to Ulucak IVb ceramic assemblage. On the other hand, hole-mouth jars, again associated with *Steingrusware*, are a characteristic of Ulucak V, especially Vb and earlier. The Fikirtepe boxes of *Steingrusware* show incised decorations which, according to Özdoğan (1989: 44), display an advanced stage in vessel decoration similar to Yarımburgaz 4. These observations make us think that *Steingrusware* may cover multiple periods from LN to EC. Seeher (1987: 21) sees such a possibility very plausible.



**Figure 6.30: 1: Grooved rim from Bademağacı ENI-6 (after Duru 1999: Fig. 42.4); 2-3: Demircihöyük Ware A (after Seeher 1987: Taf. 1.3) 4: Flattened rim from Demircihöyük Ware B (after Seeher 1987: Taf. 1.20) 5: Akmakça (after Efe 1995: Res. 3.5); 6-7: Ulucak IVb**

When it comes to the vessel forms, amount of similarities increases between the two regions. Jars without necks, jars with short necks, bowls with ‘s’-shaped profiles (with or without tubular lugs) and bowls with convex profiles are basic vessel forms in both regions. In Ulucak V, these four vessel forms constitute almost the entire ceramic assemblage. The flattened rims found at Demircihöyük and Akmakça (Seeher 1987: Tafel 1.5; Efe 1995: Resim 3.5) are well-known from Ulucak IV ceramic assemblage (Fig. 6.30). Tubular lugs on bowl shoulders and bellies are also well attested at Ulucak Va-b, but also in younger phases too.

Some morphological features are matched at Lake District instead of in Central-West Anatolia. Anti-splash rims, unknown in Central-West Anatolia, are illustrated by Seeher (1987: Taf. 1.7; Taf. 5.9). Such rims are found for instance at Bademağacı ENII and Hacılar VI-IV. Similarly, basket handles are also foreign to Central-West Anatolia but have been attested at Lake District, Konya Plain and Bor Plain sites. Inner curved rims with grooves, associated with Demircihöyük Ware A, are not present in Central-West Anatolian sites. They seem to be very rare in Lake District too. However one rimsherd from Bademağacı ENI-6 (Fig. 6.30) provides a good comparative example for such rims.

To conclude, despite a number of clear parallels between Central-West Anatolia and Eskişehir-Kütahya Regions, these parallels seem to be the result of indirect communications. Porsuk Region is obviously in direct contact with Fikirtepe Culture area and probably with inner-west Anatolian communities who are closely related to Lake District. If there was influence from the south, this may have occurred through the filter of Inner-West Anatolia. Akmakça pottery may be a good example of overlapping

spheres of Fikirtepe in the north and Hacilar in the south. As one moves towards the North, Fikirtepe characteristics are much more intensely represented. At Demircihöyük, one is probably confronted with pottery from a continuous occupation from LN to EC as ware and form variability as well as decoration techniques indicate. For a more reliable chronology excavations are needed in the area.

### ***1. The Eastern Marmara Region (İznik Lake Basin and İstanbul)***

In this section, we will present a general overview of the Eastern Marmara Region Neolithic sites. These are evaluated under the general name “Fikirtepe Culture” which has three developmental phases, according to Özdoğan, who defined the culture. These phases are predominantly defined through the ceramic assemblages from various sites and are called “Archaic”, “Classic” and “Developed” Fikirtepe phases (Özdoğan 2007b: 411-412).

Before we present and discuss the archaeological evidence from single Fikirtepe sites, it is useful to provide information on the pre-Neolithic horizon from the region which has been documented not only at Yarımburgaz Cave but also has been researched, among others, through a long-term survey project conducted by Özdoğan and his team. Research undertaken since 1979 in the entire Marmara region documented a good number of prehistoric sites, some of which were clearly pre-Neolithic in age, ranging from lower Paleolithic to Mesolithic (Özdoğan 1989; Gatsov and Özdoğan 1994; Howell *et al.* 1996; Runnels and Özdoğan 2001). Freshwater status of Black Sea and Marmara Sea prior to circa 8250 cal. BCE is important in terms of understanding the ecological conditions of the region (Özdoğan 1998a; see also van Andel and Shackleton 1982).

Lower Paleolithic occupation of the area is best documented at Yarımburgaz Cave where the deposits contained large amounts of cave bear (*Ursus deningeri*) bones with stone tools. The lithic industry is predominated by retouched flake tools industry exploiting local raw materials like flint, quartz and quartzite using unifacial discoid method for core production which is compared to Tayacian assemblages of South and East Europe (Howell *et al.* 1996: 45). Although absent at Yarımburgaz, bifaces were found in the Göksu Valley near Ümraniye-Istanbul (Runnels and Özdoğan 2001: Tab. 2). Marmara Region was extensively inhabited during the Middle Paleolithic as indicated by numerous find spots concentrated on the Black Sea shore with typical Levallois and

Mousterian lithic assemblages. Early Upper Paleolithic and Mesolithic sites, identified solely through lithic assemblages, are also concentrated on the Black Sea shoreline while true Upper Paleolithic assemblages are lacking in the region (Runnels and Özdoğan 2001: 85).

Presence of Mesolithic find spots, Ağaçlı being the biggest in size, in the northern part of the region is significant as to the Late Pleistocene-Early Holocene occupation which almost immediately precedes the arrival of agro-pastoral communities. Gatsov and Özdoğan (1994: 110) indicate that there is a marked difference between the microlithic industries of Ağaçlı group, compared to Epi-Gravettian of Bulgaria, and macro-blade production of Neolithic people known for instance from Karanovo. According to Özdoğan, presence of a pre-Neolithic micro-blade and prismatic core production in the region can well be contrasted to the macro-blade production technology brought by the farmers; indicating existence of mutually exclusive technologies which probably have different origins (Özdoğan 2007b: 409). However, since the precise dating of Mesolithic groups in the region can not be assessed currently, this suggestion needs further evidence to be confirmed.

The Fikirtepe Culture takes its name from the type site located in Kadıköy district of İstanbul. In addition to the data from Fikirtepe, the various developmental phases of Fikirtepe culture are defined based on material excavated at sites such as Pendik, Ilıpınar, Yarımburgaz and Menteşe Höyük. Moreover, other sites in proximity of Fikirtepe site, such as İçerenköy and Tuzla, are also known to contain pottery analogous to Fikirtepe pottery (Bittel 1969: 18). Recent salvage excavations in Istanbul (Marmaray Project) revealed submerged Fikirtepe settlements and burials including cremated bodies and wooden paddles belonging to canoes.<sup>63</sup> An underwater survey conducted in the region Sinop on Black Sea provided evidence of a possible coastal Neolithic site inundated following the rise of the sea level around 7500 BP (Ballard *et al.* 2001: 614). Both projects demonstrate that good number of sites have been flooded after the possible sudden infilling of the Black Sea by the oxygenated waters and during the Neolithic period littoral Black Sea region might well have housed higher population density and extension than previously thought.

The sites around the İznik Lake, such as Ilıpınar and Menteşe, display various characteristics in their archaeological assemblages, especially in their architectural

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<sup>63</sup> This information is provided by Mehmet Özdoğan (03.03.2009).

traditions, that are clearly distinguished from Fikirtepe and Pendik in the vicinity of Istanbul. Below we will evaluate Fikirtepe, Pendik and Yarımburgaz together in order to provide an overview of the ceramic material from these three important sites which build up the ceramic sequence of Fikirtepe Culture. Then we will move on to Ilıpınar, Mentеше Höyük, Barcın Höyük and Aktopraklık in order to present the material cultural sequence in the İznik Lake Basin. Finally we will compare and contrast these sites with Ulucak and the Central-West Anatolian ceramic assemblages.

## 1. Fikirtepe

The site was located, before it was completely destroyed, east of Kadıköy on the Anatolian side of Istanbul and to the South of Fikirtepe Hill which rise 26 m above sea level. The hill, today 1.5 km east of the coastline, is located to the southeastern of Stream Kurbağlıdere which flows into the Marmara Sea using Kalamış Bay (Bittel 1969).

Archaeological remains were discovered in 1908 during the construction of Istanbul-Baghdad railroad. The material collected from here was brought to Stockholm by T. J. Arne who published the material in 1922. Later M.O. Janse published Fikirtepe and Pendik finds in 1925 in a small report. In 1941, K. Bittel relocated the site and consequently made excavations together with H. Çambel between 1952-1954 (Bittel 1969).

Fikirtepe is a flat settlement with one major occupational layer which is half meter thick and includes several superimposed pits and fill deposits. The precise nature of the occupation and site's stratigraphy has never been fully understood. The architecture from the site is confined to small circular-oval shaped wattle-and-daub structures (*Flechtwerkhütten*) whose remains were found as burnt loam with wood impressions and scattered stones (Bittel 1969: 6). Bittel makes a distinction between “*jüngere*” and “*ältere*” Fikirtepe phases, the latter characterized by undecorated mineral tempered pottery (Bittel 1969: 10). According to Özdoğan, Fikirtepe excavations revealed two settlement levels which belong to “Archaic” and “Classic” phases of Fikirtepe culture. Typical for the material culture are footed rectangular vessels, bone polishers, bone spatula, bone hooks, polished axes and prismatic blade cores, micro-burins and scrapers (Özdoğan 2007b: 411-412). Few animal figurines, sling missiles and bracelet fragments were also found at the site (Özdoğan 1983: 409).

The subsistence is based on cattle and sheep-goat herding while fishing and hunting contributed significantly to the diet (Boessneck and von den Driesch 1979). A recent study revealed that the dairy products were extensively consumed by Fikirtepe inhabitants (Evershed *et al.* 2008).

## **2. Pendik**

Pendik is located on a coastal alluvial plain in Dolayoba Village of Pendik district in İstanbul, only 50 m away from the current coastline. Two fresh water sources and one perennial stream are found in the close vicinity of the mound. It is a shallow mound (app. 2 m high) which measures 170 x 300 m. Today the site remains in the land owned by a fabric and a hospital (Özdoğan 1983: 401-402).

Similar to Fikirtepe, Pendik was also discovered in 1908 by Miliopulos who brought the material to Stockholm National Museum. Arne and Janse published Pendik material in 1922 and 1925 respectively. Railway construction from İstanbul to İzmit has cut the mound in two halves. Ş.A. Kansu made small scale excavations around the damaged parts of the mound in 1961.

In 1981, salvage excavations have been conducted at the site due to construction activities which further damaged the site. Excavations were carried out in the southern tip of the site under the direction of E. Uzunoğlu and with a team from İstanbul University Prehistory Department.

The stratigraphy of the site is unfortunately unclear. However on the surface and around the site Late Roman and Byzantine ceramics and a Byzantine building were observed (Özdoğan 1983: 402). The Neolithic occupation is confined to one level with several sub-phases.

During the 1981 excavations two grids were excavated. These yielded in total five circular-oval shaped pit houses which were 50-70 cm deep and had 3-6 meter diameters. Between the pit structures were open areas (Özbaşaran, N. 1989: 5).

Bone polishers, bone hooks, bone spatula, endscrapers, drills, blade cores, blades and geometric micro tools were recovered during the excavations (Özdoğan 1983: Abb. 6, Abb. 7). Gatsov detected strong parallels at Pendik with Ilıpınar X lithic industry (Gatsov 2003). Only 5% of the lithic industry was made of obsidian while the rest is from flint. Interestingly, no grinding-pounding instruments were found which is



interpreted by Özdoğan as an indication of a subsistence pattern that is based on herding, fishing and hunting (Özdoğan 1983: 409).

Özdoğan places Pendik material culture to the Archaic Fikirtepe phase, because the ceramics material is “*almost identical with that of Fikirtepe*” (Özdoğan 1983: 405).

### **3. Yarımburgaz Cave**

The cave is located west of İstanbul in Altınşehir of district Küçük Çekmece. The cave is only 1.5 km north of Lake Küçük Çekmece. The formation of the cave occurred during the Eocene era which has two connected chambers which are called “Lower” and “Upper” chambers. Neolithic remains have been excavated only in the Upper Chamber whereas the Lower Chamber revealed stratigraphy that reaches back to Lower Paleolithic (Arsebük *et al.* 1990). Upper Chamber covers an area of 500 m<sup>2</sup> and is 9-15 m wide and up to 10 m high. Roman-Byzantine wall constructions, one Byzantine chapel and burials have been found in the upper chamber (Özdoğan and Koyunlu 1986: 6).

The cave has been known to various researchers since the 19<sup>th</sup> century. The first archaeological sondage is made by Hovasse in 1927. Between 1964-1965, Ş.A. Kansu of Turkish Historical Society made excavations in the cave. The cave deposits have been heavily damaged by looters, construction works and other various activities until 1986 (Özdoğan and Koyunlu 1986: 5). In 1986, salvage excavations are carried out for one season under the direction of M. Özdoğan. Paleolithic deposits from the Middle Pleistocene in the lower chamber have been excavated by Güven Arsebük of İstanbul University Prehistory Department in 1988-1990, which revealed a flake-based lithic technology (Arsebük and Özbaşaran 2000: 5-7).

Fifteen layers have been identified in the upper chamber. These layers cover periods from Lower to Byzantine era. Of these, Level 5, is the first deposit which contained ceramics. It has been dated to Neolithic period because of the proto-Sesklo like impressed sherds found in the deposit which is described as hard and slag-like (Özdoğan and Koyunlu 1986: 12). The following Levels 4-2 are dated to the various stages of the Chalcolithic period. It is noted that there is a hiatus between Levels 5-4 due to the nature of the deposits and Levels 4-3 due to the nature of the ceramics (Özdoğan 1989: 204).

Finally, there is certain ambiguity surrounding the dating of post-Yarımburgaz 4 material culture as well-comparable material can be detected neither in Turkey nor in Bulgaria. Özdoğan suggests that similar decorative traits of Yarımburgaz 3-2 pottery

with Danubian EN cultures (such as *Linearbandkeramik*) and absence of Yarımburgaz 3-2 material in Bulgaria may imply that maritime contacts in the Black Sea were established between Marmara Region and the Lower Danube which by-passed the Bulgarian mainland (Özdoğan 1999a: 221; Özdoğan 2007: 414). Similar to Özdoğan, Pavlů also pinpoints some meaningful similarities in ceramic assemblages, especially the anthropomorphic vessels, between Anatolian and *Linearbandkeramik* cultures (Pavlů 2003). This is a very interesting topic of great importance which needs to be systematically investigated in the future. On the other hand, Roodenberg *et al.* (1989-90: 102-103) compares grooved and rippled decoration, carinated forms and hemi-spherical bowls from Yarımburgaz 3-2 to Karanovo III and Early Vinča assemblages.

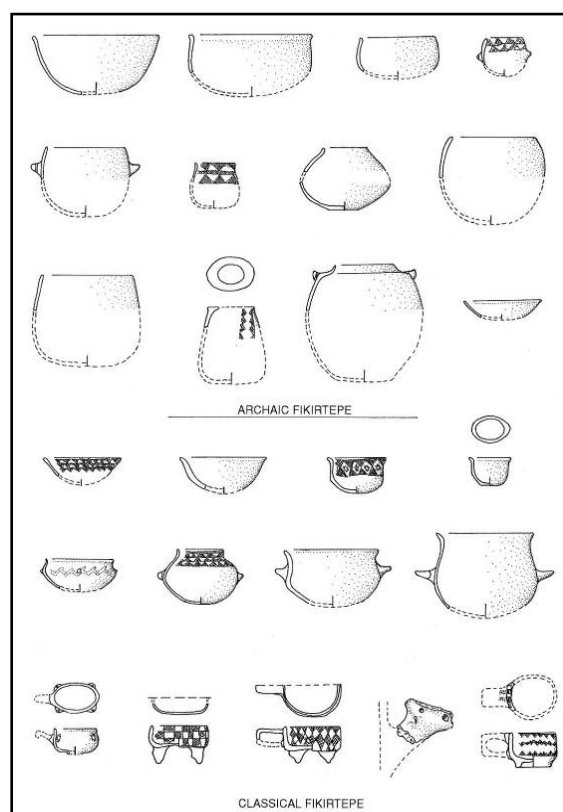
#### **4. The Ceramics of Yarımburgaz Layers 5 and 4**

The ceramic material from Yarımburgaz 5 is unfortunately very low in number. Their analysis revealed four different ware groups in the assemblage. These are Dark Burnished Ware (38%), Red Burnished Ware (34%), Micaceous Ware (20%) and Gritty Ware (7%). All of these ware groups are mineral tempered (grit and sand). Impressed pieces are associated with the coarse looking gritty ware. The nature of the sample does not enable us to establish typological overview. One jar without neck, two flat bases and one pierced knob are demonstrated (Özdoğan, Miyake and Özbaşaran-Dede 1991: Fig. 3).

Pottery from Layer 4 is dominated by the micaceous ware which comprises 50% of the assemblage. Dark burnished and gritty wares are also very common. Low number (only 3%) of lustrous fine burnished ware with brown to light brown surface colors is also attested in this level. Red burnished ware is extremely rare. Jars with tapering necks and large globular bodies are very characteristic of this level. Simple bowls, jars with short necks, flat bases and pierced knobs as well as prismatic footed vessels are also observed in this assemblage. One of the typical traits of Yarımburgaz 4 pottery is its decoration. 10% of the pottery is decorated which show techniques like incisions, grooving or impressions. Some were filled with a white substance. Decorative motifs are confined to parallel lines, dots, zig-zags, lozenges and steps (Özdoğan, Miyake and Özbaşaran-Dede 1991: 70-71).

## 5. Fikirtepe and Pendik Ceramics

The pottery from these sites is described as grit and sand tempered, burnished, dark colored and well-fired (Özdoğan 1983: 405). At Pendik, for instance, 50% of the assemblage is formed by the Grit Tempered Dark Faced Ware. These wares are well-fired and have fine compact pastes which show colors that range from black, dark brown and red to rarely buff and reddish brown. The surfaces are self-slipped and burnished on both sides. Surface colors are dark brown, reddish brown, blackish brown and tones of red. Rarely, buff and cream colors are observed. The wall thickness of grit tempered dark colored wares change between 0.3-1.2 cm (Özbaşaran, N. 1989: 16-23). Rest of the assemblage



**Figure 6.31: The major ceramic forms from Archaic and Classic Fikirtepe phases (after Özdoğan 1999a: Fig. 5)**

at Pendik is constituted by grit tempered red colored wares, grit tempered light colored wares, sand tempered ware and organic tempered ware. Apart from grit temper, sand and mollusks were also attested occasionally in the pastes. It is understood that the grit tempered dark burnished wares are the most typical pottery group of Fikirtepe Culture.

The characteristic vessel shapes of Fikirtepe Culture are bowls with convex profiles, bowls and deep bowls with 's'-shaped profiles, jars with short necks, hole-mouth jars with globular bodies, the so-called "Fikirtepe Boxes" and jar lids (Fig. 6.31). Pierced knobs and tubular lugs appear in the "Classic Phase" whereas large horizontal lugs are typical for the Archaic Fikirtepe pottery. In the Archaic phase, most of the typical Fikirtepe forms, such as the boxes or 's'-shaped profiles, do not occur yet. Decoration is a rare feature of the Archaic phase but shallow incisions and impressions are observed on a few number of pieces from Fikirtepe (Özdoğan 1983: 405; Özdoğan 2007b: 412).

In the following Classic Fikirtepe phase, open forms with 's'-shaped profiles, tubular lugs, double pierced knobs and oval shapes appear (Figs. 6.31, 6.32). Fikirtepe boxes increase quantitatively in this phase. Decoration is also more common. The main technique of decoration is white filled incisions of cross-hatched geometric shapes which are commonly observed on polypod prismatic vessels. Jet-black burnished wares and red slipped wares which together make up 10% of the ceramic assemblage make their first appearances with this phase (Özdoğan 2007b: 413).

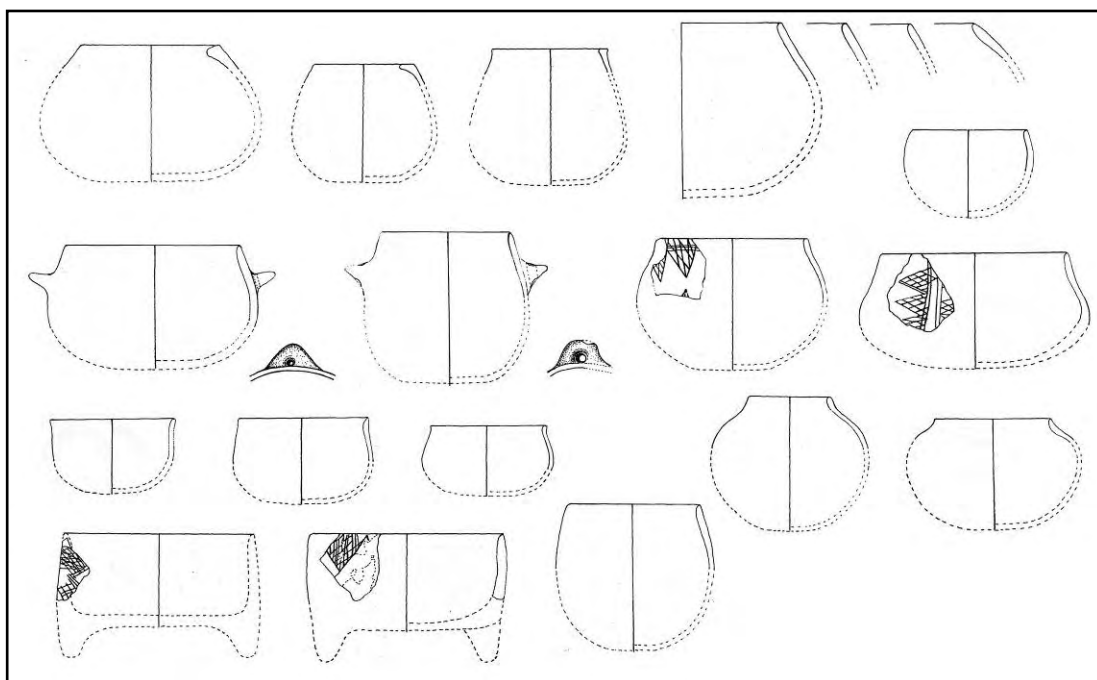


Figure 6.32: Selection of major vessel forms from Pendik (modified after N. Özbaşaran 1989)

The latest phase of Fikirtepe Culture (The Developed Phase) is not present at Fikirtepe and Pendik but is represented at Yarımburgaz IV and Ilıpınar VIII.

It is important to mention here that Özdoğan links the typical Fikirtepe pottery (dark colored and burnished) to DFBW horizon of Southeast Anatolia, Central Anatolia and Bademağacı ENI.<sup>64</sup> He asserts that the dark colored burnished ware is a reflection of the same trend in pottery production throughout Anatolia which preceded the appearance of RSBW (Özdoğan 2000: 168). The uniformity of the vessel morphology seems to support this suggestion. The earliest pottery from Ulucak V, which is increasingly dark colored, does also present a compatible picture which fits nicely with Özdoğan's perception of

<sup>64</sup> For a contrasting view see Balossi-Restelli 2006: 253-256.

the Neolithic ceramic sequence in Anatolia which basically sees a threefold development: DFBW → Red slipped wares → Painted pottery.

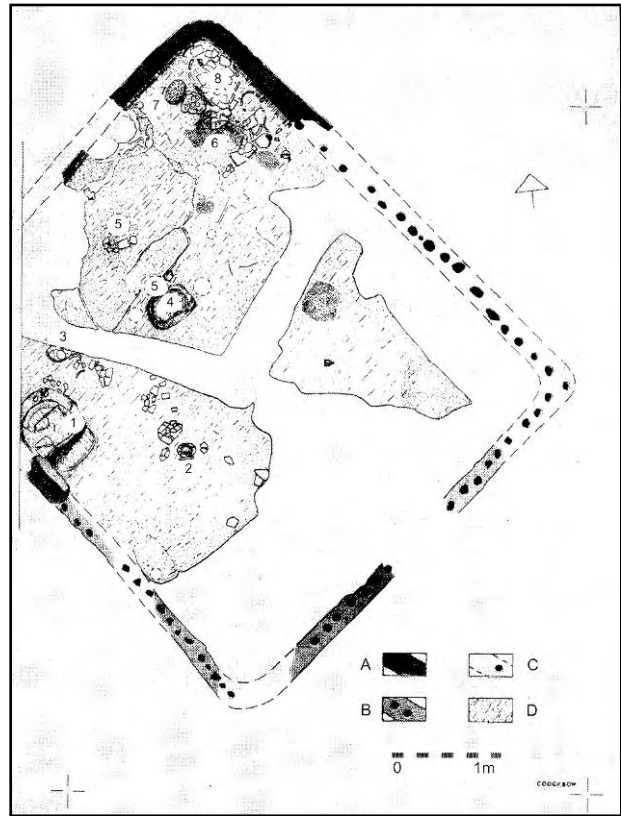
## **6. Ilıpinar**

Ilıpinar is a mound located on an alluvial plain to the southeast of Bursa, only 2 km South of town Orhangazi and 2 km West of Lake İznik on 100 m above sea level. The mound covers an area of 2.5 ha. Ilıpinar takes its name from the freshwater spring located adjacent to the mound. Mound was partly damaged on the northwest side, where agricultural activities were carried out most intensively. The cultural deposition on the mound reaches 5-7 m, some of which is located under the alluvial debris (Roodenberg 1995a: 1).

Ilıpinar has been known in the literature for a long time. The site was investigated and visited by İ. Kökten in 1948, J. Mellaart in 1960, Cullberg in 1964 and D.H. French in 1965. Systematic excavations have been carried out in 1987-1995 under the direction of J. Roodenberg of the Netherlands Historical Archaeological Institute in İstanbul. Three monographs concerning the excavation results have been published.

Ten occupational levels have been identified at Ilıpinar which chronologically cover periods from LN to Early Byzantine. 64 carbon dates from Levels X-VB provide an absolute chronology with great accuracy. The oldest level, Level X, is dated to 6000-5900 cal. BCE. The beginning of Phase X is placed between 6008-5962 cal. BCE. Early Chalcolithic Levels IX-VA are dated to 5900-5600 cal. BCE (Roodenberg 1999a: 197-200; Roodenberg and Schier 2001: 269). Level VB, a phase defined during the excavations in 1996-97, is dated to 5570-5490 cal BCE and is characterized by semi-subterranean dwellings (Roodenberg 2001: 232-233; Thissen 2008a: 98). Level VA ends with a fire and the settlement is probably abandoned for a short time until these pit-houses are constructed. Following VB, the next occupation is dated to the Late Chalcolithic period (Roodenberg and Alpaslan-Roodenberg 2007: 394).

The earliest architectural remains at the site were concentrated around the freshwater source. The houses were free-standing, rectilinear, post-wall or mud-slab structures, which had single rooms and probably gabled roofs that were supported by central posts (Fig. 6.33). Inside the houses fire installations and storage utilities were found while ovens were located outside the houses (Roodenberg 1999a: 196). The entrance to the houses was mostly from the long axis. Preservation of wood at the site is exceptional and is probably due to the calcium in the groundwater (Roodenberg 1995b: 37-38). A fire ends this settlement. Mud-slab and



**Figure 6.33: Free-standing post-wall building from late Ilpınar X (after Roodenberg and Alpaslan-Roodenberg 2008: Fig. 1)**

post-wall single room buildings continue to be built until Levels VI-VA. In Level VA, rectilinear houses with two or four inner buttresses have been detected (Gérard 2001: 196).

With Level VI, mud-brick houses are found on the mound. Additionally, these buildings are no more free-standing and single-roomed. There is a remarkable change in the settlement organization with Level VI, which is characterized by two-storey mudbrick houses which are built adjacent to each other, forming a curve. These houses contained ovens, extensive amounts of storage units, grinding instruments and portable material related to daily living of the community (Gérard 2001: 192-196; Roodenberg and Alpaslan-Roodenberg 2007: 394-395).

Level VB, with two phases, contained remains of semi-subterranean houses with well-preserved evidence of inner architectural elements, grinding stones, ovens and ceramics. Roodenberg suggests that Level VB was a semi-permanent settlement occupied only in the spring-summer months (Roodenberg 2001: 232-235).

It is stated that Ilipinar inhabitants were farmers from the very beginning of the occupation onwards. Major crops were six-rowed barley (*Hordeum vulgare*), emmer wheat (*Triticum dicoccum*), einkorn wheat (*T. monococcum*), lentil (*Lens culinaris*) and bitter vetch (*Vicia ervilia*). Flax (*Linum usitatissimum*) was also grown while wild fruits like figs contributed to the diet of the population (van Zeist and Waterbolk-van Rooyen 1995: 161-162). In terms of the faunal remains, cattle, sheep and goat dominate the Ilipinar X assemblage whereas with the following phases pig gains importance in the diet. With Phase V, cattle become the dominant species while pig remains decrease dramatically. Freshwater mollusks were also consumed during Ilipinar X while the following occupations contained more marine mollusc species (Buitenhuis 1995: 152-154).

## 6.1. Ceramics

Ilipinar ceramics have been analyzed by Thissen (2001) and van As and Wijnen (1995) in detail whose studies on pottery from Levels X-VA will be summarized below.

It is emphasized that pottery production techniques, vessel shapes and functions remain very similar in Phases X-VI, despite the presence of several morphological and technological changes in the sequence. A radical change in the pottery assemblage can only be attested in Phase VA (Thissen 2001: 64). Throughout the sequence same local clay sources are used for the pottery production.

The earliest pottery from Ilipinar is either mineral (sand and calcite) or chaff tempered, surface is monochrome and smoothed or burnished. The surface colors change from grey, light brown, cream to orange-brown. Mottling is very common. Decoration is rarely observed. Grooved, painted, plastic and incised examples have been recorded. Three red-on-white sherds, all belong to the same vessel, have been found in the lowest layer which is interpreted as an “import”, perhaps from the Thessalian Plain (Thissen 2001: 22).

Typical vessel shapes from Level X can be enumerated as follows: Small and middle sized neckless jars and short necked jars with globular bodies. Lugs, set in one or two pairs, are frequently observed on jar bellies. Bowls and deep bowls with ‘s’-shaped profiles, also oval variants, are likewise common. Beakers, dishes, small cups, lids and boxes are also found in the assemblage. Lugs belong to vertically pierced knobs, pierced

horizontal handles and crescentic lugs. True tubular lugs are absent. Large sized jars which might have been used for storage or transport purposes are rare. Bases are flat.

With Phase IX, chaff temper disappears and sand, with occasional appearance of limestone, becomes the only ware group. The only chaff tempered pottery is the so-called “straw-tempered coarse ware” which are basically unbaked clay containers for storage. Pottery from Phases IX-VIII is completely mineral tempered. The surface colors are dominated by dark grey, dark grayish brown and grey-black hues. Certain morphological changes have been detected with Phase IX. It is noted that hole-mouth forms become rare and vessel bodies are more globular. Necks are still short but more pronounced (Thissen 2001: 37). Impressed pots appear with Phase IX and continue well into Phase VIII. Irregular, finger-nail impressions dominate the early impressed vessels while more regular execution of the decoration in one direction becomes more popular with phase VIII. It is indicated that impressions are made on burnished surfaces while burnishing made after decoration has been attested too (Thissen 2001: 40-41). Oval bowls and ‘s’-shaped profiled shapes do continue. Large storage vessels are also encountered but still in low numbers. Pierced lugs on small jars continue to appear. Apart from the impressed vessels, plastic decoration was also applied on vessels. A number of vessel fragments with excised decoration from Level VIII have been categorized as “imports” (Thissen 2001: Figs. 45 and 46). Finally, vessels named as “pipes” appear only in Level VIII (Thissen 2001: 45).

Pottery from the subsequent Levels VII-VI is highly analogous to that of Levels IX-VIII and clearly a continuation of these earlier horizons. Surface colors are mainly different in hues of brown. Jars with short necks and globular bodies, deep bowls with ‘s’-shaped profiles, pierced knobs and handles, flat bases, dishes, beakers continue to be produced. Nevertheless, some vessel shapes and attributes disappear with these phases. Straw-tempered coarse ware, boxes, flat lids, the so-called “pipes”, plastic and impressed decorations, among others, are not found in the Ilipinar VII-VI pottery assemblage. Two important vessel categories are new: Carinated bowls with diameters that reach up to 35-40 cm and occasional grooved white-filled decoration, and square pots (Thissen 2001: 64-65). The first examples of pots with lugs on rims are also seen in these phases (Thissen 2001: Figure 61: 3-5). Technologically, it is observed that more time was spent on the surface finishing. It is also mentioned that the firing process was also developed, occurring under higher temperatures (Thissen 2001: 65). Despite the continuation of



some major forms from the previous levels, the level of change (disappearance and appearance of some shapes, decoration techniques etc.) is a significant trait of these phases.

We may remind that Phase VI at Ilipınar is characterized by the first mudbrick architecture and pottery assemblages reflect this change in its own terms. In this respect, Thissen (2001: 83) states that “*in rough terms, Phases X-VII are stable, without major interruptions, concerning architecture, settlement planning and material culture. From Phase VI onwards changes occur more rapidly*”.

Thissen (2001: 75) indicates that substantial changes in the pottery technology and function are also detected with Level VA. A number of features, morphological and technological, are new in Phase VA. Surface colors are reported to be different from the previous phases, dominated by light to dark brown and grey-black shades. It is noted that surfaces are coarser and uneven compared to previous Phases VII-VI. There are pots with lugs on rim, vertical handles, curvilinear and rectilinear grooved decorations, jars with long necks and flat-square shaped lips. Carinated forms and square pots with grooved decoration continue to be produced in Level VA. Carinated bowls have vertical upper bodies and are rarely decorated.

## **6.2. Comparing Ilipınar with Ulucak**

Roodenberg, Thissen and Buitenhuis (1989-1990: Tab. 2) compare Ilipınar X with Fikirtepe and Hacılar IX-VI in ceramic terms. Ilipınar IX-VIII is set contemporary with Yarımburgaz 4 while Ilipınar V and Yarımburgaz 3-2 are compared with Karanovo II-III phases (Thissen 2008a: 100).

According to the carbon dates from Ilipınar and Ulucak, Ulucak IV is roughly contemporary with Ilipınar X-VIII as the latter cover 6000-5800 cal. BCE. Ulucak V pre-dates Ilipınar sequence. In the light of ceramic evidence we will compare and contrast the ceramic assemblages from both sites in order to understand to what extent Central-West Anatolia and İznik Lake Basin are related during the beginning of 6<sup>th</sup> millennium cal. BCE.

First of all, in terms of fabrics (ware groups) there seems to be little correlation between the two regions. The ubiquitous RSBW of Ulucak IV is not present at Ilipınar at all. Ilipınar X pottery, similar to Ulucak, is composed of fine-medium wares with smoothed-burnished surfaces, but the surface color does not match with that of Ulucak where dark

red, red and orange-red colors are clearly predominating. In terms of non-plastic inclusions, presence of chaff along with mineral inclusions in pottery of Phase X shows parallels to Ulucak IV where chaff is commonly added as temper to the pottery. However, it is known that with the following phases at Ilipinar, organic temper is not used at all. The reason for this change remains speculative but the choice of the non-plastic material does not seem to indicate cultural-technological parallels between Ilipinar and Ulucak. CSBW are not found in the early Ilipinar assemblages either (although the bowl depicted on Roodenberg 1999: Figure 17 corresponds well to Ulucak cream slipped wares). In turn, dark colored (grey, black, dark brown) wares with or without white-filled incisions are very foreign to Ulucak ceramics. Incision, all together, is extremely rare in the Ulucak assemblage. Red-on-white painted sherds from Ilipinar X (Thissen 2001: Fig. 8.10) are interpreted as “imports”. It can be however noted that at both sites painted sherds are extremely low in number, indicating that the painted pottery production was not adopted in both regions.

In contrast to fabrics, there are a good number of similarities in vessel morphology between Ulucak and Ilipinar X. Hole-mouth small-medium sized jars with four lugs are very characteristic of the entire Ulucak sequence but they are especially typical for Early IV and Va-b. Absence of necked jars at Ilipinar X may indicate that Phase X corresponds to Ulucak Early IV-Va than to Late Ulucak IV sequence. Pierced knobs are frequently found in Ulucak assemblage. But horizontal pierced handles and crescentic lugs of Ilipinar are absent at Ulucak. Vertically placed tubular lugs of Central-West Anatolia are completely missing at Ilipinar. Small and medium sized jars with short necks are likewise very frequently found at Early IV-V Ulucak. It is seen that at Ilipinar X, jars have already developed necks but they are far from the developed long necks of later phases and Ulucak IVb.

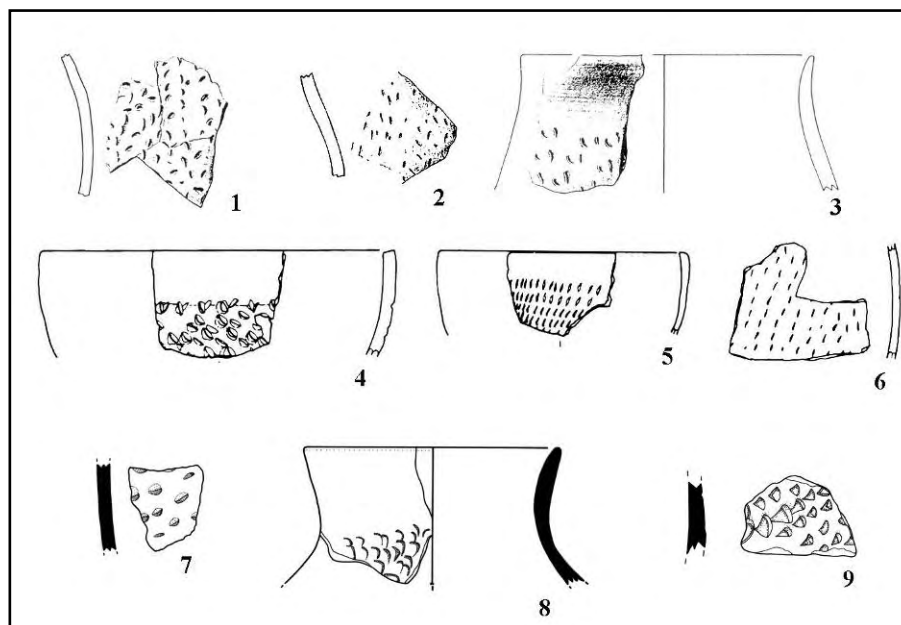
Another morphological similarity is observed in open forms, especially concerning the bowls with ‘s’-shaped profiles. As it is known, such bowls are one of the definitive features of LN-EC assemblages in the entire Central-West Anatolia. At Ulucak, both levels contain high numbers of ‘s’-shaped profiled vessels, especially bowls and large bowls but in some cases even jars. In Level IVb, oval variants of large bowls with ‘s’-shaped profiles have been excavated. Bowls with ‘s’-shaped profiles are frequent at Ilipinar X. Moreover, the oval variant of such bowls have also been found at the site (Thissen 2001: Fig. 7). For Ulucak sequence, appearance of oval forms is

chronologically important as such forms are completely lacking at Ulucak in Level V. If we can apply the same correlation to İznik Lake Basin, along with the absence of jars with long necks, we may suggest that Ilıpınar X chronologically corresponds to Early Ulucak IV (IVg-k). The only contradicting fact is the existence of impressed wares at early Ulucak IV and their absence at Ilıpınar X. They appear evidently first in Ilıpınar IX. Is this an indication of slightly earlier date for Ilıpınar X or later appearance of impressed pottery in Northwest Anatolia?

The difference in vessel morphology is restricted to the absence of Fikirtepe elements such as incised dark colored boxes, grooved decoration and flat lids at Ulucak. Although sporadic, the so-called “offering table” has been attested in Ulucak IV assemblage but they simply lack features that are observed specifically on “Fikirtepe boxes.” Finally, we can note that at Ulucak bases are predominantly of disc type whereas at Ilıpınar X bases are in most cases flat.

In the following Phases IX-VIII at Ilıpınar, fabrics and vessel morphology remain almost the same, except the complete disappearance of organic non-plastic inclusions. In general, jar and bowl forms are still very similar to the previous phase. Some larger jars are also produced. Pierced knobs and horizontal large handles are likewise still frequent, the latter lacking at Ulucak. Vertical small strap handles on jar neck is observed both at Ilıpınar IX and Ulucak IVb. Appearance of such jars already indicates that Ilıpınar IX-VIII is chronologically closer to late IV at Ulucak. In Phases IX-VIII, there is one crucial change in the assemblage which we would like to discuss here. It is stated that the impressed wares are produced for the first time at Ilıpınar IX-VIII. With the following Phase VII, impressed wares are entirely absent in the assemblage. Presence of impressed wares at both sites, in my opinion, is very interesting with regards to the distribution of impressed pottery in Anatolia and their chronological position in the Neolithic sequence.

At Ulucak, it is well demonstrated that impressed wares appear with sub-phase Va in the beginning of 6<sup>th</sup> millennium cal. BCE. There is a clear similarity between Ulucak and Ilipinar impressed wares. Similar to Ulucak, impressed decoration is associated with small-medium sized jars at Ilipinar, too (Thissen 2001: 40). Finger, nail, finger pinching



**Figure 6.34: Impressed sherds. 1-3: Ilipinar VIII (modified after Thissen 2001: Figs. 27 and 28); 4-6: Tell El-Kerkh II (modified after Miyake and Tsuneki 1996); 7: Ulucak IVc; 8: Ulucak IVf; 9: Ulucak IVh**

and impressions made with pointed instruments are attested at Ilipinar (Fig. 6.34). The resulting impressions are mainly confined to irregular vertical-horizontal shallow impressions on vessel body which leaves rim area void of decoration. Pinching is more frequently attested at Ilipinar IX-VIII than at Ulucak IV. At Ulucak IV, impressions are likewise irregularly scattered on the vessel body which can be very shallow.

There are some differing features too. At Ilipinar, in some cases impressions are accompanied by grooved lines or may position to form upturned “V” shapes (see Thissen 2001: Fig. 37). These are techniques that are not observed at Ulucak. At Ulucak, the impressions may have more variety of shapes ranging from half-circles to tear-drops. Full circles applied with impressing a straw or hollowed instrument has also been attested at Ulucak. Another divergence is the application of impressions on burnished surfaces at Ilipinar whereas at Ulucak both burnished and unburnished surfaces can have impressed decoration. Moreover, at Ulucak impressed decoration is more associated with Gray Wares (36%) and RSBW (58%). Gray wares have unburnished gray-brown surfaces and are in general coarser than RSBW. Thissen suggests that there is a

correlation between cereals and impressed decorations as the impressions are similar in form to ear of cereals (Thissen 2001: 41). Despite minor differences, I think Ilıpınar and Ulucak impressed sherds are well comparable to each other and probably they share a common origin. Where this supposed origin would lie is for the time being unclear. It is known that impressed wares are seldom found in Central Anatolia and Lake District and are more associated with littoral Neolithic cultures in the Mediterranean. What does their presence at Ilıpınar indicate? Is it a result of interaction with coastal sites of Marmara who produced such pottery or an interaction with Inner-West Anatolia? It is known that at Demircihöyük very similar impressed wares, again associated with short necked jars, have been detected (Seeher 1987: Taf. 21). Their presence indicates that the same concept of decoration was present in the Eskişehir Region. How does the situation look like beyond Eskişehir to the South is simply unknown due to lack of investigations. However we can point out that Fındık Kayabaşı and Akmakça surface pottery is devoid of impressed wares (Efe 1995).

The missing link for the impressed pottery can be sought in two areas: 1. Inner-West Anatolia 2. Coastal Aegean and Marmara Sea. To my mind, littoral areas seem more probable for the origins of impressed wares, as such wares have been found at Mersin-Yumuktepe, Amuq sites, Ras Shamra, Tell el Kerkh, Tell Sabi Abyad, and Mezraa Teleilat (see Balossi-Restelli 2006). At Tell Sabi Abyad, impressed pots, although rare, appear in Levels 8-6 which correspond to pre-Halaf and transitional phases to Halaf (Nieuwenhuys 2007: 169). The best parallels for Ilıpınar and Ulucak impressed wares in Eastern Mediterranean come from Tell el-Kerkh (Miyake and Tsuneki 1996: 121) where similar to Central-West Anatolian sites and Ilıpınar rocker decoration was *not* observed. Until the investigations at areas where we define as “missing links” are conducted and origins of impressed wares are questioned, our suggestion will remain as a hypothesis.

Beyond the possible common origins of impressed wares at Ilıpınar and Ulucak, one can note that they remain quantitatively low at both sites. At Ulucak they constitute 4-5% of the ceramic assemblage. Similar to Southeast Anatolian, Amuq and North Syrian sites, although impressed wares are locally produced in West Anatolia, they never become a dominant pottery group, neither at Ulucak nor in Ilıpınar.

The excised decoration and “pipes” observed in Ilıpınar VIII are absent at Ulucak. A comparison for the vessel group “pipes” comes however from Kuruçay 7 (see Duru 1994: Lev. 160.6) and Hacılar IIA (Mellaart 1970: Pl. 75.9).

With Phases VII-VI, carinated bowls and square jars appear at Ilıpınar while the old common forms continue to be produced in large numbers. Grooved decoration on carinated bowls which have vertical upper bodies are first observed in these phases, too. Furthermore, impressed vessels disappear at Ilıpınar with phase VII whereas at Ulucak they are produced until the end of the fourth settlement. In my opinion, all these point out that Ilıpınar VII-VI post-date Ulucak IV. Indeed, the carbon dates indicate that Ilıpınar VII begins towards the end of the 58<sup>th</sup> cal. BCE (Roodenberg and Schier 2001: 269). Two carbon dates from Ulucak IVb give calibrated results 5900-5660 and 5990-5730 BCE at two sigma calibrated range. It seems likely that Ulucak IV is abandoned as Ilıpınar VII was founded.

Interestingly, big sized jars with long vertical necks, a feature of Ulucak IVb, are especially observed at Ilıpınar VA. On the other hand, pots with ledge handles on rim are not seen at Ulucak where lugs always remain below rim. Such pots with ledge handles on rim are well-known from EC Central Anatolia and Niğde-Bor Plains at sites like Çatal West, Musular and Can Hasan (see sections *F. Beyşehir-Suğla Basin and Konya Plain* and *G. Melendiz and Bor Plains*). They are also found in Kızılırmak Basin at Yarıkkaya Plateau (Schoop 2005a: Taf. 25). Obviously, they become popular at Ilıpınar VA, too. However, jars with small vertical handles on neck and neckless jars with horizontal knobs below the rim have been encountered at Ulucak IVb-d which provides good comparisons with Ilıpınar jars from VI-VA (Fig. 6.34).

To conclude, it is possible to suggest that Ilıpınar X and Early Ulucak IV are contemporary, whereas Ilıpınar IX-VI can be set contemporary with the entire Ulucak IV. The subsequent Ilıpınar ceramic sequence cannot be found at Ulucak, although certain similarities can still be detected.

Ilıpınar and Ulucak are especially comparable with regards to their vessel morphology, although certain similarities can be found in the fabrics too. “Fikirtepe” features at Ilıpınar, such as lids and incised boxes, are never matched at Ulucak. The most interesting common feature at both sites is the appearance of impressed wares. We suggested that impressed wares at both settlements might have shared common origins,

perhaps going back to Northern Syria. At both settlements, they remain low in number and are chronologically restricted to a period between 6000-5700 cal. BCE. Relying on the data from both sites, it can be suggested that impressed vessels do not appear before or after this date.

We have compared jars with vertical handles and knobs below rim from Ulucak and Ilıpınar but the carbon dates indicate that Ilıpınar VA post-dates Ulucak IVb, and carinated bowls and square pots are never encountered at Ulucak. Moreover, impressed pottery and vertical tubular lugs continue to be produced until the abandonment of the settlement whereas at Ilıpınar these are not found in the assemblage following phase VII.

## **7. Menteşe Höyük**

Menteşe is located only 25 km south of Ilıpınar on Yenişehir Plain where until recently Lake Yenişehir was situated. The prehistoric mound, together with Barcın Höyük, (see below) was probably situated in close proximity to the lakeshore. Menteşe is a four meter high mound whose diameter measures 100 m. The archaeological debris continues 1.5 m under the present surface of the plain. The mound was heavily damaged during a road construction which cut the mound in two equal halves. Destruction was also caused plowing of the surface soil and burrows of animals (Roodenberg 1999b: 21-23).

Excavations were carried out on the site in 1996-2000 by Museum of İznik and Netherlands Institute of Archaeology in İstanbul. The direction of the archaeological work followed under the supervision of J. Roodenberg who since 1987 made investigations around İznik Basin and aimed to uncover at Menteşe comparable material to Ilıpınar's early sequence. In 2000, a deep sounding has been made on the mound which reached the virgin soil and revealed an assemblage that pre-dated Ilıpınar X by 500 years (Roodenberg 1999b: 21-22; Roodenberg *et al.* 2003: 17).

Three layers have been distinguished on the mound. "Strata 1" comprises Roman, Middle Bronze and Chalcolithic age deposits. "Stratum 2" refers to 20-30 cm thick black ash layer which covers the burnt debris of Stratum 3. Stratum 2 is interpreted as cultivated fields used for several centuries when the mound was not inhabited. The earliest Stratum 3, around 3 m of cultural deposit, has been divided into three distinctive occupational layers which are called "upper", "middle" and "lower". Lower occupational layers (Levels 126-130) constitute the 1-1.5 m thick deposits above the virgin soil. Middle occupational layers (Levels 110-125) belong to the various surfaces with many finds that

are interpreted as courtyards. The most upper layers of Stratum 3 correspond to Levels 100-109 which contain red colored burnt architectural remains of a house which is cut by EC pit burials (Roodenberg 1999b: 24-25; Roodenberg and Alpaslan-Roodenberg 2007: Fig. 9).

One of the houses (“esb1” or “the burnt house”) is a rectilinear wattle-and-daub structure, ca. 5 x 5 m in size, with mud plastered walls and floor. The posts in the walls were only 4-5 cm thick, the distance between them 10-15 cm and the walls themselves are 25-30 cm wide (Roodenberg *et al.* 2003: 18). Four burials have been uncovered under the floor level of the burnt house. Two of these are deliberately placed under the floor which seems to be a unique practice for the Neolithic Yenişehir-İzник cultures (Roodenberg *et al.* 2003: 19).

Three other buildings (nsb2, nsb3 and nsb4) have also been partially recovered from the Stratum 3 of Menteşe. These belong to the earlier occupations than esb1, the oldest one being “nsb4” whose southern wall was found 20-30 cm directly beneath nsb2 (Roodenberg *et al.* 2003: 20). Nsb2 and nsb3 are also rectilinear in plan and built with mud-slab technique. The walls have been preserved up to 20-30 cm high and similar to nsb1 their walls are only 25-30 cm in width. Additionally, adjacent to nsb2’s southern wall a courtyard area with storage units, baskets and mud boxes, have been excavated (Roodenberg 1999b: 24-25). It is noted that floors of the houses were without finds whereas courtyard areas contained high amount of material culture. Additionally, wall of a mudbrick building was spotted in the southern section of the sounding area which indicates that various building techniques, mud-slab, wattle-and-daub and mudbrick, were applied simultaneously at the basal Menteşe settlement (Roodenberg *et al.* 2003: 21). Below the remains of houses were superimposed surfaces with various finds like scattered stones, pottery, storage units and grinding stones (Roodenberg *et al.* 2003: Figs. 9, 10).

Nine carbon dates are available from basal Menteşe which roughly cover a period from 6400-5900 cal. BCE (Roodenberg *et al.* 2003: Fig. 11). The basal Menteşe is dated to 6440-6220 cal. BCE (Thissen 2005: 35). The earliest dates from Stratum 3 of Menteşe which cluster around 6400-6200 cal. BCE are as follows: 7550±50BP, 7410±130BP and 7450±25BP (Roodenberg *et al.* 2003: Fig. 11).



## Ceramics

Ceramics from the basal levels of Menteşe have been subject to a technological study. It is understood that they are mineral tempered, moderately fired and burnished monochrome wares. Slip is extremely rare. Surface colors range from black, dark grey, brown to tones of red while mottling is very commonly found on the surface of the ceramics. Non-plastic inclusions include calcite, quartz and mica schist (Roodenberg *et al.* 2003: 26-29). Thissen (2005: 35) notes that basal Menteşe pottery changes from being grit-tempered to dense calcite tempered.

Vessel shapes are very restricted in this early horizon. Bowls and deep bowls with convex and slight 's'-shaped profiles as well as hole-mouth jars with flattened and everted rims are very common. Prismatic vessels (boxes) and flat lid fragments are also found in the assemblage, but not in the earliest deposits. Bases are flat. Pierced knobs and lugs, horizontal handles are found in the assemblage. One strap handle fragment was also present among the collected samples (Roodenberg *et al.* 2003: Figs. 12-16).

Decorated pieces are very low in number. Decoration is mainly made with incisions which show criss-cross pattern which may be filled with whitish clay. Shallow incisions are encountered, though, in all layers at Menteşe (Thissen 2005: 35).

Roodenberg *et al.* (2003: 34-36) compare Menteşe ceramics to Ilıpınar X-IX and Fikirtepe-Pendik assemblages and conclude that basal Menteşe constitutes the Archaic Fikirtepe phase and transition to Classical phase of Fikirtepe Culture. One of the definitive results of the study is the confirmation of the absence of a cultural break between Archaic and Classical phases of Fikirtepe Culture. Similar to the Fikirtepe sequence, where earlier pottery contains no decoration (Bittel 1969: 10), decorated pieces and "Fikirtepe boxes" are completely absent in the earliest layers at Menteşe. Moreover, pierced knobs and lugs are likewise rare in the lower basal Menteşe. Black colored and well-burnished pieces, probably equal to jet-black wares of Classic Fikirtepe Culture, are mainly found in the upper occupational layers of basal Menteşe.

Menteşe basal sequence provides the first stratigraphical and carbon dated evidence of early Fikirtepe horizon from Northwest Anatolia. It is seen that boxes, black-burnished pottery, pierced knobs-lugs and developed incised decoration belong to a later phase (Classic Fikirtepe) while the earliest phases contained only monochrome mineral tempered pottery with hole-mouth shapes and initial 's'-shaped profiles. Menteşe is

especially significant in terms of defining and absolute dating the Archaic Fikirtepe phase which seems to be stretching back into the middle of 7<sup>th</sup> millennium cal BCE. The material from the site also provides comparative material for LN assemblages of Lake District and Central-West Anatolia, especially for Ulucak Va-f sequence which is dated to circa 6400-6100 cal. BCE.

The prehistoric pottery from Stratum 1 is characterized by grey-beige burnished wares and jars with vertical handles on rim and carinated bowls with sharply everted rims and grooved decoration (Roodenberg 2003: 25). It is observed that small knobs were applied to the carinations on the bowls; a feature well-known from Hacilar I (Roodenberg 2003: Fig. 12). The pottery shapes from Menteşe Stratum 1, dated to 5700 cal BCE, is well-comparable to the Ilıpınar VI-VA assemblage. Large bowls with fluted decoration on rim is compared to Ilıpınar VB.

## **8. Barcın Höyük**

The prehistoric mound, composed of two mounds, is located on an alluvial plain 4 km west of town Yenişehir in district Bursa. The site was initially called “Yenişehir II” by French, who surveyed the region in the 1960’s. The current designation of the mound is Barcın Höyük after the name of the nearest village. Until recently, Yenişehir Lake was located in the close vicinity of the site, which today still provides a marshy environment.

The excavations began at the site in 2005 under the supervision of J. Roodenberg of Netherlands Institute of Archaeology in Istanbul and Museum of İznik. Since 2007, excavations continue under the direction of F. Gerritsen of Netherlands Institute of Archaeology in İstanbul (Roodenberg, van As and Alpaslan-Roodenberg 2008).

The mound was inhabited from Neolithic to Byzantine period. Roman, Early Bronze Age and Late Chalcolithic remains are attested on the mound. Early Bronze Age debris, because they are close to the mound surface, were highly damaged. The 2005-2006 excavations were carried out on the bigger mound where Chalcolithic and Neolithic debris were unearthed. Excavations in 2007 revealed material from all the prehistoric periods. According to the drillings made on the mound the Neolithic deposits are 2.5 m thick which are dated to 6420-6100 cal. BCE through two carbon dates (Gr-A32899: 7310±40 BP and Gr-A33660: 7470±60 BP). These deposits are characterized by burnt mud deposits and occupational features such as ovens, storage facilities, midden areas, and three human burials were exposed in one grid (Roodenberg, van As and Alpaslan-

Roodenberg 2008: 54). Recent excavation also revealed rectilinear houses built with mud-slab technique and evidence for red painted lime floor in a small area where a deep sondage has been made.<sup>65</sup> It goes without saying that the ongoing excavations will reveal more on the Neolithic occupations on the mound.

## Ceramics

The pottery assigned to the Neolithic and EC periods have been excavated in two grids so far.<sup>66</sup> The good majority of the pottery is fine, thin-walled, mineral tempered, moderately-well fired, burnished monochrome wares which show a variety of surface colors ranging from dark gray, dark reddish brown, brown, light brown to yellowish red. The most common non-plastic inclusions are calcite, quartz and limestone. Chaff as a temper is not attested. Paste colors are similar to surface colors which range from brown, grey to reddish yellow examples. Black cores are absent in the assemblage. Although smoothing and burnishing very is commonly observed, surfaces are not necessarily glossy (Roodenberg, van As and Alpaslan-Roodenberg 2008: 56). Thissen (2008b: 7-8) interprets the oxidized nature of the cores as an evidence of high firing temperatures and neutral to oxidizing firing conditions.

Decoration is very rarely observed. Few incised pieces have been attested which are in most cases filled with a white substance. Three painted pieces (red-on-white) have been found in 2007 which, however, according to Thissen, may be intrusive from the Late Chalcolithic layers (Thissen 2008b: 8). Several fragments of thin-walled deep bowls carry parallel zigzag lines, executed in a thin whitish paint leaving negative patterns on the burnished surfaces (cf. Roodenberg, van As and Alpaslan-Roodenberg 2008: 55-56).

Vessel morphology is dominated by bowls with convex and 's'-shaped profiles, oval bowls, hole-mouth jars and short necked jars. Rims are typically everted or simple. Pierced knobs and vertically placed tubular lugs, typically associated with hole-mouth jars, are present in the assemblage. Slanted (crescent shaped) handles are also attested at Barcın Höyük. The so-called "Fikirtepe boxes" with incised, grooved or impressed decorations have also been commonly encountered in the Neolithic assemblage. Decorations are mainly confined to dotted triangles and zig-zags. The excavators compare Barcın Neolithic pottery to basal Menteşe, including the appearance of very

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<sup>65</sup> This information is kindly provided by Rana Özbal (02.03.2009).

<sup>66</sup> Laurens Thissen kindly made his preliminary report on Barcın pottery available to me. Some of the information provided here relies on his report from excavation season 2007.

fine brown burnished ware with white paint. It is suggested that this ware is not locally produced but brought to the site as an import (Roodenberg, van As and Alpaslan-Roodenberg 2008: 55-56). Thissen (2008b: 14-15) likewise considers Barcın assemblage to be roughly contemporary with basal Menteşe, Demircihöyük, Fikirtepe and Pendik as excellent parallels in ceramics fabrics and forms are found at all these sites.

## **9. Aktopraklık**

The site, comprised of two settlement mounds, is located on a natural hill 25 km west of Bursa and 3 km Northeast of Lake Ulubat. Hasanağa Stream and two additional freshwater sources are located in the close vicinity of the site. Aktopraklık is excavated since 2004 under the direction of Necmi Karul of Istanbul University.

According to Karul (2007: 387), the site was situated closer to the lake shore in the prehistoric periods. The two mounds are called as “Upper” and “Lower” settlements which are 100 m distanced from each other. The upper settlement is ca. 150 x 150 m and contains 2.5 m archaeological deposits whereas lower settlement, having the same size, has an accumulation of 2.2 m. Additionally, to the north of Aktopraklık, a prehistoric cemetery or settlement has also been recently located and investigated by archaeologists from Bursa Archaeological Museum.

Excavations on the upper settlement revealed various architectural features along with a ditch which is around 8-11 m thick and up to 2.5 m deep. It surrounds an area with 130 m diameter (Karul 2006: 481). It has been observed that the ditch has been renewed and re-plastered multiple times. The ditch fill contained garbage pits and burials as well as dark colored burnished pottery with white incrustations which can be roughly dated to second half of 6<sup>th</sup> millennium BCE (Karul 2007: 388-389).

Houses from the Upper Höyük are characterized by square-like plans and inner buttresses. The walls are constructed without any use of foundations with loam and wood, and are subsequently plastered with thick lime. One of the houses excavated on the Upper Höyük was plastered with greenish clay and then with white lime. Horizontal wooden beams have been observed in the walls which seem to continue into the floor level of the house. It is possible that wooden beams were covering the floor too. A circular domed oven has been uncovered in the same house. The material culture from this level is dominated by biconical clay sling bullets, limestone beads and clay weights (Karul 2007: 390).

Pottery associated with buttressed houses is described as brown-gray colored and thick walled. Globular pots with short necks and deep incisions are said to be typical for this phase. There is little correlation between the pottery from the houses and the pottery from the ditch. Karul (2007: 390) indicates that the houses contained pottery which is comparable to Ilıpınar V which is dated to the middle of the 6<sup>th</sup> millennium cal. BCE.

Excavations at the Lower Höyük revealed another ditch and two massive walls which run parallel to it. The ditch covers an area with 65 m diameter (Karul 2006: 481). The ditch has been filled with burnt loam lumps with impressions of wattle, sling missiles and pottery. It is suggested that the massive wall constructions that run parallel to the ditch served to protect the settlement from floods from Lake Ulubat (Karul 2007: 391).

At Aktopraklık, settlement layers that are dated to earlier centuries will be uncovered in the coming years. In the light of the published material, it is not yet possible to make conclusive statements on the dating and correlation with Ulucak material. Nevertheless, it is clear that Aktopraklık ditch finds and buttressed houses are later than Ulucak IV, as such houses have been detected in the same region only at Ilıpınar VA (Gérard 2001: 183) which is securely dated to 5600-5550 cal. BCE.

## **10. The Ceramic Sequence of the İznik Lake Basin and Comparisons with Central-West Anatolia**

Four excavated mounds in the İznik Lake Basin which cover overlapping stages of the Neolithic and Chalcolithic periods improve our understanding of the way of life in the region. Most importantly, it makes clear how diverse contemporary settlements can be. It is important to recognize that a variety of architectural techniques were implemented in one settlement such as at Ilıpınar and Menteşe. Yet ceramic production, the forms, decoration techniques, fabrics, tempering, firing techniques, function of the pottery, are very similar in the whole region including the sites around İstanbul. There are similarities and differences in the subsistence strategy as dictated by the differing ecological zones settled by the early agro-pastoralists but basically these settlements were food producing communities, including Fikirtepe and Pendik, where freshwater and marine resources also played important role in the diet (Buitenhuis 1995).

İznik Lake Basin sites are extremely important as they provide a continuous long sequence for the region and provide archaeological material from well-dated secure

contexts. Accumulated data from İznik Lake Basin provide the possibility to make interregional comparisons with other Anatolian regions.

The earliest known ceramic horizon from the region is defined through the basal layers at Menteşe Höyük whose deposits are securely dated to 6400-6200 cal. BCE. Upcoming excavation seasons at Barcın Höyük will most certainly provide more material chronologically comparable to basal Menteşe. Judging by the presence of red painted lime floor at Barcın, discovery of material dating to the first half of the 7<sup>th</sup> millennium BCE seems plausible.

It is observed the earliest pottery assemblage from Menteşe encompasses a well-developed pottery production, which is characterized by fine, mineral tempered dark colored and burnished wares. Decoration and functional applications like lugs and handles are very rare, almost absent. The most typical vessel shapes are bowls/large bowls with 's'-shaped profiles and hole-mouth jars. Form variability is low in this very early stage. As mentioned above, early Menteşe provides us with typical "Archaic Fikirtepe" pottery which has been previously defined by Özdoğan (1979) at site Fikirtepe itself. With the research at Menteşe, this horizon is firmly dated and better defined through well-preserved contexts. Moreover, existence of sites from the middle 7<sup>th</sup> millennium BCE in the İznik Lake Basin has also been proven which allows for comparisons with sites like Çatalhöyük and Bademağacı. It is of great importance that Çatalhöyük's corresponding levels, V-IV, have similar wares and vessel shapes to basal Menteşe (Özdöl 2008b). This situation again reminds us Özdoğan's remark that dark colored burnished wares of Northwest Anatolia might have their origins in Central Anatolia and Southeast Anatolia (Özdoğan 2000: 168). Future research at Barcın will shed light on the initial phases of pottery Neolithic in this area.

In Central-West Anatolia, sites contemporary to basal Menteşe have solely been investigated at Early Yeşilova III and Ulucak which have deposits that reach back to the middle of the 7<sup>th</sup> millennium cal. BCE. Ulucak Va-f falls exactly into the period that is covered by Menteşe's early deposits. In this study, only sub-phases Va-b, 6200-6000 cal. BCE, are presented in detail. Therefore, we will restrict ourselves to compare basal Menteşe with these two sub-phases. But we have to stress the fact that Vc-f pottery from Ulucak are, despite various differences, are in accordance with basal Menteşe both in terms of wares and forms.

The basic common features at basal Menteşe and Ulucak V is the presence of hole-mouth jars with simple, everted and flattened rims as well as bowls with 's'-shaped profiles with or without tubular lugs. Oval forms can also be considered as common morphological elements in both regions. Interestingly, oval forms do not appear at Ulucak V yet, but they are already present at basal Menteşe. Current data indicate that oval forms occur much earlier in the İznik Lake Basin than in Central-West Anatolia.

Another common feature is the presence of brown burnished ware at Ulucak Va-b and dark colored burnished wares at basal Menteşe. I believe that mineral tempered dark colored burnished pottery which increases at Ulucak V is more or less equal to dark colored burnished wares of basal Menteşe which are likewise mineral tempered. But this statement remains hypothetical for the moment. The precise nature of the dark burnished wares phenomena across Anatolia around the middle of the 7<sup>th</sup> millennium BCE has to await upcoming problem-oriented studies.

There are some important differences between Ulucak and Menteşe assemblages though. First of all, cream slipped wares and RSBW of Ulucak V is completely absent at Menteşe. We may remind that 24% of all pottery belongs to cream slipped and burnished type at Ulucak Vb whereas RSBW still constitutes 37%. These two major wares that are present in the Ulucak sequence until the end of the settlement are apparently never been adapted in Northwest Anatolia, certainly not in this early stage. In other words, absence of RSBW and CSBW in Northwest Anatolia poses a major contrast to contemporary Central-West Anatolian sites.

There are some divergent morphological features between Ulucak and Menteşe, too. These are especially felt at handle and lug types. Although, vertical tubular lugs ("elongated lugs" as Thissen calls them) are found on Menteşe vessels, lugs on the inside of the rim, horizontally pierced elongated lugs, slanted lugs (crescent shaped), heavy horizontal handles and pronounced strap handles are not known at Ulucak V. Ulucak V handle-lug typology seems to be even less variable. Most of them (70-79%) are represented by vertically placed tubular lugs while the rest is represented by vertically pierced knobs or single unpierced knobs. On the other hand, certain lug-handle types known from Menteşe are matched at Çatalhöyük. Pierced lug attached inside of the rim is known from Hacılar and Ege Gübre, therefore not foreign to Lake District and Central-West Anatolia, although certainly absent at Ulucak IV-V.

Another feature which differs in both regions is the base type. At Ulucak V, round disc bases are dominating the base typology while simple flat and ring bases are observed to a lesser extent. At basal Menteşe, majority of the bases are flat and flat-oval. Pedestal base, although known from Hacilar and Çatal West, has never been attested at Ulucak whereas one example is depicted from Menteşe (Roodenberg *et al.* 2003: Fig. 15.5).

Flat or raised lids, which occur at all Fikirtepe sites, are absent at Ulucak IV-V. At Ulucak, clay jar stoppers with mat impressions, similar to the ones from Aşağı Pınar 6 (Özdoğan, E. 2007), have been found. There is apparently a difference in the way in which goods were stored at Northwest Anatolian and Central-West Anatolian sites.

In terms of decoration, as it is already mentioned, shallow incisions forming cross-hatched geometrical shapes are typical for Northwest Anatolian sites while in Central-West Anatolia this technique is never adapted. The only decoration type that is worth mentioning from the region is impressions, but this technique appears only in the beginning of EC period (Ulucak IV, Yeşilova Late, Ege Gübre, Çukuriçi and Dedecik-Heybelitepe) whereas Ulucak Vb pottery remains almost completely undecorated, except for the sporadic appearance of painted and plastic decorated sherds. Plastic decoration has also been attested at Menteşe and Ilıpınar X-IX. Wavy lines and bucrania motifs are attested at Ulucak Va-b while a human face and wavy band have been applied to vessels at Ilıpınar X-IX (Thissen 2001: Figs. 13 and 32).

It is indicated by Roodenberg *et al.* (2003: 34) that the earliest deposits of basal Menteşe contained less incised sherds than the upper ones. This indicates that in Northwestern Anatolia, similar to Central-West Anatolia, the real Neolithic pottery (pre-6000 cal. BCE) was devoid of decorations.

The Fikirtepe boxes with incisions, another typical feature of the region, have not been found in Central-West Anatolia until now, although footed prismatic vessels have been attested in West Anatolia, including Lake District, and incised fragments of Fikirtepe boxes have been found at Coşkuntepe and Moralı, both to the North of İzmir (Schwarzberg 2005: Fig. 3). At Ulucak, there are several fragments of footed vessels but these are clustered around Level IV and they are undecorated. At basal Menteşe, Fikirtepe boxes were not present in the earliest occupation layers (120-130) indicating in İznik Lake Basin, too, such vessels do not belong to the earliest pottery assemblages but have been produced first in the upcoming stages (Roodenberg *et al.* 2003: 34).



The following horizon, in which typical Fikirtepe features appear are known from a number of sites such as Ilıpınar X, Barcın Höyük, Pendik and Fikirtepe, and is defined as “Classic Fikirtepe” phase. In this phase, mineral dark colored burnished wares continue to be produced in large amounts but there are important additions to the form repertoire. In addition to the already mentioned “Fikirtepe boxes” certain types of decoration (incisions, grooves) are seen first in this stage. The basic forms, oval bowls and small-medium sized jars, are still dominating the assemblage but the ‘s’-shaped profiles are more developed and jars have short necks. Various types of knobs and handles appear and are frequently used in this phase as seen at Ilıpınar IX-VIII. Boxes with cross-hatched triangles are the most typical and ubiquitous element of this phase.

In this phase, at least at Ilıpınar, impressed pottery appears in the ceramic assemblage. Above, we have compared these to Ulucak IV and Tell El-Kerkh impressed sherds. Very similar impressed pieces have also been found at Yarımburgaz 5, together with mineral tempered dark colored and red burnished wares. Presence of analogous impressed sherds at Yarımburgaz 5 and Ilıpınar IX-VIII might be an indication of contemporaneity. The low sample size from Yarımburgaz 5 impedes further examination. However the short-term local production of impressed pottery at Ilıpınar IX-VIII is a very important indication as to the transitional period from Archaic to Classical Fikirtepe phase. But similar impressed wares also occur at Hacılar I, Bademağacı and Höyücek “Mixed Accumulation” (Mellaart 1970; Duru 1996: Lev. 14 and Duru and Umurtak 2005: Pls. 95-96 respectively). Now we know that Central-West Anatolian sites such as Ulucak IV-Va, Ege Gübre 3-4, Dedecik-Heybelitepe, Çukuriçi Höyük VIII and Yeşilova III.1-2, do also have impressed wares. In Central-West Anatolia impressions can be applied either on smoothed surfaces or on RSBW. Thissen (2001: 40-41) notes that at Ilıpınar impressions are applied on burnished surfaces which poses a difference to Central-West Anatolian specimens which are not necessarily executed on burnished surfaces.

Moreover, presence of red slipped wares in Classic Fikirtepe is intriguing in terms of comparing Eastern Marmara with Western Anatolian contemporary cultures. At Pendik and Yarımburgaz 5, they are obviously produced, though in low amounts, never exceeding 10% of the assemblage (Özdoğan 2007: 413). Nevertheless, appearance of impressed sherds and red slipped burnished examples may be pointing to increased interaction of Northwest Anatolian communities with southern cultures, at least for a short time.

According to Schoop (2005a: 222-223), chronological correlations of Classic Fikirtepe phase can be established with Lake District sites by comparing the motifs applied on the vessels, although decoration techniques in both regions differ fundamentally. Certain motifs such as spirals, triangles, band combinations and arrangements can be found in both regions indicating a common way of vessel decoration but by using different techniques. Interestingly, sporadic occurrences of incised sherds with zig-zags or triangles are known, for instance, from Hacılar I (Mellaart 1970: Pl. 109). As mentioned above, Hacılar I also revealed several impressed decorated pots and sherds which are also matched at Ilıpınar IX-VIII. Although no genuine Fikirtepe boxes have been found at the Lake District sites, one rectangular footed vessel from Hacılar IIB and two examples from EC Kuruçay is morphologically well comparable to Fikirtepe examples (see Mellaart 1970: Pl. 70.12).

Özdoğan (2007: 413) suggests that Ilıpınar VIII, together with Yarımburgaz 4, represents the 'Developed Fikirtepe' phase. In contrast to Archaic and Classic Fikirtepe phases, Developed Fikirtepe phase presents no gradual developmental stages from the previous one and its origins remains largely unknown. The jars with excised decoration from Yarımburgaz 4 and Ilıpınar VIII are considered as a good indication for contemporaneity, but jars with tapering long necks from Yarımburgaz 4 are absent at Ilıpınar VIII. Interestingly, comparable jars have been found at Ilıpınar VB which is dated to 5570-5490 cal. BCE (see van As *et al.* 2001: Figure 1.1; Thissen 2008a: Fig. 4.2 and 4.3). On the other side, Schoop gives attention to the similarity of the *Hakendreieck* motif on vessels from Ilıpınar VIII and Yarımburgaz 4 as well as the ones painted on bowls from Hacılar II (Schoop 2005a: Abb. 5.7). As mentioned above, according to him, such similarities in the motif repertoire are signs of contemporaneity and interaction between the North and South Anatolia. In accordance with Özdoğan, he suggests that Yarımburgaz 4 and Ilıpınar VIII are more or less contemporary (Schoop 2005a: Abb. 5.6).

Ceramic sequence of post-Fikirtepe Culture is solely known from Ilıpınar and Aktopraklık. At Ilıpınar, as we have seen, major changes in the ceramics do not occur in phase VIII, but in phases VII-VI, where carinated bowls and square pots appear and impressed wares and Fikirtepe boxes disappear. An abrupt change in the architecture has only been observed at Ilıpınar VI where a line of adjacent mudbrick houses have been excavated.

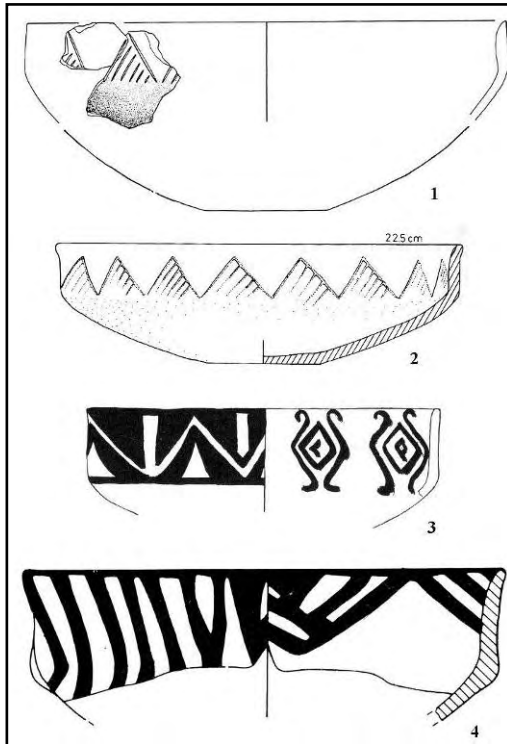


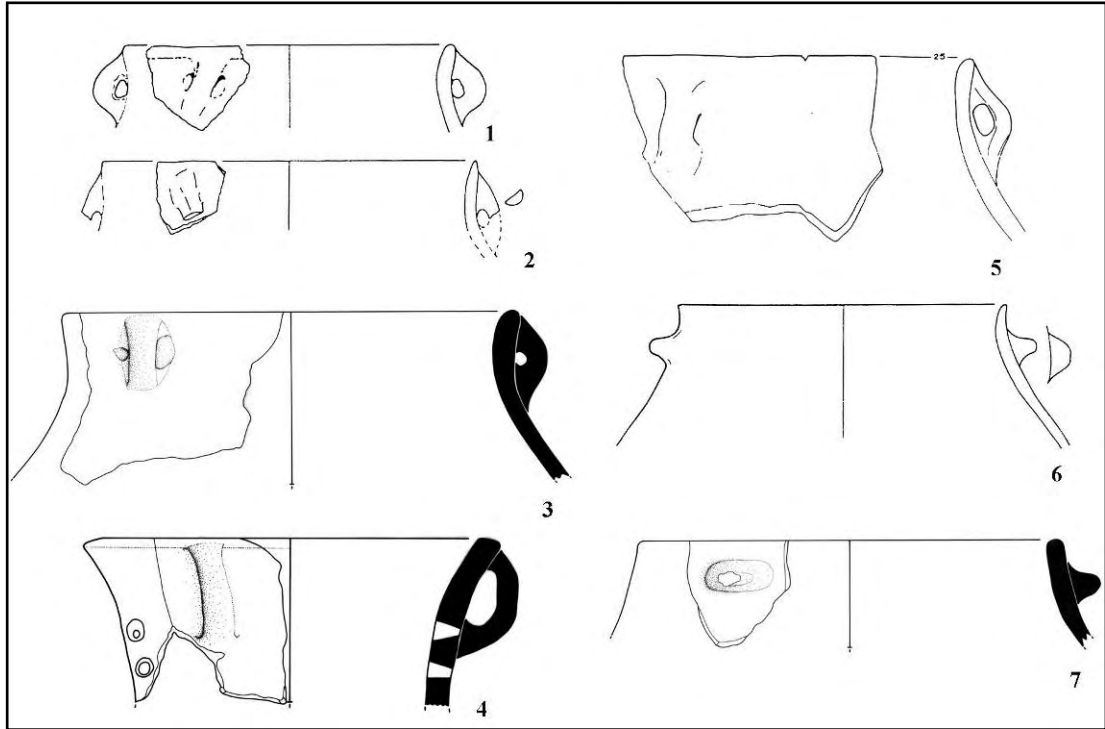
Figure 6.35: Various carinated bowls. 1: Ilıpınar VI (after Thissen 2001: Fig. 64.3); 2: Yarımurgaz unstratified (after Özdoğan *et al.* 1991: Fig. 12.7); 3: Hacılar I (after Mellaart 1970: Pl. 120.9); 4: Kuruçay 7 (after Duru 1994: Lev. 169.4)

As already mentioned, carinated bowls are new additions to the Ilıpınar's ceramic repertoire in VI-VA. Such bowls are not known in the region, except at Yarımurgaz's unstratified deposits (see Özdoğan *et al.* 1990: Figure 12.9). They seem to be missing at Ilıpınar VB, too (Thissen 2008a: 95). As we stated above, this stage remains unexplored in Central-West Anatolian settlements. Comparable vessel shapes are known, however, from Can Hasan 2B, Hacılar 1 and Kuruçay 7 which are all dated to first half of the 6<sup>th</sup> millennium BCE (Fig. 6.35). Ilıpınar VI and VA are dated to 5660-5550 cal BCE which post-dates Hacılar I and Can Hasan 2B (Roodenberg and Schier 2001: 269). It seems like such vessels were produced until mid 6<sup>th</sup> millennium BCE at

Ilıpınar while what follows Hacılar I in the Lake District remains elusive to us.

Carinated bowls at Lake District sites are all red-on-cream painted whereas Ilıpınar carinated bowls are occasionally grooved with linear shapes which are rarely white-filled. In this respect, maybe Can Hasan 2B examples provide better comparisons since they too may carry incisions and grooves which are white-filled.

Interestingly, Hacılar I, Kuruçay 7 and Can Hasan 2B are characterized by their mudbrick houses with inner buttresses, and rectilinear houses with inner buttresses have been detected at two İznik Lake Basin settlements: Ilıpınar VA and Aktopraklık. There seems to be a good possibility that Ilıpınar VI-VA but also Aktopraklık Upper Höyük belong to a similar chronological horizon with Kuruçay 7- Hacılar I and Can Hasan 2B, although as we have seen above Ilıpınar VA post-dates all of these settlements. Can the houses with inner buttresses be a late reflection of the same tradition in Northwest Anatolia? Is there a correlation between the abandonment of Hacılar I and Kuruçay 7 and establishment of settlements in the North with similar architectural techniques? Such questions remain unanswered for the time being, especially because we do not have a



**Figure 6.36: Jars with small vertical handles and jars with horizontal knobs below the rim. 1-2: Ilıpınar VII-VI or VA- context not secure (after Thissen 2001: Fig. 61.1-2); 3: Ulucak IVb; 4: Ulucak IVd; 5: Menteşe stratum 1 (after Roodenberg 1999: Fig. 12.2); 6: Ilıpınar VA (after Thissen 2001: Fig. 68.6) 7: Ulucak IVb**

clue about what happens in the region in between, namely Inner-West Anatolia, at the time when Ulucak IV, Hacılar I and Kuruçay 7 are abandoned.

Another aspect which needs attention is the cooking pots with ledge handles on rim which appear at Ilıpınar in phases VII-VA. Such cooking pots find their best parallels at several Central Anatolian EC sites such as at Çatal West, Musular and Can Hasan 7-4. In Lake District, Kuruçay 11Alt-8 and Höyücek “Mixed Accumulation” contained such vessels (Duru 1994: Lev. 67 and 95; Duru and Umurtak 2005: Pl. 94). Moreover, similar shapes appear at Büyük Güllücek, Kuşsaray and Güvercinkayası which indicate that these cooking pots were continued to be produced in the Middle Chalcolithic, too (Schoop 2005a). Cooking pots with horizontal lugs on rim are not present at Ulucak IVb, however, very similar shapes with lugs right below the rim are attested at Ulucak IVb (Fig. 6.36). In my opinion, these two types are representing the same trend in the pottery production and points out that Ulucak IVb and Ilıpınar VII-VA are chronologically close settlements.

Another common jar type in both regions is the ones with small vertical handles below the rim. At Ilıpınar, these appear first in Phase VII and continue until VA (Thissen 2001)

while Stratum 1 of Menteşe revealed many rim fragments belonging to this jar type (Roodenberg 1999). At Ulucak, similar jars have been detected in late phases of Level IV (IVa-d). Presence of such jars at late Ulucak IV is another indication of similar attitudes towards pottery production and function. According to Thissen (2001: 83-84), sudden occurrence of vertical strap handles on jars is a reflection of a fundamental change about the way in which vessels were handled and transported which can be contrasted to the previous lugged vessels.

Schoop (2005a: 225) argues that monochrome traditions of Southwest Anatolia and Archaic Fikirtepe (Basal Menteşe) are followed by painted pottery in the South and incised pottery in the North, thus encompassing contemporary and parallel developments expressed in different ways. He suggests, on relative and absolute chronological grounds, that Archaic Fikirtepe, i.e. undecorated dark colored pottery, should be contemporary with Hacilar pre-V horizon while the Classic Phase should fall into the time range of Hacilar V-II and Kuruçay 12-7. Developed Fikirtepe phase, represented by Yarımburgaz 4 and Ilıpınar VIII, might be contemporary with Hacilar II-I. As stated above, the subsequent Ilıpınar phases are matched neither at Lake District nor in Central-West Anatolia where a hiatus follows Ulucak IVa, Hacilar I and Kuruçay 7. In Central-West Anatolia, Ulucak is abandoned following almost 1000 years of occupation. Thus, post-5700 cal BCE is an enigmatic time period in both regions. Whatever caused the abandonment of settlements in Lake District and Central-West Anatolia around 5700 cal. BCE seems to have not affected Ilıpınar which is abandoned around 5500 cal. BCE, if we exclude phase VB which is not a permanent settlement. The situation at Yarımburgaz 3-2 is too complicated and problematic in order to provide answers. Excavations at Aktopraklık may provide some insights about the nature of 5500-5000 cal. BCE in the region. Ultimately, in order to understand the situation between the Lake District, Central-West Anatolia and Northwest Anatolia during this period, one has to excavate corresponding deposits in Inner-West Anatolia.

## ***J. Thrace***

Lower and Middle Paleolithic find spots have recently been spotted in Turkish and Greek Thrace (Dinçer and Slimak 2007; Efstratiou 2005: 148) whereas Bulgarian Thrace is almost devoid of such early sites, although Early and Middle Paleolithic occupations have been located and extensively investigated on the southern slopes of Balkan Mountains and Northeast Bulgaria (Ivanova and Sirakova 1995: 11).

Bacho Kiro is one of the major cave occupations occupied from around 50000 BP to the Aurignacian period. Late Paleolithic occupation has also been documented at Temnata Dupka Cave in northwest Bulgaria (Ivanova and Sirakova 1995). The typical Gravettian assemblages, which follow the Aurignacian period, are characterized by retouched blades, flakes, end-scrapers and backed blades while the micro-gravettes produced from single platform cores appear with the middle Gravettian phase (Ivanova and Sirakova 1995: 26). Epi-Gravettian, 14000-10000 BP, is defined with a microlithic industry that produces geometric tools and micro-burins (Kozłowski and Kaczanowska 2004: 6).

There seems to be no correlation between the Mesolithic and EN cultures of the region, clearly indicated by the contrasting lithic industries (microliths vs. macro-blades), interpreted as an indication of the arrival of a fully developed “Neolithic package” (Gatsov 1995: 76; Gatsov 2005: 214).

One of the peculiarities of Thracian Neolithic sites is that they are composed of settlement mounds which pose a contrast to the other regions in Bulgaria where the horizontally expanding “open settlements” are generally found.

The prehistoric sequence of Thrace and Bulgaria in general has been identified by G.I. Georgiev who defined six developmental stages of Neolithic and Chalcolithic periods (Karanovo I-VI) in Bulgaria drawing on his excavations at Karanovo (Lichardus-Itten *et al.* 2002: 15). Karanovo I (6000-5650 cal. BCE) and Karanovo II (5650-5450 cal. BCE) constitute the “EN” period in Thrace, the former associated with red slipped fine pottery with occasional white painting, tulip-shaped vases and triangular “offering tables”. Karanovo II represents the end of red slipped horizon and with it, the transition to dark colored burnished wares which are typically decorated with techniques such as channeling or grooving. Karanovo II/III and III represent “Middle Neolithic” period in Thrace which is characterized by beakers with horn-handles and shallow bowls with inner-thickened decorated rims. Karanovo III/IV and IV periods comprise the LN period in Thrace whose typical ceramic form is large bowl with sharply incurving upper bodies.<sup>67</sup> In general, there is a certain discrepancy between the developmental stages of Karanovo Culture and contemporaneous Anatolian cultures from the very beginning of the Neolithic period onwards.

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<sup>67</sup> For a summary of the entire Karanovo sequence see Krauß *in press*.

Good number of Karanovo I sites have been identified and excavated in Bulgarian Thrace. The most prominent of these are Tell Azmak, Čavdar, Kapitan Dimitriev, Kazanlāk, Yabalkovo and Rakitovo (Nikolov 2004; also see Krauß *in press*: Abb. 9).

The data from Hoca Çeşme and Aşağı Pınar in Turkish Thrace display the wide distribution zone of Karanovo Culture in the Eastern Thrace. Basal Hoca Çeşme is especially important as it exclusively contains monochrome pottery prior to the appearance of white-on-red painted pottery (Özdoğan 2007: 415). Hoca Çeşme is the earliest settlement in Thrace with carbon determinations that are well beyond the 6000 cal. BCE threshold. Evidence of sites without the painted pottery has also been located at Hamaylıtarla-Tekirdağ in southern Turkish Thrace, which has been identified as an EN occupation with intensive polished axe production (for details see Erdoğan 2000 and Özbek 2000).

The existence of a cultural horizon without the presence of white-on-red painted pottery in Bulgaria, a so-called “monochrome phase” prior to Karanovo I is currently being intensively debated. Few sites in the northeast Bulgaria, namely Koprivets, Polyanitsa-Platoto and Pomoshtitsa, have been excavated on a small-scale, which yielded deposits with unpainted pottery. Another site in the Struma Valley, Krainitsi, has also produced unpainted pottery in its lowest deposits. Besides, presence of pre-6000 cal. BCE sites with unpainted pottery is well-attested in Greece and Western Turkey. This led Todorova (Todorova 1995: 81) as well as Chohadzhiev (2007) to propose existence of a pre-Karanovo I horizon in Bulgaria. According to Todorova and Vajsov (1993: 277-278), “monochrome phase” constitutes the earliest “Early Balkan Neolithic” (EBN) stage which is followed by three additional developmental stages (EBN-A to C) until the “Late Balkan Neolithic” (LBN) which is marked by the appearance of “Vinča Culture”.

This study is not in a position to solve this problem, nor will it support one view or the other. Our impression is that presence of white paint assumes an overestimated role in Bulgarian archaeology. The painting-oriented presentation of the ceramics in the publications, despite their extremely low quantities, impedes the true understanding of the EN cultures in Bulgaria. We have to note here that from an Anatolian point of view, Karanovo I culture can hardly be termed a “painted pottery culture” as painted sherds do not make up more than 3-13% of the assemblage (Lichardus-Itten 2002: 118; Macanova 2002). In my opinion, the real “painted pottery cultures” are found in the Lake District where, for instance at Hacilar IV-I, painted pottery makes up 30-65% of the pottery

assemblage (Mellaart 1970). Another striking comparison comes from Tell Sabi Abyad in Balikh Valley where painted pottery increases from 20% to 80% at the end of the 7<sup>th</sup> millennium cal. BCE in few centuries (Nieuwenhuys 2007: 9). In comparison to such figures, it may be even more appropriate to term Karanovo I stage as *the* “monochrome stage” in Bulgaria. It should be noted that Greek and Bulgarian Thrace is devoid of pre-Karanovo I sites. In Greek part of Thrace, the earliest Neolithic settlements are from the LN period around 5300-4900 cal. BCE (Andreou *et al.* 2001: 313; Gallis 1996b: Fig. 3). However, several recent core drillings in the Greek Thrace on mounds suggest presence of an EN horizon.<sup>68</sup>

As already mentioned above, southern Turkish Thrace houses a horizon which contains exclusively RSBW, therefore at least for this area, one can make sure that a Monochrome Phase exists. Besides, currently more than 35 sites from the entire Southeast Europe have been attributed to the so-called Monochrome Phase (see Krauß *in press*: Abb. 6). Secondly, the contrast in the different settlement patterns of “monochrome” and “painted” phases has to be highlighted as the former prefers high plateaus while the latter settle almost exclusively on well-watered alluvial plains or inter-mountain plains (Özdoğan 2007b: 410; Thissen 2000: 193-194). Such a contrast in the settlement patterns, admittedly, is not necessarily a proof of chronological differences but may entail differing lifeways of contemporary communities. Obviously, more problem-oriented research and carbon determinations are needed for conclusive results.

Below we will evaluate the archaeological evidence from several EN sites from Thrace in order to compare and contrast their ceramics with Central-West Anatolia and specifically with Ulucak.

## 1. Hoca Çeşme

Hoca Çeşme is located on the edge of a natural limestone hill overlooking the Aegean Sea and the Maritsa (Meriç-Evros) Delta in district Enez-Edirne, southwestern tip of Eastern Thrace. A freshwater spring is located on the western side of the hill which might have been one of the reasons of occupation while the marshy surrounding landscape and marine resources should have provided secure food resources for the community. Özdoğan stresses the presence of a natural harbor 5 km west of Hoca Çeşme

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<sup>68</sup> The archaeological fieldwork mentioned here is presented by N. Efstratiou at the conference titled “*New Research in the Appearance of the Neolithic between Northwestern Anatolia and the Carpathian Basin*” held at German Archaeological Institute in Istanbul on 9.04.2009.



and the fact that Maritsa Delta towards Ergene was navigable upstream until recent times as the historic record indicates (Özdoğan 1998b: 437).

The site measures ca. 80 x 70 m. It was discovered by S. Başaran in 1984 and has been excavated in four successive seasons by M. Özdoğan of Istanbul University. The publication of the material from the site is restricted to several short articles.

The excavations revealed seven occupational layers which are evaluated in terms of four phases defined through ceramics and absolute dates. The latest occupation has been damaged considerably by agricultural and construction activities which contained, apart from prehistoric pottery, Roman and Medieval sherds (Özdoğan 1998b: 436).

The correlation of the layers with Hoca Çeşme phases is as follows:

Layer 1	Phase I
-----HIATUS (?)-----	
Layers 2-4	Phase II
Layers 5-6	Phase III
Layer 7	Phase IV

Fourteen carbon determinations are available from Hoca Çeşme Phases IV-II. Three carbon dates obtained from Phase IV, Bln-4609 (7637±43), Grn-19779 (7360±35) and GrN-19355 (7200±180), are important as they date the earliest Neolithic deposits known from the entire Thrace (Özdoğan 1998b: 440). Combination of these three dates (OxCal 3.10) gives a range of 6400-6250 cal. BCE. However combination of samples from Phase III provides a distribution from 5950 to 5700 cal. BCE. Despite the fact that carbon dates are indicating a possible gap of 200 years, no hiatus whatsoever has been recognized on the mound. Thissen (2005: 38) must have realized the same problem when he interpreted the absolute chronology of the region and dated the basal Hoca Çeşme to 6000 cal. BCE (see also the ceramics discussion). Phase II can be dated to 5700 cal. BCE in the light of five carbon dates. GrN-19356 (6520±110) from Phase II is however interpreted as an intrusion from Level I and it covers a range from 5610-5360 cal. BCE (Thissen 2002: 334, Reingruber and Thissen 2005: 322).

Layer 7 at Hoca Çeşme is comprised of circular semi-subterranean post buildings with ca. 5 m diameter carved into the bedrock, and were evidently built 2 m in distance from each other (Karul and Bertram 2005: 118). One structure with a yellow painted floor has been excavated in this layer (Özdoğan 2007b: 415). Few storage pits carved deep into the bedrock were also recovered.

Hoca Çeşme IV settlement is surrounded by a massive enclosure wall, 1.20 m thick and was preserved up to 1 m height, whose purpose is interpreted as defensive by Özdoğan who stresses the concentration of sling missiles around the wall (Özdoğan 1998b: 440). The enclosure wall is used until the end of Phase II and is thought to have included a palisade (Özdoğan 2007b: 415).

Layers 6-5, Phase III, is likewise characterized by round wattle-and-daub structures, similar to the previous level, although they are not carved into the bedrock anymore. One interesting architectural feature observed in Phase III is one large oval building (Building 3) whose floor has been paved with pebbles and then plastered and painted, once with yellow and in a renewal phase, in red (Karul and Bertram 2005: 118).<sup>69</sup>

Özdoğan notes that despite their similarity in plan and building material, there is no correlation between Fikirtepe and Hoca Çeşme IV-III architectural techniques, the latter being substantial and a reflection of a developed architectural tradition (Özdoğan 1999a: 217). In a recent article, Özdoğan directs attention to the similarity of Hoca Çeşme circular architecture with the buildings found in Cypriot pre-pottery Neolithic, thereby questioning the possible origins of Hoca Çeşme architectural style, and ultimately the community, in Cyprus (Özdoğan 2007b: 416).

Indeed, Cyprus is one of the few known localities in the Eastern Mediterranean where circular-radial buildings were erected long after rectangular plans were laid out on the mainland. Moreover, settlements such as Tenta and Khirokitia had massive enclosure walls which date to 7500-5500 cal. BCE. According to Peltenburg, colonization of Cyprus might have taken place during PPNA when mainland communities still erected circular structures, which are maintained through millennia on the island as a result of decreasing contacts with the mainland and an expression of insular ideology and perhaps, resistance to change – as evidenced from absence of pottery until 5500 cal. BCE (Peltenburg 2004). Co-existence of circular architecture and enclosure wall is evidenced at two sites in West Anatolia: Hoca Çeşme and Ege Gübre. Özdoğan's hint at Cyprus, therefore, does seem to be very much in place for origins, although Ege Gübre and Hoca Çeşme inhabitants produced and used pottery extensively and erected, along circular ones, rectangular buildings. Co-existence of adjacent circular and rectangular

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<sup>69</sup> It should be noted here that Hoca Çeşme publications are contradicting as to which phase contained large building with painted floors. According to Özdoğan (1993) Phase II, according to Özdoğan (1998b) and Karul and Bertram (2005) Phase III, according to Özdoğan (2007b) Phases IV and III included large buildings with painted floors. We have considered here Karul's dissertation on Hoca Çeşme architecture as the accurate source of information.

structures reminds us the typical architecture observed at Halaf sites such as Sabi Abyad, Yarımtepe or Fıstıklı Höyük (Verhoeven and Kranendonk 1996: Fig. 2.7; Munchaev 1997: Fig. 3; Bernbeck and Pollock 2001: Fig. 2).

Phase II, with three sub-layers, is characterized by the introduction of the wattle-and-daub rectangular buildings with plastered walls. Various architectural elements like domed ovens, platforms and storage bins have been associated with these buildings. Phase II ends with a fire.

Phase I is heavily destroyed, hence leaving no identifiable architectural features. Three sub-layers are identified belonging to Phase I through ceramic data which include typical features of Karanovo III, Karanovo III/IV and proto-Maritsa horizons (Özdoğan 1993: 183; Özdoğan 1998b: 449).

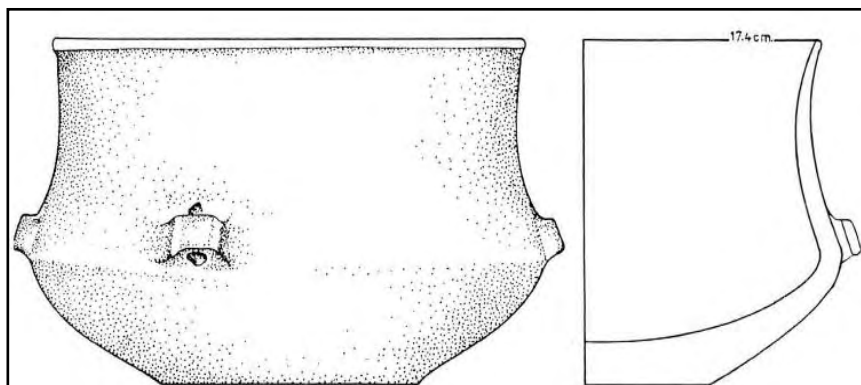
Typical finds from Hoca Çeşme IV-II is named as clay stamps, bone hooks, “M” shaped amulettes, bone spatulas and sling missiles. Despite the presence of micro-blades, the lithic industry is predominated by unspecialized blade and flake production and macro-blades of Karanovo type produced on locally available quartz and quartzite (Özdoğan 2007b: 415; Gatsov 2009: 25). Gatsov (2005: 216) points out that Karanovo type lithic industry is encountered in Hoca Çeşme II while the lithic production in general is similar to neither Thracian nor Northwest Anatolian industries from EN. Some peculiarities of the lithic production at Hoca Çeşme IV, such as lack of retouched tools, low number of blades and the use of direct percussion technique differed from all the known industries in the region from Ağaçlı to Karanovo and Ilıpınar-Menteşe group. Such observations, considered together with the unusual settlement layout and architecture, seemingly support the out-of-Anatolia origin of the first inhabitants at Hoca Çeşme.

The subsistence is dependent mainly on ovicaprines; additionally cattle are also present and marine mollusks were extensively consumed (Buitenhuis 1995: 152-154).

## **1.1. Ceramics**

The pottery from Hoca Çeşme IV-III is evaluated together as they are homogeneous in fabric, although certain changes are observed in the morphology through time. Hoca Çeşme IV-III produced wares that are mineral tempered (sand and mica), red or buff paste colored, red-reddish brown slipped, well-burnished with bright surfaces. Red slipped and burnished group is accompanied by black burnished wares which however appear in lower percentages. The entire assemblage is composed of fine wares which

have 0.3 cm wall thicknesses in average. Mottling is frequently observed on pottery from Phases IV-III while Coarse Wares are extremely rare in both phases, although slightly increasing in phase III (Karul and Bertram 2005: 120-121; Özdoğan 1998b: 440).



**Figure 6.37: A typical bowl with sharp “S” profile from Hoca Çeşme IV-III (after Özdoğan 2007b: Fig. 21)**

The dominating vessel shapes are deep bowls with pronounced ‘s’-shaped profiles, carinated bowls, small-medium sized hole-mouth and short necked jars (Fig. 6.37). The ‘s’-shaped profiles and carinated bowls are frequently accompanied with vertically or diagonally placed tubular lugs, single knobs and pierced crescentic lugs which are placed on the carination. Rims are beaded, everted or simple while flat, disc or ringed bases are observed. Few fragments of zoomorphic vessels have also been found in these deposits while *bucrania* shaped plastic applications are also seen in the assemblage (Karul and Bertram 2005: Figs. 1-4; Özdoğan 1993: Fig. 4). It is noted that the carinated forms and necked jars increase in Phase III. In terms of decoration, few incised and plastic decoration are recovered from Phase IV and Phase III has more incised and stamped decoration while few painted sherds (red-on-buff, black-on-red and red-on-black) and negative painting have been found in Hoca Çeşme III deposits (Özdoğan 1998b: 440; Özdoğan 2007b: 416).

Phase II, Levels 4-3, pottery assemblage displays significant new elements along with the red and black burnished fine pottery encountered in the previous phases. First of all, there is a tendency towards production of coarser and mat surfaced with red, reddish brown, grey and buff colored, and black burnished pottery virtually dominates the assemblage. It is also observed that intentional mottling is practiced. Secondly, for the first time various painted ceramics are documented. These include red-on-cream, red-on-black, white-on-black and white-on-red variants. The painted decorations are confined to linear and geometric abstract motifs. Impressed and incised sherds are also considered

typical of this phase (Özdoğan 1998b: 448; Özdoğan 1993: 184). Especially in Level 3 painted decoration is almost absent but “*impresso*” decoration is encountered (Karul and Bertram 2005: 125). Unfortunately, none of the so-called impressed sherds has been illustrated in the publications.

In terms of vessel morphology, rectangular and triangular footed vessels (“boxes”) and jars with funnel necks appear first in this phase (Karul 1994: 30-31). The bowls with ‘s’-shaped profiles decrease sharply while large carinated bowls, plates with inner thickened rims and convex profiled bowls are frequently found. Tulip shaped elongated vessels and strap handles also appear in this phase (Özdoğan 2007b: 416).

As mentioned above, ceramics from Hoca Çeşme I, stemming from disturbed contexts contained material from multiple periods ranging from Karanovo III-IV to proto-Maritsa Culture corresponding to LN period in Southeast Europe. Surface roughened wares, black burnished fluted wares, horn-handles and polypod vessels with incised and white incrustation are among the major dateable surface material from the site. Özdoğan finds parallel ceramic assemblages at Aşağı Pınar II-V and Toptepe (Özdoğan 1993: 183-185; Özdoğan 2007b: 417).

## 1.2. Comparisons with Central-West Anatolia

Karul and Bertram (2005: 127) suggest that Hoca Çeşme IV-III is contemporary with Late Classical Fikirtepe (Pendik cemetery) and Yarımburgaz 5 as bowls with ‘s’-shaped profiles and red slipped sherds were recovered at these sites. According to their argumentation presence of a lunar shaped clay stamp from Pendik cemetery and Hoca Çeşme should support this view. They also assert that Hoca Çeşme IV-III is earlier than Hacılar IX and contemporary with Kuruçay 11-13.<sup>70</sup>

Özdoğan (2007b: 416) points out that Hoca Çeşme II material culture encompass all the characteristics of a Karanovo I settlement whereas occupation layers preceding Phase II display clear “Anatolian” elements, although architecture finds parallels not in Anatolia but in Cyprus. The unusual nature of early deposits and its well-developed pottery as well as some problems due to the carbon dates make it difficult to relative date basal Hoca Çeşme.

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<sup>70</sup> According to our relative dating of Kuruçay this correlation is already problematic as Kuruçay 13-11 post-date Hacılar IX (see section *D. Lake District*). Also see the discussion below.

At first sight, there are enormous similarities between the Ulucak IV-V and Hoca Çeşme Phase IV-III assemblages both in terms of fabrics and vessel shapes. Predominance of fine red slipped burnished wares at both sites is one of the important common traits, although “other wares” are not matched at all. The real RSBW dominated assemblage at Ulucak is the late Level IV where 83% is composed of red slipped wares while the rest is composed of cream slipped and burnished ware, gray and coarse wares. At Ulucak V, RSBW is increasingly accompanied by CSBW and brown burnished wares. Cream slipped wares and brown burnished wares are not known at Hoca Çeşme. In turn, fine black burnished wares are absent at Ulucak. One can assume that the absence of cream slipped and brown burnished at Hoca Çeşme might be a result of regional traditions. Therefore, we will have to restrict ourselves to indicate that Ulucak IV and Hoca Çeşme IV pottery production is highly analogous only with respect to the RSBW production.

One major difference between Ulucak and Hoca Çeşme red slipped wares is the presence of organic temper at Ulucak IV whereas at Hoca Çeşme chaff is not used as tempering material in any of the layers. It is known that there is regional variability as to the use of mineral vs. organic temper in pottery. In Central-West Anatolia, chaff is recorded at Ulucak IV and Yeşilova Late while mineral temper is ubiquitously found at each site in the region. The difference in the tempering material at both sites seems to be related to local pottery production tradition than to chronological implications.

In terms of the vessel morphology bowls with ‘s’-shaped profiles with single knobs on the belly is a feature of Ulucak IVb assemblage and matches well with the Hoca Çeşme IV-III phases. Tubular lugs are also common to both sites, although the long-thin variant, typical of Ulucak V, is not found at basal Hoca Çeşme. Bead-rim, a frequent feature at basal Hoca Çeşme, is rarely found at Ulucak IVb, but definitely not absent. Certainly, bead-rims were more popular in Northern Aegean as evidenced not only from Hoca Çeşme but also at Uğurlu on Gökçeada and Hamaylıtarla in Tekirdağ. One important difference between the ceramic assemblages is the complete absence of crescentic lugs at Ulucak. The knobs or lugs on carination, as observed on Hoca Çeşme IV-III pottery, reminds us the Hacılar I and Kuruçay 7 bowls, but the latter are apparently younger than Hoca Çeşme IV-III specimens. Jars without necks and jars with short necks are found both at Ulucak and Hoca Çeşme in the entire sequence, thus not of help for relative dating but imply similar trends in pottery production.

In terms of relative dating, the development of necked jars can be used as a telling characteristic. It seems like jars with larger sizes and long necks appear only with phase III at Hoca Çeşme while they become more numerous in Phase II. At Ulucak, they likewise appear late in the sequence, virtually not appearing before IVg. Development of jar necks might be indicative of chronological correlation as they do not appear in the early deposits at both sites. In other words, Hoca Çeşme IV, without the long necked jars, might correlate better with Early Level IV at Ulucak whereas jars with funnel necks of Hoca Çeşme III-II may correlate better with late Ulucak IV (IVb specifically).

There is one major vessel form which might speak against this correlation: carinated bowls. At Hoca Çeşme, they are increasingly encountered in layers belonging to Phase III. If we are to suggest that Ulucak IVb might be contemporary with Hoca Çeşme III due to the presence of jars with long necks, we should be able to find carinated bowls at Ulucak to support our view. As we discussed before, carinated bowls do not appear at Ulucak IV, although a tendency towards carination can be recognized on oval bowls with 's'-shaped profiles. Interestingly, majority of the EC sites in Anatolia such as Hacilar, Kuruçay, Çatal West and Ilıpınar, contain such forms and carination is one of the best defined characteristics of EC pottery assemblages in Turkey. Their total absence at Ulucak IVb, dated to ca. 5800-5700 cal. BCE, is simply puzzling. Beyond that, it remains unclear whether Ulucak IV has been abandoned prior to the development of carinated forms or such bowls were not produced in the region at all, as all the currently known LN-EC Central-West Anatolian sites were abandoned in the beginning of EC which prevents the construction of the ceramic sequence during the EC beyond 5700 cal. BCE. This discussion brings us to the point where we cannot conclude Ulucak IVb is earlier than Hoca Çeşme Phase III, due to the contradicting situation related to long necked jars on the one hand and carinated bowls on the other. We may however hint that Hoca Çeşme II type carinated bowls are well-documented at Ilıpınar VI-VA, which is securely dated to 5627-5584 cal. BCE, thus post-dating the final occupation at Ulucak IV.

What is puzzling about the Hoca Çeşme assemblage is the absence of pots with ledge handles on the rims ("cooking pots") which show a widespread distribution in Central and Northwest Anatolia including Ilıpınar. At Ulucak, similar forms are also found, although the lugs are not placed right on the rim but just below it. Absence of pots with

ledge handles at Hoca Çeşme is intriguing but might also be result of local variation or unrepresentative publication.

Although detailed information on impressed wares are not provided in the reports, they are primarily associated with Hoca Çeşme II. It is understood that, in contrast to Ulucak IV, Çukuriçi and Ege Gübre, impressed wares never become a significant element in the Hoca Çeşme sequence. Despite Hoca Çeşme's littoral situation, the site seems to have remained out of the distribution zone of impressed wares. This is especially surprising when one considers the presence of impressed wares at Ilıpınar IX-VIII and Yarımburgaz 5. A direct comparison of Hoca Çeşme and Ulucak impressed wares are not possible as these are not included in the publications of Hoca Çeşme.

The "boxes" from Hoca Çeşme, rectangular or triangular with incised and excised decorations, which appear with Phase II and continue into phase I find no parallels in Central-West Anatolia, nor the decoration techniques applied on them. At Ilıpınar, "Fikirtepe-type" boxes disappear with Level VII-VI, however, excisions and white-filled incisions as decoration type are especially associated with Ilıpınar VII-VA and Yarımburgaz 4. In Southeast Europe triangular and rectangular footed vessels are produced until circa 5000 cal. BCE (Schwarzberg 2005).

Finally, the issue of painted wares needs to be raised here. As it is known, LN-EC ceramics of Central-West Anatolia include very few painted sherds. For instance, at Ulucak, 16 painted sherds of cream-on-red or red-on-cream type have been found between levels IVa-Vb. It is indicated that at Hoca Çeşme "few" painted sherds which show a high variety have been recovered. Hoca Çeşme painted wares are rightly associated with Karanovo I-II and Starčevo painted pottery groups as it includes both white-on-red and red-on-black examples. What is however worth repeating the low quantity of painted wares in all phases, and their final disappearance in Level 3 of Phase II which is an implication of predominance of monochrome wares, whether red or black burnished, during the entire sequence. Disappearance of painted wares in Level 3 and increase in black burnished wares might well correspond to the disappearance of white-on-red painted pottery with Karanovo II around 5700-5500 cal. BCE.

To summarize, there are important common elements between Ulucak IV and Hoca Çeşme IV-III: dominance of RSBW, 's'-shaped profiles, major jar forms, tubular lugs and plastic decoration. On the other hand, carinated bowls, crescentic lugs, incised and



white-filled decoration, grooving, most paint combinations observed at basal Hoca Çeşme are not matched in Central-West Anatolia because they are not among the local ceramic traits. Our discussion also revealed that Hoca Çeşme Level 4 (Phase II) encompasses multiple features of Karanovo I assemblages while Layer 3 (Phase II) represents the transitional period from Karanovo I to II, which post-dates the final occupation at Ulucak IV. In the light of Hoca Çeşme II's dating to Karanovo I-II transition, it is possible to suggest that Hoca Çeşme III, with the carinated bowls and developed jars, belongs to the beginning of sixth millennium BCE whereas Hoca Çeşme IV, with fine red slipped bowls with 's'-shaped profiles and tubular lugs and jars with short necks, cannot be earlier than 6200-6000 cal. BCE.

In contrast to our first impression, it proved to be difficult to pinpoint strong resemblances between Ulucak and Hoca Çeşme. Our correlation of Hoca Çeşme and Ulucak which rely on the detailed comparison of pottery fabrics and shapes contradict with the carbon determinations, which imply that Hoca Çeşme IV should be contemporary with Ulucak Vb-f. However certain wares and forms associated with pre-6100 cal. BCE deposits from Ulucak and Menteşe Höyük lack at basal Hoca Çeşme. Both the fabrics (fine RSBW and jet-black burnished wares) and vessel shapes (tendency to carination, crescentic lugs, developed jar forms and bead-rims) necessitate dating of this assemblage to the end of LN-beginning of EC period around 6200-6000 cal. BCE. In other words, the ceramic assemblage, both fabrics and forms, are too developed to belong to an earlier horizon. At this point, we may point out that basal Hoca Çeşme has been dated to 6000 cal. BCE by Thissen (2005: 38) who suggests that Phases III and II should cover a period from 5900 to 5800 cal. BCE. Although an explanation of his interpretation of the Hoca Çeşme carbon dates is lacking in his article, our ceramic comparisons come to a similar conclusion with Thissen's.

Our conclusions also challenge Karul and Bertram's (2005: 127) suggestion that Hoca Çeşme IV should date earlier than Hacılar IX. My suggestion is that basal Hoca Çeşme might rather be contemporary with Hacılar VI-V as the dominance of fine RSBW, transition to painted wares, carination on bowls and production of developed jar forms do not appear prior to Hacılar VI which is appropriately dated to 6000 cal. BCE.

When we inspect the other material cultural elements at Hoca Çeşme as a source of additional help in relative dating, it is difficult to detect time-specific find groups. Bone spoons, bone polishers, clay stamps and "M" shaped amulettes are originating from

Phases IV-II and are found in Anatolia from LN to EC, and in the entire EN of Southeast Europe. Architecture is likewise not helpful, as it is remarkably different from all the other architectural remains from West and Northwest Anatolia. The only circular house plans and enclosure wall known in West Anatolia come from Ege Gbre, but at this site circular buildings co-exist with the rectilinear architecture and it is not clear whether circular structures were used as dwellings. Correlation of the architectural building techniques seems to be possible only for Hoca eşme Phase II which is parallel to Karanovo I buildings from Thrace. As zdoęan (2007: 416) emphasizes, Hoca eşme becomes a genuine “Balkan” settlement with Phase II. The origins of pre-Hoca eşme II may lie somewhere in the Aegean or even in the Eastern Mediterranean, perhaps in Cyprus. The circular massive structures, enclosure wall as well as the evidence of painted floors at the site imply Levantine-Cypriot origins for the community who founded the settlement.

## 2. Aşadı Pınar

Aşadı Pınar is a prehistoric mound located on the southern slopes of Istranca Mountains in the upper Ergene Basin in province Kırklareli. The location of the mound provides natural access to Maritsa-Tunca Basins as well as to Eastern Marmara Region. The prehistoric occupational levels on the mound are investigated since 1993 by a joint Turkish-German team. So far on the mound nine occupational layers covering periods Early, Middle and Late Neolithic (in Southeast European terms) are exposed. Results of the excavations until 1998 that concentrated on the archaeological material from Levels 1-5 were published in two monographs (Karul *et al.* 2003; Parzinger and Schwarzberg 2005). The analysis and excavations concerning Layers 7-8, the EN deposits, continue to date and are only preliminarily published.

Currently the periodization of the mound deposits is as follows:

1-5: Middle-Late Neolithic	Karanovo III-IV
5-6: EN-MN transition	Karanovo II/III
6-7: EN	Karanovo I-II
8: EN	pre-Karanovo I (?)

For our purposes, archaeological data from Levels 8-6 are treated here. Levels 2-5, which reflect a gradual cultural development, are beyond the chronological concerns of this study.

Deposits of Level 8 have been located at the site through deep sondages which revealed scatters of structural stones (Özdoğan, E. and Schwarzberg 2008: 20-21).

Level 7 at Aşağı Pınar contains a 1 m deep ditch and plastered floors. Unfortunately, the positive architectural features are lacking as deposits of Level 6 destroyed the remains from this previous level.<sup>71</sup> It is not yet clear whether the ditch was completely surrounding the settlement and what purpose it served (Özdoğan 2007b: 418).

Level 6 at Aşağı Pınar is characterized by adjacent rectilinear wattle-and-daub structures that form a radial plan, highly resembling to Ilıpınar VI settlement layout. The houses were probably paved with wooden beams which are covered with mats, the evidence of which was extensively found in the burnt deposits belonging to this occupation (Özdoğan 2007b: 418). It was observed that the houses contained domed ovens, fire installations as well as various storage facilities and evidence for extensive cereal storage (Özdoğan, E. 2007). A cluster of eleven 'altars' were recovered in one of the houses and one of the rooms in the excavated area contained column-like features made out of daub (Özdoğan 2007b: 419; Figs. 34-35).

Layer 6 ends with a fierce fire, which is interpreted as a non-accidental event by Özdoğan, who suggests that intentional burning and burying of houses, already evidenced in Southeast Anatolia and Southeast Europe, might have been practiced at Aşağı Pınar (Özdoğan 2007b: 419).

Parzinger points out that Level 6 poses differences in terms of the ceramic fabric and forms to the subsequent layers which might even be a result of a short hiatus (Parzinger and Schwarzberg 2005: 41). Discovery of transitional phases, Layer 5-6, in the recent years undermined the possibility of a hiatus on the mound and confirmed the presence of the cultural stage termed Karanovo II/III at Aşağı Pınar (Özdoğan 2007b: 417).

Well-made bone spatula and bone polishers are typical elements of Aşağı Pınar material culture. Archaeobotanical analysis confirms the fully-fledged farming community character of Aşağı Pınar 6 inhabitants who cultivated wheat, barley and pulses (Özdoğan 2007b).

Nine carbon determinations are available from Layer 6 and one additional cereal sample has been taken from Layer 6/7 (BIn-4997) (Özdoğan 2007b: 420-421; also see Görtsdorf

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<sup>71</sup> This information is kindly provided by Eylem Özdoğan (27.03.09).

in Parzinger and Schwarzberg 2005) which provides 5730-5620 cal. BCE (95.4% probability). The sum of nine carbon dates from Layer 6 provides 5840-5510 cal. BCE (95.4%) and 5710-5560 (68.2%). These measurements indicate that Layer 6 might well be dated to 5800-5600 cal. BCE in rough terms. Yet earlier levels on the mound need to be dated properly but it is suggested that Level 8 may contain material which dates back to 6400/6300 cal. BCE (Özdoğan, E. and Schwarzberg 2008: 20-21).

## 2.1. Ceramics

The description of pottery from Layers 6-7 in this section draws predominantly on the information provided by Parzinger (in Parzinger and Schwarzberg 2005) and Özdoğan (2005; 2007b).

Ceramics from Layer 6 includes a variety of features which are associated with Karanovo II sequence. Surface roughened and dark colored burnished wares dominate the fabrics while RSBW is represented in lower quantities. Decorated wares are rare. Restricted amounts of white-on-red painted sherds showing mainly linear motifs were also recovered in these deposits. Channeled and white-filled incised decoration has been observed on low number of sherds which are, however, easily differentiated from the same kind of decorated pottery from the upper layers 1-5. In terms of vessel shapes, tulip shaped vases with pedestal bases, jars with short necks, jars without necks and bowls with flaring convex profiles are worth mentioning. Mat impressions on the outer surfaces of bases are also common (Özdoğan 2005: Figs. 3-5; Parzinger and Schwarzberg 2005: Taf. 116-117).

Extensive information on the pottery from Levels 7 and 8 is not published yet. Level 7 pottery includes more RSBW as well as white-on-red vessels, posing a contrast to the following layer and reflects typical Karanovo I features. Pottery found in debris defined as Level 8 proves to be dominated by dark colored and burnished fine-medium wares with 's'-shaped profiles and everted rims (Özdoğan, E. and Schwarzberg 2008: 21).

Özdoğan (2007b) correlates Aşağı Pınar 6 with Karanovo II and Aşağı Pınar 7 with Karanovo I assemblages as defined in Bulgarian Thrace. Parallel to Özdoğan, Parzinger suggests that Aşağı Pınar 6 is contemporary with Yarımburgaz 2 and Ilıpınar VI-VA (Parzinger and Schwarzberg 2005: Abb. 17). Both fabrics, especially fine red slipped wares and white-on-red paint, as well as the vessel shapes, especially the tulip-shaped vases, the *Leitform* of Karanovo I-II phases, are encountered in the assemblage. These do

not only provide reliable chronological links with Bulgarian EN sites but also manifest the involvement of Eastern Thrace in the distribution zone of Karanovo Culture. Özdoğan (2007b: 421) stresses that Aşağı Pınar was not a peripheral Karanovo settlement but played a role in the emergence and development of Thracian EN cultures. The data and carbon dates which will be obtained from Level 8 in the coming years are extremely important with regards to the questions on the mechanisms and timing of the neolithization of Thrace.

## **2.2. Comparisons with Ulucak Ceramics**

Comparison of Ulucak ceramic assemblage with Aşağı Pınar 8-6 can only be made in the light of restricted published data from the latter site. According to the carbon dates, Aşağı Pınar 6 can well be correlated with terminal Ulucak occupations IVb-a. Aşağı Pınar 7 may roughly correspond to Ulucak IV while Aşağı Pınar 8 with dark burnished wares may indeed be analogous to Ulucak Vb-f ceramics with ever increasing brown burnished wares. It has to be noted that the existence of a pre-red slipped ware stratum in Thrace was not anticipated by the researchers. New data on Aşağı Pınar 8 has the potential to force archaeologists to re-consider the theories on neolithization process in Thrace which seem to have begun much earlier than it was assumed. Secondly, the presence of dark burnished wares in Level 8 may also provide clues on the origins of early farming groups who decided to occupy Thracian Plain. It is known that dark burnished wares are typical for Çatalhöyük VIII-IV and basal Menteşe, sites which date around 6600-6400 cal. BCE. Especially, dark burnished wares with 's'-shaped profiles are well-known from basal Menteşe. It seems now possible that groups with Central Anatolian origins may have dispersed towards Northwest as far as Eastern Thrace already around mid 7<sup>th</sup> millennium cal. BCE. Testing of this suggestion must await the new results from the site.

Apart from the very general similarities observed on bowls and jars, the most striking similarity between the both sites is related to the fine quality and high quantity of RSBW, especially observed in Layer 7 at Aşağı Pınar. There is no need to point out that typical Karanovo elements like tulip-shaped vases, pedestal bases and white-on-red paint are not represented at Ulucak. Similarly, black burnished wares (with or without grooves and incisions) are also completely absent at Ulucak.

### 3. Karanovo

Karanovo is a 12.4 m high prehistoric mound (250 x 180 m) located on the southern bank of Azmak, a tributary of Maritsa, close to modern settlement Nova Zagora on Thracian Plain, close to the foothills of Sredna Gora mountain range. The geographical location enabled the inhabitants of Karanovo to exploit resources from open grasslands and woodland. The mound is one of the largest in the entire Thrace and has been initially excavated between 1947-1957 by V. Mikov and G.I. Georgiev. The southern section of the site (“*Südsektor*”) has been subject to large-scale excavations in years 1984-1992 by a joint Austrian-Bulgarian team which was supervised by S. Hiller and V. Nikolov. The recent excavations brought minor re-arrangements to Georgiev’s periodization, although to a large extent, Karanovo sequence remained intact and valid. According to current periodization, Karanovo I and Karanovo II encompass EN period whereas new defined Karanovo II/III phase represents “Middle Neolithic”. Nikolov and Hiller published the results in two volumes in 1997 which will be used as primary source of information.

The excavation of the Neolithic remains distinguished 13 super-imposed layers at the site, of which the lowermost three, ca. 0.75-1 m thick, belong to the Karanovo I period (Nikolov 1997: 50). In total, eight buildings have been identified in the three building layers which show common general traits. The buildings have quasi-square shape which was reconstructed by following the post-holes. The structures, mostly one roomed, were built of wattle-and-daub walls which are 20-25 cm thick without stone foundations. Houses contain remains of domed ovens, loam storage facilities, storage jars, grinding instruments and platforms. An open-area paved with small pebbles which contained various midden areas has also been identified (Hiller 1997: 65-66).

The lithic industry is dominated by retouched blades, flakes, sickle elements and end-scrapers made out of high quality flint. Very few cores from Karanovo I deposits have been analyzed which can be classified as blade cores. It is noted that production of “macro-blades” was of primary concern to Karanovo I-II community (Gürova 2004: 246). Biconical sling bullets, bone spatula, bone polishers, awls, needles, polished axes, clay stamps, “offering tables” and few figurines constitute the EN material culture from the site (Hiller and Nikolov 1997).

The subsistence is based on ovicaprines and to a lesser extent cattle and pig. Hunting played a secondary role in the subsistence economy which is dominated by fallow deer (*Dama dama*), red deer (*Cervus elaphus*), wild pig (*Sus scrofa*) and various mammals.

Exploitation of secondary animal products is held plausible (Bökönyi and Bartosiewicz 1997: 401). Cultivated plants were einkorn wheat (*Triticum monococcum*), emmer wheat (*Triticum dicoccum*), durum wheat (*Triticum durum*), bread wheat (*Triticum aestivum*), barley (*Hordeum*) and pulses like lentil (*Lens culinaris*) and peas (*Pisum sativum*) (Thanheiser 1997).

Nine carbon determinations are available from Level I which covers roughly 6000-5750 cal. BCE whereas Karanovo II dates to 5750-5500 cal. BCE (Görsdorf 1997: Tab.19.1).

### 3.1. Ceramics

As the carbon dates indicate, the earliest occupation at Karanovo dates to round 6000 cal. BCE which might be contemporary with Ulucak Early IV. Karanovo I period on the mound is probably contemporary with Ulucak IV. Karanovo II typical characteristics are not represented at Ulucak IV, although short-term overlapping cannot be ruled out. This section draws on the ceramics report written by V. Nikolov who analyzed around 4000 samples (Nikolov 1997: 105-146).

Nikolov emphasizes the gradual technological development throughout the Karanovo I-IV phases. The general developmental tendency can be observed in two aspects: non-plastic inclusions and surface colors. From Karanovo I to IV, size of the non-plastic inclusions increase, organic non-plastic inclusions are encountered and increase in darker surface colors are clearly observed (Nikolov 1997: 111).

Nikolov distinguished nine fabric groups encompassing Karanovo I-IV periods. Of these, four are observed during Karanovo I period. These are red slipped ware (*rot-engobierte Keramik*), Grey Ware (*graue Keramik*), Brown Ware (*braune Keramik*) and Coarse Ware (*grobe Keramik*). Unfortunately, quantitative analysis and information is lacking in the report.

Red slipped wares are peculiar to Karanovo I and are not observed in the overlying deposits. As the name implies, red slipped ware is characterized by its surface treatment which can show red, dark red, orange, reddish brown slip over the both surfaces which is smoothed and burnished. The paste, which normally shows three-layers and inoxidized center, is tempered with small size quartz particles, although rarely organic inclusions are also documented. White painting, on the outer or inner surfaces, is rarely documented. Previous excavations also identified dark colored painted sherds (Nikolov 1997: 142).

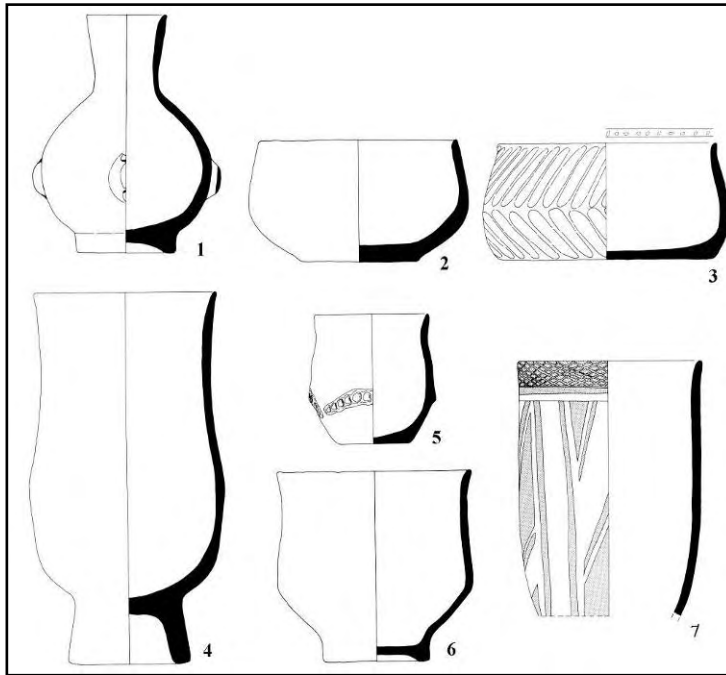


Figure 6.38: Various vessel shapes from Karanovo I (modified after Hiller and Nikolov 1997: Taf. 65-66)

Grey Ware is documented in Karanovo I and in increasing quantities in Karanovo II. It is mineral-organic tempered, lightly burnished and dark colored (dark grey, black, brown). The biscuit mostly shows grey-black colored single layer. Organic inclusions leave tiny pores on the surface. Decoration is very seldom. Channeled, excised and white-filled incised decoration types

have been observed on few specimens.

Brown colored ware is likewise found exclusively in Karanovo I-II layers. Paste includes organic non-plastic inclusions whose size increases in Karanovo II from 1 to 1.5-2 mm. The surface colors range from different tones and shades of brown. The surface is typically smoothed or lightly burnished whereas relief and channeled decoration can be found on the outer surface.

Finally, coarse wares are known from Karanovo I. The paste is grey-black or reddish brown colored, single layered, mineral-organic tempered and the surface is lightly smoothed or roughened. Decorated specimens include bands in relief, punctuated or excised motifs. Coarse ware is mainly associated with closed shapes like pots.

Pottery from Karanovo II levels are comprised of *graue Keramik*, *braune Keramik* and *grobe Keramik*. In this phase, red slipped wares are not observed anymore. Dark colored wares with burnishing or smoothing are manufactured increasingly. With Karanovo II/III the so-called “*graue-schwarze Keramik*” together with dark brown and reddish brown wares constitutes the pottery assemblage.

In terms of vessel shapes from Karanovo I layers certain typical forms are frequently found in the assemblage. Tulip-shaped vases with 14-20 cm rim diameter and 25-30 cm



height may occur on red slipped, gray and brown wares (Fig. 6.38). Tulip-shaped vases normally have pedestal bases which may be 10-20 cm high. Most of the red slipped tulip-shaped vases are white painted, however, channeled decoration is also found on some vases. Paint might have been executed in cross-hatched triangles, net motif or diagonal-vertical lines.

Another typical ceramic shape for this horizon is the so-called “offering table”. 27 fragments have been uncovered during the recent excavations, all of which may belong to triangular variant of “offering tables”. All of the specimens are dark colored and smoothed on the outer surface. The small size of the fragments inhibits identification of original forms for most specimens. Most fragments show incisions and excisions which may be white-filled. The motifs comprise triangles, meanders, checker-boards and half-circles (Gauß 1997: 237-239).

Jars with spherical bodies, short necks and four lugs are associated with Grey and Brown Wares. Beakers, jars with vertical or everted necks, bowls with flaring, ‘s’-shaped or convex profiles, basins, “pipes” and lids complete the Karanovo I assemblage. Rims are mainly simple, everted or flattened. Bases are flat, disc, ring or pedestal. Vertical tubular lugs and strap handles are found in the assemblage too. Tubular lugs are mainly associated with globular jars with necks.

Karanovo II assemblage also contains tulip-shaped vessels which are, however, not red-slipped and burnished (or white-painted) anymore. They appear with channeled decoration and dark burnished surface colors. Jars with spherical bodies and funnel necks, beakers, pots, large deep bowls and large bowls with flaring sides are typical vessel shapes manufactured during the Karanovo II horizon at the site. Bowls make up 41% of the assemblage and some have diameters reaching up to 44 cm. Flat, ring, pedestal and high-ring bases, tubular-pierced lugs, relief bands with finger impressions can be considered characteristic of this horizon. Pedestal bases with windows are observed in the assemblage. Besides, impressed vessels with nail impressions are also known in the Karanovo II assemblage.

### **3.2. Comparisons with Ulucak**

According to Nikolov (1997: 141-143), Karanovo I layers from Tell Karanovo is not encompassing the earliest Karanovo I layers in Bulgaria. These are represented in Elešnica and Sofia-Slatina while Karanovo falls into the developed phase of Karanovo I

sequence. Developed phase of Karanovo I is additionally found at sites like Rakitovo, Kazanlāk and Azmak in Thrace which correspond to Starčevo-Phase in northern Southeast Europe and Pre-Sesklo on mainland Greece.

The ceramics and material culture from Karanovo I layers of Tell Karanovo is at first sight very reminiscent of Ulucak IV. Basically, the clay stamps, biconical sling missiles, bone spatula, bone polishers etc. are found commonly at both sites. Apparently, these find groups have widespread distributions from Central Anatolia to mainland Greece and their presence at Karanovo I is not truly surprising. Nevertheless, it is an indication of rough contemporaneity on the one hand and similar socio-economical organization on the other. The architecture from Karanovo I is highly similar to the wattle-and-daub structures of Ulucak V which are replaced by substantial rectangular mud-brick houses at the end of Level IV.

With regards to ceramic fabrics and shapes, there are both convergent and divergent features. The presence of fine red slipped wares at both sites is worth mentioning. Obviously, Karanovo was settled at a time when red slipped wares were still produced in high quantities and with great care, a phenomenon best documented at Lake District and Central-West Anatolian sites such as Ulucak. The small sized mineral and organic inclusions are also matched at Ulucak IVb, where 76% of red slipped wares included chaff inclusions. Similar to the red slipped wares at Karanovo I, at Ulucak, too, incompletely oxidized cores with three layers are very common. 71% of red slipped wares from Ulucak IVb have either completely inoxidized or incompletely oxidized cores. Clearly, such technological features are not peculiar to Karanovo and Ulucak, thus cannot be construed as an indication of direct contacts; but perhaps as a manifest of common technological level of Neolithic ceramics in the beginning of sixth millennium cal. BCE in both regions.

Other ware groups which are listed by Nikolov such as Grey Ware and Brown Ware might be matched at Ulucak in general, but these fabrics are ubiquitously found during the Neolithic. However, quasi-absence of coarse wares at Ulucak IV-V contradicts with the presence of coarse wares at Karanovo. We have actually defined a certain Gray Ware at Ulucak IV, which is gray-brown colored, medium ware with self-slip and no burnishing. Gray Wares from Ulucak IV are mainly associated with impressed decoration, which lacks at Karanovo I, therefore it is suspicious whether Gray Ware of Ulucak and *graue Keramik* of Karanovo I is the same fabric. Interestingly, a number of

impressed sherds have been found in Karanovo II deposits along with other decoration types. These examples are similar to Ulucak IV impressed wares which correspond to “Impresso A” horizon as defined by Müller (1988). Presence of analogous impressed wares from Karanovo II and Ulucak IV may be important as to the contemporaneity of these horizons. At Ulucak, impressed wares are encountered roughly between 6000-5700 cal. BCE whereas they appear at Karanovo only with phase II which is dated around 5760-5520 cal. BCE (Görsdorf 1997: Tab. 19.1). In the light of carbon dates and ceramic data (impressed wares specifically) it becomes clear that the impact of impressed wares did not arrive in Thrace at the very beginning of 6<sup>th</sup> millennium cal. BCE. There was apparently some delay, despite the fact that impressed wares have been produced, albeit infrequently, in the Central-West Anatolia. There seems to be a slight overlap between Late Ulucak IV and Early Karanovo II. However, certain developed shapes, such as pedestal bases with windows or bowls with large diameters, are never observed at Ulucak. We know that such features are observed in the developed phases of EC (such as at Hacilar I) which is not represented on Ulucak mound.

Fine CSBW of Ulucak IV are definitely not encountered at Karanovo.

Decoration types are also very different at both sites. White-paint, channeling, punctuation, excisions, relief in bands and white-filled incisions are simply not known at Ulucak IV. Surface-roughened pottery is also absent at Ulucak. Similarly, painted sherds are likewise almost absent and when they appear they are of “red-on-cream” type, certainly not white painted.

The vessel forms from both sites are basically very similar, but again like the material cultural elements, these forms are found in a vast area, reflecting a common approach towards ceramic production, food preparation, storage and technological level. Nevertheless, bowls with convex profiles, bowls with ‘s’-shaped profiles and jars with vertical or everted necks are commonly found at Karanovo I and Ulucak IV. Base types, except the pedestal and high-ring bases, and rim types are also similar. Especially globular necked jars with vertical tubular lugs from both sites are almost identical to each other. On the other hand, tulip-shaped vases, pedestal bases and “pipes” are not found at Ulucak IV. In turn, typical thick flattened rims of Central-West Anatolia, various lug-knob types and oval forms are not matched at Karanovo I-II.

We should not, however, ignore the fact that a number of typical Karanovo I features are not foreign to Anatolian sites. Pedestal bases are known at Hacilar IV-II, Kuruçay 11, Höyücek Sanctuaries Phase, Çatal West, Erbaba I-II, Tepecik-Çiftlik 3 and basal Menteşe (Mellaart 1970; Duru 2007; Duru and Umurtak 2005; Mellaart 1965; Bıçakçı *et al.* 2007; Roodenberg *et al.* 2003 respectively). Pedestal bases with windows are also encountered at Hacilar I and Kuruçay 7. Appearance of pedestal bases in Anatolia seems to have occurred in the later stages of EC towards the middle of the 6<sup>th</sup> millennium cal. BCE. The so-called “pipes” are known from Ilıpınar VIII (Thissen 2001). Lids, although absent in Central-West Anatolia, are one of the typical features of Fikirtepe sites (see Özdoğan 2007b).

The so-called “offering tables” are documented at Ulucak IV but their fabrics and forms are not comparable to the Karanovo I specimens. Moreover, Ulucak offering tables are not decorated. The so-called cult tables have a wide distribution and common traits are lacking between Karanovo and Ulucak. Even “Fikirtepe type” cult tables are different than Karanovo examples, despite possible contemporaneity. In Turkey, triangular variants are not attested so far (for details see Schwarzberg 2005).

In terms of relative dating, by judging of vessel shapes, Karanovo I is most probably contemporary with Ulucak IVb. Absence of hole-mouth jars and presence of developed jar and bowl forms are speaking for parallels with Ulucak IVb and hence a later date than 6000 cal. BCE. On the other side, absence of carinated forms at Karanovo might also support the late dating of the earliest layers on the mound. It is known that in Kovačevo I a-b that there is a tendency towards production of spherical bowls instead of carinated bowls during the Karanovo I period which are only found in the earliest deposits (see below for details). The Early Karanovo I phase, as noted by Nikolov (1997), lacks on Tell Karanovo. In other words, carinated bowl forms may have been an indication of early Karanovo I sequence in Bulgaria which disappear in the later developmental stages.

Despite diverging regional-local traits, it is possible to detect common characteristics at both sites to a certain extent and compare our results with absolute dates. Our comparisons indicate that the earliest layers at site Karanovo might be contemporary with Ulucak IV, which is dated to 5900-5700 cal. BCE. The early Karanovo II layers at Karanovo may overlap with very Late Ulucak (IVa-b), although in general Karanovo II

at the site seems to be post-dating Ulucak IVb as indicated by certain morphological features.

#### **4. Rakitovo**

The site Rakitovo owes its name to the modern city which lies 500 m to the northwest of the mound. It is situated on the southeast portion of Čepino Plain bordering the Rhodope Mountains on 780 m above sea level. Two freshwater sources are available in the vicinity of the mound, namely the rivers Stara Reka and Matniza. Rakitovo is a prehistoric mound which has been discovered during construction activities in the city. Salvage excavations have been carried out in 1974-1975 by A. Radunčeva and V. Macanova who published a detailed excavation report in 2002. The mound contained intact material from Karanovo I to II periods while remains of Karanovo III horizon have been completely destroyed (Radunčeva *et al.* 2002: 202; Macanova 2002: 191).

1.5 m thick culture deposits have been excavated which encompassed burnt remains of two building phases. The upper layer contained rows of post-holes belonging to 12 single-room houses with trapeze shape. The houses have around 40 cm thick mud-walls. The excavators suggest that Houses 8, 9 and 12 are adjacent to each other and the middle room was used as a cult space which contained a mud platform which is paved with river stones. Remains of inner architectural features such as an oven, square storage units and a so-called “altar” have been found in House 9. The older building phase has 25-30 cm thickness and is partially destroyed through the younger pits. In this phase, six trapeze-shaped post-houses with East-West orientation have been excavated (Radunčeva *et al.* 2002).

It is reported that animal herding was the main subsistence source for the community who made use of cattle, sheep, goat and pigs not only as meat-source but presumably also as a source for secondary products. Hunting played a secondary but significant role for the subsistence, too. Agricultural activities have been proven through the presence of einkorn wheat, emmer wheat and six-hulled barley at the site (Radunčeva *et al.* 2002: 203-204).

Typical material cultural elements are polished axes, bone awls and polishers, sling missiles, bone spatulae, “cult tables”, loom-weights, “spools”, schematic clay figurines, zoomorphic vessels, flint artifacts, spindle whorls and grinding instruments. The

excavators date the material from Rakitovo to the end of 6<sup>th</sup> - beginning of 5<sup>th</sup> millennium cal. BCE (Radunčeva *et al.* 2002).

## Ceramics

Pottery from the site has been analyzed by V. Macanova (2002), whose report this section will draw on.

The ceramics from the site have been distinguished into two large groups: Coarse and Fine Wares. The fine ware is further sub-divided into two groups based on the decoration and these are named “Monochrome” and “Painted Fine” pottery.

Coarse wares comprise the bulk of the assemblage in both phases. The pottery of the younger phase contain 77% coarse wares, 9% undecorated fine ware and 13% painted and 1% channeled-decorated sherds. In the earlier phase, coarse pottery comprises 81% of the pottery assemblage whereas the painted wares comprise 11% of the assemblage. Unpainted fine wares make up only 8% of the assemblage in the older phase (Macanova 2002: Tab. 2).

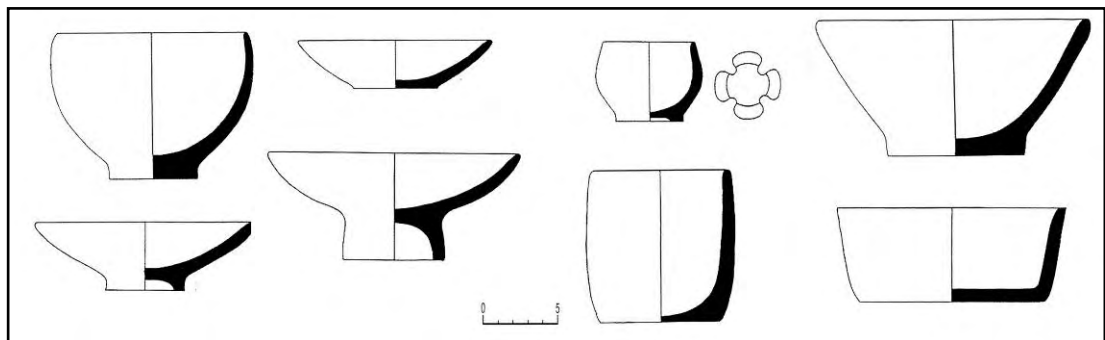


Figure 6.39: A selection of undecorated pottery forms from Rakitovo (after Macanova 2002: Taf. 1)

Coarse wares are described as porous, thick-walled (1-3 cm), rough or smoothed surfaced wares with mineral and organic temper. The cores are in general three-layered with an inoxidized layer in the center. The surface color ranges from brown, light brown, gray to black. Coarse wares can be decorated with impressions, incisions, plastic applications and surface-roughening or with a combination of these techniques. Large bowls, beakers, pots, miniature vessels and storage jars can be attributed to this group (Fig. 6.39). Globular large bowls and bowls with straight profiles make up the majority of the assemblage in both phases. Relief band with finger impressions is one of the typical decoration technique observed on coarse wares. Spirals with positive and negative decoration are likewise encountered.

Unpainted wares have smaller wall thicknesses compared to coarse wares. The cores are dark or with dark colored centers. The surface colors are dominated by dark shades like black and dark grey while occasionally brown and beige colors appear, too. It is not indicated in the report what kind of surface treatment display fine wares. Channeled decoration and white incrustation are techniques used to decorate fine wares. Some of the vessel shapes observed on fine wares are absent in the coarse ware group. These are the tulip-shaped vessels, lids and large spherical jars with short necks and pierced knobs. Otherwise, bowls with straight profiles, deep bowls with convex profiles, squat vessels and beakers are also encountered. One very schematically manufactured red slipped anthropomorphic vessel has been found in younger phase. Pedestal, disc, concave, and flat bases are associated with this ware.

Painted wares comprise around 10% of the pottery in both phases. Painted wares carry typically red, dark red, dark brown or black slips. The paint is white, cream or light brown colored. White colored vessels are apparently polished after paint has been applied. Both positive and negative painting has been applied on the vases. Large bowls, bowls, tulip-shaped vases, lids and necked jars have been subject to painted decoration. Bowls with 's'-shaped profile, carinated bowls, large bowls with flaring sides and bowls with convex profiles and high ring bases are associated with painted vessels.

Macanova distinguishes two styles of painting on the vessels which is called "Thracian Style" and "Rakitovo Style". The so-called Thracian style has good parallels from Karanovo I sites whereas Rakitovo style is distinguished from these in terms of the motifs and application.

Thracian style is characterized by a narrow motif around the mouth and a larger good organized repeating base-motif on the body. Typical compositions contain spiraloids, circles or 's'-shaped forms. Large open bowls show painted decoration on the inside, too. Rakitovo style is associated with cream colored paint on brown or dark red surface. This style is defined with triangles, "Y", "X", "T" based motifs. Spiraloid or wavy lines are also encountered in this style. According to Macanova, "Thracian style" finds good parallels at Karanovo I sites from Thrace while Rakitovo style is a local development and is genetically more related to Macedonian (Anza), Anatolian (Hacılar V-II) and Thessalian painted wares.

## 5. Ceramic Sequence of the Region and Comparisons with Central-West Anatolia

From the above account it becomes clear that it is difficult to write a ceramic sequence for the whole region because certain sub-regional variations occur in the sequence, which are not necessarily observed at the each settlement we presented. Nevertheless, a general sequence can be created given that by and large the pottery from various parts of Thrace which, nevertheless, resembles each other.

The fresh data from Aşağı Pınar Level 8 may indeed entail the earliest pottery horizon known in the entire Thrace. Currently, a restricted area belonging to this phase has been excavated and carbon dates are not available yet. Archaeological data from Aşağı Pınar 8, given that they are in reality corresponding to basal Menteşe and Çatalhöyük VI-IV, can revolutionize the current models on the neolithization of Thrace. The earliest well-defined pottery sequence in Thrace, however, begins with the red slipped wares from Hoca Çeşme IV-III, which represent a phase before the appearance of white-painted red slipped pottery. At this stage, the pottery is almost completely devoid of painted designs. Typical forms are bowls with 's'-shaped profiles, carinated bowls and hole-mouth or short necked jars. Bead-rims, tubular lugs, pierced knobs and crescentic lugs are typical application to the vessels. It is already indicated above that Hoca Çeşme IV, without the long necked jars, might correlate better with Early Level IV at Ulucak whereas jars with funnel necks of Hoca Çeşme III-II may correlate better with Ulucak IVb.

It is only with Hoca Çeşme II, white-on-red painted pottery, typical of Karanovo I horizon, occurs at the site. This phase is characterized by red slipped pottery, white painting, tulip-shaped vases, pedestal bases and long necked jars. Besides, coarse pottery decorated with finger-pressed relief bands, impressed pottery and circular clay applications can also be considered typical for Karanovo I stage. Hoca Çeşme II, Aşağı Pınar 7, Karanovo I and Rakitovo (both phases) contained the typical pottery of this phase. If we exclude the Turkish Thrace for one moment, this is the earliest known cultural horizon in Thrace. In Thrace, the earliest Neolithic sites already have white-painted and impressed pottery which poses a stark contrast to Anatolian pottery Neolithic sequence where painted pottery appears only at the very end of the Neolithic period.



It is indicated that Rakitovo, due to its geographic location on the western border of Thrace, close to Rhodope Mountains, shows designs and cream colored paint that can be distinguished from typical Thracian Karanovo motifs. Some of the motifs, especially the triangles combined with net-motif with fine lines, find good parallels at Can Hasan 2B and Çatalhöyük West (Mellaart's 'Early Chalcolithic II Wares'). Comparisons for these motifs actually lack at Hacılar and Kuruçay. Appearance of fine lines and net motif combined with triangles is seemingly post-dating Hacılar I and Kuruçay 7 as well as Ulucak IV. Rakitovo is thus clearly later than Ulucak IV horizon.

Karanovo I in Thrace would be roughly contemporary with Late Ulucak IV. We have already mentioned that despite contemporaneity there are many features in pottery that differentiate Thrace from Central-West Anatolia. There is no need to repeat these traits here. However, one of them needs to be raised here: Coarse Wares.

We have pointed out at Rakitovo, for instance, coarse wares make up 77-81% of the ceramic assemblage. As it is known, at Ulucak (and West Anatolia in general), coarse wares barely exist. Besides, only 4% of Ulucak IVb pottery has wall thickness which is above 9 mm. Ulucak pottery is made out of fine-medium wares with wall thicknesses around 3-6 mm. Obviously, predominance of coarse wares at Karanovo I sites, in comparison to their near-absence at Central-West Anatolian sites, has important implications as to the pottery production practices, function of the pottery and technological level at both regions. In this respect, there is a big difference between how and for what purposes pottery is produced in these regions. At Karanovo I sites, the coarse wares seems to have been used for cooking and storage purposes and they typically have untreated surfaces whereas at Ulucak real "cooking pots" are rare whereas most of the pottery production is devoted to the manufacturing of serving and storage containers. Even the large storage containers are well-burnished at Ulucak IV.

Unburnished wares, usually associated with Gray Wares and impressed sherds, are also almost absent at Ulucak. For instance, only 3% of the pottery was left unburnished in Ulucak IVb. Hence, the surface treatment likewise shows contrast in both regions. Therefore, Karanovo I stage, is increasingly distinctive in character from the pottery evidence from Central-West Anatolia. Hence, it proves to be difficult to find analogies between Thrace and Central-West Anatolia.

We must, however, underline the fact that basic vessel forms, like necked jars, bowls with convex profiles, bowls with flaring sides, are matched at both regions. Moreover, impressed wares are common to both regions and they are almost identical to each other. Application of red slip on fine wares is likewise common to both regions.

To conclude, despite common elements in the ceramic assemblages, two regions remain essentially diverse due to local traits and developments. The analogous features between Thrace and Central-West Anatolia are largely restricted to the initial stages of Neolithic settlements (pre-6000 BCE) such as dark burnished wares at Aşağı Pınar 8 and Ulucak Vb-f and fine red slipped wares at Hoca Çeşme IV and Ulucak IV. Through time the ceramics traditions in both regions diverge from each other and develop locally preferred traits such as tulip-shaped vases in Thrace and flattened rims in Central-West Anatolia.

### ***K. Northeast Bulgaria***

Northeast Bulgaria is one of two regions in Bulgaria where “monochrome stage” was detected. Contrary to Struma River Basin, where Krainitsi stands as the only site with monochrome deposits, in Northeast Bulgaria, several sites have been excavated which contained deposits with unpainted pottery. First of the monochrome sites, Polyanitsa-Platoto near Turgovishte, was investigated already in 1974 by Todorova. In the coming decades, small-scale excavations have been carried out in the region by V. Popov, who found exclusively unpainted pottery in the basal layers of Koprivets, Orlovets and Cherven in the Rusenski Lom river valley (Todorova 1995: 83-84; Elenski 2004: 71). Recently, the earliest phase at Dzhulyunitsa-Smardesh in Veliko Tarnovo region also has been attributed to the monochrome horizon (Elenski 2006: 117).

Three early carbon dates from Polyanitsa-Platoto as well as the undoubted presence of monochrome sites in Southeast Europe such as Donja Branjevina, Divostin I, Circea or Gura Baciului, are implemented to demonstrate the early age of this stratum. Todorova (1995: 83-84) basically envisage an initial process of demic diffusion to the region by early agro-pastoralists who followed the major river valleys and which preceded the second massive wave which resulted in archaeologically more visible Karanovo Culture.

Another interesting remark concerning the presence of an early ceramic stage in Bulgaria is made by Bailey (2000: 90) who emphasizes the different types of temper used for producing early monochrome pottery and the following painted pottery. Monochrome pottery is mostly organic tempered and Bailey interprets this as a sign of frequent

mobility of the initial Neolithic communities as pottery with organic temper is lighter and easier to manufacture. Painted pottery and other associated wares which appear later are predominantly mineral tempered and indicate increased sedentism in the region.

A number of archaeologists (Stefanova 1996; Lichardus-Itten *et al.* 2002; Thissen 2000; Krauß *in press*) seriously doubt the existence of a “monochrome phase” in Bulgaria. They argue that the excavations carried out at these supposedly monochrome sites are very small-scale to reveal any painted pottery which is always found in small quantities. Doubts concerning the accuracy of Polyanitsa-Platoto carbon dates also exist. Moreover, they argue that the morphology of the pottery from monochrome and painted pottery horizons are so similar they cannot originate from separate time zones and that they should be contemporary with the Karanovo I horizon.

## **1. Polyanitsa-Platoto**

As mentioned above, already in 1974, Todorova identified and excavated the site which is located to the south of Balkan Mountains in Northeast Bulgaria near Turgovishte. This site produced four carbon dates (sampled on chaff preserved in pottery) which fall between 6400-6000 cal. BCE, thereby preceding all the known EN sites in the entire Bulgaria. The dates, provided by Görzdorf and Bojadžiev (1996: 122), are as follows: Bln-1571 (7535±80 BP), Bln-1613 (7380±60 BP), Bln-1613A (7275±60 BP) and Bln-1512 (7140±80 BP).

The site also produced much sought evidence of architectural remains which are composed of rectilinear wattle-and-daub structures which are 3.5 x 3.5 or 4 x 4 m in size (although not illustrated in the reports). The lithic industry shows microlithic elements such as trapezes and perforators (Todorova 1990: 72).

The pottery is red slipped, organic and quartz tempered dark fractured and matt burnished. The surface is porous due to the organic material in the paste. The typical vessel forms are bowls with ‘s’-shaped profiles, jars with short necks and globular bodies, large bowls with convex profiles and hole-mouth jars. High pedestal bases, tubular lugs and, though rare, impressed decorations are among the other features of Polyanitsa-Platoto ceramics (Todorova 1990: 72; Abb. 1).

Todorova compares the Polyanitsa-Platoto finds to Donja Branjevina, Achilleion and Krainitsi I which according to her confirm the existence of pre-Karanovo I sites in

Northeast Bulgaria (Todorova 1990: 72). Unfortunately, detailed assessment of the ceramic material from Polyanitsa-Platoto remains unpublished.

## 2. Koprivets

The material from Koprivets has been extensively published in 1996 separately by Popov and Stefanova. We will provide a glimpse at this ceramic material as we consider the ceramics from this site to be important for understanding the initial stages of the Bulgarian EN. Another reason why we include the ceramic data from the site is their unmistakable similarity to Ulucak Va-b ceramics. The fact that no carbon dates are available from the basal layers of Koprivets is unfortunate as it prevents us from correlating Ulucak and Koprivets chronologically on a firm basis. Nevertheless, it has to be noted that Ulucak IV-V ceramics are technologically and morphologically closer to Koprivets ceramics than any of the Karanovo I assemblages from Thrace.<sup>72</sup>

Koprivets is located on a valley created by a tributary of Lower Danube, called Rusenski Lom, close to the modern settlement Ruse. The site is a flat settlement, submerged by the alluvial silt. Excavations on the site were comprised to three grids which are located in various locations of the site. Grid B, which is located on the eastern slope, covers approximately an area of 10 x 5 m. Among the four occupation levels identified at the site (I-IV), which did not produce positive remains of architecture, two layers situated on the virgin soil from Grid B, associated with fire installations, were attributed to the “monochrome stage” (Popov 1996: Figs. 5-6). According to Stefanova, few white-painted sherds have been found in the upper layers (Stefanova 1996: 17). The lithic industry is characterized by large flakes, notched tools and tools made on flakes and blades produced on multi-directional cores prepared from local raw material, which according to Gatsov show clear similarities to Hoca Çeşme IV-III lithic industry (Gatsov 2009: 33; 121).

Pottery from these levels is divided into two basic categories: fine/semi-coarse and coarse wares. Fine wares are thin-walled, densely organic tempered with inoxidized cores. The surfaces are burnished and bright with colors that range around beige, grey-beige, brown and red. Medium and coarse wares, likewise organic tempered with dark fractures, have smoothed or unsmoothed surfaces with red, reddish brown and brown shades. Decoration from ceramics from Levels I-III at the site is confined to

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<sup>72</sup> Thanks to my colleagues Nedko Elenski and Raiko Krauß, I was able to inspect the ceramic material from Koprivets in Veliko Tŕrnovo Archaeological Museum.

punctuations (2%), impressions (1%) and plastic decoration (11%). White-on-red painted sherds were also found at the site (Stefanova 1996: 17).

The vessel shapes include both restricted and unrestricted forms. Medium to large sized bowls with 's'-shaped profiles, bowls with convex profiles, hole-mouth bowls and jars with carinated bellies are frequently found in the assemblage. Jars appear with or without necks. Large sized jars with long funnel necks are not known in the assemblage. Jars typically have globular bodies and disc bases. Single circular knobs, vertical tubular lugs, horizontally pierced knobs are observed in the assemblage (Popov 1996: Figs. 18-29; Stefanova 1996: Tables 2-6).

### **3. Comparisons with Ulucak and Anatolian sites**

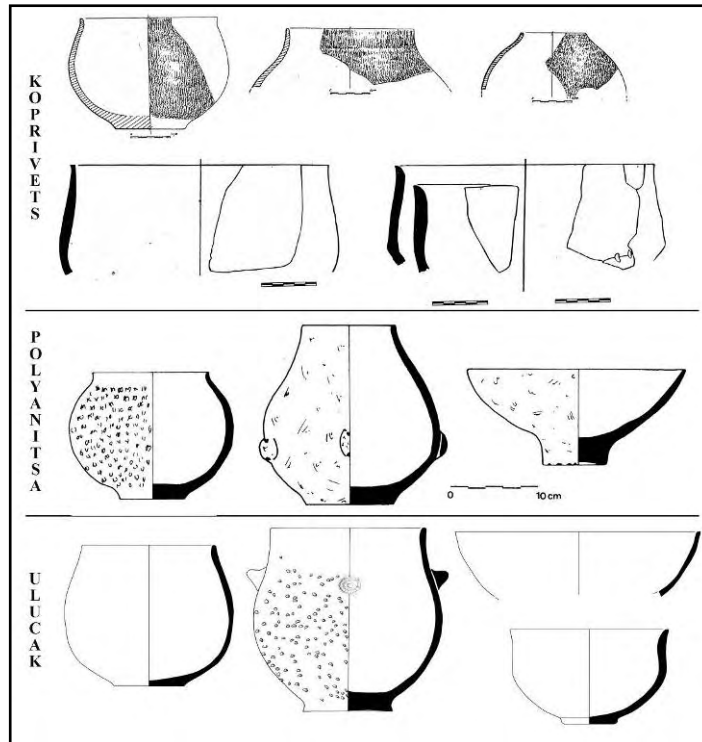
As already stated above, Koprivets I-II ceramics display multiple features that are perfectly matched at Ulucak. Especially Ulucak Va-b ceramics are very well-comparable with Koprivets "monochrome stage". The similarities are encountered in two ways: Fabrics and morphology.

First of all, the fine burnished pottery with beige, grey-beige, grey-brown and red colors correspond well to our Cream Slipped Burnished Ware and Red Slipped Burnished Ware from Ulucak IV-V. It is known that Hacilar IX-VIII pottery show the same characteristics in terms of surface treatment and surface colors. In other words, fine cream-grey colored burnished wares are typically associated with pre-red slipped ware horizon in Western Turkey in which red slipped wares are not yet dominating the assemblages.

The medium and coarse wares without careful burnishing and rough surfaces, however, are foreign to West Anatolia, where fine-medium burnished pottery comprises almost the entire assemblage. It is not clear whether the unburnished medium-coarse wares are quantitatively low at Koprivets.

Organic temper and inoxidized cores are characteristics of Ulucak IV-V pottery. Although in Level V at Ulucak mineral temper dominates, chaff as temper is also occasionally used. In Northwest Anatolia, organic temper is known only from Ilıpınar X and Uğurlu on Gökçeada (Thissen 2001; Erdoğu 2003). In Anatolia, pores on red slipped wares, left as a result of burning of chaff temper in the paste, are primarily observed at two more or less contemporary sites: Musular and Ulucak IV.

One interesting feature is the presence of impressed jars from the region. Although rare, impressed sherds were recovered both at Koprivets and Polyanitsa-Platoto. The globular jar with impressions and disc base from Polyanitsa-Platoto (Todorova 1990: Fig. 2) is



**Figure 6.40: Major vessel shapes from Northeast Bulgaria in comparison to typical Ulucak IV-V vessels.**

almost identical to the impressed jar from Ulucak IVh. Impressions from Polyanitsa match with the ‘Impresso A’ horizon, the earliest impressed pottery style, identified by Müller (1988: 106). The identical vessel form is found at Ulucak IVb, too. Unfortunately, it is not clear from the reports whether impressions were applied on a red slip or on an unburnished surface. Both varieties are attested at Central-West Anatolian sites.

All the vessel shapes from Koprivets, except the carinated bowl, find good parallels in Ulucak IV-V (Fig. 6.40). In West Anatolia, presence of hole-mouth forms and absence of large jars with funnel necks are clear indications of pre-6000 cal. BCE dating for any given site. Necks on jars develop very gradually without any breaks from LN to EC at Anatolian sites. It is not yet clear whether same correlation can be made for Northeast Bulgaria, however when one compares the Karanovo I assemblages with Koprivets I, it seems likely that it may be applied to Bulgaria, too. As already discussed, Karanovo I ceramics do contain jars with developed necks along with hole-mouth jars. Moreover,

the absence of pedestal bases, a typical feature of Karanovo I horizon in Thrace and Struma Valley, is another indication of pre-Karanovo I dating of these ceramics. Yet another clue as to the pre-Karanovo I dating of Koprivets material is confirmed by the absence of “offering tables” which hardly appears in the 7<sup>th</sup> millennium BCE in West Anatolia (Schwarzberg 2005: Fig. 5). Although they have been found at basal Menteşe (6440-6220 cal. BCE), we can remind that even the earliest deposits at basal Menteşe did not contain “Fikirtepe-type” boxes (Roodenberg *et al.* 2003: 34).

Among the most strikingly similar forms from Koprivets-Polyanitsa-Platoto Group and Ulucak is large bowls with pronounced ‘s’-shaped profiles. Hole-mouth bowls, which are especially typical for Ulucak Vb and earlier, are also commonly found at Koprivets. Pots and jars with narrowing mouths and globular bodies are one of the definitive forms of the LN in Central Anatolia (Çatal East), West Anatolia (Hacılar, Ulucak) and Northwestern Anatolia (Menteşe). Although hole-mouth forms continue into the early stages of EC they are increasingly accompanied with necked jars. Therefore, hole-mouth jars without necked jars may well point to the early dating of basal Koprivets.

Another development which is observed during the EC at Anatolian sites is the increase in the volumes of restricted vessels. For instance, large sized jars, suitable for storage purposes, are completely absent prior to Level IV at Ulucak. The sizes of the jars from Koprivets can be described as small to medium while at Tell Karanovo, basal levels already yield large jars, reaching up to 1 m. (see Hiller and Nikolov 1997: Taf. 67.7). It is clear that implementing jar sizes as a dating criterion is problematic; however, when considered with the other “early-looking” features it acquires a meaning.

Another similarity between Ulucak and Koprivets can be found in the lug types. Absence of handles is typical for Anatolian LN which seems to be echoed at Koprivets. Functional applications are restricted to pierced knobs and tubular lugs. Vertical tubular lugs are frequently applied on jars at Ulucak V but their average length is higher than the Koprivets tubular lugs. Horizontally pierced lugs are known from Ulucak and basal Menteşe (compare Roodenberg *et al.* 2003: Fig. 14.2).

Yet another similarity can be detected in the typological variation of the bases. Disc, ring and raised bases are the most frequent base shapes at Koprivets. Contrary to basal Menteşe, where flat bases are dominating, Ulucak V pottery is predominated by disc bases while ringed and flat bases are also evident. Raised bases which pre-echoes the

development of high pedestal bases of Karanovo I, are found at basal Menteşe but interestingly absent at Ilipinar. In Lake District, pedestal bases are observed at least with Hacilar IV onwards whereas short pedestal bases of Koprivets type are found at Kuruçay 11 (Duru 1994: Lev. 59; 76). Obviously, the raised bases are not produced in West Anatolia prior to 6000 cal. BCE while in Northwestern Anatolia they occur before 6000 cal. BCE as evidenced at Menteşe. At Polyanitsa-Platoto high pedestal bases are already present, and this situation is contrasted at Koprivets material. It seems likely that Koprivets I is slightly earlier than Polyanitsa-Platoto.

The overlapping characteristics of Koprivets ceramics with Ulucak V and basal Menteşe assemblages seem to be far from being coincidental. In my opinion, early deposits at Koprivets are earlier than all the known Karanovo I sites in Thrace and might well date to the last centuries of 7th millennium cal. BCE (presumably 6200-6000 cal. BCE). Absence of systematic excavation and absolute dates prevent any testing of our suggestion.

An alternative (later) dating of Koprivets material has been suggested by Thissen who finds parallels at various Romanian sites such as Glavaneştii (Thissen 2000: 196). Although there are obvious similarities in terms of the vessel shape between Koprivets and Tell Karanovo I-II assemblages, it is hard to argue that these may be contemporary. It is more plausible that Karanovo I inhabitants adapted (or were already familiar with) long-lasting elements of the ceramic production which were previously developed in certain localities in West Anatolia, Aegean and Southeastern Europe. Hence, “Karanovo Culture” remains as a local Thracian development influenced from and simultaneously influenced neighboring regions.

The key issue may be here is to identify if Thrace really remains unsettled prior to 6000 cal. BCE and if yes, why? Did the people who inhabited foothills and valleys of Northeast Bulgaria suddenly decided to settle the low alluvial plains? Or is there another wave of movement into the area by communities who searched for vast low-lying alluvial plains suitable for sustaining large populations who are dependent on farming? According to Todorova, climatic fluctuation which abruptly caused colder temperatures forced communities in Northeast Bulgaria to settle down in Thrace (Todorova 1995: 84). Moreover, she asserts that *Tell*-oriented research in the region may have also contributed to this situation. Pavúk (1997: 249) and Krauß (*in press*) consider Todorova’s model of late-inhabitation of Thrace unlikely, expecting pre-Karanovo I sites to be discovered



soon below the thick alluvial silting. Thissen, on the other hand, envisages the initial neolithization of Southeast Europe, including Bulgaria, as a process of conscious settling of alluvial plains by Anatolian communities who intent to “*maintain and continue the patterns of life established by tradition*” (Thissen 2000: 193). He does not however attempt to explain why Thrace was settled later than the most major alluvial plains of Southeast Europe, including the Struma Valley.

The precise dating of Koprivets material has to wait reliable carbon dates and large-scale excavations in the region. Hence, our suggestions concerning the dating of the material has to be treated as tentative.

### ***L. Struma River Valley and Sofia Basin***

Struma (Strymon) Basin is considered as one of the major dispersal routes of Neolithic way of life from the Aegean into the Southeast Europe (Nikolov 1989; Lichardus-Itten 1993; Todorova 1995). It certainly provided variety of natural resources, micro ecological zones, communication networks and suitable soil and climatic conditions for cereal cultivation and animal herding. The importance of the region is also provided by its regional cultural character which differed to some extent from Karanovo sites of Thrace. Recent research clearly indicates that, on the contrary to what has been assumed before, neolithization of Struma Valley may have occurred earlier than Thrace (Thissen 2000: 197).

The Neolithic and Chalcolithic cultures of Struma River Basin are better researched compared to many regions in Bulgaria, providing us with a reliable picture of the cultural development.<sup>73</sup> Of 113 Neolithic sites identified in the valley, 28 belong to EN horizon and 11 of them have been investigated through excavations (Chohadzhiev 2007: 53).

The discussions concerning the presence of monochrome vs. painted pottery horizons exist in this region, too. Above, we have already pointed out that, in our opinion, there is a bias in Bulgarian archaeology towards publishing painted pottery while leaving undecorated pottery unpublished. In Struma Valley, presence of a monochrome horizon is archaeologically demonstrated by deposits from Krainitsi I which will be evaluated below. The horizon with the white painted pottery from the region has been coined as “West Bulgarian Painted Cultures” (Kremikovči Culture) by J.H. Gaul (1948) and was

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<sup>73</sup> see Chohadzhiev 2007: 9-13 for a detailed account of the prehistoric research status in the Struma Valley.

excavated at a number of EN sites; Kovačevo and Gălăbnik comprising the earliest of these in date.

Despite many similarities to Karanovo Culture identified in Thrace, such as white-on-red paint, Struma Valley is indeed outside the primary distribution zone of Karanovo Culture. For instance, the typical tulip-shaped vessels of Thrace are not known in this region whereas some Aegean influences (like impressed wares) are encountered in the assemblages. According to Krauß (*in press*), the best parallels in the ceramic assemblages for the region can be found in the northern sections of Southeast Europe, namely in Serbia and Former Yugoslavian Republic of Macedonia (FYROM) where Starčevo Culture has been defined.

We will concentrate on three sites in this section, Kovačevo, Krainitsi and Sofia-Slatina, as they provide contemporary material for Ulucak IV. Sites which might be contemporary with Ulucak V are missing in the region.

## **1. Kovačevo**

Kovačevo is located on one of the tributaries of Struma, namely Katunska Bistrica, in the middle Struma Valley on the western alluvial terraces of Pirin Mountains in Southwest Bulgaria on 450 m above sea level. Kovačevo is a flat settlement which covers approximately six hectares and contains two m of cultural deposits (Lichardus-Itten *et al.* 2000: 27).

The site, which has been damaged by a road construction as well as by agricultural and erosional constraints, has been discovered in the early 1980's by M. Domaradzki and extensively excavated by a joint French-Bulgarian expedition between 1986-2000 under the auspices of CNRS, the Bulgarian Academy of Sciences and the Blagoevgrad Historical Museum.

Several periods are represented by the cultural layers which are labeled as Kovačevo I-III. EN habitation is founded on a thick pebble layer and yellowish clay deposits and encompasses four sub-phases which are called "Kovačevo Ia-Id". The EN occupational layers Ia-c correspond to Karanovo I while Id corresponds to Karanovo II. The excavators claim that Kovačevo Ia is the oldest Neolithic settlement in Bulgaria due to the presence of a style of painting on vessels that has not been attested elsewhere (Lichardus-Itten *et al.* 2002: 122).

Middle Neolithic deposits which immediately follow the preceding occupation partly destroyed the earliest occupation layers. The site was re-inhabited after 1500 years of hiatus in the Early Bronze Age whose deposits also caused damage to the EN remains. Excavators noticed an Early Iron Age occupation and perhaps of later periods which are completely eroded (Lichardus-Itten *et al.* 2002: 104-106).

Architectural remains from Layer Ib-d are scarce. In some instances, post-holes, hearths and ovens as well as superimposed layers of floor constructions with pottery could have been identified. Absence of lines of postholes associated with floors is construed as exclusive use of mud as building material by the community using mud-slab technique. Architectural technique used in the lower most Layer, Ia, differs from the upper layers as it contained quasi-square planned wattle-and-daub constructions. One ditch with clay plaster and at least 20 meter length has probably functioned as a water management system and date to Kovačevo I. Another construction of the same sort was also found to the north of the first one (Lichardus-Itten *et al.* 2002).

Apart from the pottery which we will present below, various typical Neolithic find groups are recovered at the site. These include bone spatula, polished axes, “offering tables”, grinding instruments, bone awls and polishers, biconical sling missiles, clay stamps, “M” shaped amulettes and bracelets. Steatopygous and cylindrical anthropomorphic figurines as well as zoomorphic figurines are also found in the assemblage made variously from clay and marble. Chipped stone industry, on quartz and flint, is predominated by retouched blade production and sickle elements (Lichardus-Itten *et al.* 2002: 123-125; Figs. 20-22).

Kovačevo was inhabited by an agro-pastoral group who cultivated emmer wheat (*Triticum dicoccum*), einkorn wheat (*Triticum monococcum*), durum wheat (*Triticum durum*) and barley (*Hordeum vulgare*) as well as pulses like lentil, chick-pea, bitter vetch and pea (Marinova 2006: Tab. 6.1.1). Wild plants and marine resources were also exploited (Lichardus-Itten *et al.* 2002: 127). Osteological analysis of animal remains indicate the predominant presence of domesticated species such as sheep-goat, cattle and pig whereas the amount of non-domesticates comprise around 2.8% of the analyzed specimens (Benecke and Ninov 2002: 558).

Seven carbon dates are measured on samples from Kovačevo Ia-d which range from 6160 to 5510 cal. BCE. The earliest occupation provided one carbon determination (Ly-

1437) 7180±45 which is calibrated as 6160-5990 cal. BCE (at 1  $\sigma$ ). Phase Ib is roughly dated to 5980-5770 cal. BCE and Phase Id from 5800-5510 cal. BCE (at 1  $\sigma$ ) (Thissen and Reingruber 2005: 315). In rough terms, Kovačevo I covers 400-500 years of continuous occupation.

## 1.1. Ceramics

The detailed analysis of the pottery from the EN layers is currently in progress. We will have to restrict ourselves to the preliminary reports provided by Lichardus-Itten *et al.* (2002: 118-122) and Pernitcheva (1990). The assemblage is composed of four different wares: Coarse Wares, Standard Wares, Fine Gray-Brown Wares and Red Monochrome or Red Painted Wares. Coarse wares, associated with pithos-like large containers, are distinguished from the fine-medium wares with their thick walls which exceed 1 cm. Standard

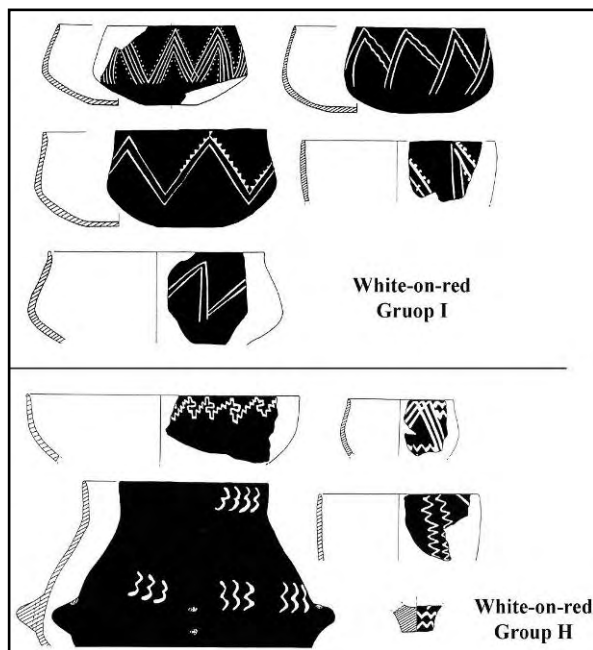


Figure 6.41: The earliest decoration types (Groups I and H) at Kovačevo I (modified after Lichardus-Itten *et al.* 2002: Pl. 17-18)

Wares are mineral tempered and have walls that are 0.5-1 cm thick while fine wares are 3-4 mm thick and have nicely treated surfaces with slip and burnishing. Several types of decoration have been attested at Kovačevo I. These include barbotine, incisions, plastic applications, impressions, fluting and paint (Pernitcheva 1990: 150-156).

It is indicated that the painted pottery, which is mostly of white-on-red type, comprises only 3% of the pottery assemblage. The painted pottery from the site is evidently coil-built, sand-tempered, red slipped and well-burnished with wall thicknesses commonly around 2-3 mm. The surface colors range from pale orange, brown, reddish brown to red and dark red whereas the white paint may have various tones of white, yellow and cream. Paint is applied before firing. The painted pottery from the site has been subdivided into nine categories depending on the style and arrangement of the painting as well as the stratigraphical context (Lichardus-Itten *et al.* 2002: 118-119).

According to this classification, the earliest deposits (Ia) contain mainly pottery with dark backgrounds, brown, reddish brown or dark red (Groups I and H; Fig. 6.41). The paint is observed only on the exterior of the vessels and has linear shapes, horizontal and vertical zig-zags, dots and “ladders”. The forms are mainly simple. Hole-mouth jars, jars with short vertical necks, bowls and large bowls with slight ‘s’-shaped profiles and bowls with convex profiles are very common. Carinated bowls are also present in this early layer. Bases are flat and lugs are restricted to pierced vertical knobs (Lichardus-Itten *et al.* 2002: 121-123).

Layers Ib-d contain white-on-red painted pottery which has linear, rectilinear, curvilinear and geometric patterns including spirals, wavy lines, checker boards and hatched triangles. The surface colors are remarkably lighter, having orange-red colors. With Kovačevo Ib, decoration on the vessel interiors is encountered. The upper most layer Id vessels include vessels painted from the rim to the base on the exterior. Although the major vessel forms remain similar to the previous layer, certain changes in the vessel morphology are observed. For instance, carinated bowls disappear with Kovačevo Ib; pedestal bases and jars with long necks appear. It is noted that the pedestal bases become taller at the end of the Kovačevo I sequence (Lichardus-Itten *et al.* 2002: 121-122).

Despite changes there seems to be a gradual development in the pottery shapes and decoration at the site. Certain jar and bowl forms continue to be produced until the end of the EN sequence. Carbon determinations indicate possible contemporaneity of Kovačevo Ia-b with Ulucak IV. There is good possibility that Kovačevo Id is slightly later than terminal Ulucak IV.

## **1.2. Comparisons with Ulucak**

When compared to Ulucak IV and other Central-West Anatolian sites clear similarities are observed with regards to the fabric and vessel morphology. Although the painting lacks at Ulucak IV, the basic properties of the wares are extremely similar. These are emphasized by thin walls, application of red slip and burnishing. Red slipped burnished wares constitute one of the major fabrics at Kovačevo (Pernitcheva 1990). Different is the tempering material: mineral at Kovačevo and mostly organic-mineral at Ulucak IV. At Ulucak IV, fine wares, virtually vessels with thin walls and careful surface finishing, comprise around 90% of the assemblage. Similar values may be found at Kovačevo too. The earliest painted pottery from Kovačevo (Groups H and I) shows similarities to the

motifs on Ilipınar VIII incised pottery (see Thissen 2001: Figs. 63-64), however, direct analogies are lacking.

Coarse Wares and Standard Wares as well as Fine Gray-Brown Wares do not appear at Ulucak IV in meaningful amounts.

As mentioned above, vessel morphology is highly reminiscent at both sites. Bowls with convex and slight 's'-shaped profiles, jars without necks or short necks are very commonly found at Ulucak IV and other Central-West Anatolian sites. Simple or everted rims as well as flat bases are also commonly attested at both sites. Genuine carination is not known at Ulucak IV, although there is clearly a tendency towards production of vessels with sharp angles. Vertically placed tubular lugs, flattened rims, disc bases, plastic decoration, impressions or small vertical handles typical elements of Central-West Anatolian assemblages are not found at Kovačevo I. Interestingly, vessel shapes at Kovačevo become simpler as the time goes by — a contrasting trend to Ulucak. On the other hand, pedestal bases, a very typical feature of Southeast European EN assemblages, are never encountered at Central-West Anatolian sites, although pedestal bases become increasingly popular at Hacılar I and Kuruçay 7 around 5700-5600 cal. BCE. Therefore, we may not conclude that pedestal bases were peculiar to Southeast Europe but indicate that their development is not represented at Central-West Anatolian sites which are all abandoned prior to the middle of the 6<sup>th</sup> millennium cal. BCE.

As a result, despite similarities in general terms and overlapping carbon dates, presence of pedestal bases and carinated forms at Kovačevo I may point out that Ulucak IV is preceding Kovačevo I slightly. It should be mentioned that the carbon dates indicate otherwise. The question therefore is whether pedestal bases and carinated forms are never produced at Late Ulucak IV, although they are manufactured in the neighboring regions such as at Lake District. For the moment, it is hard to solve the problem as in Central-West Anatolia sites which are dated to ca. 5500 cal. BCE which would have showed the development in the pottery production, are not known.

In addition to the apparent similarities in the ceramic assemblages from the both sites, one can also note identical features in the other material cultural elements. Bone spatula, biconical sling missiles, figurines and clay stamps are almost identical at Ulucak IV and Kovačevo I. Especially the conical clay stamps with concentric circles and spirals are very well-known from Ulucak IV and Bademağacı ENII-3 (Lichter 2005: Figs. 3-4).

What is strikingly different is the presence of cylindrical female figurines at Kovačevo I which is not matched at Ulucak IV at all. Kovačevo I figurines are obviously corresponding to a later developmental stage in figurine production in which natural-looking figures are replaced by ever more schematic and abstract ones (Lichardus-Itten *et al.* 2002: 125; Pl. 22). According to Hansen, this tendency occurs around the middle of the 6<sup>th</sup> millennium cal. BCE in Anatolia and Southeastern Europe (Hansen 2005: 205). Indeed, schematized figurines with cylindrical and peg heads are typical for the EC settlements in Lake District such as Höyücek Sanctuaries Phase (Duru and Umurtak 2005: Pl. 129), Kuruçay EC (Duru 1994: Lev. 190) and Hacılar II (Mellaart 1970: Pl. 237) as well as at Achilleion III-IVa (Gimbutas *et al.* 1989: Pl. 7.1). The cylindrical nature of Kovačevo I figurines may be used as a reliable criterion for relative dating, although their origin is not known. As such figurines are totally absent at Ulucak IV, where natural style steatopygous figurines are prevailing, one can tentatively suggest that Kovačevo I, along with the Lake District sites mentioned above, is later than Ulucak IVb. It is also possible that the technique of producing cylindrical figurines arrive to Anatolia from the Aegean region. Our current impression is that Ulucak was already abandoned prior to the appearance of cylindrical schematic figurines in Anatolia and in the Aegean.

The common find categories we mentioned above are found in such a widespread area from North Syria-Levant to mainland Greece during the EN period, hence, their existence at Ulucak IV and Kovačevo I is far from implying direct contact between two regions, although the possibility cannot be ruled out. The matching material cultural elements imply existence of long-term social-cultural contacts due to interregional exchange networks and navigation of the Aegean Sea by multiple groups.

## **2. Krainitsi I**

Krainitsi is a flat-settlement site located on the right bank of the Dzhubrena, one of the tributaries of Struma, in the Middle Struma Basin in Kjustendil district between Verila and Rila Mountains on 608 m above sea level. It has been excavated in two seasons (1986 and 1990) by S. Chohadzhiev and A. Bakamska which covered an area of only 48m<sup>2</sup>. The EN deposits at the site have been covered with flood material of River Dzhubrena (Chohadzhiev 2007: 36). The deposits reach 1.5-2.4 m thick and contain three occupational layers from EN period. Layer I is characterized by monochrome pottery while Layers II-III contained painted pottery, thus clearly demonstrating the

earlier status of occupations with monochrome pottery prior to the development of white-painted pottery (Chohadzhiev and Bakamska 1990).

The very limited area of excavation inhibited understanding of the settlement plan, architecture and material culture at the site. Two sitting female figurines have been found in Layer I (Chohadzhiev 2007: 104).

Unfortunately there is only one carbon date available from Layer I which has a huge standard deviation ( $9000\pm 300$  BP). Calibration (at  $1\sigma$ ) provides a range from 8550-7700 cal. BCE which is beyond the limits of credibility (Chohadzhiev 2007: 133).

## 2.1. Ceramics

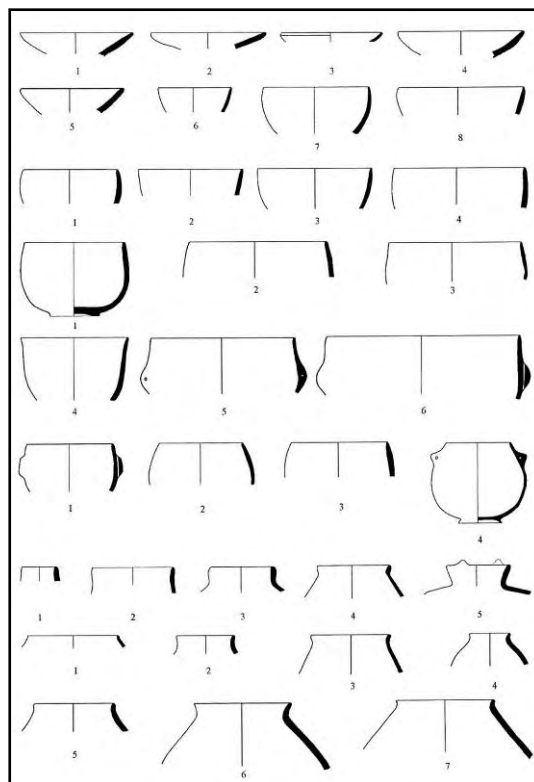
Chohadzhiev (2007: 83) and Chohadzhiev and Bakamska (1990: 57-69) provide a description of the material from the site. The pottery from the Layer I is assigned as the oldest pottery of the region. The pottery is described as mineral and organic (excrement) tempered, coil-built and incompletely oxidized with dark colored fracture centers. Breaks at the coil junctures are very common. The surface is smoothed, occasionally burnished but not smooth and glossy. Thin wash-like reddish slip is observed on many pieces.<sup>74</sup> Coarse and medium (“ordinary ware”) wares (together 82%) dominate the assemblage while fine wares (12%) are also present. The wall thickness normally ranges between 0.8-1.2 cm whereas walls up to 2.7 cm are also encountered in the assemblage (Chohadzhiev 2007: 83). The vessel forms are very restricted and show simple forms comprising of hemi-spherical and ‘s’-shaped profiled bowls. Shallow flaring bowls, pots with hole-mouths, jars with short necks are commonly found (Fig. 6.42). Pierced lugs and vertical tubular lugs are common. Plastic decoration is observed on coarse wares. Other decoration types involve incisions, pinching, impressions and barbotine which all together compose 18% of the assemblage. Impressions are either made with nails or with a triangular edged instrument which are subsequently slipped. Rims are crooked, simple or slightly everted. Bases are flat, disc, ringed or raised. Oval bases are also encountered (Chohadzhiev and Bakamska 1990: 58-59; Tables 10-11).

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<sup>74</sup> I am grateful to my colleague Petar Zidarov and the staff at the Archaeological Museum in Kjustendil for allowing me to inspect the ceramic material from Krainitsi.



Krainitsi II-III is characterized by the introduction of white-on-red painted pottery which shows remarkable contrast to the preceding stage in terms of technology, fabrics and morphology. The distinction between coarse and fine wares (red slipped pottery and painted wares) can still be made. Krainitsi II-III painted pottery show netlike patterns, curvilinear compositions and spiraloids. In terms of vessel shapes, pedestal bases, footed jars, large jars with long necks and carinated forms appear first in this phase. The bowl forms are mainly hemi-spherical and convex profiled. Sharp carinations on rim and belly are important innovations of this phase (Chohadzhiev 2007: Figs. 7-10).



**Figure 6.42: Pottery from Krainitsi I “monochrome stage” (after Chohadzhiev 2005: Fig. 5)**

Apart from painted decoration, surface-roughened wares also appear (Chohadzhiev and Bakamska 1990: Tables 14-15). The pottery from Horizons II and III are compared to the assemblages from Gălăbnik and Priboi in terms of their painted patterns and vessel forms (Chohadzhiev and Bakamska 1990: 70).

## 2.2. Comparisons with Ulucak and Other Anatolian Sites

Absence of reliable absolute dates from Krainitsi I inhibits general correlations of its pottery with Central-West Anatolia. Chohadzhiev and Bakamska (1990: 76) and Chohadzhiev (2007: 83) compare this assemblage to Otzaki I, Sesklo and Achilleion Ia and suggest that Struma Valley experienced a similar development to Thessaly in the beginning of the Neolithic period. Indeed, certain technological and morphological traits of this pottery can be matched at these sites. Wijnen (1982: 25) indicates that ENI pottery from Thessalian sites do not contain collared jars or carinated forms. The restricted range and simple form of vessel shapes is, therefore, meaningful as to the early date of Layer I at Krainitsi, although ENI forms from Thessalian Plain look more primitive than Krainitsi Layer I where ‘s’-shaped profiles are already in their developed form (Fig. 6.42). There are other reasons for a denial of contemporaneity of Krainitsi I with ENI horizon on mainland Greece: presence of red slip and impressed wares at

Krainitsi. These features appear only in the later stages of Greek EN, i.e. during the Pre-Sesklo stage which follows “Early Pottery” and “Proto-Sesklo” together with painted decoration. Pre-Sesklo stage is dated to around 6000-5800 cal. BCE and is the immediate predecessor of Sesklo phase which is characterized by dark red paint on whitish background (Gallis 1996a: 120).

Absence of pedestal bases, large jars with funnel necks and carinated forms is likewise typical for the LN pottery from Western Turkey. For instance, at Ulucak V, large jars, long necks and carinated forms are absent. Presence of vertical tubular lugs and pierced knobs are also matched at Ulucak V, although such lugs continue to be produced during Level IV at Ulucak.

Highly interesting is the presence of impressed sherds at Krainitsi Layer I which do look similar to Ulucak IV impressed wares which are medium wares with chaff-mineral tempers and smoothed but mat surfaces. There is considerable similarity as to the execution of impressions, which may be beyond any coincidences. In my opinion, impressed wares at Krainitsi I should be evaluated in the bigger culture-historical context of the Aegean catchment as these wares are encountered in a vast region from Central-West Anatolia to the Macedonian and Thessalian Plains. The relation of Aegean impressed wares to Southwest Asian (North Syrian, Cilician and Levantine) impressed wares remain for the moment largely unexplored but the possibility of organic ties cannot be excluded from the discussion as these appear almost simultaneously at the end of the 7<sup>th</sup> millennium cal. BCE. Direct contact with Dalmatian and Albanian communities who produced large amounts of impressed pottery is almost certain. What however misses in the region is the impressed ware which appears after the first style, Impresso A, with unconnected impressions.

It is known that in Central-West Anatolia, impressed wares do not appear before 6100 cal. BCE. Prior to this date, any kind of decoration on pottery is very rare. Especially with deposits earlier than Ulucak Vb, impressed decoration disappears completely and red slipped burnished wares decrease in number sharply. At Ulucak IV, impressed wares, whether made on Red Slipped Wares or Gray Wares comprise only 4% of the assemblage but are important chronological signs for the region. Presence of impressed wares at Krainitsi I might be a chronological indicator too. In other words, presence of impressed wares may indeed be an indication of post-6100/6000 cal. BCE date for Krainitsi I.

Absence of paint but presence of wash-like red slip and impressed decoration as well as the predominance of simple bowl and jar forms from Krainitsi Layer I may be indicating a date somewhere in the transition from monochrome to painted pottery in the Aegean, as can be followed in Macedonia and Thessaly. Despite similarities in basic forms ('s'-shaped profiles, hole-mouth jars, oval bases, disc bases, tubular lugs) and impressed wares, Krainitsi I pottery does not find matching comparisons in Central-West Anatolia, where fine wares with thin walls and careful surface finishing prevail. Coarse and ordinary wares found in large amounts at Krainitsi are not found in Central-West Anatolia or in the Lake District. If Krainitsi I indeed fall into the timeline immediately preceding the appearance of "West Bulgarian Painted Cultures" around 6000-5900 cal. BCE, there seems to be little common traits as to the ceramic technology and production in Central-West Anatolia and Struma Valley. Moreover, the forms illustrated by Chohadzhiev (2007) are matching rather well with Slatina pottery with the simple hemispherical forms and jars with short necks.

The only reliable feature which shows a widespread distribution in the entire Aegean is the impressed ware. Although chronologically they are well-positioned in Central-West Anatolia, lack of absolute dates and information on them from Struma Valley makes it impossible to comment on their precise chronological position in this region. Whether they appear simultaneously in both regions or there is a general diffusion that follows the coastline (and in which direction?) are issues that are not yet solved.

It must be however pointed out that ceramic data is not convincing for a date in the 7<sup>th</sup> millennium cal. BCE.

### **3. Sofia-Slatina**

Slatina is the name of an eastern city district in Sofia which also gave its name to a prehistoric site which has been salvage-excavated in 1985-1987 by V. Nikolov. The site has ca. 4 m cultural accumulation with 8 ha coverage which encompass four different time horizons from Early to LN. The EN layers, represented through two building layers, at the site contained relatively well-preserved remains of post-houses (Nikolov 1992: 68; Nikolov and Sirakova 2002).

The younger building phase (Layer 1) yielded remains of nine burnt wattle-and-daub buildings. The best-preserved structure from this phase is called House 9 which is described in detail by Nikolov and Sirakova (2002: 165-166). The house is two-roomed

with thin wattle-and-daub walls and stamped clay floor. In terms of inner architectural elements, two clay rectilinear silos and an oven foundation have been spotted which have been accompanied by pottery vessels, stone and bone tools, one fragment of female figurine, loom-weights and fragments of “cult tables”.

The houses from the older building Phase 2 are very similar in plan and building technique to the following phase. They are square-shaped (ca. 8 m in length) with two inner divisions, stamped clay floor and one central oven foundation. Pottery vessels, bone and stone artifacts, fragments of “cult tables”, axes, clay beads and figurines are among the finds found in the house (Nikolov and Sirakova 2002).

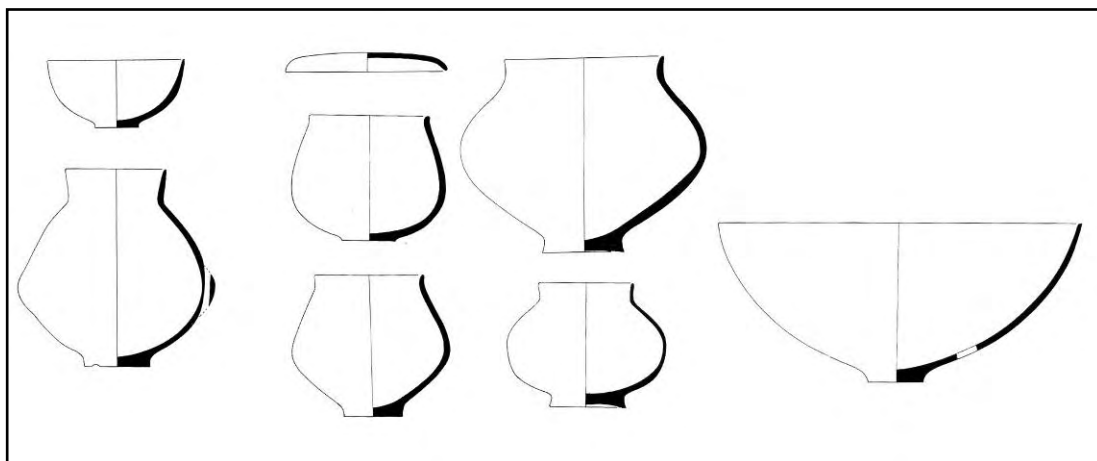
Twelve carbon determinations are available from Level IV at Slatina which are made on charcoal and seeds. These provide a date from 6970 to 6780 BP whose 1 sigma calibrated values is 5970-5635 BCE (Reingruber and Thissen 2005: 316-317). As Nikolov (1992: 70) suggests, the EN layers may be securely dated to 5800-5700 cal. BCE. These dates obviously correspond to Ulucak IV (IVa-c).

## **Ceramics**

The description of the pottery from Sofia-Slatina draws on Sirakova’s (Nikolov and Sirakova 2002) analysis of the material.

The ceramics from the EN layers of Slatina have been evaluated under two main categories: Slipped and unslipped wares. Majority of the assemblage is composed of unslipped pottery which is described as sand and/or organic tempered, well-smoothed or burnished, brown-gray-black colored and mainly well-fired. The wall thickness reaches up to 1.2 cm. Three major vessel forms are associated with unslipped wares which are bowls, large bowls and jars (or pots).

Deep conical bowls with convex profiles, shallow hemi-spherical bowls with convex profiles, jars of various sizes with short vertical necks and closed vessels with sharp wide carination on the belly are among the typical vessel types (Fig. 6.43). Jars with short vertical necks are the most frequently observed vessel type while jars with long necks are the fewest. The vessels may have carinated flat or ring bases. Few fragments of flat lids have been found. Vertical pierced knobs have been observed on jars. Decoration is rare but attested as relief bands with finger impressions on jars. Impressed decoration in some cases is observed on the lower parts of the jars.



**Figure 6.43: A selection of vessel forms from Early Neolithic Slatina found in House 4.2 (after Nikolov and Sirakova 2002: Taf. 9)**

The slipped pottery is in most cases finer than the unslipped examples with thinner wall thickness (0.4-10 mm), finer non-plastic inclusions and well-burnished surfaces. The slip is considered to be manufactured from the same clay as the vessel and is normally dark hues of red. The slipped pottery from the site may have painted decoration which is applied in brown, white or dark red. The closed forms are painted only on the outside while open forms like bowls might have painted decoration on the both sides. Polychrome paint has also been at the site from the younger EN layer, albeit without secure contexts.

Typical forms are hemi-spherical bowls, ring bases, pots with globular bellies and everted rims, hole-mouth jars with simple or everted rims, jars with funnel necks, carinated bowls and open shapes with pedestal bases.

Paint is executed in various styles. In both phases, red-on-orange/brown paint is more typical than white-on-red which is rather typically associated with large bowls. Triangular shapes with diagonal lines and horizontally or diagonally running thick bands are observed on red painted vessels. Rim area is usually separately decorated with zig-zags or “X” shapes.

White-on-red painted examples mostly display the net motif with fine thin lines and triangles or lozenges. Pedestal bases may likewise be white-painted which mostly show parallel horizontal lines.

Nikolov and Sirakova (2002: 178) indicate that ceramic data from the site is in accordance with the developed Kremikovči Group of West Bulgaria and Classic Starčevo phase from central Balkans.

#### 4. Ceramic Sequence in the Region

We have summarized the archaeological data from three sites in Struma River Basin and Sofia Plain which belong to varying culture-historical horizons. Above, detailed comparisons of the ceramics with Ulucak is already provided for Kovačevo and Krainitsi I, therefore, we will not repeat these points here. It is however worth noting that Kovačevo Ia seems to belong to the earliest cultural phase in the region as indicated by the carbon dates and pottery with distinctive style of painting. It is observed that even the earliest layers at the site contained white-on-red painted pottery. The designs are mostly confined to large zig-zags and upside-down “V”s accompanied with dots and wavy lines. The distinctive trait of this early pottery is the dark colored background over which white paint is applied. We have tentatively compared the designs of these painted examples to Ilıncın VIII incised pottery.

One of the interesting features about the development seen at Kovačevo is the transformation from carinated or ‘s’-shaped profiled bowls to simpler hemi-spherical shapes in the following phases. This is one of the most interesting yet confusing aspects of the pottery development in the region which causes difficulties with regards to interregional comparisons. The bowls with ‘s’-shaped profiles and carinated bowls are among the most typical forms of early EC cultures in West Turkey which appear at the end of a long-term development in the ceramic manufacture that started around 7000 cal. BCE with very simple squat and hole-mouth forms. Yet in the Struma Valley, these developed forms are associated with the earliest ceramic assemblages which instead of becoming more complex and composite actually “degenerate” so to speak with the time and become simpler. The “simpler” vessels from the later stages are very well attested at Slatina, which belongs exactly to this late horizon that goes parallel to Classic Starčevo phase of early 6<sup>th</sup> millennium cal. BCE. To summarize, the more globular or spherical the ceramic forms are in the Struma Valley the younger they are. Moreover, pedestal bases tend to occur later and they become taller in EN2 stage in the Struma Valley in general (Chohadzhiev 2007: Figs. 11-12).

This point brings us to the relative dating of Krainitsi I pottery which, as already mentioned, is compared to Thessalian EN pottery production by Chohadzhiev (2007: 133). A comparison of the earliest pottery from Slatina and Krainitsi I reveal many similarities in the typology. In fact, most vessel forms, both restricted and unrestricted are identical in shape and execution. The only difference between Slatina pottery and

Krainitsi I pottery is the absence of paint at the latter. The bowls with 's'-shaped profiles and carinated bowls are however barely present in the Krainitsi EN1 assemblage which is dominated by spherical forms, plates, hole-mouth jars and jars with short necks. All of these forms are however observed in the later phases of EN and fail to prove that Krainitsi I is earlier than Kovačevo Ia. Moreover, as already discussed, presence of impressed wares at Krainitsi I is an indication of a rather late date for this pottery as impressed pottery is not found in the Aegean prior to 6100/6000 cal. BCE. One additional "late" morphological feature of Krainitsi I pottery is the oval base. As it is known, oval bases are a characteristic of Ulucak IV pottery, not appearing in Level V. The only feature which imply an early date for Krainitsi I pottery is the absence of pedestal bases. This is for instance the case in Kovačevo where the earliest pottery, similar to Krainitsi I, has low-ring, disc and flat bases.

It is for the moment difficult to argue that Krainitsi I pottery represents yet an earlier pottery stage in the Struma Valley that pre-dates Kovačevo I. Our impression is that Slatina pottery is more related to Krainitsi I than to Kovačevo I. Absence of paint at Krainitsi I is unfortunately left as an issue that is unsolved. One possible explanation might be, besides the common argument that small areas were excavated and painted sherds are always low in number, that there might be niches in the Struma Valley where decoration with paint has not been adapted for a certain time, similar to what we observe in several regions in Turkey. Krainitsi I pottery remains for the time being isolated but it certainly contains elements from various EN stage on mainland Greece and LN-EC of West Anatolia.

To conclude, Southwest Bulgaria and Central-West Anatolian early farming communities shared many traits in their material culture but simultaneously maintained and produced local characteristics. Southwest Bulgaria is, as a natural result of its geographical location, is culturally more related and in close contact to Macedonian Plain and Northern Balkans than to Western Anatolia.

## ***M. Macedonia***

Macedonia is understood as the catchments of river valleys Vardar (Aixos) and Haliakmon which today cover sections of Former Yugoslavian Republic of Macedonia (FYROM) and Northern Greece. Both of these rivers and their related tributaries discharge into the Aegean Sea in the vicinity of modern city Thessaloniki to the East of Chalkidiki.

Runnels (1995) makes no mention of pre-Neolithic sites from Macedonian district in Greece. The only known Paleolithic find is a skull dated to 260,000 BP from Petralona Cave. Evidence on Mesolithic foragers (10,000-7000 BCE) completely lacks in the region.

Paleolithic research in FYROM is still in its incipiency. Few find spots are known in the country. For instance, Cave Makarovec in the Babuna river valley produced Upper Paleolithic artifacts (Mitrevski 2003: 15). It is known that Crvena stijena and Malisina stijena caves in Montenegro contained evidence of typical Gravettian and Epi-gravettian assemblages with Castelnovian elements from the Late Glacial Maximum to the onset of Holocene (Kozłowski and Kaczanowska 2004; Merkyte 2003: 310). It is understood that the region was inhabited prior to Neolithic period, however, more research is needed in order to understand the Paleolithic and Mesolithic occupation in the region.

The Neolithic sequence in the Axios/Vardar river valley is better understood due to the relatively high number of excavations which number 41 only in the territory of FYROM. In the region, Neolithic sites are either in the form of settlement mounds (locally called *Toumba*) or flat settlements on river terraces. EN period covers more than half a millennium (6400/6200-5700 BCE) in the FYROM. Middle Neolithic is another long period in FYROM corresponding to 5700-5000 BCE and LN covers the entire 5<sup>th</sup> millennium BCE (for details see Mitrevski 2003).

Mitrevski (2003: 29-30) points out that monochrome stage similar to that of Struma Valley or Proto-Starčevo phase has been identified at a single-layer site Zlastrana 35 km North of Ohrid on a mountainous terrain. The site contained around 20 wattle-and-daub buildings and coarse monochrome pottery occasionally decorated with impressions and engravings. Impressed pottery is compared to Adriatic *Impresso* Cultures, however, it is not indicated what kind of impressions are observed on the vessels. Absence of white painted pottery at Zlastrana is construed as an evidence of an early date of this site. In



my opinion, Zlastrana, standing alone, is not adequate to prove a monochrome stage in FYROM as it is a single-layer site and carbon dates are not available from its deposits. The better defined EN stage in FYROM is represented with settlement mound Dolno Trnovo where white-on-red painted pottery, barbotine and impressed decorated pottery constitute the ceramic assemblage.

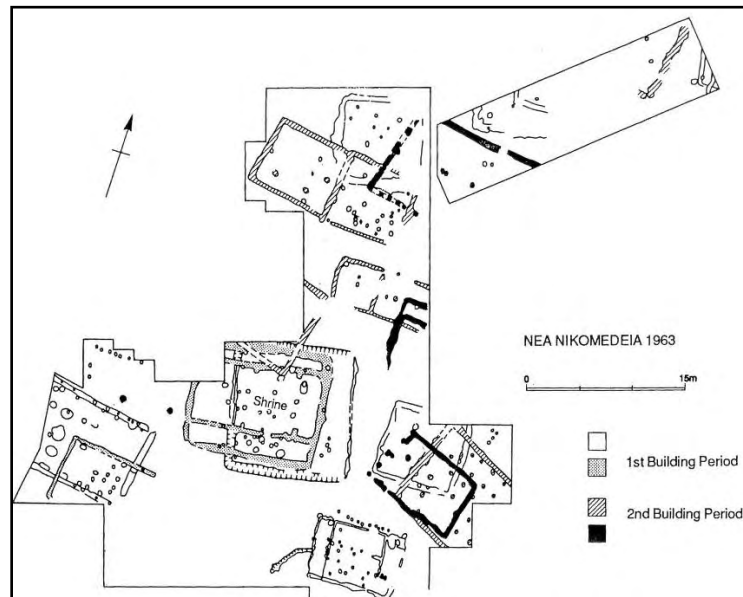
In Greek Macedonian district, Nea Nikomedeia, Servia V and Yannitsa B (Giannitsa B) are the best documented sites which contain EN cultural sequence. The pottery assemblages are clearly dominated by fine red slipped burnished pottery which is typically accompanied by low amounts of medium-coarse impressed and fine painted (white-on-red and red-on-cream) wares. Middle Neolithic period is largely documented at Servia, Vasilika and Sitagroi (Aram-Stern 1996: 124). It should be noted here that EN of Greek Macedonia corresponds to Middle Neolithic of Thessaly and early LN of Thessaly is equal to Middle Neolithic in Macedonia. EN (“monochrome stage”) as defined on Thessalian Plain is not known in Greek Macedonia (Perlés 2001: 99). There is strong agreement that Macedonian Neolithic emerged as a result of movement of farming groups into the area around 6000 BCE.

Below, we will present Nea Nikomedeia, Yannista B and Anzabegova in more detail which present us with a representational picture of the region in the EN.

## **1. Nea Nikomedeia**

The site is located on the southern Giannitsa plain 10.5 km Northeast of Veroia on an altitude of 9-10 m above sea level in Macedonian district of Greece. Nea Nikomedeia is a two m high settlement mound which covers an area of 220 x 110 m. The mound has been used as a Christian cemetery. The prehistoric cultural accumulations contain remains from EN and LN periods with no occupation dating to the Middle Neolithic period (Rodden 1962: 267-268). LN occupation is primarily represented with a radial ditch.

The mound was discovered during a road construction which caused damaged to the site. Salvage excavations have been conducted under the direction by R.J. Rodden in 1961-1964.



**Figure 6.44: Plan of the superimposed EN structures from Nea Nikomedeia (after Pyke 1996: Fig. 2.1)**

Excavations revealed three major building phases which altogether comprise 24 house plans. Buildings are identified as foundation trenches or rows of post-holes (Fig. 6.44). All of the houses show rectilinear ground plans (square or rectangular) while occasional partitions in the house have also been attested in both phases (Pyke 1996: Tab. 3.1.). It is suggested that the houses were constructed of wattle-and-daub technique. Central posts to support the presumably pitched roofs have also been documented. Floors were of beaten clay. Burnt areas have been identified during the excavations as ovens and hearths (Pyke 1996: 50-51). Rodden identified one of the houses (Group 4-Structure 1 according to Pyke’s classification) which measured bigger (11.78 x 13.64 m) than the other structures as a “shrine”.

Domestic animals, ovicaprines, pig and cattle, provided the basis of the protein requirement for the community whereas wild resources were consumed rarely. Lithic industry is confined to locally available raw materials flint and quartz. Obsidian is absent during the EN. Tools were produced on blades and blade segments. Flake tools, such as scrapers, are also present. Polished axes, various bone implements, grinding instruments, sling missiles, clay stamps, so-called “ear plugs”, beads and clay figurines are among the typical finds of EN assemblage (Rodden 1962).

Sixteen radiocarbon dates are available from the EN levels at the site. Two of the three samples analyzed in the 1960’s seem too early and with large deviations (Q-655: 8180±150 BP and GX-679: 7780±270 BP). These dates are currently considered to be

wrong as the recent Oxford datings contradict them. Bone and seed samples which were analyzed in the 1980's are more reliable and consistent. These provide a range from 6390-5670 cal. BCE (at 1  $\sigma$ ) for the EN settlement (Perlés 2001: 108; Reingruber and Thissen 2005: 306).

## Ceramics

P. Yiouni (1996a; 1996b) published an extensive report on the EN pottery from the mound which will be summarized below.

All three building layers from the site contained homogeneous pottery. Petrographic analysis of the pottery from the site revealed six different fabrics composed of different types, size and amount of non-plastic inclusions. Majority of the inclusions in the clay matrix turned out to be of mineral substance while few organic inclusions have also been detected. 96% of the pottery from Nea Nikomedeia is undecorated. The remaining 4% comprise of painted, impressed and plastic decorated sherds. Plain wares are further divided into coated (73%) and uncoated (27%) variants. Coated wares carry either red-brown slip (46%) or pink colored slip (27%). They are typically burnished.

Uncoated wares are burnished wares with light brown (beige) or red-brown colors without any application of slip over the surface. Beige uncoated wares occur with 24% in the assemblage.

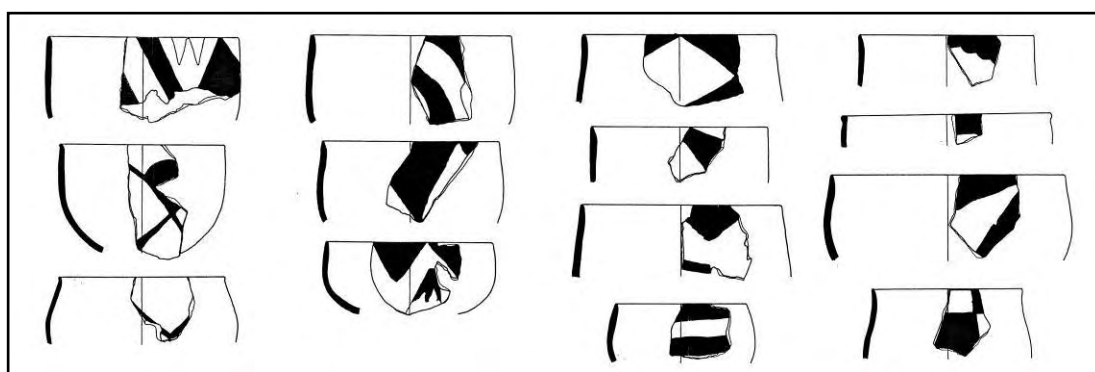
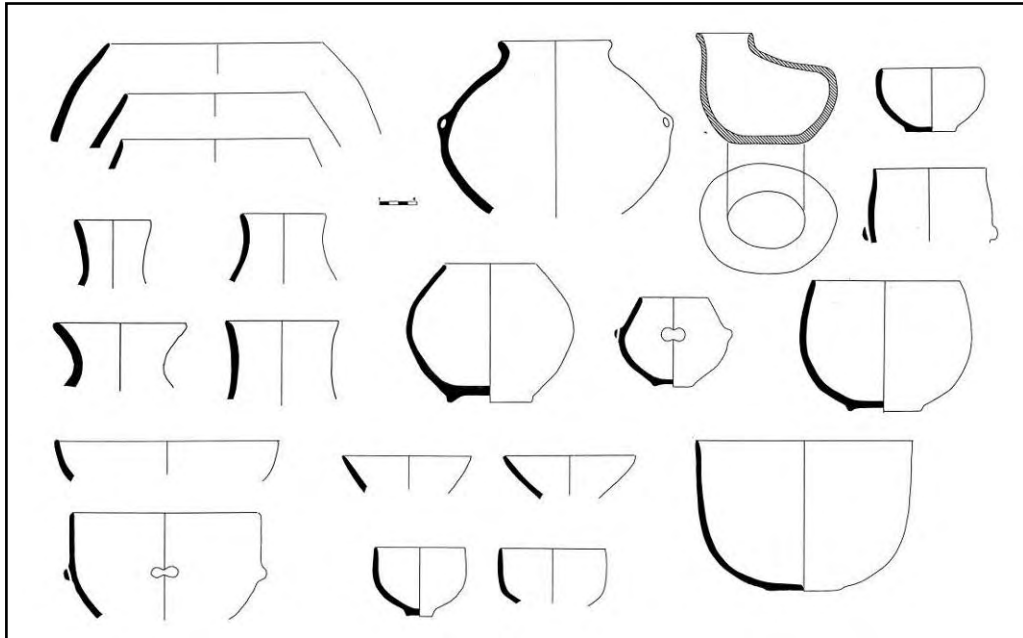


Figure 6.45: Red-on-cream painted vessels from Nea Nikomedeia (modified after Youni 1996b: Figs. 5.35; 5.36)

Painted pottery from the site is few in number. There are two types: Red-on-cream and cream-on-red painted wares (Fig. 6.45). Red-on-cream painted wares occur rarely with porcelain-like cream colored fine and glossy slip (4%). Patterns applied on the body have been analyzed by Washburn (1984) who distinguished eight separate categories of

composition (A-H) on 245 painted sherds from the site. Majority of the patterns are applied on bowls with 's'-shaped profiles and are composed of triangles, lozenges, wavy lines and zig-zags.



**Figure 6.46: Summary of forms from Early Neolithic Nea Nikomedeia (modified after Yiouni 1996b)**

9% of the decorated pottery is made of impressed wares. Impressions are observed only on the outer surface and are executed with finger nails, finger tips or by pinching. 13% of the impressed pieces have red-brown or pink slip on their surface.

Plastic application is another decoration techniques observed at the site. Among these especially “face vessels” constitute an interesting category. These are medium-large sized slipped vessels which depict human faces, silhouettes or animal snouts. Rather simple or linear applications have also been applied on the vessels.

Jars with long vertical and everted necks, jars with short necks, bowls with slight or pronounced 's'-shaped profiles, bowls with convex profiles, deep bowls with convex profiles, bowls with straight profiles and dishes are the typical forms at the site (Fig. 6.46). Few hole-mouth jars have also been identified. Small vertical handles on jar or bowl bellies, short tubular lugs, knobs and pierced knobs are observed. Bases are flat (45%), ring or disc shaped (47%). Few pedestal bases have been recovered. Rims are typically simple or everted. Askoid vessels and polypod vessels are also present in the assemblage.

## 2. Yannitsa B

Yannitsa B is one of the few currently excavated sites which yielded EN material that is well-comparable to Nea Nikomedeia.

The site is located in the southeast section of densely inhabited city Yannitsa on the Eastern part of Yannitsa basin. The excavations continue since 1989 under the supervision of P. Chrysostomou. The site is reported to contain Early and LN deposits. It is suggested that the settlement was abandoned during the Middle Neolithic due to the rising ground water. LN site which sits on top of the 1 m thick EN cultural accumulation reaches 6-8 ha. The soundings revealed three superimposed buildings from the EN age. The earliest of these has an elliptical shape with a diameter of 4 m. The younger buildings are post-

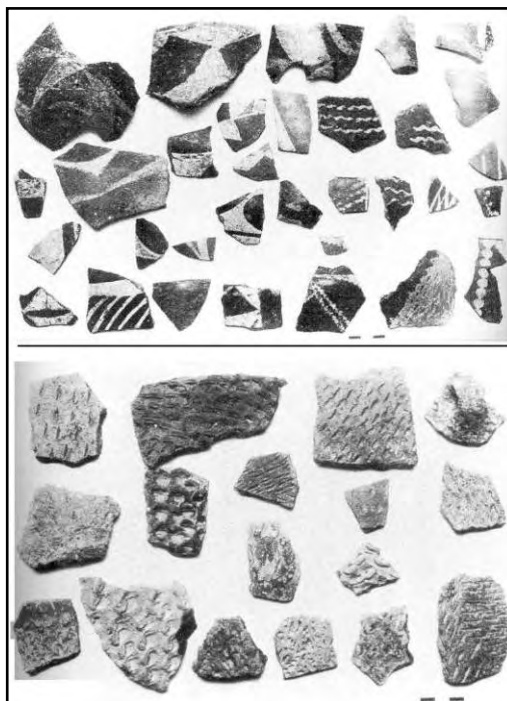


Figure 6.47: Painted and impressed sherds from Yannitsa B (after Atram-Stern 1996: Abb. 42-43)

wall structures with a rectangular shape. These three structures from Yannitsa B are the only EN architectural remains from the region since the excavations at Nea Nikomedeia. Archaeobotanical studies indicate that the site was inhabited by a farming community who cultivated einkorn wheat and emmer wheat (Andreou *et al.* 2001: 293; Atram-Stern 1996: 389-391).

### Ceramics

The EN ceramics from the site is to a great extent composed of plain fine-medium burnished wares with red, reddish brown, brown and black surface colors. Plain burnished wares are accompanied with white-on-red or red-on-cream painted wares as well as few coarse looking impressed wares. The painted patterns are confined to thick bands, large triangles, wavy lines and curvilinear motifs. Impressed wares are made with finger nails, finger tips or with an instrument onto the outer surface and are mainly associated with pots (Fig. 6.47). Frequent vessel forms are deep hemispherical bowls with raised bases, spherical bowls and jars with funnel necks.

### 3. Anzabegova

The site is located in central FYROM on the middle Vardar Valley in district Ovče Polje. The mound has been cut through by railroad construction. Earliest investigation of the site took place in 1960 by archaeologists from Ljubljana University and Skopje Museum. More excavation areas, albeit all small in size, on the north site of the site were exposed by American-Yugoslavian joint excavations in 1969-1970 which were directed by M. Gimbutas and M. Garašanin. The American team excavated 24 squares measuring 3X3 m while the Yugoslavian team excavated nine grids measuring 5 x 5 m. The results of the American excavation have been published as a monograph in 1976 which however received harsh critique from Miložčić (1978) and Garašanin (1998) who describe the book as “*irreführend*” and “*unbrauchbar*”.

The stratigraphy of the mound relies on three scattered small excavation areas covering solely 22m<sup>2</sup>. According to Gimbutas, the mound contains nine levels of four distinct periods which are called Ia, Ib, II-III and IV from EN to LN. Garašanin (1998: 29) presents an alternative stratigraphy of the mound relying on his own excavations which covered an area of 230 m<sup>2</sup>. According to his sequence, Anza I, encompasses actually three sub-phases and represents the EN strata on the mound.

Problematic are also the published carbon dates from the site (see Miložčić 1978: Tab. 1). Seven carbon dates are available from the earliest stratum Anzabegova Ia which give a large span from 6450 to 5480 cal. BCE. Gimbutas dates the earliest stage to 6100-5900 cal. BCE which seems reasonable (see Reingruber and Thissen 2005: 319-320).

Anza I, much disturbed by the upper Layer II, is represented by pits and mud-bricks in one excavation area. Anza II-III is composed of post-holes and stone foundations. Anza IV identified as lime plaster floors is highly damaged by Roman and modern remains. Unfortunately, no house plans are depicted in the final publication and the information on the architecture is very scarce, however, few photos provide an impression of the architectural remains from Levels I and II.

Polished axes, bone tools, figurines and fine pottery are typical finds from the Anza I period. The basal settlement has been founded by fully-fledged farmer-herders who brought domesticated cereals and animals with them. The subsistence was provided by einkorn wheat, six-hulled barley, peas and lentils as well as by sheep-goats (Renfrew, J. 1976).

## Ceramics

In this section, the sequence presented by Garašanin (1998) will be used as the main source as the sequence provided by Gimbutas includes serious methodological and chronological problems.

Garašanin (1998: 30-31) distinguishes four major fabrics: Coarse, Medium, Fine and Painted Wares. Coarse wares are seldom found in the first level. Medium wares are frequent in Level I and include brown, red, grey colored wares which are frequently slipped and smoothed. Fine wares include well-burnished and thin-walled vessels with red and brown colors. The earliest layer at the site contained mainly medium red slipped and brown wares. White-on-red painted wares carry floral motifs and triangles. White painted red slipped wares are common in Level Ia-b and already with Ic their quantity decreases. In Ib, floral motifs are not observed anymore, instead appear the ladder motif.



Figure 6.48: White-on-red painted bowls from Anzabegova I (after Garašanin *et al.* 1971: Figs. 4-5)

In Level II, painted wares and fines wares become very rare. Curvilinear net motifs are first observed with Level II as well as the channel decoration and impressions made with an instrument that leaves triangles on the surface. Fine black burnished ware also first appears with Level II.

Impressed pottery made with finger nails and fingers are present from the beginning onwards, although rare in the earliest Layer Ia. In Level Ib, impresso pottery outnumbered barbotine pottery. Barbotine decoration is attested with Level I, but increases especially in Level II. Levels III and IV are out of the chronological scope of this study as they represent the developed Starčevo and transitional Vinča periods.

Frequently appearing forms in Level I are hole-mouth bowl, bowls with 's'-shaped profile, simple bowls with convex profiles, hole-mouth jars, jars with short necks, jars

with long vertical neck and shallow bowls with convex sides. Bases are mainly of ring, disc and flat types. Cross shaped bases are also observed. Rims are simple or slightly everted. Small vertical handles on jar bellies and vertical tunnel lugs are observed. The pattern of paint at this stage is coarse looking. Thick bands, triangles, zig-zags and lozenges are recognized on the outer surfaces of red slipped fine wares (Fig. 6.48).

Garašanin suggests that Anzabegova-Vršnik I group is contemporary with Proto-Sesklo stage of Thessaly and Nea Nikomedeia and Servia in northern Greece.

#### **4. Comparisons with Central-West Anatolia**

All three sites which are presented above have a good number of common archaeological traits with Central-West Anatolian sites ranging from architectural techniques to pottery. One of the most important characteristics of Macedonian EN sites is that they contain plain burnished, painted and impressed pottery from the very beginning of the Neolithic period onwards. This means that an early phase similar to those in Anatolia or Thessalian Plain without the appearance of painted and impressed wares is not attested in the Vardar/Aixos Basin. Current evidence strongly suggests that the earliest sedentary farming villages in the region do not appear before 6000/5900 cal. BCE. As mentioned above, EN of Vardar/Aixos Basin corresponds to MN of Thessaly and consequently final LN and EC of West Turkey. Newly analyzed carbon samples from Nea Nikomedeia confirm this statement.

The pottery assemblages of the region are predominated by fine-medium plain burnished wares. As mentioned above, 96% of pottery from Nea Nikomedeia is made out of plain wares (Yiouni 1996a). Fine wares are especially characterized by the red slipped and well-burnished vessels and black burnished wares. Coarse wares are seldom, although they increase through time, as observed at Anzabegova from Ia to Ib-c (Garašanin 1998). Fine RSBW constitute one of the significant common ceramic traits between Central-West Anatolia and Macedonian Plain. However, quantitatively, in Central-West Anatolia they are more numerous than in Macedonia.

Painted wares display two main variations in the region: White-on-red and cream-on-red painted wares. White-on-red paint is undoubtedly an influence from the Struma Basin while cream-on-red painted wares are known from Thessaly and West Anatolia. Patterns on the painted wares are very similar at all sites we have presented. Large triangles, wavy lines, zig-zags and thick bands are very common. At Anzabegova, the change in



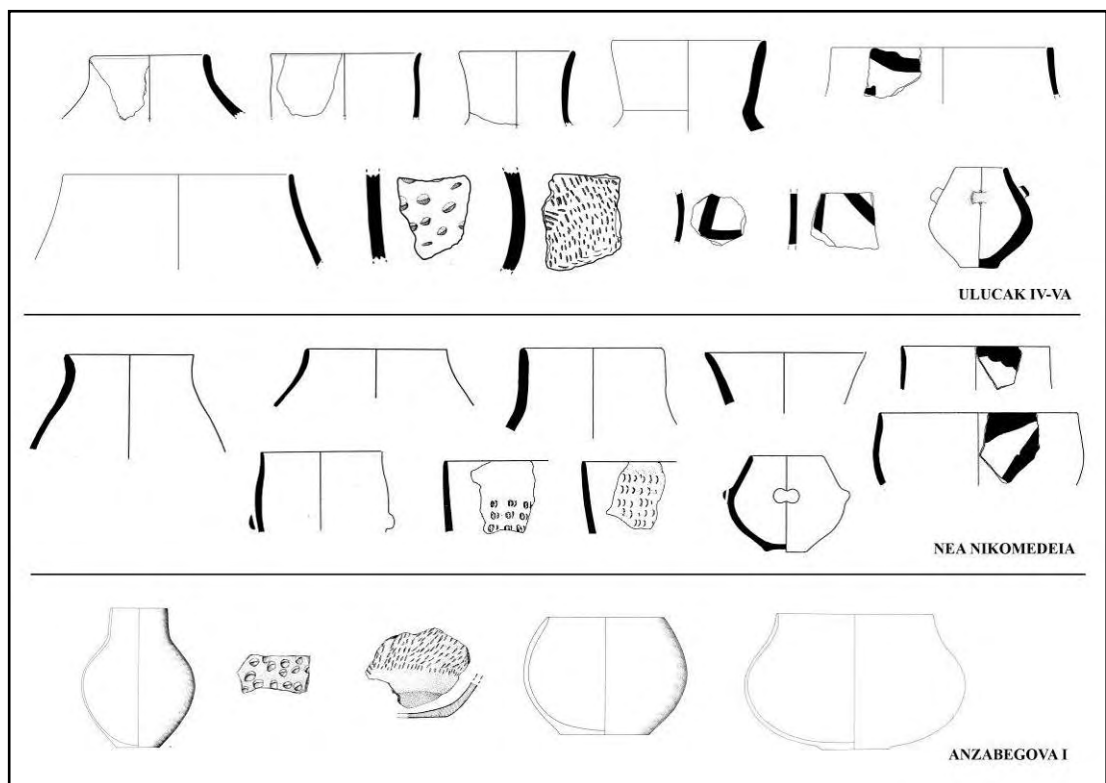
the painted designs can be observed as the cultural sequence at this site continues into the Middle and LN periods (Garašanin 1998). On the other hand, at Nea Nikomedeia and Yannitsa B such a long sequence is not present and it is not possible to reconstruct the cultural sequence into the Middle and LN periods.

At Nea Nikomedeia, the painted wares constitute around 3% of the ceramic assemblage (Yiouni 1996a). At Ulucak, however, they are represented with <1% in all levels. As the preservation of the painted vessels at Ulucak is very poor, it is difficult to compare the patterns from these settlements. Nevertheless, thick bands and big triangles, frequently found on Nea Nikomedeia vessels, are indeed attested at Ulucak at building phases IVh, IVi and Va which date around 6100-6000 cal. BCE. It seems like even though the painted wares are extremely few in number at Ulucak, the style of the paint is very similar to contemporary sites in Vardar/Aixos Basin. At Ulucak, the paint is applied in red over light brown-cream colored surface in level Va. Painted sherds from IVh, on the other hand, are cream painted over red surface. At Nea Nikomedeia, too, both red-on-cream and cream-on-red variants are attested.

Impressed wares are executed with the same techniques at all three sites and they are almost identical to each other. Close similarities are also obvious with the Central-West Anatolian impressed wares. Similar to Macedonian examples, Central-West Anatolian impressed wares show coarser appearance than red slipped wares. They are applied on the outer surface of a vessel with finger nails, finger tips or with an instrument, and the impressions are not connected to each other. Impressed wares constitute one of the best chronological links between Central-West Anatolia and Macedonian Plain. Impressed wares recovered in both regions must have common origins. Similar to Nea Nikomedeia, Anza and Yannitsa B, at Ulucak IV and other Central-West Anatolian sites, impressed wares co-exist with the red slipped wares.

Face vessels from Nea Nikomedeia are not matched at Anzabegova and Yannitsa B, but very similar vases have been found at Achilleion IIIb/IVa (Gimbutas *et al.* 1989) and Hacılar I (Mellaart 1970). Hacılar I face vessels are painted with red designs while at Nea Nikomedeia they are red slipped and with coffee-bean eyes. Ulucak anthropomorphic vessel has also similarities to Nea Nikomedeia examples as they too have human faces on the vessel neck.

In terms of vessel shapes, common traits clearly outnumber the contrasting features. First of all, the open forms with ‘s’-shaped and convex profiles are common to both regions. Jars with funnel necks as well as jars with short necks are likewise found in both regions. Jar without neck and globular body is among the other important common vessel shape produced in both regions. Rim and base types are also similar to a large extent. At Ulucak IV, however, flat and disc bases are more common while in Macedonia raised and ring bases are typical. Small vertical handles on jar bellies are found at Ulucak IVb-c and one example is known from Va. Absence of true handles from both regions is another common characteristic of pottery. In short, vessel typology of Nea Nikomedeia and Ulucak IV is matched almost in its entirety (Fig. 6.49).

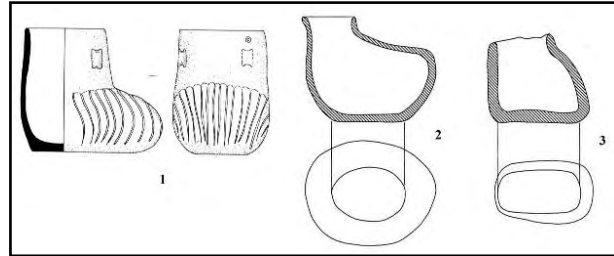


**Figure 6.49: Comparative illustration of the vessel shapes and decorated wares (Nea Nikomedeia after Youni 1996b: Figs 5.4,5.6,5.8,5.10,5.36,5.55; Anzabegova after Gimbutas 1976: Fig. 19,20; Garašanin 1998: Abb. 2).**

Different are the certain vessel, lug-handle and base forms. Askoid vessels are not known in the Central-West Anatolia, although a very similar specimen is recovered at Höyücek’s Shrine Phase which is called a “boot shaped vessel” (Duru 2007; Fig. 6.50). Pierced knobs and tubular lugs from both regions are morphologically different. Raised ring bases, cross-shaped bases and pedestal bases are foreign features for Central-West Anatolian assemblages. It should be noted however that few cross shaped bases has been

attested at Ege Gübre (pers. obs.) while they are completely lacking at Ulucak. Typical thick flattened rims, long-thin tubular lugs, double-knobs, bead-rims and oval bases of Central-West Anatolia are absent at the Macedonian Basin. What is also missing at Macedonian sites is the small vertical handle or knob on the jar rim.

How can we interpret the close affinities of ceramic assemblages at both regions? EN sites in the Vardar Basin definitely have their origins outside of the region. However, it is difficult to pinpoint the precise origin of these communities. The high similarities in the ceramics



**Figure 6.50: 1: Boot-shaped vessel from Höyücek Shrine Phase (after Duru and Umurtak 2005: Pl. 62.1) 2-3: Askoid vessels from Nea Nikomedeia (after Yiouni 1996b: Fig. 5.9)**

(especially Nea Nikomedeia) to Central-West Anatolian sites may be indicating that these groups had their origins in West Anatolia. It should be noted that the similar traits in the material culture are not restricted to the pottery. The architecture of Ulucak Va and Vb, characterized by rectilinear post-wall buildings, are well comparable to the architecture from the three sites we presented. Other material cultural elements, such as clay stamps, figurines, sling missiles, bone tools are likewise very analogous in both regions. However, it needs to be pointed out that same objects are known from Thessaly, too. Therefore, one cannot easily conclude that Macedonian farming settlements were founded by West Anatolian groups. It seems like both West Anatolia and Thessaly contributed to the origin of Neolithic groups in the northern Aegean. Perhaps an Aegean maritime exchange network and mobility in the area led some groups to inspect new regions suitable for farming and settling. There may well be multiple origins of the EN communities who chose to settle Vardar/Aixos Basin around 6000 BCE. What is clear however Nea Nikomedeia represents the only site in Southeast Europe which shows extensive similarities to Ulucak than any other site we have examined from the region.

It seems like with the time Vardar/Aixos Basin developed its own peculiar material culture and pottery style, although strong connections to Thessaly and Struma Basin during the later stages of EN are felt. Especially, presence of white-on-red paint is a manifestation of contacts with the Struma Basin groups. In the Middle and LN, typical elements of Starčevo Culture are easily detected in terms of fabrics and forms, as the data from Anzabegova well demonstrates.

## ***N. Thessaly (Larissa and Karditsa Plains)***

Thessaly comprises two connected large alluvial plains surrounded by mountain ranges where the earliest sedentary farming settlements of Greece were discovered and intensively researched. These are settlement mounds (*Magoula* in Greek) which are created through the long-term continuous occupation with mud-based architecture similar to Anatolian and Thracian settlements.<sup>75</sup> More than hundred EN sites were located on the plain provided by permanent water sources which supported dense population and socio-economic stability during this period (Demoule and Perlès 1993). Recently, excavations at the Theopetra Cave demonstrated that the Neolithic occupation during the EN was not restricted to the fertile alluvial plain (Kyparissi-Apostolika 2005).

In Thessaly, foundations of the Neolithic research have been established by various eminent scholars such as C. Tsountas, who conducted the initial excavations at Sesklo in the very beginning of the 20<sup>th</sup> century. Late 1950's and 1960's experience a series of significant excavations in the region such as at Sesklo and Soufli Magoula by D.R. Theocharis, and Otzaki and Argissa by V. Miložčić. In early 1970's, Achilleion, another major EN Thessalian mound, is re-excavated and the results are published as a monograph in 1989.

The above mentioned mile-stone research constructed reliable chronological sequence of the region based on both archaeological data and absolute dates. The current periodization of the EN into ENI, ENII and ENIII, distinguishes three stages which is partly based on Miložčić's scheme who named these phases "*Frühkeramik*", "*Proto-Sesklo*" and "*Vor-Sesklo*". EN period, dated from 6500/6400 to 5800/5700 cal. BCE, is followed by the Middle Neolithic, which is also known as the "Sesklo Culture". Middle Neolithic period covers ca. 5800-5300 cal. BCE (Gallis 1996a: 120). Recent re-examination and analysis of radiocarbon data from EN sites by Perlès (2001: 110) confirmed this dating to a large extent as it provided a range from 6540-5950 cal. BCE for the EN period. The sub-phases of the "Neolithic Culture" are distinguished based on the changes in the pottery decoration and forms. A demographical or cultural break from EN to MN cannot be identified. The development of the pottery takes place locally and as a result of responses to the changes occurring in the neighboring regions.

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<sup>75</sup> For an ecological assessment and spatio-temporal distribution of *Tell*-sites in Anatolia and Southeast Europe see Rosenstock 2005.

For sake of clarity, we have to point out that EN in Greece encompasses the LN and first two centuries of EC in Turkey. Middle Neolithic of Greece corresponds to EC and first two centuries of Middle Chalcolithic of Anatolia. It is perhaps more appropriate to use only the absolute dates in our discussions as the other terms are making the issue complicated.

Although Paleolithic and Mesolithic findspots were located in various parts of Greece, until recently these were lacking in Thessaly, except the six sites identified during extensive surveys of Runnels which are dated to the Lower-Middle Paleolithic period.<sup>76</sup> There is extensive population increase during the Late Middle Paleolithic of Mousterian type in Thessaly, with sites numbering around 30, which are typically located along the Peneios River. Early Upper Paleolithic (Aurignacian) is hardly represented in the whole Greece, which experiences increasing occupation of the coastal plains with the late Upper Paleolithic (or Gravettian and Epi-Gravettian) (Runnels 1995: 709-712). The Mesolithic occupation of Greece is demonstrated at Sidari on Corfu and Franchthi Cave in southern Greece while presence of Mesolithic foragers in Thessaly has been a much welcome recent discovery. According to Runnels (1995: 726), there is substantial cultural hiatus between the Paleolithic and Mesolithic cultures of Greece reflected in the lithic industries, subsistence modes and burial-ritual customs; the latter being very much in accordance with Southwest Asian Epi-Paleolithic traits. He asserts that mainland Greece was slowly but increasingly inhabited by foragers with Southwest Asian origins, starting in the late Mesolithic and intensifying during the Neolithic.

In Thessaly, pre-Neolithic ages have been primarily researched at Theopetra Cave excavated in years 1987-2000. The research of the cave provided an invaluable source of information for understanding the pre-Neolithic occupation of the area. The cave, located on the western edge of the plain, in close proximity to the Pindus Mountains, revealed deposits from the Middle Paleolithic to the LN periods. Mesolithic and EN occupation of Theopetra Cave is brought in discussions about the neolithization of Thessaly and modern Greece in general. Kyparissi-Apostolika (2005) emphasizes the intensive plant gathering activities of Mesolithic foragers which is clearly demonstrated by the wide range of plant species, including wide progenitors of einkorn wheat and various pulses, identified in cave deposits. She suggests that domestication of einkorn wheat (*Triticum monococcum*) might have occurred through the intensification of plant management by

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<sup>76</sup> For a detailed account of the Paleolithic and Mesolithic research in Greece see Runnels 1995: 700-704.

the local Mesolithic-EN foragers-farmers who, after managing that, dispersed to the various regions of Greece in at least three directions (Kyparissi-Apostolika 2006: 64). In other words, a local transitional stage from hunter-gatherer lifestyle to farming is suggested which should demonstrate that EN settlements of Thessaly were not of completely non-local origins. Indeed, a “Near Eastern” origin of the Neolithic way of life in Thessaly is simply inconceivable for most local scholars, who prefer an extreme indigenist view of neolithization in Thessaly (see for instance Andreou *et al.* 2001: 318-319).

As already mentioned, the research at Theopetra Cave is more than welcome for Aegean Neolithic studies as it allows us to compare and contrast Holocene hunter-gatherers with agro-pastoralists who occupied Thessaly. There are several points in Kyparissi-Apostolika’s indigenous model based on the interpretation of archaeological and botanical data which received criticisms. First of all, Thissen (2005: Fig. 2) argued that there is a 1000 year of gap between the Mesolithic and EN carbon dates from the cave which are supposed to cover the transitional period. The gap indicated by the carbon dates impedes the claim of gradual transition from hunter-gatherer to farming lifestyle in the cave. Secondly, the issue of local domestication of wheat and barley: As Kyparissi-Apostolika (2005: 175) indicated, domesticated barley remains identified in the Mesolithic layers were intrusive from the upper Neolithic deposits and there is admittedly no positive indication of cultivation of any plant remains during the Mesolithic in the Aegean.<sup>77</sup> Moreover, big majority of the wild progenitors of major crops (emmer, einkorn, barley, pea, lentil, chickpea, bitter vetch and flax) identified by Zohary and Hopf (1993) as “the founder crops” did not grow in Greece. In the light of current archaeobotanical data, it is argued that the sudden co-occurrence of the founder crops in their domesticated state in any given region is an excellent indication of extra-local domestication, and penetration into the area by those who possessed these domesticated species and the knowledge to cultivate them (Colledge, Conolly and Shennan 2004; see also Diamond 2002). This pattern of simultaneous occurrence is not only valid for mainland Greece but also applies to Central and West Anatolia (Asouti and Fairbairn 2002: 189).

Another interesting point related to the practice of farming is raised by Perlés (2001: 118) who points out that the location of the EN sites in Thessaly are concentrated in

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<sup>77</sup> For instance, domesticated cereals and pulses found in the Epi-Paleolithic layers of Öküzini Cave are interpreted as contaminants in the light of AMS determinations (Martinoli 2004: Tab. 2).

areas where annual precipitation is the lowest in the country (600 mm or less) and actually has same values as in the Eastern Mediterranean. She argues that the communities who settled Thessaly, despite the low rainfall, aimed to continue the habits and practices already gained in their homeland. Moreover, the domesticated species would have easily adapted to an environment most similar to their homeland instead of an area where rainfall is higher.

Thirdly, somehow Kyparissi-Apostolika fails to mention the origin of domesticated animals (especially goat/sheep) found in big quantities in the Neolithic deposits of the cave. It suffices here to mention that intensive research in Europe did not produce evidence for local process of domestication of major livestock animals whereas osteological evidence of initial and transitional stages of animal domestication, along with the genetic evidence, demonstrates that this process has taken place in various localities of Southwest Asia and Eastern Mediterranean (Bollongino 2006: 51-52).

Another issue is the evidence offered by the material culture which is important in order to reveal the degree of continuity from the late Mesolithic into the Neolithic period. EN deposits, despite certain stratigraphical problems, contained pottery fabrics and forms that are fully compatible with the pottery from EN Thessalian sites which are fully-developed monochrome, red-brown colored and fine, rarely incised, impressed or painted (Kyparissi-Apostolika 1999: 148). This is an indication of an absence of local “discovery” of pottery. It may likewise point out that the cave was inhabited or used by farmers who are of non-local origins and produced fine pottery. When considered together with the carbon dates, it seems plausible that the Mesolithic hunter-gatherers abandoned the cave prior to the arrival of farmers or they have co-existed for certain period of time before they moved on to other localities. Especially the presence of impressed pottery at the cave indicates that it was not inhabited at the very beginning of the EN in Thessaly as impressed wares appear only at the end of the EN in the region (Reingruber 2008).

Finally, one major issue concerning Kyparissi-Apostolika’s indigenist model is related to the demographical aspect. As already mentioned, mainland Greece during the Mesolithic, despite period-oriented extensive and intensive surveys, was thinly occupied (for details see Runnels 1995; Perlès 2001: 25). Perhaps it is significant to underline the fact that more than 30 Middle Paleolithic sites were located in Thessaly whereas the same survey failed to locate any Mesolithic sites. The geomorphological factors may

have played a role in destroying Mesolithic find spots if they are comprised of scatters of lithics and hearths, however, if a local transition to sedentism and farming occurred in the area, then we should expect existence of year-round settlements with dwellings, storage units, grinding instruments, burials and evidence of initial controlling of local plants and animals, similar to those found at Southwest Asian Natufian-PPNA sites (see Bar-Yosef and Valla 1992).

Kyparissi-Apostolika (1999: 149) indicates that probably around 20 people inhabited the cave during the Neolithic. The question is how local communities who apparently lived in small and, most probably, mobile groups can achieve enormous rates of reproduction which enable them to disperse all over Greece in such a short time?

Obviously, there are some major argumentative gaps in the model offered by Kyparissi-Apostolika who in an attempt to disprove diffusionist model of neolithization adapts an extreme indigenous position and subsequently (and ironically) falls into the trap of extreme diffusionism when it comes to explaining neolithization of other areas in Greece. An objective and unbiased examination of the data from Theopetra Cave and early EN sites make an explanation which does not involve leapfrog colonization<sup>78</sup> and demic diffusion<sup>79</sup> of agro-pastoral communities via maritime and/or land routes from Southwest Asia impossible. In this respect, I consider the maritime model offered by Perlés in several works (2001; 2003; 2005) as a well-thought, data-reliant and, most importantly, *unbiased* approach to the question of neolithization of Thessaly.

Another important issue related to the neolithization of Greece which is of interest to us is the question of “aceramic” or “pre-pottery” Neolithic sites, similar to those found in Southwest Asia and Central Anatolia. Miložčić was the first to introduce this notion to the prehistoric archaeology in Greece after his excavations at Argissa. Theocharis adapted this view mainly based on the data presented by Miložčić, who emphasized for example microlithic character of the Argissa stone tools. Major basal deposits excavated at Thessalian EN sites such as Sesklo, Soufli Magula, Achilleion and Gediki, have been initially interpreted as of being devoid of ceramics (Reingruber 2005). Re-excavation of Achilleion by a team led by Gimbutas demonstrated that there is no pre-pottery deposits

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<sup>78</sup> Leapfrog colonization is described by Zvelebil (2001: 2) as “selective colonization of an area by small groups, who target optimal areas for exploitation, thus forming an enclave settlement among native inhabitants.”

<sup>79</sup> Demic diffusion is defined by Zvelebil and Lillie (2000: 62) as follows: “Demic diffusion denotes a sequential colonization by random migration carried out by family groups. It occurs over many generations and involves slowly expanding farming population, colonizing new areas by the “budding off” of daughter hamlets from the old agricultural settlements.”



at the site as proposed by Theocharis (Gimbutas *et al.* 1989: 25-26). Re-examination of other “PPN” deposits, in some cases analysis of the site reports and re-consideration of the issue by several specialists including Bloedow (1991), Demoule and Perlès (1993), Perlès (2001) and Reingruber (2005; 2008), demonstrated that none of the Thessalian EN sites contained deposits completely devoid of pottery or baked clay. On the other hand, it became rather clear that “discovery” of Aceramic stage in Greece has been a state of mind, more correctly a consequence of “*Zeitgeist*” as put by Reingruber (2005: 157), created after the discovery of PPN sites in Southwest Asia in the 1950-1960’s. As already mentioned, early layers of Hacilar have also been interpreted and published as “Aceramic” by Mellaart who excavated the site in 1957-1960. Existence of a PPN stage in West Anatolia is still far from being undisputed. Today most scholars doubt the existence of a PPN stage on mainland Greece but they agree that the earliest deposits contained only small amounts of pottery (Perlès 2001: 96).

In accordance with Perlès (2001), it seems to us more appropriate to call this early stage as the “initial Neolithic” which begins around 6500/6400 cal. BCE. Existence of such an early stage in Thessaly reaching back to the middle of the 7<sup>th</sup> millennium cal. BCE is very important for our purposes because it presents us with the only comparison chance of Ulucak V material with the settlements on the western side of the Aegean Sea and Southeast Europe in general. Such a comparison enables us to show not only common features but also divergent elements in the ceramic technology, fabrics and morphology developed simultaneously on both sides of the Aegean.

Even if it would be far-fetched to assume that communities of both regions were in direct contact, one line of archaeological evidence is in favor of sustained social-cultural contacts through millennia: Melos obsidian. It is known that both Central-West Anatolian and Thessalian sites acquired obsidian from the various sources on Melos island. Although the obsidian from Ulucak IV-V are currently subject to Neutron Activation Analysis and results are not available yet, samples analyzed from Dedecik-Heybelitepe in Torbalı-İzmir demonstrated that Melos obsidian was procured by Central-West Anatolian LN-EC communities (Herling *et al.* 2008).

It is yet far from clear that the way in which Melos obsidian arrived to Thessalian and West Anatolian settlements. According to Perlès (1992), there is a good possibility that “middle-men” existed operating in the Aegean Catchment area, who extracted the raw material from its source, pre-formed the cores and distributed the material to the

communities in the mainland. These “middle-men” possessed the technical ability and know-how to manage maritime travel and obsidian knapping—skills otherwise would not be acquired by the sedentary inland farmers. Model created by Perlès is very intriguing and archaeological data has yet to be tested against the assumptions of the model. What is however beyond doubt is West Anatolian and Thessalian early farming communities were involved in the procurement of raw materials, notably the archaeologically visible obsidian from Melos Island, which provides the excellent means for cultural contacts whether it involved direct procurement model, a central place, market exchange or existence of middle-men.

In this section, we will evaluate the ceramic data from Sesklo, Argissa and Achilleion as we think these present a representative picture of the EN ceramic development in the region.

## **1. Sesklo**

Sesklo is a settlement mound located on the small coastal plain of Volos, a modern harbor city only 9 km East of Sesklo. The site is 155 m above sea level, containing around 4.5 m of cultural deposits, in the region of Thessaly, district Magnisia. The excavations first take place in 1901 by C. Tsountas who identified EN, LN and Early Bronze Age occupations on the area called “Acropolis” or “A”. Excavations by D.R. Theocharis began following an earthquake in 1955, which revealed a section with the stratigraphical sequence of the mound. Theocharis conducted excavations not only on the Northeast section of the “Acropolis” but also in the vicinity of the site (Areas B,C,D and E) and managed to reach the sterile soil. He also exposed more EN strata and reveal the actual size of the mound until the end of the excavations in 1977. 4500 m<sup>2</sup> area is excavated on the mound and in the surrounding landscape which suggested that the settled area might have covered around 12 hectares (Andreou *et al.* 2001: 262). Theocharis distinguished four major stages represented on the mound which represents the EN period. Of these, A-C belong to EN whereas D represents “Pre-Pottery” stratum which has been reached in areas “A” and “C”.

As mentioned above, there are serious doubts concerning the presence of a PPN stage at Sesklo. The site reports and publications were meticulously investigated by E. Bloedow (1991) who could demonstrate that there are a number of ambiguities surrounding the nature of “pre-ceramic” deposits at Sesklo. Section drawings, detailed descriptions, plans which are supposed to prove PPN deposits at Sesklo are not included in the reports and

all the ceramic fragments found in PPN deposits are interpreted as “intrusive.” Coarse-looking pottery pieces are presented as evidence of “experimentation with clay.” Moreover, it is never really clear how big the excavation area was, how deep the PPN deposits reached, what distinguished them from the EN layers. Carbon dates are also far from indicating how long PPN stage may have lasted at Sesklo (Bloedow 1991). It is not the aim of this study to discuss this problematic issue; however, it has to be noted here that there are serious doubts about the existence of PPN deposits at Sesklo.

The “PPN” stratum at Sesklo comprises a very ashy deposit with number of elliptical pits dug into the virgin soil which are interpreted as pit-dwellings.<sup>80</sup> These pits contained various finds including bone implements, lithic –obsidian and flint tools, ceramic figurines, shells and other stone objects. The lithic industry is based on blade production and obsidian from Sesklo has been mined at Melos. The osteological and botanical analyses conducted on the material from these deposits concluded that the earliest inhabitants were agro-pastoralists who brought with them domesticated sheep/goat, cattle and pig as well as wheat (*Triticum dicoccum*), barley (*Hordeum vulgare*) and pea (*Pisum sativum*) (Wijnen 1982: 11).

Very little is known about the EN settlement at Sesklo. EN levels at Sesklo, around 2 m thick, are distinguished into three stages: ENI, ENII and ENIII. Unfortunately, no houses have been excavated to a full extent from these levels. However evidence of dwellings is clearly indicated by burnt mud debris with impressions of wood and reeds. Remains from ENIII confirmed rectilinear houses made out of “mud-brick and pisé” (Wijnen 1982: 11; Kotsakis 1996: 49).

EN deposits are followed by Middle Neolithic layers which also show three developmental stages. The architecture, observed on 22 MN houses, shows free-standing houses with massive stone foundations, mud-brick superstructure and rectangular plans (Andreou *et al.* 2001: 263). It is suggested that the roofs were thatched and the settlement is surrounded by an enclosure wall (Theocharis 1973: Fig. 178). The latest MN settlement ends with a fire. According to Kotsakis (1996: 52), the organization of settlement and buildings, contrasted at area A and B, might be an early manifestation of social complexity. Substantial remains from Dimini and Rachmani phases of LN with Megaron-like buildings are overlying these burnt deposits. It is noted that habitation of the mound continued until the end of the 2<sup>nd</sup> millennium BCE (Kotsakis 1996: 49-54).

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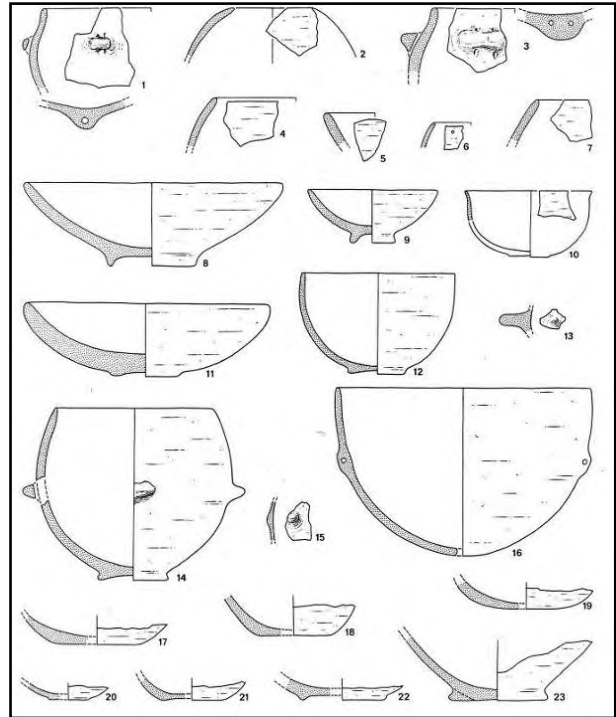
<sup>80</sup> For a discussion on the nature of “pit-dwellings” from EN Greece see Perlés 2001: 184-185.

A number of carbon dates are available from the site. According to the sum of nine dates from the so-called “PPN” and ENI levels, basal Sesklo is dated to 6460-6220 cal. BCE while Sesklo EN II-III is dated to 6210-5920 cal. BCE (Thissen 2005: Fig. 4).

## Ceramics

The pottery from EN levels at Sesklo has been analyzed by Wijnen. Our summary below draws on her detailed report published in 1982.

The pottery from ENI deposits (Strata A-C) contains mica or small particles of mica schist along with sand. Surface colors are variable with incompletely oxidized colors that range between red, black and buff. Inoxidized cores are likewise very common. Light surface colors increase from stratum C to A which is explained by the increasing ability of the potters to control the firing conditions. Mottling is common. The surfaces are smoothed and occasionally



**Figure 6.51: Early Neolithic I pottery from Sesklo (after Wijnen 1982: Fig. 11)**

Highly burnished examples are rare. Wijnen (1982: 27) indicates that post-depositional factors may have worn out the burnished surfaces.

The vessels are constructed with coiling and pinching techniques. Wijnen distinguished “coarse” and “medium” wares, the former decreasing from stratum A to C. Medium wares constitute 95% of the assemblage. Carinated or necked vessels are not produced at this stage. Forms are comprised of small-middle sized hole-mouth jars, jars with ‘s’-shaped profiles, bowls with convex profiles and bowls with ‘s’-shaped profiles. Wijnen (1982: 25) distinguished six rim types. These are enumerated as blunt, flattened, tapered symmetrically, tapered inside, tapered outside and rolled over. Functional additions are rare. Single or double pierced or non-pierced lugs appear on pots. Bases are flat, rounded, disc or ring bases (Fig. 6.51).

Wijnen (1982: 33) concludes that there is a tendency from stratum A to C towards producing unrestricted forms, thinner walls, better oxidized wares, ring bases and everted rims. An overall evaluation clearly points out a slow gradual change in the pottery production.

With ENII-III the first examples of painted wares are observed at Sesklo, although these appear in extremely rare quantities. ENII pottery is basically fine, mineral tempered medium wares with light buff-red or dark red colors and burnished surfaces. Application of a red slip, initially streaky then of better quality, is first attested in the ENII period. Pierced lugs decrease in number. Decoration is confined to painting in red or white color. Red colored paint is applied on white or buff colored surface while white or light red colored paint is applied on red surfaces. The motifs comprise linear compositions, horizontal bands on rim and solid filled triangles. Hole-mouth jars, bowls with convex profiles, bowls with flaring profiles, higher ring bases are characteristic shapes of ENII.

ENIII witnesses the disappearance of painted wares and appearance of plastic decoration. Paint appears again only at the end of the ENIII period prior to the real "Sesklo Culture". ENIII pottery is composed of well-fired, thin walled, fine-medium wares, mineral tempered. Surfaces are smoothed and burnished. Medium wares which comprise more than 90% of the assemblage are very frequently red slipped and burnished. Knobs and lugs are observed on fine and medium wares. At the end of the sequence, painted decoration, red on white or buff slip, appears again. The motifs are well arranged compositions of bands and triangles. Collared jars and shallow bowls (dishes) appear for the first time in this phase. Hole-mouth jars, bowls with flaring walls, bowls with convex profiles and globular jars continue to be produced. Flat and ring bases are also common (Wijnen 1982: 37). Although present in West Thessalian EN sites, impressed wares are rarely encountered at EN Sesklo (Reingruber 2008: 253).

Middle Neolithic period at Sesklo is characterized by the so-called "monochrome A1 ware" which is a very fine, RSBW. The styles of painted decoration are implemented by Theocharis to distinguish various stages during the MN period which shows a gradual development in itself (Aram-Stern 1996: 126). The first phase is characterized by the so-called "solid style" which shows checkerboard motifs and zig-zags in red color on buff-cream surface. In the following stage, the so-called "flame pattern" is considered characteristic. Finally comes the linear style white-on-red pottery decorated with chevrons, bands, zig-zags and other linear compositions. Red on brown or orange

surface is also observed during this stage (Gallis 1996: 120). Bowls with pedestal bases, deep beakers with vertical strap handles (“mugs”), tulip-shaped vases, bowls with squat shapes, large plates, globular jars with necks are popular during the MN.

## 2. Argissa

Argissa (or Gremnos Magula) is located 4.5 km West of modern city Larissa on the northern bank of river Peneios whose river bed destroyed some parts of the mound. The mound measured 300 x 100 m with eight m of deposits as Miložčić excavated the site in 1956-1958. Miložčić identified an aceramic settlement, actually post-holes and pits, on the humic virgin soil which stretches itself at least 80 m. These deposits have been exposed at an area which measures ca. 8.5 x 6 m (Miložčić, Boessneck and Hopf 1962). Miložčić (1959: 51) also found Middle-Late Paleolithic stone tools and animal bones in the around the site along the banks of Peneios riverbed.

According to Miložčić, no doubt should exist over the aceramic settlement, although most of the pits contained clay objects and pottery. Bloedow (1991) and Reingruber (2005; 2008) have separately re-analyzed the prehistoric settlement at Argissa and concluded that the presence of an aceramic settlement cannot be confirmed on the mound. We will not go into the details of this discussion, but as already mentioned above, this study considers that the current data fails to demonstrate that an Aceramic stage existed in Thessaly.

The earliest settlement deposits at Argissa were left by a community who possessed both domesticated cereals and animals. Emmer (*Triticum dicoccum*) and einkorn (*Triticum monococcum*) and barley (*Hordeum vulgare*) are the main cultivated cereals. Animal husbandry is based on sheep-goat and to a lesser extent pigs and cattle. Hunting and freshwater shell gathering were also practiced by the community. Grinding instruments, blade-based lithic industry, arrowheads, conical sling missiles, bone polishers, various stone and bone instruments are found among the material cultural remains of the so-called “Aceramic” stage (now termed EN I) (see Miložčić *et al.* 1962).

The remains from Miložčić’s EN strata are not free from controversy either. Miložčić interpreted a different colored area on plan 28b as a post-wall house (‘Hütte’) which measured 4 x 5 m and included a hearth. Reingruber (2008: 149-150), however, doubts that this area once belonged to a building. She suggests that this area might have been used as an open-air activity area in the light of the excavation documentation which did

not mention remains of post-holes or burnt mud remains. As a result, with the current knowledge on the architectural remains from the site, not a single house plan can be attributed to the EN period safely. The earliest structural remains at Argissa are attested in the Middle Neolithic levels.

On the mound, Proto-Sesklo, Sesklo, Dimini I-II and EBA-MBA deposits were also located. EBA fortification system is massive and cuts the Neolithic layers. The mound was settled until the early Roman period (Milojčić 1956).

Nine radiocarbon dates are available from EN levels at Argissa which are re-interpreted by Reingruber as belonging to EN I, II, III and Middle Neolithic phases (see Reingruber and Thissen 2005: 298; Reingruber 2008: Tab. 3.4). Unfortunately, the dates have large standard deviations and were analyzed prior to the advance of AMS technique. The oldest of these (UCLA-1657A: 8130±100 BP) provides a very early value between 7350-6850 cal BCE (at 1  $\sigma$ ). Thissen's sum of four reliable carbon dates from Argissa PPN-EN presented a range from 6640-6250 cal. BCE (Thissen 2005: Fig. 4) whereas Reingruber's new chronological sequence assigns ENI phases at the site to 6400/6300-6200 cal. BCE (Reingruber 2008: Tab. 3.1).

## Ceramics

Preliminary reports of Milojčić include information on the pottery but extensive analysis of the pottery took place recently which has been published by Reingruber who documented 944 EN sherds, albeit not always from secure contexts, from the old excavations (Reingruber 2008: 163-164). Our summary will base on information provided by both archaeologists.

There are two different horizons which yielded EN pottery at Argissa. These are the so-called "Proto-Sesklo" and "Early Ceramic" stages. Beneath the layers with EN pottery, Milojčić finds the "keramiklosen Schichten" (Milojčić 1956:

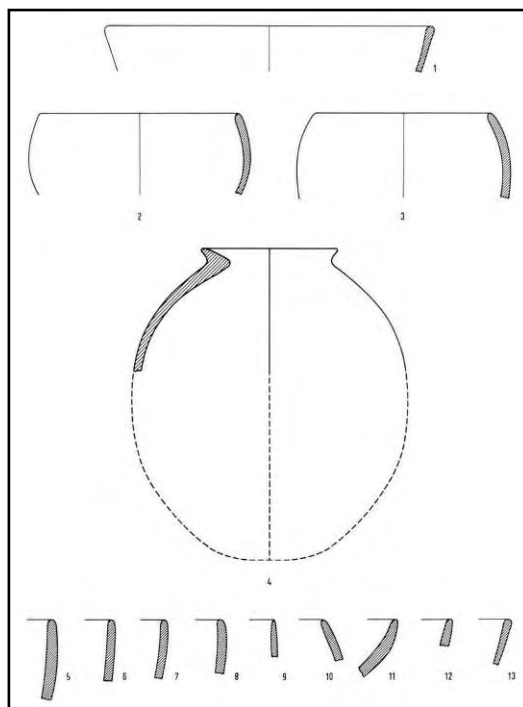


Figure 6.52: Ceramics from the 'aceramic' Argissa (after Milojčić 1962: Taf. 11)

165). The aceramic levels from Argissa, the pits, also yielded pottery which is interpreted as intrusive by Miložčić. They are illustrated in his 1962 report which is solely devoted to the aceramic layers (Fig. 6.52). Bowls with convex profiles and restricted forms are observed in the pottery from this level. One jar fragment with ledge rim is interesting as it is similar to some Achilleion forms (see below). Reingruber (2008: 213) rightly emphasizes that the pottery from the earliest deposits at Argissa display well-developed features and forms which cannot be interpreted as “experimental” or “primitive”. It is clear that the first inhabitants of Argissa were not only an agro-pastoral community but also had the skills and know-how to produce pottery.

Plana	Architektur	Keramik	Periode	Daten cal BC
23	Lehmziegel	Impresso und Rot auf Weiß-Bemalung	MN	nach 6000
24	Lehmziegel	Fingernagelimpreso	FN III	um 6000
28a–25	Oberflächenbauten: Pfostenlöcher und Lehmbrocken	„Blacktopped“ und frühe, bemalte Keramik sowie Muschelmagerung	FN II	vor 6000 6200–
31–28b		einfache Formen und roter wässriger Überzug	FN I	6300 6400/

**Figure 6.53: The ceramic development at Argissa (after Reingruber 2008: Tab. 3.3)**

The recent analysis of Argissa pottery distinguishes the following ware groups at the site (Reingruber 2008: 191-203):

1. Red and brown ware (Planum 31-23a)
2. ‘Blacktopped’ ware (Planum 27c-24)
3. Black ware (Planum 28-24)
4. White or light colored group (Planum 28b-26)
5. Painted wares (with four sub-variants) (28-25c)
6. Other

Reingruber (2008: 155) indicates that Miložčić’s ‘Aceramic’ and ‘EN’ deposits (Plana 31-28b) form one chronological stage which can now be called “ENI” (Fig: 6.53). Pottery from this initial phase is moderately fired, burnished and frequently red slipped (or rather washed). The red-brown wares are mineral tempered, quartz and sand. The forms are simple and predominantly restricted. Thinned and thickened simple rims are common. Bases are either plano-convex (concave) or ring bases. Pierced lugs and small oval knobs are occasionally observed on vessels. Decoration is virtually absent. According to Wijnen (1982: 60), these properties are matching well with the middle phase of ENI pottery from Sesklo. At Argissa, they appear, however, suddenly, without any preceding stages.



ENII at Argissa (Milojčić's 'Proto-Sesklo') is characterized by shell tempered pottery and the first appearance of black burnished and black-topped wares. Painted pottery likewise makes its first appearance in this phase. In this developmental phase, plain burnished wares, especially the RSBW and black burnished wares are considered typical. Bowls with convex profiles, hole-mouth jars, shallow bowls with flaring sides, jars with everted short necks, ring bases, vertically pierced knobs or knobs are frequently observed. Paint is made on the outer surface of the vessels and confined to thick linear or curvilinear motifs which make up big triangles or zig-zags. Towards the end of the phase jars with thick ledge rims and high pedestal bases become popular (Reingruber 2008: 214).

Next phase (ENIII) as defined by Reingruber encompasses the appearance of impressed pottery at the site. Majority of the wares and vessel forms from the previous phase continue to be produced (Reingruber 2008: Taf. 25-26). Impressions are executed with a pointed tool. Thick ledge rims and high pedestal bases as well as simple bowls and short necked jars constitute the majority of the assemblage.

The MN pottery at the site is characterized by fine, well-fired, thin-walled, and mica tempered burnished wares with cream, light brown, orange and red surface colors. Red-on-cream, impressed pottery, high pedestal bases and sharply everted rims paint can be described as typical for this phase. It is seen that paint and impressed decoration is combined on a number of sherds. Impressions are made with finger pinching, instruments or perhaps even shells. Plastic decoration is also present in the MN assemblage (Reingruber 2008: 215). Despite the changes in the decoration and progress in the ceramic technology the form repertoire remains almost identical to the previous phases.

The ceramic sequence at Argissa contains both continuity and innovation. Sharp cultural breaks are not observed. Especially the transition between late EN and early MN is very gradual (Reingruber 2008: 215).

### **3. Achilleion**

Achilleion is a settlement mound, 200 x 260 m, located 800 m above sea level on a natural hill southeast of Karditsa Plain and modern settlement Farsala. A stream, one of the tributaries of River Aichil flows in the immediate vicinity of the site. Mound contains

solely Early and Middle Neolithic deposits. Only 11 recent burials on top of the mound cut the Neolithic debris.

The site was initially subject to trial excavations by Theocharis in 1961 who upon his excavation that did not reveal pottery suggested that a PPN settlement exist on the mound. Systematic excavations were carried out on the mound by Marija Gimbutas of UCLA in 1973-1974 which disproved Theocharis's suggestion. Gimbutas's excavations contain four excavation grids (each 5 x 5 m) and eight test pits on the slope of the mound. Gimbutas, Shimabuku and Winn published a monograph of the excavation results in 1989 which will serve us here as the main source of information.

Four main occupational levels have been identified on the mound. These are labeled from latest to earliest as follows: IV a-b, III a-b, II a-b and I a-b. Ia is the stratum directly above the virgin soil which is represented by grayish-brown soil mixed with charcoal, one layer of plaster and at some places with almost black soil with much burnt organic material in it. IVa is interpreted as the longest occupation on the mound which has three phases stretching over three centuries (Gimbutas *et al.* 1989: 28).

According to the conventional and current Thessalian chronology the levels on the mound correspond to following stages (Gimbutas *et al.* 1989: Table 3.4):

Levels III-IV	Sesklo Culture	MN
Level Ib-II	Proto-Sesklo	EN III
Level Ia	Early Pottery	EN I-II

A good number of carbon determinations on charcoal samples are available from Achilleion which provides a good framework for regional and comparative chronology. A recent sum analysis showed that the EN levels (I and II) can be dated between 6340-6020 cal. BCE while an overlap of datings of Level I and II is recognized (see Thissen 2005: Fig. 4). Level III-IV dates approximately to 6030-5730 cal. BCE. One sample from the latest occupation layer (6590±80 BP), IVb, provides 5620-5480 cal. BCE at one sigma.

Phase Ia is composed of pits which are variously interpreted as "pit houses" or "storage pits". Phase Ib contains the remains of a rectangular house with stone foundations and mud-slab walls. The floor is plastered and housed pottery and lithic finds. The

architectural technique seems to have changed in the following Level IIa. With this level rectilinear post-wall houses without stone foundations are constructed at the site, which are frequently accompanied by pits, fire installations, horseshoe-shaped hearths and open activity areas. Phase IIIa, characterized by refuse burning areas, is devoid of any house plans, which is interpreted as a shift of settlement location on the mound during this stage. With level IIIb, architectural remains belonging to post-houses and activity areas with domed ovens and platforms appear again. Mat impressions are frequently found on the floor of the houses too. Level IV marks another change in the architectural techniques and plans, although the orientation remains the same. Stone foundations are again used and the houses are larger with multiple rooms. A large pit for firing pottery and a domed oven have also been located in the settlement in Phase IVa. Finally, phase IVb is distinguished from the earlier phases with its long and massive stone foundations that form rectilinear plans whose orientation is completely different from the Level III houses (Winn and Shimabuku 1989a).

According to Gimbutas (1989: 213-214), Phases III and IV contained buildings or spaces used exclusively for ritual purposes which she named as “cult areas” or “shrines”. This designation relies on the concentration of find groups such as figurines, fine painted pottery and footed vessels which are interpreted as cult equipments. More than 200 fragments of anthropomorphic figurines have been found in the deposits of Achilleion in a variety of find contexts ranging from refuse pits to clay platforms and near hearths or ovens. A general assessment of the find contexts of figurines, frequently together with tools and implements related to food preparation and other daily activities, challenge the view suggested by Gimbutas, although there is certainly certain symbolic meanings attached to the painted pottery and figurines which may well be beyond profane purposes.

Apart from clay figurines, phallic symbols, footed vessels (cult vases), the so-called “ear studs” (or ear plugs), beads, spools, loom-weights, bone awls-needles, polished axes, stamps and stone bowls constitute the other find groups recovered at Achilleion.

Lithic industry in all levels contains both local (mainly red jasper) and extra-local material (Melos obsidian). Except for obsidian, manufacture and knapping took place on the site. Direct and indirect percussion techniques have been attested. Blades, micro-blades, sickle inserts, scrapers but also retouched flakes have been produced. Obsidian

was especially used for blades which have been produced with control of the size and the shape by skilled knappers (Elster 1989).

Achilleion was inhabited by a food-producing community who cultivated einkorn (*Triticum monococcum*), emmer (*Triticum dicoccum*) and barley (*Hordeum vulgare*) which are continued to be cultivated until the end of the occupation on the mound. Animal husbandry is meat-oriented and dominated by sheep-goat while cattle, pig, dog and wild fauna have also been recorded in all levels without abrupt changes in the subsistence strategies (Renfrew 1989; Bökönyi 1989).

## Ceramics

The summary below is based on Winn and Shimabuku's (1989b) detailed report.

Large amounts of pottery, around 100.000 sherds, were uncovered in two excavation seasons at the site which are distinguished in five ware groups. Among them the so-called "Standard Ware" constitutes the big majority of the pottery assemblage. These are grit tempered fine wares which may be slipped and burnished. Other ware types are called "moderately fine", "fine sandy", "kaolin" and "coarse". Pottery from Achilleion is typically burnished (72%) from the very beginning

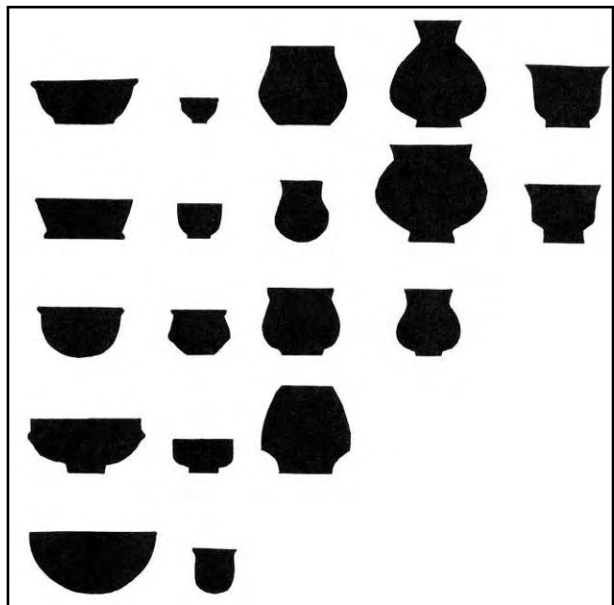
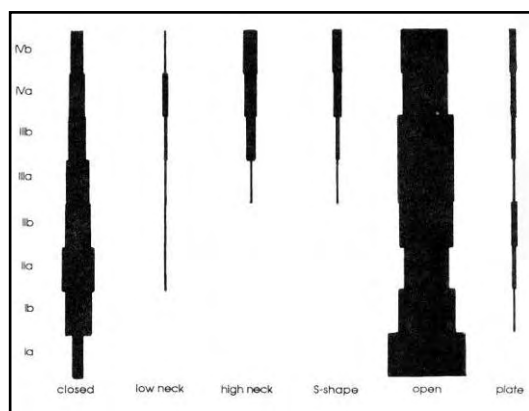


Figure 6.54: Typology of Achilleion ceramics (after Winn and Shimabuku 1989: Fig. 5.8).

onwards while various slips have also played an important role for the appearance of the pottery. Tan (7%), white (4%), thick buff (9%) and red (5%) slips were identified at the site. White slip is especially used on pottery which is made out of white clay identified as containing kaolin. Light brown colored slip is mainly observed in Levels I and II which is burnished. In Levels III-IV, a thick buff colored slip is observed which is not burnished. Red (haematite) and white (kaolin) slips associated with fine and painted wares are typical for the latest Levels III and IV. Earliest painted pottery (white triangles on reddish background) appears in Phase Ib.

One of the important aspects of pottery change from Level I to IV has been observed in surface color. Level I pottery is typically pinkish, cream or gray colored indicating the low technological level in comparison to upper levels. Level II, proto-Sesklo period, is dominated by dark brown and reddish brown colors. Level III and IV are increasingly dominated by red-buff and red-orange colors. Almost all of the pottery from Level IV has red color achieved by the red slip applied to the surface which was also burnished. RSBW corresponds to fine vessels that have wall thicknesses ranging from 3-10 mm. At Achilleion, 10% of pottery had walls that are less than 3.5 mm thick while 77% of the pottery had a thickness from 4-10 mm. Really thin vessels (<0.35 mm) are observed from Level IIb onwards and increase until the IVa.



**Figure 6.55: Seriation diagram showing the frequencies of major vessel shapes at Achilleion (after Winn and Shimabuku 1989: Fig. 5.11)**

Unrestricted shapes dominate the Achilleion pottery assemblage from Level Ia to IVb. Analysis of around 5500 rimsherds revealed the following major vessel type distribution: 60% open, 26% closed, 5% high neck, 3% low neck, 3% S-shape and 3% plate. The typical vessel forms from the site comprise hole-mouth jars with globular bodies, jars with short necks, jars with long everted necks, bowls with convex profiles, bowls with 's'-shaped profiles, bowls with flaring sides, bowls with straight sides, carinated bowls and beakers. Necks of the jars range from 4-9 cm while short necked jars measure less than 4 cm in length. Jars with short necks appear in Level IIa and continue until IVb (Figs. 6.54, 6.55).

Jars with high necks appear in Level IIIa and increasingly continue until Level IVb. Vessels with 's'-shaped profiles show a similar pattern to long-necked jars. They appear in Level III and increasingly continue until the end of the settlement. Closed and open simple forms with globular and convex bodies are found from Level Ia to IVb indicating the continuation and gradual development of pottery production. Simple, flattened, ledge and everted rims are common. Base typology is dominated by ring bases. Low ring bases are clearly dominating the Level I. They decrease in number until Level IVb. Concave and high ring bases appear only Levels III and IV. Small knobs, lugs and pierced lugs are found on the vessels. Handles appear later in the sequence with IIb.

Decoration on the pottery shows four techniques: Paint, incision, impression and plastic application. Plastic decoration is confined to abstract shapes and single bands and observed from IIb to IVa. Incisions are observed as simple grooves, lines and slashes. Finger-nail impressions have been documented on some sherds from Level IVa and IVb. Impressed sherds have untreated porous surfaces with large non-plastic inclusions.

Painted pottery from the site is more abundant than the other decorated pottery. Paint is confined to red, brown and white colors. 93% of the paint is applied on RSBW. Thin or medium-thick vessels with moderately fine non-plastic inclusions are preferred for painted vessels. Typically vessels with 's'-shaped profiles and vessels with flat bases receive paint. Rarely, vertical strap handles and spouts are also painted. Red-on-white (60%), brown-on-white (10%), red-on-red (6%), white-on-red (17%) and white-on-dark (7%) variants are found at the site. Thin walled 's'-shaped vessels are always painted in red.

The analysis of the painted sherds revealed different motifs related to certain levels thus indicating a clear development in the applied styles. Level I contained large triangles while level II is characterized by lines and chevrons. With Level III, one observes broad bands, chevrons, zig-zags, net and saw tooth ("flame" at Sesklo) motifs. Level IV displays step motifs, wavy lines and curvilinear designs.

Level IIIb/IVa also contained jar necks with anthropomorphic representations, depicting human faces which are applied on the jar necks (called "masks" by Gimbutas 1989: Fig. 7: 53-54).

## 4. Comparing Thessalian Ceramic Sequence with Central-West Anatolia

A comparison of the ceramic assemblages from Sesklo, Argissa and Achilleion reveals that the earliest levels at Sesklo and Argissa pre-date basal Achilleion. As mentioned already, Wijnen suggests that the earliest pottery from Argissa corresponds to middle ENI pottery from Sesklo. Although the carbon dates seemingly contradict with this statement, at this point, I consider Wijnen's statement more reliable in the face of archaeological data from both sites.

Achilleion Ib is most probably contemporary with Sesklo ENII stage where painted pottery with large triangles are observed at both sites. Achilleion II probably corresponds to Sesklo ENIII. It is indicated that at the end of ENIII at Sesklo, true Sesklo style painted pottery appears at the site, which is the defining characteristic of MN period in Thessaly. MN Sesklo corresponds to MN Argissa and Achilleion III-IV periods.


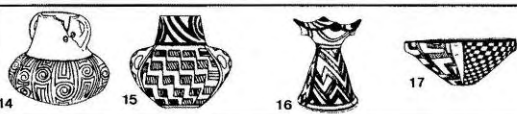
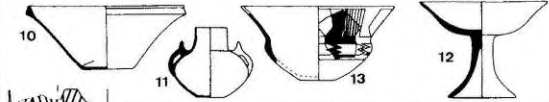


Phases	Main shapes and designs	Main techniques of ornamentation
5		- painted "crusted" (18, 19)
4		- painted white-on-red "Agia Sofia" - painted black-on-red "Otzaki" (15) - painted brown-on-cream "Dimini" (17) - incised (14)
3		- black burnished "Larissa" (10) - channel decoration - "matt-painted" brown-on-brown - painted black-on-red (13) - grey-on-grey (5) - polychrome
2		- painted red-on-white "Sesklo" (6, 7) - painted white-on-red - scraped ware (8, 9) - impressed (4) - grey-on-grey (5)
1		- monochrome (1, 2) - painted "proto-sesklo" (3) - impressed (4)

Figure 6.56: Schematic table showing the developmental phases of Thessalian Neolithic pottery (after Demoule and Perlès 1993: Fig. 8)

There are four important developmental phases from EN to MN in Thessaly which deserve highlighting here:

1. The earliest pottery is mineral tempered smoothed-burnished medium wares which are without a distinctive surface color due to the open-firing technique. Wash-like red slip is encountered at Argissa ENI. The forms are simple and mainly restricted. Hole-mouth jars and bowls with convex profiles are typical.

2. In the following stage there is a clear tendency in producing reddish pottery. Red slip is increasingly encountered. First painting (red-on-buff) with large triangles appears. Low necks appear on jars. Ring bases are higher. Dishes are produced.
3. Fine, thin-walled and lustrously burnished wares are typical. RSBW are dominating. Motifs painted on vessels change. "Flame" or "tooth saw" motif is typical. Jars with funnel necks, pedestal bases, tulip-shaped vases, and vessels with 's'-shaped profiles appear.
4. Impressed sherds are observed at the end of the EN sequence. West Thessalian sites contain more impressed wares than the Eastern ones.
5. MN is marked by red-on-cream painted pottery and fine red slipped wares. White-on-red painted pottery is observed at the end of the MN sequence at Sesklo.

Some of these developmental stages are matched at Central-West Anatolia whereas others are peculiar to Thessaly. Interestingly, the development observed in EN pottery of Thessaly is matched to a large extent on the other side of the Aegean.

In terms of wares, mineral tempered medium wares with inoxidized cores and burnished surfaces which show a variety of colors is found at all Anatolian sites around 6400-6100 cal. BCE. Moreover, the simple forms, typically the hole-mouth forms, are the most definitive vessel shapes of this stage both in Anatolia and Thessaly. We have already mentioned the Çatalhöyük VIII-VI dark burnished wares, basal Menteşe, basal Bademağacı and Ulucak Vb-f as settlements where this early pottery horizon can be followed. What is more surprising is that one can follow similar trends in Southeast Anatolia and Northern Syria which coincides with the famous DFBW-Horizon (Tsuneki and Miyake 1996: 114; Balossi 2004a: 139; Özdoğan 2000: 168). Although there are various technological and morphological divergences between Syrian-Southeast Anatolian and Central Anatolian dark burnished wares, communities share a basic approach to the pottery production (Balossi-Restelli 2006: 254). In my opinion, earliest Neolithic from Thessaly may be corresponding partly to the dark burnished ware trend, although none of the reports from the region mention that possibility. This possibility makes especially good sense in the light of maritime model created by Perlès (2005).



Dark burnished medium wares with mineral temper and hole-mouth forms are very well attested in early Ulucak layers (especially Vb-f) which are dated to 6400-6200 cal. BCE. Obviously, Ulucak VI pre-dates Sesklo and Argissa, however, by and large, Ulucak Vb-f is contemporary with those sites. In Central-West Anatolia, Ulucak V and Yeşilova III Early are the only sites where pre-RSBW horizon can be observed. This stage is marked by the absence of some major traits in the ceramic assemblages in both regions such as carinated bowls, necked jars, painted and impressed decoration and pedestal bases. All of these traits belong to the developed stage with RSBW which are thin-walled and well-burnished.

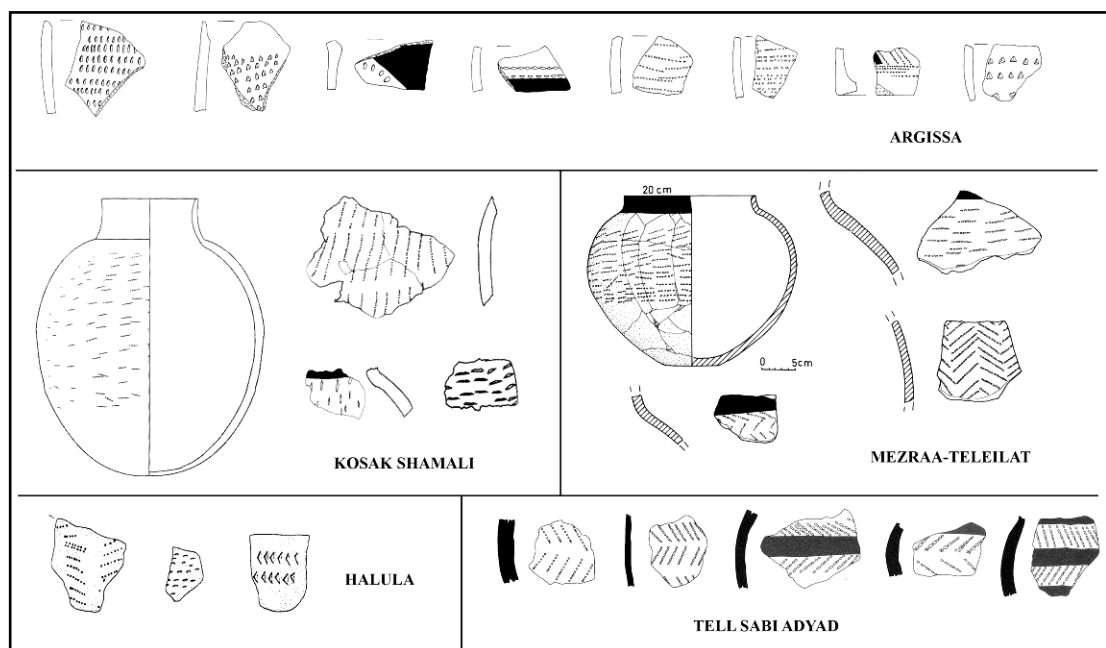
In Thessaly, an increase in the RSBW is observed with ENIII stage at Sesklo, Argissa and with Level III at Achilleion. This coincides with Ulucak IV Early where RSBW begins to dominate the assemblage. At Ulucak, Level IV, is simply characterized by fine red slipped wares but there are also cream burnished wares and impressed wares in the assemblage. It is interesting to notice that cream slipped wares may actually be matched at Achilleion I-II where light brown slip is observed on 7% of pottery. Appearance of short necked jars in Level II is likewise matched at both sites.

One important aspect which needs to be raised about the common ceramic traits from both regions is the absence of coarse wares. The low numbers of coarse, porous wares with middle-big sized mineral non-plastic inclusions that may be suitable for cooking make us re-consider the function of pottery for the early farming communities in this region. Various scholars have already expressed doubts on the close relation between food preparation and early pottery production in Greece, stating early pottery might not have been predominantly utilized for cooking purposes, at least not on direct fire (Vitelli 1989; Perlés 2001: 216-217). These suggestions seem to have been largely confirmed by the evidence from Ulucak. As argued in Chapter V, Ulucak ceramics were mainly used for serving and storage purposes. Cooking might have been easily done without the use of pots on direct fire. Indeed this is the case at Çatalhöyük where cooking was done using several ways such as roasting, grilling and indirect boiling (Hodder 2006: 53-54; for details see Atalay and Hastorf 2005). Hence, absence of cooking pots around 6<sup>th</sup> millennium cal. BCE in both regions is fundamentally important as it presents us with an important clue about the food preparation techniques and function of ceramic production. I do not think that it is a coincidence that early farming communities of İzmir and Thessaly had similar attitudes towards ceramic use. Fine thin walled vessels,

red or cream color and brightness of pottery from both regions resulting from time consuming diligent production stages speak for a well-advanced know-how of ceramic technology that gives special care to visual appearance along with functionality.

Jars with funnel necks appear only after 6000 cal. BCE in entire Anatolia. Same goes true for Thessaly where jars with long necks appear in ENIII at Sesklo and Achilleion III. Such jars are produced at the end of the EN and they continue into MN in Thessaly and EC in West Anatolia. Parallel to this development, ever larger jars are constructed by the potters who developed skills and know-how to cope with the constraints caused by producing vessels with large volumes. Cereals and other agricultural product are stored increasingly in such vessels which foreshadow the *pithoi*.

Bowls with 's'-shaped profiles are typical at both regions. At Ulucak, they appear already in Vb and continue until the end of the Level IV. In Level IV, oval variants of the bowls with 's'-shaped profiles are observed. At Achilleion I, the 's'-shaped profiles were absent whereas at Sesklo they appear from the ENI onwards. It is true that the 's'-shaped profiles first appear undeveloped in Anatolia and the 's' shape becomes especially pronounced with the later stages. Finally, they would be produced as carinated bowls, as observed at Hacilar. This stage however is not observed at Ulucak IV, where although there is a certain tendency to produce carinated shapes is observed, true carinated bowls are never encountered in the assemblage.



**Figure 6.57: Various impressed pottery from Argissa (after Reingruber 2008: Taf. 29), Kosak Shamali (Balossi 2006: Fig. 11.4), Mezraa Teleilat (after Özdoğan 2007b: Fig. 56), Halula (Balossi-Restelli 2006: Fig. 11.5) and Tell Sabi Abyad (Nieuwenhuyse 2007: Pl. 48 and 52).**

At Central-West Anatolian sites, impressed pottery is commonly observed. At Ulucak, they first appear with Level Va (6100-6000 cal. BCE) in conjunction with the increase of cream and red slipped burnished wares. Similar to Central-West Anatolia, impressed pottery is absent in the basal deposits of EN sequence in Thessaly, appearing during the ENIII (Reingruber 2008: 214). Impressed pottery makes up around 4-5% of pottery assemblage in Level IV. Impressed pottery is nearly absent at Sesklo but has been attested at Achilleion IV and Argissa. Impressed wares from Achilleion (see Winn and Shimabuku 1989: Figs. 5.67, 5.68, 5.69) are similar to the Ulucak ones morphologically. Impressed pieces from Argissa, however, are less similar to Ulucak examples in terms of their execution and organization (see Reingruber 2008: Taf. 25, 26, 29). Especially the impressions made with a comb-like instrument which leaves continuous lines of dots on the surface of pottery (so-called “combed-impressed ware”) is unknown at Ulucak. Interestingly, impressions made with comb-like instrument which produces dotted-lines such as at Argissa MN are attested in Northern Syria, Amuq valley and Urfa (Balossi-Restelli 2006; Fig. 6.57). At these sites, impressions can be combined with red paint, a technique also attested at Argissa MN. Large and deep triangles (see Reingruber 2008: Fototafel 4 and Abb. 3) made with an implement is likewise absent at Ulucak. Such impressions seem to belong to rather middle of the 6<sup>th</sup> millennium BCE which is not represented on mound Ulucak.

Reingruber indicates that impressed pottery is encountered only after 6000 BCE at Argissa which corresponds to the final EN and MN periods in this region (Reingruber 2008: Tab. 3.3). In northern Syria, Tell Sabi Abyad constitutes one of the best documented 7-6<sup>th</sup> millennium BCE sites that provides a well-established sequence for the pre-Halaf and Halaf periods. Impressed pottery from the site stems between Levels 8-6 (pre-Halaf levels) and disappears with Level 5 (transitional) that cover a period from 6100 to 5950 cal. BCE (Nieuwenhuyse 2007: Table 3.4.1). Similar appearance of Thessalian impressed wares to the Syro-Cilician impressed pottery is worth noting because of possible contemporaneity and their resemblances may be reflecting cultural-social contacts and influence. Although Ulucak Late IV is contemporary with Tell Sabi Abyad 8-6 as well as with Argissa MN comb-impressed sherds are not encountered at the site. Ulucak impressed wares are confined to simple impressions made by finger nails or an instrument. Production of continuous impressions (by shell, comb or roulettes) was not undertaken by Central-West Anatolian communities.

Jar necks with human faces from Achilleion III-IV may be compared to anthropomorphic vessels from Ulucak IVb. Although morphologically and technically there are certain divergences, the basic concept remains comparable.

There are a good number of traits which are not matched at both regions. In the following table, I have tried to enumerate the most important features observed on EN pottery from both regions that can be considered typical for the respective regions but fail to appear (or in very low quantities) in the other region.

	<b>THESSALY</b>	<b>CENTRAL-WEST ANATOLIA</b>
<b>Contrasting Ceramic Traits</b>	<ol style="list-style-type: none"> <li>1. Red-on-buff and white-on-red painted pottery (ENIII-MN)</li> <li>2. high ring bases and pedestal bases (EN-MN)</li> <li>3. Tulip-shaped vases (MN)</li> <li>4. Ledge rims (EN-MN)</li> <li>5. Squat bowls (MN)</li> <li>6. Vertical strap handles on beakers (MN)</li> <li>7. Comb-impressed sherds</li> </ol>	<ol style="list-style-type: none"> <li>1. No painted pottery</li> <li>2. Oval forms (EC)</li> <li>3. Thick flattened rims (LN-EC)</li> <li>4. Vertical tubular lugs (LN-EC)</li> <li>5. Flat and Disc bases (LN-EC)</li> <li>6. Chaff temper in pottery (EC)</li> <li>7. Small vertical handles on rim (EC)</li> <li>8. Simple impressions</li> </ol>

In my opinion, these differences manifest the local development of pottery traditions in both regions. This statement should not be interpreted as an indication of isolation of these regions. On the contrary, both are actively involved in the creation, evolution and reproduction of the ceramic styles and trends during the Aegean Neolithic. Moreover, they are definitely in contact at least by means of obsidian procurement at Melos (be it direct or indirect). One important observation is the high resemblance during the very early stages of EN with Central-West Anatolian ceramic assemblages. Through time, both regions develop their own local morphological traits. This is especially felt during the MN in Thessaly and EC in West Turkey.

Nevertheless, some of the differences listed above, are also related to the chronological factors. For example, the squat bowls from MN sites in Thessaly is not matched in Central-West Anatolia but are actually found at Hacılar I which dates later than Ulucak IVa. Similarly, tulip shaped vases and pedestal bases are likewise a trait of Hacılar I and Kuruçay 7. Pedestal bases were also found at Ege Gübre. In other words, some typical traits of Thessalian Middle Neolithic pottery can be matched in West Anatolia where EC sites such as Hacılar and Kuruçay encompass developed stages of this period which are not attested at Ulucak IV. Ulucak IV as well as other Central-West Anatolian sites are

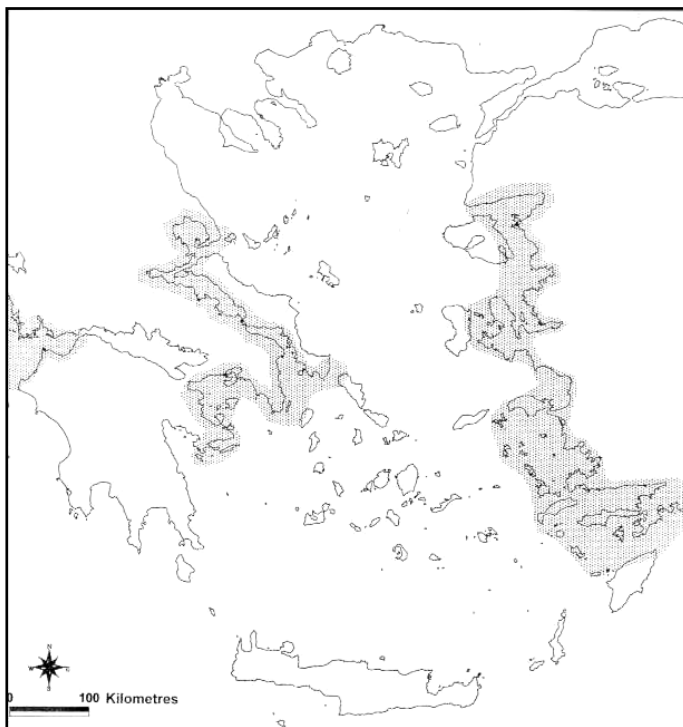
abandoned prior to the foundation of Hacılar I. Thus, we cannot be sure whether these traits are genuinely missing in Central-West Anatolia or this is an impression created by chronological factors. The presence of tulip-shaped vases, squat bowls and pedestal bases at EC Lake District sites point out that West Anatolian and Thessalian communities continued to adapt newly emerging ceramic trends simultaneously and that they were participating in the regional exchange of goods and people which facilitated that the greater Aegean functioned as a major *Kulturkreis*. A similar model has been recently proposed by Reingruber (2008: 613) who suggests that East and West Aegean should be considered as one single cultural entity as many material cultural elements occur simultaneously on both sides of the Aegean. Although I subscribe to this view to a great extent, there are more divergences on the both sides of the Aegean than Reingruber demonstrates. Moreover, the new carbon dates from Ulucak VIa, which securely date to the first half of the 7<sup>th</sup> millennium cal. BCE, undermine Reingruber's thesis to a certain extent who envisages that West Anatolia and Thessaly went through parallel developments during the initialization of Neolithic in both regions which began around 6500/6400 cal. BCE. Our impression, in the light of new research in West Anatolia, is that West Anatolia experienced the arrival of farming communities several centuries before Thessaly.

It is intriguing to note that Lake District and Thessalian sites share more similarities than Central-West Anatolian sites with Thessaly. This trend, clearly reflected in the presence of red-on-buff painted pottery at Thessaly and other ceramic and material cultural traits, brings to mind that there might have been closer contacts between these two regions which might have by-passed Central-West Anatolia and perhaps operated through established maritime routes instead of land routes. In other words, it seems plausible that Southwest farming communities interacted with the West Aegean groups directly via maritime routes instead of via river valleys or through the filter of Central-West Anatolian societies.

Historical record shows that the land routes may not have always functioned as the most optimal choice for transportation of goods, animals and people, as long as the maritime routes which, most probably followed the coastline, were safer (Braudel 1972: 103). Braudel (1972: 105) emphasizes this notion when describing the 16<sup>th</sup> century Mediterranean maritime traffic as follows: "*The importance of the shore was such that the coastal route was scarcely different from a river.*" The ships and boats made

frequent stops at coastal towns; be it due to a strong North wind or acquiring of food and water or delivering a cargo. He (1972: 107) terms this kind of sailing “slow-motion shipping” which may in fact act as a model for earlier periods, too. It is known, for instance, that the Uluburun ship followed the coastline and islands on her voyage from Levant to Aegean during the 13<sup>th</sup> century BCE (Pulak 2005: Abb. 52). Uluburun shipwreck is also a good manifestation of how dangerous the waters may be in this region and that pre-modern voyagers had difficult time coping with the unpredictable nature of weather conditions.

Even though it is problematic to impose the archaeological and historical record from later periods to the Neolithic, there is no reason to dismiss the possibility that maritime routes were already established during the prehistoric periods, going back at least to the Late Paleolithic period. Maritime travelling on a regular basis for purposes of mobility, raw material procurement, rituals or exchange activities is ethnographically well-attested phenomena among the non-industrialized societies with technology that does not involve metal; the *Kula* trade practiced by some Polynesian groups described by Malinowski (1922) being one of the best known. There is archaeological evidence for seafaring of early *Homo sapiens* as soon as they began colonizing the world, reaching as far as Australia around 60,000 BP which cannot have been successful if maritime transport was not implemented.



Evidence for maritime sailing of the Aegean and Mediterranean is more than persuading (for details see Cherry 1990 and Broodbank 1999; 2006). Cyprus and Melos, for instance, were already visited during the Late Paleolithic, and Cyprus, distanced around 65 km from the nearest mainland, is colonized around 8500 cal. BCE by Anatolian-Levantine communities (Broodbank

**Figure 6.58: Possible seafaring nurseries of the Aegean (after Broodbank 1999: Figure 1.4)**

2006: 209). Melos obsidian is continuously mined by a variety of groups who should have traveled to the island on a regular basis. Evidence of fishing and mollusk collecting are other evidence for the involvement of the Neolithic communities with the resources housed by the sea. Finally, the slow-moving colonization, more accurately, foundation of permanent settlements by farmer-herders on the insular and littoral landscapes in the entire Mediterranean responsible for the co-appearance of domestic sheep and pottery is another convincing indication of seafaring (Camps 1986). We have already mentioned that Islands Sakız (Chios) and Gökçeada (Imbros) were already inhabited around 7<sup>th</sup> - 6<sup>th</sup> millennium cal. BCE, although many Aegean islands probably remained unsettled but were visited for various reasons until the Aegean LN (see Broodbank 1999: Tab. 1.1).

From the available archaeological evidence it becomes clear that the Neolithic Aegean communities were well-aware of the rotation and seasonality of sea currents and winds, location of islands, their potential for raw materials or hunting-grazing, moreover they were capable of manufacturing sea-going crafts which were fulfilling the aero-dynamic capabilities of sailing of distances up to 60-100 km. Therefore, it does not sound far-fetched to propose that coastal Aegean on both sides has been subject to intense activities undertaken by Neolithic communities ranging from subsistence-based activities to raw material procurement and regional exchange activities. Broodbank (1999) terms coastal regions attractive for maritime traffic and island colonization as “seafaring nurseries” where travel by sea is decidedly easier than over land (Fig. 6.58). Moreover, there is a possibility that maritime-routes were preferred over land-routes because traveling by sea is quicker, easier and more efficient, even, safer (as long as piracy is not practiced).

The viewpoint which considers the Aegean Sea (actually entire Mediterranean) as a bridge, instead of a barrier, should be endorsed in the light of current archaeological evidence. Aegean early farming societies must have been composed of diverse origins, traditions and practices which remained in close contact with each other, thus maintaining and encouraging analogous ways of living and expression. Archaeological evidence, especially ceramic evidence, is very much in favor of such an explanation that involves both homogeneity and diversity. In my opinion, the peer-polity interaction model developed by Renfrew (1996) is a suitable tool for visualizing the type of interactions experienced by the Aegean Neolithic communities dispersed in multiple regions.

According to Perlès (2005: 280) and Runnels (1995: 727), the origins of this hard-to-explain simultaneous homogeneity and diversity should be sought in the Levantine maritime colonization of mainland Greece which by-passed inland Anatolia in its initial stages but developed nonetheless contacts with it. Our impression is also in favor intensive maritime contacts in the Aegean and mobility engendered by slow-motion seafaring rather than preference of land routes.



## **O. Final Remarks**

The aim of Chapter VI was to provide the reader with an inter-regional perspective with regards to the ceramic sequence we established for Ulucak. The comparing and contrasting of pottery wares and forms in the discussions enabled us to recognize the local characteristics of Ulucak pottery, to indicate its relationship to other contemporary sites in Anatolia and Southeast Europe and construct a comparative relative chronological sequence for the regions discussed.

The earliest pottery from the Ulucak phases (Vc-f), although not treated in detail in this study, show firm similarities to Çatalhöyük VII-IV and basal Menteşe ceramics with regards to their fabric and forms. These ceramics are marked by their fine-medium fabrics, mineral tempers, dark colors, burnished surfaces, and finally, with their restricted form variability, predominated by hole-mouth forms. Several archaeologists noticed the similar features of EN pottery from various parts of Turkey. For instance, Seeher (1987: 48) compares *Glimmer Ware* from Demircihöyük with Mersin XXXII-XXVII and Çatalhöyük VIII ceramics. Özdoğan associates the mineral dark burnished wares of the Fikirtepe Culture with dark mineral wares of Çatalhöyük (Özdoğan 2000: 168). Recently, Özdöl (2008b) re-assessed the ceramic material from Çatalhöyük, Suberde and Er Baba and defined the horizon with dark burnished wares and hole-mouth forms as the “Middle Tradition,” which despite its regional character can easily be compared to assemblages of Mersin, Tell el-Kerkh and Amuq in the East and Menteşe in the North.

The issue over the dark burnished wares in Anatolia is significant because the apparent homogeneity of technology, surface treatment and forms imply common origins for the early farming communities. Interestingly, Bademağacı ENI wares are distinguished from this dark burnished group with their light-colored and burnished-smoothed surfaces (see Duru 2007: Figs. 62-63). However, dark-colored examples are also present in the assemblage and Bademağacı ENI 9-5 may temporally correspond to basal Menteşe, Çatalhöyük VII-IV and Ulucak Vb-f (see also Özdöl 2008b on relative chronology). It should also be noted that Ulucak Vf pottery is composed not only of brown burnished wares but also CSBW and RSBW. Preliminary analysis of Ulucak Vf pottery indicates that brown burnished wares constitute 36% of the assemblage, while RSBW makes up 25% and CSBW 33% of the ware groups. As a result, the presence of light-colored pottery at basal Bademağacı and Ulucak Vb-f might be a parallel characteristic in both

regions where alongside dark-colored burnished wares light-colored and slipped pottery seem to have been produced. The relationship of the light-colored coarse straw-tempered pottery at Çatalhöyük XII-X to the medium-fine cream burnished pottery at Bademağacı and Ulucak remains unclear. Apart from the common surface color there seems to be no correlation between the earliest Çatalhöyük pottery and the earliest Lake District pottery (Duru 2007: 356). Moreover, the carbon dates indicate that Çatalhöyük XII-X is older than basal Bademağacı and Ulucak Vb-f.

Interestingly, the earliest pottery at Mersin-Yumuktepe, so-called “Sandy Ware,” has thick walls, light-colored slipped and burnished surfaces. Together with Sandy Ware, DFBW appears in these early deposits which are dated to 7000-6500 cal BCE (Balossi 2004b: 130). With Level XXIX-XXVIII light-colored sandy ware disappears and DFBW, with several sub-types, constitutes almost the entire assemblage in the following phases until the appearance of Halaf-related fabrics (Balossi 2004b: 115; Tab. 4). This sequence reminds us of the pottery development at Çatalhöyük East, where coarse light-colored wares are replaced by medium-fine dark mineral wares (Özdöl 2008b). Such parallel development in Southeast Anatolia and the Konya Plain is highly interesting and most probably not coincidental. It is clear that Central and Southeast Anatolian groups were in regular contact as obsidian exchange, and presumably trade of other components, continued at least into the sixth millennium BCE. It is more intriguing to explain the presence of dark burnished wares in Central-West Anatolia. Several major river valleys, especially Büyük Menderes and Porsuk-Sakarya Basin, in West and North Anatolia must have provided the land routes from the Central Plateau to these regions. Nevertheless, gaps in the archaeological record impede reconstruction of the ways in which Central Anatolian communities in general interacted with West Anatolia.

Detailed comparisons of mineral-tempered, dark-colored wares in all of these regions should be the next step in our aim to reconstruct the initial stages of the ceramic sequence in Anatolia and towards understanding the origins of Neolithic communities in West Anatolia. In order to assess whether there were close ties among the early farming groups across Anatolia in the first half of the 7<sup>th</sup> millennium BCE, detailed and multi-faceted examinations of dark burnished wares along with other material culture from these sites seems to be an appropriate research objective for the near future. Except at Sesklo and Argissa, this early stage is lacking in the entire Southeast Europe. ENI and II

at Sesklo and Argissa seem to roughly correspond to Ulucak Vb-f and therefore to the latest phases of dark burnished ware horizon in the Eastern Mediterranean.

In the following stage, Ulucak ceramics can be compared with numerous sites from Central Anatolia, West Anatolia, Northwest Anatolia, and Southeast Europe. At Ulucak, the end of the 7<sup>th</sup> millennium BCE is marked by a transition to mud-brick architecture, an increase in the quantity of pottery, an increase of red-slipped wares, and finally, the appearance of impressed pottery. Brown burnished wares barely exist. We have compared this stage with Hacilar VI, Bademağacı ENII, basal Can Hasan (7-4), Ilıpınar X-VIII, and Hoca Çeşme IV. Similar to Central-West Anatolia, and also in Thessaly, RSBW are produced typically more towards the end of the EN sequence (Reingruber 2008). In Bulgaria, the earliest Neolithic settlements appear around 6100/6000 cal. BCE and likewise show red-slipped pottery and impressed wares (Krauß *in press*).

The steady increase of red-slipped wares is observed not only at Ulucak from Level V to IV, but also in the entire West Anatolia. Red-slipped wares become the only major fabric type of the region with the start of the 6<sup>th</sup> millennium BCE. In this period, red-slipped wares have a very widespread distribution from Southwest Asia to Southeast Europe, although their quantity and quality fluctuate from one region to the other. Central-West Anatolia and the Lake District stand out as the most important regions where this fabric was produced and developed in high quality and quantity (Çilingiroğlu, Ç. 2004). Even the earliest layers at Ulucak contain fine, red-slipped burnished pottery that indicates that in the mid 7<sup>th</sup> millennium BCE fine, glossy red-slipped wares have already been produced and preferred by the Central-West Anatolian communities. Considering that production of red-slipped wares is a long-term process in the region that continues more than half a millennium in an ever increasing pace and amount may suggest that the origins of red-slipped ware may lie in this region.

Another issue that was briefly mentioned in Chapter VI, is the appearance of black burnished wares during the EC period. Özdöl (2008b) states that these appear in Çatalhöyük's late levels (IV-III) as a developed fine version of dark burnished wares. Black burnished wares are very characteristic of the Early-Middle Chalcolithic period in Central Anatolia, such as at Tepecik-Çiftlik 2 (Bıçakçı *et al.* 2007: Fig. 31) and Köşk Höyük II-IV (Öztan 2007: Fig. 25). Jet-black burnished wares are also mentioned as one of the typical fabrics at Hoca Çeşme IV-III (Karul and Bertram 2005: 121). Finally, the late stage of EN in Southeast Europe is likewise characterized by the steady increase of

black burnished wares. This follows the disappearance of red-slipped wares, which corresponded to the Karanovo II-III Transition (Krauß *in press*). Black burnished wares are entirely missing at Ulucak and in Central-West Anatolia, as can be observed from the available archaeological evidence. This creates a contrast to the neighboring regions, where the transition from red to black burnished pottery can be traced. It is possible that their absence is related to the end of mound settlements in the region around 5700-5600 cal. BCE.

In this chapter we have tried to show not only the common features among various regions but also the contrasting traditions. Our analysis indicates that each separate region contained pottery features, be it wares or forms that are peculiar to that region. Despite general similarities in pottery assemblages, local input was recognized in each region. Local traditions are especially apparent in the developed phases of EN in Southeast Europe where particularization and regionalization is heavily felt. Similarly, with the beginning of EC in Anatolia, especially with the development of painted wares, local characteristics emerge and common elements among various regions become less pronounced. Nevertheless, in terms of architectural techniques, settlement layout, general ceramic characteristics, and other material culture elements pottery assemblages remain largely comparable in the entire Anatolia, Eastern Mediterranean and the Aegean.

The issue of impressed wares has already been mentioned and discussed above several times but it is important to recognize that impressed wares have a widespread distribution. At Ulucak, they appear first in Level Va and continue to be produced until the end of the settlement. Similarly, at Lake District sites they do not appear in the earliest phases but usually appear in EC levels in very few numbers. Impressed wares similar to the Ulucak impressed wares have been found at Yarımburgaz 5 and Ilıpınar VIII (see Özdoğan 2007b; Thissen 2001). In Thessaly, they appear at the end of the 7<sup>th</sup> millennium BCE (ENIII). We have mentioned that in Bulgaria they are observed at Karanovo I-II sites, as well as in the Struma Basin and Northeast Bulgaria.

Impressions at Ulucak are either applied on medium-coarse unburnished gray wares or they are applied on red-slipped and burnished surfaces. Impressions are unconnected to each other, usually distributed irregularly over the outer surface and are made with fingertips, finger nails or with a pointed instrument. Impressed wares from the Lake District, Northwest Anatolia, Thessaly, and Bulgaria are almost identical to each other, which according to my view speaks for a common origin. Interestingly, impressed wares

from Northern Syria (such as Tell el-Kerkh) are also very reminiscent of Aegean impressed wares (Tsuneki and Miyake 1996), while some comb-impressed sherds from Argissa (Reingruber 2008: Taf. 29-30) are comparable to impressed pottery from Tell Sabi Abyad, Halula and Mezraa Teleilat (Nieuwenhuyse 2007: Pls. 48-52; Özdoğan 2007b: Figs. 56-57). It seems likely that there is a connection between the simultaneous appearance of impressed wares in the Eastern Mediterranean and the Aegean, and that there are different trends in different times which develop simultaneously and may not disperse in the same direction. However, it remains unclear what kind of mechanisms triggered the sudden appearance of impressed wares in the Aegean.

The time period immediately following 6000 cal. BCE entails many changes in the pottery assemblage at Ulucak. Red-slipped ware makes up almost the entire assemblage which is now chaff tempered. Long-necked jars, large storage jars, anthropomorphic jars, oval bases, double-knobs, and flat bases are typical features of the Ulucak IVb assemblage. Analogous developments are observed at Central Anatolian, Lake District and Northwest Anatolian sites. However, Central-West Anatolian sites are distinguished from these regions with regards to the issue of painted wares. Painted wares are virtually absent in Central-West Anatolia. None of the excavations carried out in the region provided material that would change this statement. As a whole, Central-West Anatolia is clearly distinguished from other regions both to the East and West. We have stated that painted wares might not have been adapted in the regions as a result of cultural resistance. Another possibility is that Central-West Anatolian settlements were abandoned before the massive production of painted wares. The issue is open to discussion.

With regards to their stylistic features, few painted sherds found at Ulucak, both red-on-cream and cream-on-red variants, can be easily compared to Hacilar VI and Nea Nikomedeia painted pottery. The paint is applied with a thick brush and the patterns are composed of simple linear compositions. Curvilinear or spiral-like compositions, typical of developed EN assemblages in Southeast Europe, are not found in Central-West Anatolia. Present evidence indicates that Central-West Anatolian groups were technologically capable of producing painted wares and, to a certain extent, they did produce painted vessels (if these were not imported). Nevertheless, they preferred plain burnished wares for a long time. At a time when potters in neighboring regions were

increasingly manufacturing painted pottery, this trend did not find an echo in Central-West Anatolia.

The quasi-simultaneous abandonment of Central-West Anatolian sites around 5700/5600 cal. BCE prevents us from following the cultural sequence beyond this date. A similar process seems to have happened in the Lake District, although Hacilar I reaches towards the middle of the 6<sup>th</sup> millennium BCE. However, in Central Anatolia, Çatalhöyük West, Can Hasan, Köşk Höyük, and Tepecik-Çiftlik continue to be settled after 5700/5600 cal. BCE. At these sites one can actually observe the complete EC period and the transition from red-slipped wares to black burnished wares. Similarly, at Hoca Çeşme, Aşağı Pınar and Karanovo, as well as at Sesklo, the transitional phases are present. The total absence of such sites in Central-West Anatolia, at least in already investigated mounds, is very interesting and an issue worth further researching; perhaps through intensive surveys which aim to locate non-*höyük* sites. In any case, it is evident that long-term social stability and continuity of 7-6<sup>th</sup> millennia sites in Central-West Anatolia comes to an abrupt end before the mid 6<sup>th</sup> millennium BCE.

## Concluding Remarks and Future Prospects

The aim of this study was to present the pottery analysis results from Levels IVa-k and Level Va-b at Ulucak, which are comprised of superimposed building phases that approximately cover a time period of 6300/6200-5700/5600 cal. BCE. Selection of secure depositional contexts contributed greatly to the reliability of the analysis and enabled precise quantitative examination. In contrast, small sample sizes from several building phases (especially IVg-k) stand out as one of the shortcomings of the statistical analysis. Data obtained from the ceramic analysis was used to serve two distinct research objectives: assessing cultural-historical features with an intra-site, intra-regional and inter-regional perspective, and defining technological and organizational aspects of the pottery production at the site.

The analysis of Ulucak IV-V pottery suggested that the ceramic development at the site can be divided into four main developmental stages that contain the following characteristics:

1. **Level Vb:** Characterized by BBW, CSBW and RSBW. Hole-mouth forms, open forms with 's'-shaped profiles, round disc bases, and vertical tubular lugs.
2. **Level Va:** Characterized by a marked increase in the RSBW and appearance of impressed wares. Hole-mouth forms, jars with short necks, open forms with 's'-shaped profiles, tubular lugs, small handles, and disc bases.

3. **Early IV (IVg-k):** Characterized by fine CSBW and RSBW and increase in the organic temper. Jars with short necks, bowls with 's'-shaped and convex profiles, thick flattened rims.
4. **Late IV (IVa-f):** Characterized by fine RSBW and impressed wares. Chaff temper and fine-porous surfaces. Storage jars, anthropomorphic vessels, long-necked jars, ellipsoid forms, oval bases, bead-rims, flattened rims, small vertical handles on rims, horizontal lugs below rims, and flat bases.

It has to be highlighted that the above presented stages are not conclusive and in no way do they imply abrupt changes in the pottery production, fabrics or forms. I have divided these stages in order to make the long and complicated sequence at Ulucak IV-V more comprehensible for the readers. One of the most significant results of this study is actually the uninterrupted continuity in the ceramic production. Nevertheless, this continuity is not created by a static or conservative attitude; on the contrary, novelties regarding both fabrics and forms are detected along the sequence. It seems appropriate to me to state that the level of continuity and novelties in the Ulucak IV-V ceramic assemblages are a consequence of long-term cultural-social stability in the area. Even though many settlements at Ulucak end with a fire, and probably some are abandoned by the community following the disaster, the newcomers to the mound have continued producing pottery in the tradition of the previous occupants. There is also no evidence of abrupt change in the other material cultural elements from Level Vb to IVb. In this sense, evidence obtained from ceramic data concurs with that of the rest of the material culture, indicating locally sustained, social-cultural stability until 5700/5600 cal. BCE in Central-West Anatolia.

The analysis of Ulucak IV-V pottery is significant as it contains the first detailed study of material from a Late Neolithic and Early Chalcolithic settlement in Central-West Anatolia. As mentioned already, archaeological research in the region focusing on Neolithic and Early Chalcolithic periods was very restricted until the late 1990's. Ulucak is indeed the first site in Central-West Anatolia which was subject to large-scale and long-term excavations with a problem-oriented approach. Good preservation of the early levels contributed enormously to the long-term understanding of the history of the settlement on the mound. Since the late 1990's, excavations are being conducted at various other sites in the region and continuously provide us with new data on the nature of the 7<sup>th</sup> through 6<sup>th</sup> millennia.



Ulucak is distinguished from other sites in Central-West Anatolia by its exceptionally long stratigraphical sequence which according to carbon dates spans around 800-1000 years. The continuous nature of the settlement on the mound for a millennium elevates Ulucak to a position of a referential site for its own region, such as Çatalhöyük for Central Anatolia and Yumuktepe for littoral Southeast Anatolia. In other words, one can observe the material cultural sequence and development from the very beginning of the 7th millennium BCE onwards, until the abandonment of the mound around 5700-5600 cal. BCE. Ceramic data from Ulucak presents us with a unique case and can be considered representative of its immediate vicinity, allowing us to have a firmly constructed sequence for Central-West Anatolia, specifically the İzmir Region.

Integration of data from other sites in the area allows us to assess the level and nature of regional diversity, as all the sites investigated in Central-West Anatolia contain unique components which to a certain extent contrast starkly with the archaeological evidence at Ulucak. Despite high levels of homogeneity observed in the material culture across the region architectural techniques, for instance, may differ from site to site. Such examples need to be carefully evaluated with regards to the variability in Central-West Anatolia. It seems that, at least between littoral and inland sites, there are certain unmatched elements which may even indicate divergent origins. The type of architecture at Ege Gübre, with its round plans (Sağlamtimur 2007: Fig. 20), seems totally alien to the region and is one of the most eye-catching cultural components highlighting the intra-regional diversity. The analysis of ceramics and other data from these sites will provide a high-precision picture building upon, and possibly modifying, the sequence we tried to establish for Central-West Anatolia.

The second major aim of this study is to provide information on the technological, organizational and functional properties of Ulucak IV-V pottery. Observations regarding the technological aspects of Ulucak ceramics have been conducted in order to gain information on the manufacturing process, the function of Ulucak pottery as well as the level of specialization involved in the production of clay vessels. Determining technological, organizational and functional aspects of ceramic production is an essential part of ceramic analysis which, above all, allows us to infer clues on the social context of pottery-related activities from mining of the clay to the circumstances of final deposition (Orton, Tyers and Vince 1993: 31). Observations made on the analyzed material, such as the fracture properties or surface treatment, allowed us to infer several insights into the

pottery production chain at the site. Several other find categories from Ulucak, such as clay lumps and mortars with red ochre residues, provided us with clues to the stages of pottery production and how it might have been organized. We have also discussed the possibility of specialization of pottery production with reference to the theoretical framework put forward by Costin (1991) and in light of the ceramic evidence and other finds at Ulucak. Our discussion suggests that the pottery production at Ulucak was household-based, dispersed, low scale, and part-time. Besides, manufacturing of Ulucak pottery involved high know-how, medium-high labor investment and low production rates.

Function of the ceramic containers at Ulucak was restricted to serving and storage in both levels. We were able to show that the way in which agricultural products were stored shifted through time. Storage of large amounts of agricultural products in large ceramic containers took place only in Late IV. In Level V, storage of cereals was confined to daub bins and mud boxes. The volumes of the ceramic vessels from this level are not adequate for storing agricultural products. Gradual advances in the ceramic technology opened new ways of employing ceramic vessels. Use of ceramic vessels and clay lids for large amounts of food storage is an innovation observed in Level IV. We can assert that the foundations for *pithoi* production were established in the beginning of the 6<sup>th</sup> millennium BC.

True cooking pots and coarse wares are rarely found in the Ulucak assemblage. Ceramic containers were not implemented to cook food on direct fire, although techniques like indirect boiling cannot be dismissed as a possibility. Thin walls, red/cream color and carefully burnished glossy surfaces may entail symbolic meanings and ceramic vessels with these properties might have functioned as status objects during social events. Here we are reminded of the works of other researchers who suggested that the early ceramics might not have necessarily emerged in order to enhance cooking techniques but rather as a result of social competition (Vitelli 1989; Perlès 1992: 144). The competitive feasting model developed by Hayden might be a plausible explanation for the non-cooking-related function of Neolithic ceramics in West Anatolia (Hayden 1995; Hayden 2003: 460). The data from Ulucak seems to support this view as the entire assemblage is composed of fine-medium wares with non-porous, slipped and well-burnished surfaces and without the necessary technological properties of cooking pots known from later periods.

Another major aspect of this study was to compare and contrast the ceramic wares and forms in Ulucak IV-V with neighboring regions and with Central Anatolia. In this study, the inclusion of a detailed, exhaustive and comparative Chapter VI aims to integrate Ulucak ceramics into the cultural-historical framework of 7-6<sup>th</sup> millennia BCE Anatolia and Southeast Europe. As even the most basic data from Central-West Anatolia was lacking until recently, this study simply tried to bridge this huge gap in research by means of detailed ceramic comparisons and relative chronological discussions. Such a comparison enabled us to understand the analogous and non-analogous features of Ulucak ceramics with contemporary sites in Anatolia and Southeast Europe. This understanding not only makes us recognize the relationships and possible origins of Ulucak ceramic development but also presents us with the features of the local ceramic tradition in the region, which is distinguished from the neighboring areas. As a result of these comparisons, the local character of Central-West Anatolian Neolithic and Early Chalcolithic pottery development was defined and its characteristics are listed for the first time in a comprehensive way.

The comparison of Ulucak IV-V pottery with various regions also serves to construct relative chronologies. Our comparisons indeed gave us the possibility to present a relative chronological table for all the analyzed regions. We have tried to achieve this goal by presenting the ceramic sequences in all the regions we included, presenting absolute dates and comparing ceramic data. As a result, it is now possible to understand the chronological position of Ulucak IV-V in relation to other Anatolian sites, Thessaly, the Macedonian Plain, and various regions in Bulgaria. The main aim of this procedure was to offer researchers a firm and reliable temporal framework of Ulucak IV-V settlements with regards to other regions treated in this study.

Parallel to the topics related to relative chronology and ceramic comparisons, the study tried to facilitate discussions on various key phenomena that should be researched in the future. We have especially concentrated on the possibility of an organic relationship between the brown burnished wares from Ulucak and the dark mineral wares at Çatalhöyük and basal Menteşe, as well as its ties with the DFBW of Northern Syria and Southeastern Anatolia. We proposed that brown burnished wares from Ulucak Vb-f may indeed be related to the same ceramic horizon seen at these sites because such a connection is implied not only by the analogous ceramic fabrics and vessel forms at these sites but also by their carbon dates. The emerging picture suggests that around the

middle 7<sup>th</sup> millennium BCE pottery production was extremely uniform in terms of production techniques, firing procedure and function in Southeast, Central and West Anatolia.

Recognition of this uniformity is significant because it makes fundamental implications as to the way in which the Anatolian landmass experienced the neolithization process. The present evidence suggests that in Central Anatolia sedentary food-producing sites already existed in mid-late 9<sup>th</sup> millennium BCE, corresponding to Southwest Asian PPNB, (Esin and Harmankaya 2007; Baird 2007: 289) and Çatalhöyük's pre-XII deposits, dated to 7400-7000 cal. BCE are encompassing an aceramic horizon on the mound (Hodder 2006: Fig. 18; 53). There is ample evidence that domesticated cereals/pulses and animals in Central Anatolia have their origins in Southeast Anatolia/Northern Syria (Asouti and Fairbairn 2002: 189; Martin, Russell and Carruthers 2002: 203); perhaps as a result of long-term exchange mechanisms active between Central Anatolian and Syro-Levantine communities (Binder 2002). Nevertheless, many characteristics of Central Anatolian Early Neolithic villages are peculiar to the region, especially the settlement layouts and architectural techniques, and thus reflect high levels of local input (Özdoğan 2002b; Matthews 2002). The data from Ulucak confirm that in the first half of the 7<sup>th</sup> millennium BCE, the first sedentary food-producing settlements appeared in West Anatolia. If we assume that the early farmers dispersed from East to West, most probably following East-West oriented river valleys, sites earlier than Ulucak should exist in Inner-West Anatolia.<sup>81</sup> It should be noted that the indigenous option, of local domestication and transition to farming by foragers, is not supported by the current evidence from Central or Western Anatolia; although local foragers' potential contribution to the process cannot be categorically denied. The red-painted lime floors from Ulucak VIa, dated to 7040-6660 cal. BCE, make a stronger case for the origin of the early Ulucak society somewhere in Central Anatolia where such floors are well-attested (Özbaşaran 2003). It is following the appearance of early farming communities in West and Northwest Anatolia in the mid 7<sup>th</sup> millennium BCE that ceramic traditions in Anatolia become very similar to each other. In my opinion, the homogeneous appearance of ceramics from this stage (referenced in the literature with such names as brown burnished ware, dark burnished ware and dark face burnished ware) implies a common origin rather than independent development in pottery production that was related to the initial dispersal of farming groups. The social dynamic behind this phenomenon deserves

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<sup>81</sup> Excavations at Keçiçayırı might just reveal such an early site (see Şahin 2008).

a detailed assessment and explanation which is, for obvious reasons, beyond the scope of this study.

Another major topic in the study was the appearance of impressed wares and the interpretation of their wide distribution in the Eastern Mediterranean and the Aegean. Data from Ulucak makes it clear that at this site the earliest impressed wares appear around 6100/6000 cal. BCE. Prior to this date, impressed wares are absent in the ceramic assemblage. We have noted that impressed wares appear more or less at the same time in the entire Aegean. For instance, in Thessaly impressed pottery appears only at the end of the EN period (Reingruber 2008). On the other hand, impressed pottery is already present in Thrace in Karanovo I assemblages and continues to be produced into the Karanovo II stage (Krauß *in press*). At the Macedonian Plain sites we have examined, they are likewise present from the beginning of the earliest known Neolithic sites there (Yiouni 1996b: 103; Garašanin 1998). It seems plausible to interpret this data as a clue to the dispersal direction of the impressed pottery. It seems like the influence that triggered the production of impressed wares first arrived in southern Aegean and then dispersed towards the north around 6100/6000 cal. BCE.

In Chapter VI we already mentioned the analogies between impressed pottery observed at northern Syrian and southeastern Anatolian sites in comparison to Ulucak impressed wares. Around the time of the appearance of impressed wares between the littoral region of the eastern Mediterranean and the Aegean, it is highly likely that there was a strong connection between these areas made possible by maritime traffic. The reason we are proposing maritime contacts instead of trade via a land route to specifically explain the appearance of impressed pottery relies on the fact that Central Anatolian and Lake District sites are completely devoid of impressed pottery. The existence of a handful of impressed sherds from Höyücek and Bademağacı (Duru and Umurtak 2005; Duru 1996: Lev. 14) confirm only their occasional contact with coastal settlements but inland sites remain by and large void of impressed pottery. Another hint, indicative of maritime traffic at the archaeological level in Central-West Anatolia, is the alien nature of the house plans at Ege Gübre. The circular structures and rectangular houses identified at the site find no parallels in inland regions of Anatolia. On the contrary, the next best architectural comparisons are from Cyprus and Halaf sites.

As already mentioned in Chapter VI, maritime traffic during the Neolithic period in the Aegean and Eastern Mediterranean is archaeologically verified and there is good reason

to assume that movements of people, animals and goods were facilitated by established maritime routes, along with land routes. The concept of “slow-motion shipping” introduced by Braudel (1972: 105) is seemingly an appropriate approach to visualize prehistoric seafaring. In this respect, our interpretation of the archaeological data from Central-West Anatolia concurs well with the model developed by Perlès (2001; 2005), who argued in favor of Levantine origins for the early farming groups on mainland Greece that arrived via maritime activities. Moreover, her model implies long-term mutual contacts, inclusive of movements in both directions, along the Mediterranean coast and the Aegean. The route and mechanism of the impressed wares dispersal could be further elucidated in the future if the southern Turkish coast were systematically surveyed with a problem-oriented approach.

Another issue highlighted, regarding the impressed wares, was their uniformity in style across large areas in the eastern Mediterranean and Aegean. Müller (1988) identified two major impression types during the initial occurrence of this ware in the Aegean and Adriatic: Impresso A and Impresso B. Impresso A refers to the initial impressed wares which show unconnected free-standing impressions made in a variety of ways by fingertips, nails or a pointed instrument (Müller 1988: 106). In the following impression type, comb-impressions and shell-impressions are typical and leave connected lines on the vessel surface of straight or curved impressions. We have mentioned that at Ulucak and in Central-West Anatolia only the first type (Impresso A) is observed. Indeed, impressions of that type occur in a vast area from southeastern Anatolia to southern Italy. Even at Ilıncık VIII (Thissen 2001) and Yarımburgaz 5 (Özdoğan and Koyunlu 1986) unconnected types of impressions are observed. However, connected impressions (made with shells, combs or another instruments) appear in southeastern Anatolia (Özdoğan 2007a: Figs. 56-57), northern Syria (Nieuwenhuyse 2007: Pls. 48-52), Thessaly (Reingruber 2008: Taf. 29-30), and littoral Adriatic (Müller 1988: Fig. 6). At Sabi Abyad, impressed pottery (both types) appears in levels that are dated between 6100-5900 cal. BCE (Nieuwenhuyse 2007: Tab. 3.4.1). Central-West Anatolia is not part of this development, perhaps as a result of regional abandonment of settlements in the beginning of 6<sup>th</sup> millennium BCE. Despite the termination of long-term stability in Central-West Anatolia around 5700-5600 cal. BCE and the absence of an Impresso B horizon, other areas which were involved in the distribution from the beginning continue to contribute to the stylistic development of the impressed pottery. Due to this continuation in distribution and development, by the second half of the 6<sup>th</sup> millennium

BC the reach of this ware becomes wider, extending as far as southern France and the Iberian Peninsula, where it receives the name “Cardial Impresso” (Barnett 2000).

Finally, the absence of painted wares at Ulucak and in Central-West Anatolia was also discussed in this research. Surprisingly, painted wares are absent at all Central-West Anatolian sites, whereas with the beginning of the 6<sup>th</sup> millennium BCE entire Anatolian sites as well as groups in Thessaly, Bulgaria and the Macedonian Plain produced painted pottery in ever increasing amounts. The only region in Anatolia, besides Central-West Anatolia, where painted pottery is not adapted on a large scale is in Northwest Anatolia (specifically, the İznik Lake Basin). As already discussed in Chapter VI, there are two possibilities as to why painted wares are absent in Central-West Anatolian LN-EC settlements. Either the late deposits from Central-West Anatolia sites are corresponding to a period when painted pottery was not abundantly produced in Anatolia *or* we are confronted with a case where the societies of Central-West Anatolia culturally resisted the adaption of painted wares. In any case, painted pottery horizon is not detected on the mounds and this seems to be pointing out a meaningful pattern implying social instability and cultural break in the area. The fact that all the excavated LN-EC sites in Central-West Anatolia have been abandoned by the beginning of the 6<sup>th</sup> millennium BCE prevents us from documenting the subsequent stages of the Early Chalcolithic in the region. Therefore, the absence of, or non-adaption of, painted wares in the region remains a puzzle to be solved by future research.

Current research may focus on these three highly interesting, yet problematic and not well-understood horizons: the relationship of brown burnished wares to dark burnished wares in Central Anatolia and the eastern Mediterranean; the mechanisms behind the appearance of impressed wares and their dispersal in the Aegean; and the reasons behind the absence of painted wares in Central-West Anatolia. Another research goal could seek out the reasons behind the abandonment of Central-West Anatolian sites around 5700/5600 cal. BCE and examine whether the region was inhabited or not in the second half of the 6th millennium BCE. Finally, it is clear that the neolithization process of West Anatolia can be re-written in light of the new data and analysis gained from the recent archaeological research at Ulucak and other sites.

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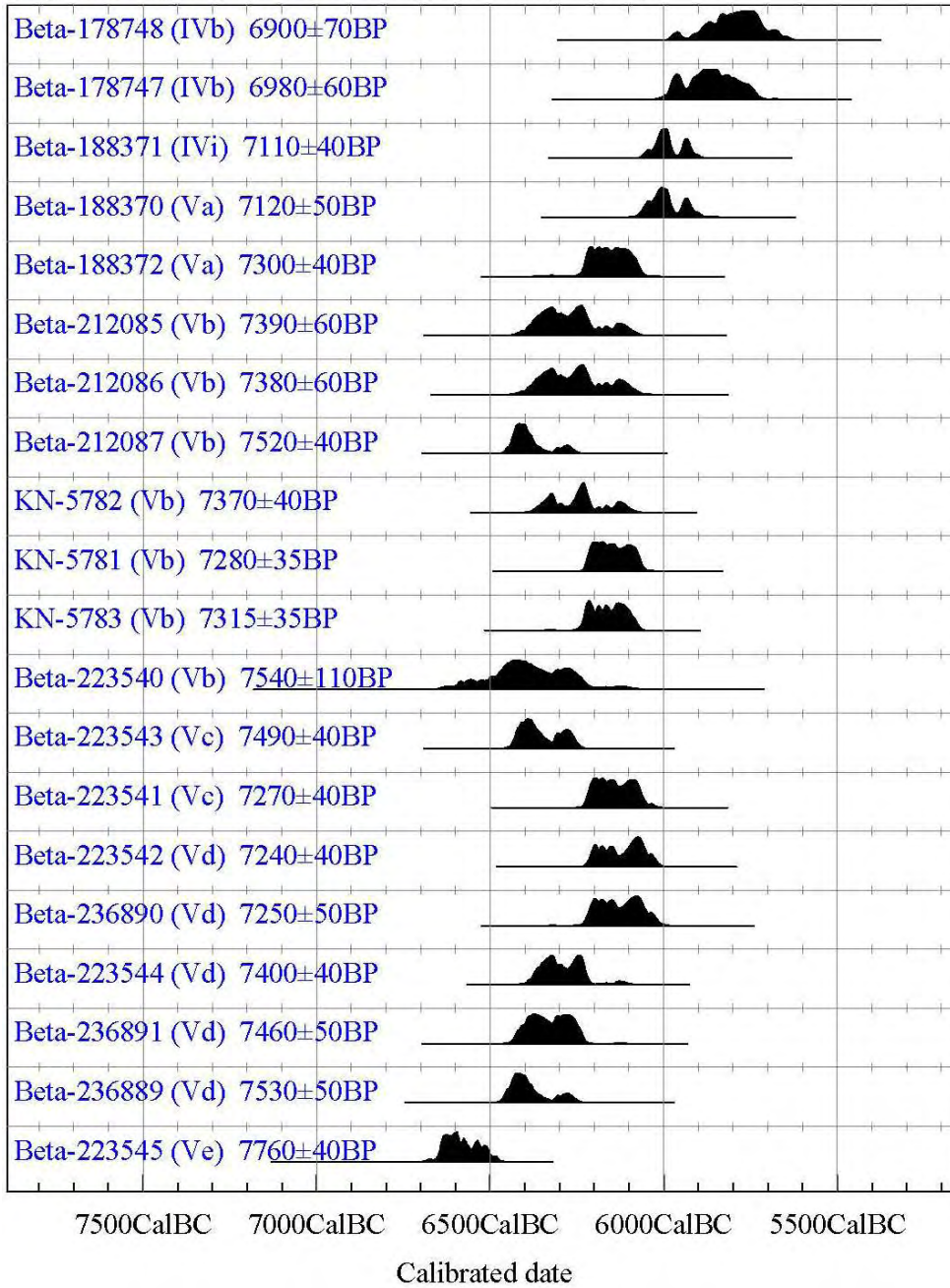
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**RADIOCARBON DATES FROM ULUCAK**

Lab No.	Conventional Radiocarbon Age (BP)	1 sigma cal. range	2 sigma cal. Range	Material	Grid	Context	Elevation	Phase
Beta-178748	6900±70	5880-5860	5900-5660	charcoal	O11d	Bld 8, in front of the painted wall	219.00-218.82	IVb
Beta-178747	6980±60	5980-5790	5990-5730	charcoal	O11d	Bld 8, in front of the painted wall	219.00-218.82	IVb
Beta-188371	7110±40	6030-5920	6030-5895	charred fruit	N11a	South part of the grid (Quercus sp.)	216.74	IVi
Beta-188370	7120±50	6050-5920	6055-5885	charcoal	L13d	Southern part of bld 22	215.55	Va
Beta-188372	7300±40	6220-6100	6230-6055	charcoal	L13c	Bld 23, inside the silo on NE corner	215.43	Va
Beta-212085	7390±60	6370-6210	6400-6090	charcoal	L13b	north of collapsed mud	215.50	Vb
Beta-212086	7380±60	6370-6120	6390-6080	charcoal	L13b	Bld 33	215.01	Vb
Beta-212087	7520±40	--	6080-5960	Shell	L13d	Brown soft deposit	215.36	Vb
Beta-223540	7540±110	6480-6250	6590-6210	charcoal	L13a	Bld 30, floor	215.07	Vb
KN-5782	7340±40	6250-6090	6270-6070	Charred seed	L13d	Bld 33, from inside the silo	215.11	Vb
KN-5781	7280±35	6220-6080	6230-6060	Charred seed	L13d	Bld 33, from inside the silo	215.11	Vb
KN-5783	7315±35	6230-6100	6240-6070	Charcoal	L13b	Bld 33	215.01	Vb
Beta-223541	7270±40	6210-6070	6220-6030	Charcoal	L13d	NE of grid	214.79	Vc
Beta-223543	7490±40	6430-6260	6430-6240	charcoal	L13d	SE of grid	214.42	Vc
Beta-223542	7240±40	6210-6050	6210-6010	charcoal	L13d	SW of grid	214.40	Vd
Beta-223544	7400±40	6360-6220	6380-6210	charcoal	L13d	in front of the southern section wall	214.28	Vd
Beta-236889	7580±50	6470-6400	6490-6380	charcoal	L13c	East of grid	214.50	Vd
Beta-236890	7270±50	6220-6070	6230-6030	charcoal	L13c	Central part of grid	214.46	Vd
Beta-236891	7450±50	6390-6250	6430-6230	charcoal	L13b	west of the stone foundations	214.47	Vd
Beta-223545	7760±40	6650-6520	6660-6480	charcoal	L13d	West of grid	214.23	Ve
Beta-250261	7510±50	6440-6260	6450-6250	charcoal	L13a	Bld 40, posthole 4	214.05	Vf
Beta-250262	7570±50	6465-6395	6480-6380	charcoal	L13a	Bld 40, posthole 5	214.06	Vf
Beta-250263	7400±50	6370-6220	6400-6210	charcoal	L13a	Bld 40	214.09	Vf
Beta-250264	7440±50	6380-6250	6420-6220	charcoal	L13a	Bld 40, posthole 6	214.04	Vf
Beta-250265	7910±50	7000-6650	7040-6640	charcoal	L13a	Clayey red painted lime floor deposit	213.87	VIa
Beta-250266	7770±50	6650-6510	6680-6480	charcoal	L13d	dark brown fill, associated with stone circles	213.74	VIa

Atmospheric data from Reimer et al (2004); OxCal v3.10 Bronk Ramsey (2005); cub r:5 sd:12 prob usp[chron]



Atmospheric data from Reimer et al (2004); OxCal v3.10 Bronk Ramsey (2005); cub r:5 sd:12 prob usp[chron]

