

THE NEOLITHIC OF CENTRAL AND
NORTHWESTERN ANATOLIA,
THRACE AND ITS RELATIONS
WITH SOUTHEASTERN EUROPE

The Institute of Economics and Social Sciences
of
Bilkent University

by
BÜLENT ARIKAN

In Partial Fulfillment of the Requirements for the Degree of
MASTER OF ARTS

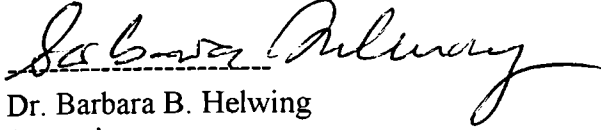
in
THE DEPARTMENT OF
ARCHAEOLOGY AND HISTORY OF ART
BILKENT UNIVERSITY
ANKARA

June 2000

GN
776.32
.T9
A75
2000

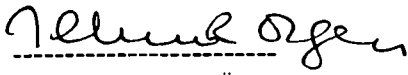
8052673

I certify that I have read this thesis and have found that it is fully adequate, in scope and in quality, as a thesis for the degree of Master of Arts.



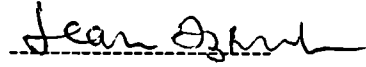
Dr. Barbara B. Helwing
Supervisor

I certify that I have read this thesis and have found that it is fully adequate, in scope and in quality, as a thesis for the degree of Master of Arts.



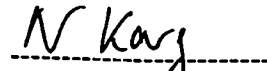
Doç. Dr. Ilknur Özgen
Examining Committee Member

I certify that I have read this thesis and have found that it is fully adequate, in scope and in quality, as a thesis for the degree of Master of Arts.



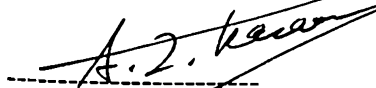
Dr. Jean Öztürk
Examining Committee Member

I certify that I have read this thesis and have found that it is fully adequate, in scope and in quality, as a thesis for the degree of Master of Arts.



Dr. Norbert Karg
Examining Committee Member

Approved by the Institute of Economics and Social Sciences



Prof. Dr. Ali Karaosmanoğlu
Director

To the Memory of My Grandparents

ABSTRACT

THE NEOLITHIC OF CENTRAL AND NORTHWESTERN ANATOLIA, THRACE AND ITS RELATIONS WITH SOUTH EASTERN EUROPE

Arıkan, Bülent

Master, Department of Archaeology and History of Art

Supervisor: Dr. Barbara B. Helwing

June 2000

In this thesis, I intend to focus on the Neolithic of North-West Anatolia. Thanks to recent research activities by M. Özdoğan (1997; 1998c& d; 1999b), T. Efe (1995, 2000) and J. J. Roodenberg (1995a& b; 2000a& b) it is now possible to define a North-West Anatolian Neolithic. With such a definition, it will be possible to decide whether this neolithisation can be understood as an autonomous development or as a consequence of diffusion from another place most probably from the Near East. It is also aimed to present a clearer chronology, which is most needed at this stage of researches.

As a base for the discussion, a thorough synthesis of the development in architecture and pottery will be presented.¹ Other groups of material culture will be used in a selective way, in order to emphasise relationships, since a full discussion is beyond the limits of M.A. thesis. The area covered comprises Central Anatolia (Can Hasan III, Suberde Musular, Erbaba, Köşk Höyük), the Lake District (Hacılar, Bademağacı, Höyücek and Kuruçay), Marmara (Ilıpınar, Fikirtepe and Pendik) and Turkish Thrace (Hoca Çesme, Aşağı Pınar and Yarımburgaz). It will allow a general description of the cultural and chronological development of the North-West Anatolian Neolithic, its long

¹ Detailed discussions on the rest of the cultural material is not included since it will be simply too much for a Master's thesis. A recent publication, which is known as TAY (Harnankaya, Tanındı and Özbaşaran, 1997) fulfils the function of a site inventory. Therefore there is no need to create another

distance contacts and its cultural connections. A comparison between the North-West Anatolian Neolithic and the Neolithic cultures of neighbouring regions, especially the Balkans and Central Anatolia will help to understand mutual relationships between these areas. In the conclusion, the neolithisation process in the Marmara and Turkish Thrace and its relations with the neighbouring regions will be evaluated.

ÖZET

ANADOLU'DA ORTA, KUZEYBATI VE TÜRK TRAKYASI BÖLGELERİNDE NEOLİTİK DÖNEMİ VE GÜNEYDOĞU AVRUPA İLE İLİŞKİLERİ

Arıkan, Bülent

Yüksek Lisans, Arkeoloji ve Sanat Tarihi Bölümü

Tez Yöneticisi: Dr. Barbara B. Helwing

Haziran 2000

Prehistorik alanda yapılan ilk çalışmalardan itibaren, “Neolitik” (Cilalı Taş Devri) kavramının tanımlanması tartışma konusu olmuştur. Günümüzde, halen bu tartışmalar ve çatışmalar güncelliğini korumaktadır.

Bu tez çalışmasında, Kuzeybatı Anadolu Bölgesindeki Neolitik yerleşimler incelenmiştir. Son dönemlerde, M. Özdoğan (1997; 1998 c& d; 1999b), T. Efe (1990; 1994; 1995; 2000) ve J.J. Roodenberg (1995b& c& d; 2000a& b) tarafından yapılan araştırma ve yayınlar yardımıyla, Kuzeybatı Anadolu Neolitik Dönemini tanımlamak mümkün olmuştur. Böylesi bir tanımlama ile “Neolitikleşme” sürecinin kendiliğinden gelişen bir olay mı, yoksa; bir yerden, büyük bir olasılıkla Ön Asya’dan, bir başka yere göçedenlerce ortaya çıkarılan bir olgu mu olabileceği anlaşılabilir. Ayrıca, bu çalışma da, benzerlerinde eksikliği hissedilen net ve açık bir zamandizini sunmak hedeflenmiştir.

Bu teze, mimari ve çanak çömlek bulgularını içeren eksiksiz bir bireşim dahil edilmiştir¹. Bu çerçevede dahilinde, Orta Anadolu’da (Can Hasan

¹ Mimari ve seramik dışında kalan diğer buluntular hakkında detaylı incelemenin yüksek lisans tezi sınırlarının dışına taşacağı düşünülmektedir. Yakın zamanda çıkan, TAY adı verilen ve yerleşimlerin, buluntularıyla beraber envanterlenmesi esasına dayanan yayın, bu amaca hizmet etmektedir. Bu nedenle yeni bir envanter yapmak gereksizdir.

III, Suberde, Musular, Erbaba, Köşk Höyük) Göller Bölgesinde (Hacılar, Bademağacı, Höyücek ve Kuruçay), Marmara'da (Ilıpınar, Fikirtepe ve Pendik) ve Türk Trakya'sında Hoca Çeşme, Aşağıpınar ve Yarımburgaz yerleşimleri değerlendirilmiştir. İki ana yerleşim olma özelliği taşıyan ve detaylı bir biçimde arkeolojik verileri değerlendirilmiş ve kaydedilmiş olan Aşıklı Höyük (Esin, 1991; 1991 et al; 1992b) ve Çatal Höyük -doğu- yerleşimleri teze dahil edilmezken, Kuzeybatı Anadolu Neolitik dönemi kültürel ve kronolojik bulgularıyla değerlendirilecektir. Değerlendirme bu bölgenin, diğer coğrafik alanlarla olan kültürel bağlantıları ve temaslarının incelenmesini içerecektir. Kuzeybatı Anadolu Neolitik dönemi ve Balkanlar ve Orta Anadolu Neolitik dönem karakteristik özellikleri bakımından kıyaslanacaktır. Böylece farklı bölgeler arasındaki etkileşim ve ilişkiler anlaşılmış olacaktır.

TABLE OF CONTENTS

VOLUME I	Page
ABSTRACT	ii
ÖZ	iv
TABLE OF CONTENTS	vi
LIST OF FIGURES	xii
CHAPTER I: INTRODUCTION.....	1
1.1 Defining the “Neolithic”	1
1.2 Explaining the Neolithic	1
1.3 History of Research	4
1.4 Regional Division	7
1.4.1 Central Anatolia	7
1.4.2 Lake District	8
1.4.3 The Marmara	9
1.4.4 Turkish Thrace	10
CHAPTER II: THE STATUS OF RESEARCH IN THE AREA OF STUDY..	12
CHAPTER III: PALAEO-ENVIRONMENTAL BACKGROUND	15
3.1 Palaeo-Climate	15
3.2 Changes in Sea Levels	16
3.3 Neolithic Flora and Anthropogenic Indicators	19
3.3.1 The End Pleistocene Flora	19
3.3.2 The Holocene Flora	20
CHAPTER IV: THE DEVELOPMENT OF ARCHITECTURE IN CENTRAL AND WESTERN ANATOLIA, MARMARA REGION AND	

TURKISH THRACE	24
4.1 The Aceramic Neolithic Architecture in South-Central Anatolia	24
4.2 Comments on the Aceramic Architecture	26
4.3 The Ceramic Neolithic Architecture in Central Anatolia	27
4.3.1 Çatal Höyük –east-	27
4.3.2 Erbaba	27
4.3.3 Köşk Höyük	28
4.3.4 Musular	28
4.4 Comments on the Ceramic Neolithic Architecture in Central Anatolia	29
4.5 The Ceramic Neolithic Architecture in the Lake District	30
4.5.1 Hacılar	30
4.5.2 Bademağacı	32
4.5.3 Höyücek	33
4.5.4 Kuruçay	34
4.6 Comments on the Ceramic Neolithic Architecture of the Lake District	36
4.7 The Pre-Neolithic Settlements in the Marmara Region	37
4.7.1 The Ağaçalı Group	37
4.7.2 The Çalca Group	38
4.8 The Ceramic Neolithic Architecture in the Marmara Region	38
4.8.1 Ilıpınar	38
4.8.2 Pendik	40

4.8.3	Fikirtepe	41
4.9	Comments on the Ceramic Neolithic Architecture in the Marmara Region	41
4.10	The Ceramic Neolithic Architecture in Turkish Thrace	42
4.9.1	Hoca Çeşme	42
4.9.2	Aşağıpınar	44
4.11	Comments on the Ceramic Neolithic Architecture in Turkish Thrace	44
4.12	Conspectus	45

CHAPTER V: THE NEOLITHIC POTTERY IN CENTRAL AND WESTERN
ANATOLIA, MARMARA REGION AND TURKISH THRACE

.....	48	
5.1	The Neolithic Ceramic of Central Anatolia	48
5.1.1	Çatal Höyük –east-	48
5.1.2	Erbaba	49
5.1.3	Köşk Höyük	50
5.1.4	Musular	50
5.2	Comments on the Neolithic Ceramic of Central Anatolia	51
5.3	The Neolithic Ceramic of the Lake District	51
5.3.1	Hacılar	51
5.3.2	Bademağacı	53
5.3.3	Höyücek	54
5.3.4	Kuruçay	55

5.4	Comments on the Neolithic Ceramic of the Lake District	56
5.5	The Neolithic Ceramic of Marmara Region	57
5.5.1	Ilıpınar	57
5.5.2	Pendik	58
5.5.3	Fikirtepe	59
5.6	Comments on the Neolithic Ceramic of Marmara Region	59
5.7	The Neolithic Ceramic of Turkish Thrace	61
5.7.1	Aşağıpınar	61
5.7.2	Yarımburgaz	61
5.7.3	Hoca Çeşme	62
5.8	Comments on the Neolithic Pottery of Turkish Thrace	63
5.9	Conspectus	64

CHAPTER VI: THE SUBSISTENCE PATTERNS IN CENTRAL AND
WESTERN ANATOLIA, MARMARA REGION AND
IN TURKISH THRACE

		67
6.1	The Epi-Palaeolithic Period	67
6.2	The Aceramic Neolithic Period	67
6.2.1	Aşıklı Höyük	67
6.2.2	Suberde	68
6.2.3	Can Hasan III	69
6.3	The Ceramic Neolithic Period	69
6.3.1	Çatal Höyük –east	69
6.2.4	Erbaba	70
6.2.5	Musular	70
6.2.6	Hacılar	71

6.2.7	Pendik	72
6.2.8	Fikirtepe	72
6.2.9	Ilıpınar	72
6.2.10	Hoca Çeşme	73
6.4	Conspectus	73
CHAPTER VII: CHRONOLOGY		74
7.1	Aceramic Neolithic	74
7.2	Ceramic Neolithic	75
7.3	Anatolia and the East	77
7.4	Anatolia and the West	78
CHAPTER VIII: FURTHER COMPARISONS OF SELECTED SMALL FINDS		80
8.1	Stone Tools	80
8.1.1	Ağaçlı Group	80
8.1.2	Çalça Group	81
8.1.3	Coastal Fikirtepe Culture	81
8.2	Bone Tools and Objects	82
8.3	Footed Miniature Vessels	84
8.4	Pintaderas	85
8.5	Figurines	86
8.6	Conspectus	88
CHAPTER IX: CONCLUSION		89

BIBLIOGRAPHY	94
APPENDICES	
MAPS	1
FIGURES	5
CHRONOLOGICAL CHARTS	46

5

LIST OF FIGURES

Figure Numbers	Page
Fig. 1 Map of Central Anatolia (Özdoğan and Başgelen, 1999: 87).....	1
Fig. 2 Map of the Lake District (Özdoğan and Başgelen, 1999: 137).....	2
Fig. 3 Map of the Marmara Region (Özdoğan and Başgelen, 1999: 155).....	3
Fig. 4 Map of Turkish Thrace (Özdoğan and Başgelen, 1999: 169).....	4
Fig. 5 Aşıklı Höyük schematic plan (Esin, 1999: 90)	5
Fig. 6 Aşıklı Höyük schematic plans of building phases 2B-2E (Esin, 1999: 94)	6
Fig. 7 Musular architectural remains from N-O 11 (Özbaşaran, 1999: 120)	7
Fig. 8 Musular red painted lime plaster floor of Building A (Özbaşaran, 1999: 123).....	7
Fig. 9 Can Hasan III schematic plan (TAY).....	8
Fig. 10 Çatal Höyük –east- Level VI schematic plan (Mellaart, 1963b: 58)	8
Fig. 11 Çatal Höyük –east- Level VI reconstruction (Mellaart, 1963b: 57)	9
Fig. 12 Çatal Höyük –east- virtual reality reconstruction of an elaborate building (Hodder, 1999: 134)	10
Fig. 13 Erbaba schematic plan (Bordaz, 1982: 93)	11
Fig. 14 Köşk Höyük schematic plan (TAY)	11

Fig. 15 Musular architectural remains from N-O 12	
(Özbaşaran, 1999: 120)	12
Fig. 16 Hacılar plan of EN Level V (Duru, 1999: 140)	12
Fig. 17 Hacılar plan of EN Level II (Mellaart, 1970b: 55)	13
Fig. 18 Hacılar plan of Level VI (Mellaart, 1970b: 58-59)	14
Fig. 19 (a-b) Hacılar Level VI reconstruction	
(Mellaart, 1970b: 62-63)	15
Fig. 20 Bademağacı general plan of the settlements (Duru, 1999: 149) ...	16
Fig. 21 Bademağacı storage facility from the EN 3 settlement	
(Duru, 1999: 150)	16
Fig. 22 Höyücek plan of the Shrine Phase (Duru, 1999: 145)	17
Fig. 23 Kuruçay plan of Level 12 (Duru, 1999: 141)	18
Fig. 24 Kuruçay plan of level 11 (Duru, 1999: 142)	19
Fig. 25 Ilıpınar reconstruction of burnt house from phase X	
(Roodenberg, 1999: 158)	19
Fig. 26 Ilıpınar schematic plan of phases IX-VIII	
(Roodenberg, 1995c: 68)	20
Fig. 27 Fikirtepe round hut with semi-subterranean floor	
(Özdoğan, 1999c: 178)	20
Fig. 28 Hoca Çeşme phase IV round buildings cut into the bed-rock	
(Özdoğan, 1999c: 179)	21
Fig. 29 Hoca Çeşme phases IV-III a detail from the enclosure wall	
(Özdoğan, 1999c: 181)	21
Fig. 30 Hoca Çeşme phase III round building with paved and painted floors	
(Özdoğan, 1999c: 180)	22

Fig. 31 Hoca Çeşme phase II the first, rectangular mud slab building (Özdoğan, 1999c: 181)	22
Fig. 32 Aşağıpınar Layer 6 the burnt Neolithic Building (Özdoğan, 1999c: 183)	23
Fig. 33 Yümüktepe silo bases of Level XXIV (Garstang, 1953: III)	23
Fig. 34 Çatal Höyük –east- pottery from levels X-VII (Mellaart, 1964a: 83)	24
Fig. 35 Çatal Höyük –east- pottery from levels VIII-II (Mellaart, 1962b: 53)	24
Fig. 36 Köşk Höyük pottery from Level III (Silistreli, 1985a: 137; 1986a: 178; 1990a: 104; 1990b: 27)	25
Fig. 37 Musular sherds and rim pieces (Özbaşaran, 1999: 126-127)	26
Fig. 38 Hacılar “EN” sherds (Duru: 1999: 140)	26
Fig. 39 Hacılar Level IX pottery (Mellaart, 1970b: 243, 245)	27
Fig. 40 Hacılar Level VII pottery (Mellaart, 1970b: 249)	28
Fig. 41 Hacılar Level VIII-VII pottery (Mellaart, 1970b:247)	28
Fig. 42 Hacılar Level VI pottery (Mellaart, 1970b; 249, 251, 253, 263, 265, 271)	29
Fig. 43 Bademağacı selected pottery from EN 6 (1-5), EN 5 (6-10) and EN 4 (11-17) (Duru, 1999: 153)	30
Fig. 44 Bademağacı EN 4 box (Duru, 1999: 152)	30
Fig. 45 Bademağacı EN 3 pottery (Duru, 1999: 151-152)	31
Fig. 46 Höyücek pottery from the Early Settlement Phase and the Shrine Phase (Duru, 1999: 146)	32
Fig. 47 Kuruçay pottery from levels 13-11 (Duru, 1994b: 34, 35, 36, 43, 45,	

52, 69, 76, 94)	33
Fig. 48 Ilıpınar pottery from phases X-VII (Thissen, 1995: 114-117) ...	34-35
Fig. 49 Archaic and Classical Fikirtepe pottery (Özdoğan, 1999c: 174) ...	35
Fig. 50 Aşağıpınar white on red painted pottery (Özdoğan, 1999c: 191)	36
Fig. 51 Yarımburgaz typological pottery sequence of layers 5-4 (Özdoğan, 1999c: 176)	37
Fig. 52 Hoca Çeşme main vessel types from IV-II (Özdoğan, 1999c: 175) ...	37
Fig. 53 Hoca Çeşme pottery from III-II (Özdoğan, 1999c: 190-191)	38
Fig. 54 Bone awls and polishers (Mellaart, 1964a: 99; Özbaşaran, 1999: 125; Duru, 1994b: 213; Marinelli, 1995: 141; Özdoğan, 1999c: 184)	39
Fig. 55 Bone spoons/spatulae (Mellaart, 1964a: 101; Özbaşaran, 1999: 126; Özdoğan, 1999c: 182; Marinelli, 1995: 141; Duru, 1994a: Mellaart, 1970b: 464	40
Fig. 56 Bone awls and polishers in Southeast Europe (Winn and Shimabuku, 1989: 261, 263; Pyrgaki, 1987: 649; Höglinger, 1997: 71, 79)	41
Fig. 57 Footed miniature vessels (Duru, 1999: 147; Özdoğan, 1999c: 187; Gimbutas, 1989: 208; Pyrgaki, 1987: 522; Gauss, 1997: 103-104).....	42-43
Fig. 58 Pintaderas (Mellaart, 1964a: 98; Duru, 1999: 152; Gimbutas, 1989: 212; Pyrgaki, 1987: 693)	44
Fig. 59 Figurines (Mellaart, 1962b: VIII; Duru, 1999: 147; Özdoğan, 1999c: 187; Roodenberg, 1999: 162; Talalay, 1993: 7; Gimbutas, 1989: 346; Pyrgaki, 1987: 689; Hiptmair, 1997: 110-111)	45-46
Fig. 60 A Chronological Chart by the Thesis' Author	47

Fig. 61 A Chronological chart by Laurens Thissen	
(Thissen, 2000: 212)	48
Fig. 62 A Chronological chart by Mehmet Özdoğan	
(Özdoğan, 1999c:194)	49

CHAPTER I

INTRODUCTION

1.1 DEFINING THE “NEOLITHIC”

The term “neolithic” (New Stone Age) is used to designate a period which is characterised by several important changes. In the area described here, this is the period between approximately 9000-5000 BC., although this may vary slightly from one region to another. During these four thousand years people created a different economic and social environment based on the active manipulation of natural resources in order to provide the nutritional bases of their communities. The sedentism and the domestication of species leads to the appearance of village communities. This process is often called “Neolithisation”.

1.2 EXPLAINING THE NEOLITHIC

After the mid-19th century, scholars defined the Neolithic as a time period in prehistory. The most useful evidence is the chipped stone typology of that time. The first attempts to define such an early period is made by Lubbock. He defined the Palaeolithic by using the fossil remains of extinct species. Lubbock also related the Neolithic to the appearance of a food producing economy, which relies on the domestication of certain plant and animal species by using technology of chipped and polished stone tools (summarised after Clark, 1980: 1-2). Ever since R. Pumpelly proposed his “Oasis theory” in 1908 (summarised

after Trigger, 1995: 250-251), the Near East and Egypt have been understood as the starting point of the neolithisation process. This theory has found wider acceptance due to its application by V.G. Childe, who understood the neolithisation process as one of the major “revolutionary” events in the history of human civilisation (summarised after Trigger, 1995: 253). It has also been included in the textbook “Man Makes Himself” (Childe, 1936). The discovery of a complex neolithic culture in Jericho by J. Garstang and K. Kenyon (Kenyon, 1960 a & b) seemed to point to the Levant as a possible starting point of the Neolithisation. The discoveries at Jericho attracted further research in this area, and further confirmation for this hypothesis was accumulated. The Iraq-Jarmo project directed by R. Braidwood (Braidwood and Howe, 1972), designed partly to disprove Childe’s “Neolithic Revolution” (1934), promoted the formulation of a different hypothesis. It could be shown that the neolithisation process was a gradual one taking place over several steps in the “Hilly Flanks” of the Taurus-Zagros foothills where the ancestors of the later domesticates were found. In 1968, L. Binford proposed the “Marginal Areas Theory” (summarised after Redman, 1978: 101-105). According to this approach a favorable climate at the end of the Pleistocene enabled a constant population growth in the Epi-Palaeolithic¹ hunter gatherer communities. After a certain while the population growth reached the limit of the carrying capacity of the land. Thus, the excess population was forced to leave the original group. This branching-off group had to settle in marginal areas, where environment and resources were not as tolerant and plenty. Subsequently, the active manipulation of the natural resources must

¹In the thesis, the term “Epi-Palaeolithic” will be used instead of “Mesolithic”.

have been initiated in these marginal regions. With the increase of research and developing techniques, basics of the modern day understanding of the Neolithic implies a different economic and social environment from the one of the preceding era. During the last decades, economic and social aspects of the Neolithic are emphasised by modern day researchers. Some of these are Flannery (1972), Redman (1978), Binford (1983) Bar-Yosef and Meadow (1995) and Watson (1995). According to this research, the Neolithic is the result of the active manipulation of natural resources and the appearance of the “Mixed Economy”, which is the use of domesticated food crops, horticulture and herd animals in addition to specialised hunting and gathering. Within this more complex economic strategy, the rise of an organised and stratified society is inevitable. More recently, emphasis has been put on the relations between the specialised economy, the surplus production and the use of symbols (Thomas, 1991:181-82; Hastorf, 1998: 778).

The first group of models assumes that the Neolithic changes take place in restricted areas and then diffuse to other regions. This group includes the “Oasis” theory, which postulates that people and animals were forced to live together (after Redman, 1978: 93-95). The “Hilly Flanks” brings up the presence of favourable areas, where wild plants and other resources were available (after Redman, 1978: 95-97). The “Marginal Areas” theory (after Redman, 1978: 101-105), is another model in the first group. Following these, an emphasis on a gradual development was proposed with the idea that pre-Neolithic groups were already sedentary (Harris, 1990: 17-19). This group of theories emphasises that either the southern Levant (Bar-Yosef and Meadow,

1995: 39-94) or the Zagros (Braidwood and Howe, 1972) would have been the primary regions of the formation of the Neolithic. In a second step, the “Wave of Advance” theory (Sherratt, 1996: 130-140) proposes areas of secondary Neolithisation, which would have received the Neolithic life style later, either by the colonisation of formally sparsely occupied areas or by the diffusion of new technologies. Some scholars (Özdoğan, 1997: 14-17; 2000: 166) try to link the collapse of Neolithic settlements in the Near East during the PPN-C period and the contemporary increase of settlements in Central Anatolia and the Lake District. This interpretation implies a westward movement of parts of the Neolithic population.

The idea of locally developed cultures forms the second group of theories (Özdoğan, 1992: 3-4). This view emphasises the existence of a pre-Neolithic population in a certain area, which would then undergo an independent Neolithisation process. This Neolithisation process might have been triggered by influences from outside, such as contact with already neolithic communities. Together with a long distance trade in obsidian, which is proven since the beginning of the Neolithic onwards (Balkan-Atlı, et al: 1999: 143), the exchange of items like plant seeds or domesticated animals might have taken place (Hastorf, 1998: 779).

1.3 HISTORY OF RESEARCH

Research on the Neolithic of Anatolia began only in the 1960s. Before that, Anatolia was thought to have been void of occupation until 3000 BC

because of harsh winter conditions on the central plateau (Özdoğan, 1992: 2; 1995: 27-28). Therefore, Anatolia would have formed a natural barrier between the Near East and Southeastern Europe. Alternatively, it was interpreted as a landbridge between Southeastern Europe and the Near East, thus being used only as a passage without an indigenous cultural development (Özdoğan, 1995: 27; 1997: 3). The early discoveries at Pendik, Fikirtepe and Alişar were only dated to pre-Troy but there was nothing more clear (Bittel, 1960). In 1963, Çayönü, in Southeast Anatolia, was discovered. In the following year, the Central Anatolian site Çatal Höyük -east- was unearthed. However, these spectacular sites continued to be explained until the 1980s as “special purpose sites”, for example as obsidian trade posts (Silistreli, 1986: 133). Since the 1960s, many Neolithic sites were newly discovered during rescue projects in the eastern part of Turkey. The density of site distribution and the ingenuity of its Neolithic culture proved the importance of Anatolia as a formation zone of the Neolithic. This leads to the discussion of whether the origins of the Anatolian Neolithic are local or go back to an impact from a primary neolithisation zone in the Levant.

The study area covered in this thesis includes Central Anatolia, Western Anatolia, North Western Anatolia and Turkish Thrace. The geographic location of the study area between Anatolia and Europe might help to understand the dynamics of the Neolithisation in this contact zone better.

Within the study area it is possible to consider that the coastal Epi-Palaeolithic Culture in the Marmara region, the so-called “Ağaçlı Group”

(Gatsov and Özdoğan, 1994: 102, 107, 108) might have been the ancestor of the coastal Fikirtepe Culture. In order to support this statement the similarity of prismatic cores, round end scrapers, perforators and end scrapers from Ağaçlı (Gatsov and Özdoğan, 1994: 112-117) and the coastal Fikirtepe Culture (Özdoğan, 1999b: 173 figure 4) can be used.

A second group of inland settlements, represented by the sites Çalca, Keçiçayırı and Kalkanlı show a repertoire different from the “Ağaçlı Group” (Özdoğan and Gatsov, 1998: 209-223). The Çalca Group is thought to be an aceramic Neolithic culture.

It is possible that the earliest steps of the Neolithic life with Çalca group were initiated after contacts with central Anatolia and the Lake District. Links between Çalca-Keçiçayırı-Kalkanlı (southern Marmara) and Suberde, Keçiçayırı and Çatal Höyük –east- (for the use of pressure flaking) can be traced in the lithic technology (Özdoğan 1999b: 212). Trade of obsidian from Central Anatolia might have been the initial contact. Together with that trade, an exchange of information could have happened . It is possible that this contact was made via the Aegean (sea or inland routes).

In the course of time, the Neolithic life style would have been elaborated locally and led to the formation of traditions of architecture and pottery in the Marmara and Turkish Thrace regions, which were different from Central Anatolia and the Lake District. The coastal sites Fikirtepe and Pendik might have been settlements, which adapted the Neolithic developments but kept

an Epi-Palaolithic life style. On the contrary, the origin of the population of the inland settlement Ilıpınar is still unknown.

1.4 REGIONAL DIVISION

1.4.1 Central Anatolia (Figure 1)

The aceramic Neolithic site Aşıklı Höyük is located in the province of Aksaray and on the bank of the Melendiz river. The site is under excavation by Ufuk Esin since 1989 (Esin, 1991 et al; Esin, 1991 a& b; 1992; 1993; 1998; 1999).

Musular is a recently excavated site opposite Aşıklı Höyük. It has been excavated by Mihriban Özbaşaran since 1996. The proximity of the aceramic/ceramic Neolithic site to Aşıklı Höyük brings up the possibility that Musular bears some relation to Aşıklı Höyük (Özbaşaran, 1999).

Can Hasan III is another aceramic Neolithic settlement in the province of Karaman, which was discovered and excavated by David French between 1961 and 1970 (French, 1970).

Suberde is located on the northwestern shore of Suğla Lake in South-Central Anatolia. The pre-pottery Neolithic site was excavated by Jacques Bordaz between 1964 and 1968 (Bordaz, 1965; 1969; 1973).

The ceramic Neolithic site Çatal Höyük is in the province of Konya, near the town of Çumra. The site has been thought to be located on an ancient lake bed and the alluvial plain is watered today by the Çarşamba river. The discovery of the site and the first part of the excavations was carried out by James Mellaart from 1961 to 1965. The site is considered a “type-site” for the neolithic of Central Anatolia. The second part of the British expedition started in 1990 and it is still going on under the direction of Ian Hodder (Mellaart, 1962; 1963; 1966; Hodder, 1999; Wollé, 2000 <http://catal.arch.cam.ac.uk>)

The pottery Neolithic site Erbaba is located 13 km south of Suberde. Jacques Bordaz moved to that settlement after the work at Suberde had been completed and excavated here from 1969 to 1982 (Bordaz, 1970; 1973; Bordaz and Bordaz, 1976; 1982).

Köşk Höyük is located at Niğde-Bahçeli and was excavated by Uğur Silistreli from 1983 to 1989. Investigations have been resumed since 1996 under the direction of Aliye Öztan (Silistreli, 1984; 1985; 1986; 1989; 1990; Gates, 1997: 247).

1.4.2 The Lake District (Figure 2)

The earliest Neolithic settlement is Bademağacı 20 km south of Burdur. The site was excavated by Refik Duru between 1993 and 1997 (Duru, 1994a; 1995; 1996; 1997; 1999).

Höyücek is a second site located near Burdur/Bucak, which was excavated by Refik Duru. The campaigns took place from 1989 to 1992. (Duru, 1991; 1992; 1999).

Kuruçay is the first site that R. Duru excavated. The excavations were conducted between 1978 and 1988 (Duru, 1989a; 1994b; 1999).

The last site in the Lake District will be discussed in this region is Hacılar. The site was discovered and excavated by James Mellaart. The campaigns started in 1957 and continued till 1961 (Mellaart, 1958; 1959; 1960; 1961; 1970; Duru, 1989b).

1.4.3 The Marmara Region (Figure 3)

Two groups of sites, which might pre-date the earliest excavated settlement in the Marmara region, are known from surveys only, the so-called “Ağaçlı Group” (Gatsov and Özdoğan, 1994: 97-120) consists of coastal settlements with an Epi-Gravettian related tool industry (Gatsov and Özdoğan, 1994: 109).

The second group, the Çalca Group, are inland sites with a flake industry. These sites all show a mound formation so they are probably sedentary sites. Since no pottery is collected they are interpreted as aceramic Neolithic sites (Efe, 1995: 100).

The earliest excavated Neolithic settlement in this region is Pendik. The site is on the east coast of the Sea of Marmara. It has been known to exist since 1908. The surface finds are in Stockholm Museum. Rescue excavations were conducted by Ş. A. Kansu in 1961. The site was excavated again by Savaş Harmankaya in 1981 and by the Istanbul Archaeological Museum in 1992 (rescue excavations). The site represents an early phase of the “Fikirtepe Culture” (Harmankaya, 1983; Özdoğan, 1983; Pasinli et al, 1993).

Fikirtepe itself was excavated by Kurt Bittel (Bittel, 1960; 1971).

Ilıpınar on the shores of Lake İznik has been under excavation by Jacob J. Roodenberg since 1987. The site represents an inland variety of the Fikirtepe Culture” (Roodenberg, 1993; 1995 a& b; 1999; 2000 a& b; Roodenberg, Thissen and Buitenhuis 1990; Thissen, 1995).

1.4.4 Turkish Thrace (Figure 4)

The area has been investigated in terms of remains of prehistoric cultures since the beginning of the 1980s. Research in Thrace is carried out by Mehmet Özdoğan. The results of these studies are quite interesting for the nature of neolithic life in Turkish Thrace. The earliest settlement in the area is Yarımburgaz cave, which was excavated by a team led by M. Özdoğan first and then Güven Arsebük later. The cave site provides a chronological sequence, which is obtained from limited excavation, from the lower Palaeolithic to the Neolithic (Özdoğan, 1998c).

The earliest ceramic Neolithic open air settlement is Hoca eşme - Enez, excavated by M. Özdođan. The site is located on the delta of the Meri river (Özdođan, 1997; 1998 b&c; 1999b).

The excavation at Aşadıınar, in the province of Kırklareli, was a joint project by M. Özdođan and Hermann Parzinger between 1993 and 1996 (Özdođan, 1998c; Özdođan, Parzinger and Karul 1998).

CHAPTER II

THE STATUS OF RESEARCH IN THE AREA OF STUDY

The present theories and models do not give a comprehensive view of the Neolithic in central, western and northwestern Anatolia, Thrace and Southeastern Europe. Therefore it is clear that there is need for a new model, which combines the present data from environmental research and the latest results of prehistoric research in these regions. There are some restrictions on the formulation of new models and theories. The first is the difficulty in conducting prehistoric research as well as environmental studies. There are various reasons for such difficulties, such as political and economic. Especially the rising standards of an average archaeological survey or excavation project force scholars to build up a large team. The result is the huge budget for expenses. Moreover, in some cases, although the money is ready, political constraints appear and research projects can not be completed. If excavation or survey is going on or completed then the problem of publication appears. The data recovered in research projects appear mostly in local languages like Turkish, Greek, Bulgarian or Rumanian, if it is published at all. Moreover, in publications, scholars are not eager to present the whole collection of artefacts but they choose the most important pieces, the so-called “goodies”. These problems become more serious and restricting when joined with the fact that the scholars in Turkey, Bulgaria and Greece do not share information from their own areas of

researches.² The major reason for this is political but, fortunately, this has been overcome only recently and now there is hope that this cooperation will continue. As a consequence of this situation, regional biases appear and scholars cannot widen their horizons. In other words, the continuing dominance of ideas like “Wave of Advance” (Sherratt, 1996: 130-140), “Colonisation” and so on is the result of these biases and of viewing evidence only from local perspectives. These prevent scholars to formulate models that cover wide areas and more complicated issues. Another problem of prehistoric research is the minimum use of complementary fields of archaeology. Since archaeology is a discipline that makes use of natural sciences like ecology, zoology, geology and geomorphology, social sciences like sociology and anthropology and quantitative methods (statistics), there is need for various types of data (Özdoğan, 1982: 39). The less these fields are used the less the archaeological hypotheses are correct. The case is recently improved and there is hope that future projects’ will contain some specialists from these fields. Another restriction, which is unfortunately natural and can not be prevented, is the geomorphological process (Özdoğan 1982: 39). The alluvial deposition on coastlands and along rivers and the accumulation of soil in other areas may bury many prehistoric sites. Although some can be spotted with the help of instruments, most of the time excavating these requires immense manpower and monetary resources. There is a major lack of information in the body of prehistoric data concerning the complete absence of Palaeolithic recoveries, except for few projects (Özdoğan, 2000: 168). Although there is a strong possibility that many sites of this period have been

² Fortunately, today there are the initial steps towards information exchange in the Research Area. among scholars. The first sign is the “Urfa Conference” (Thissen, 1997) in order to overcome the

submerged, some examples of the remainder should have been detected. When compared to Neolithic research in Turkey, Palaeolithic archaeology and related studies are no more than fingers of a hand (Harmankaya, Tanındı and Özbaşaran, 1997: Appendix 3). The situation is not very much different in Bulgaria or Greece. The other factor preventing prehistorians from exploring coastal occupations or stations is the existence of dense Classical and Medieval centres (Özdoğan, 1982: 48-49) on the coasts of the Marmara, the Aegean and the Mediterranean seas such as Ephesus, Miletus, Didyma³. If these sites were to be at least partially excavated, the view on the Neolithic of these regions would change drastically because this is a coastal band, which is several kilometers wide and thousands of kilometers long. Lastly, human intervention is the most serious reason for the loss of information. The reason for this is not looting but in most cases people destroy these prehistoric sites during construction works and agricultural activity. An important problem here is the relatively small size of sites in Marmara and Thrace. There is no mound formation as there is in central and west-central Anatolia. These sites are close to the surface and therefore the evidence is easily lost, especially in the Marmara and the Aegean regions. These regions are the most densely occupied areas, especially in terms of industrial development.

narrow perspective.

³ Although there is no evidence for this statement it is clear from the present situation that there are few prehistoric research on the coasts.

CHAPTER III

PALAEO-ENVIRONMENTAL BACKGROUND

3.1 PALAEO-CLIMATE⁴

Today, although the latest techniques have been used for sampling, analysing and evaluating data from pollen sampling and flotation, there is a long debate on the issue of using such information securely.⁵ The attempt to reconstruct climate in the past by using certain sets of data has been viewed to be controversial. There are so many regional differences in climate (the “Micro Climates”) that a complete reconstruction is not possible.

The climatic data show three major transitions from cold and arid to hot and humid and vice versa. The most recent results indicate that there are continuous shifts in rainfall and temperature starting from ca. 21000-20000 BP (uncalibrated)⁶, ie. from the peak of the Last Glacial Maximum (Imbrie and Imbrie, 1986 after Sherratt, 1997: 272) to the Allerød phase between ca. 12000-11000 BP, which is the warming up of climate (van Zeist, Woldring and Stapert, 1975: 139; Dennell, 1985: 104; van Zeist and Bottema, 1991: 122). The second

⁴ Starting from here, under each sub-title, the data covers the area of study in this thesis, which is the Central and Southwestern Anatolia, the Marmara area and Thrace.

⁵ The first discussion is about the validity of reconstruction using the evidence from few pollen cores. The questions focus on the statistical representation of each plant type. There is greater risk that some types of plants are over-represented in pollen cores, due to pollen rains. Another major problem is the dating of each zone in a pollen core. For efficient dating the radiocarbon method is preferred. There is risk of contamination during the core taking process. Lastly, with each new sample, data is modified.

⁶ In the first part of the chapter the dating terms that the scholars use (BP, bc) will not be changed. In

transition, from a warmer climate back to cooler conditions takes place during the so-called “Younger Dryas”, between 12500 / 11500 and 10000 BP, which is connected to the advance of glaciers (van Zeist, Woldring and Stapert, 1975: 139; Dennell, 1985:106; van Zeist and Bottema, 1991; 91; Moore and Hillman, 1992:482). This is the last climatically unstable period. There is a continuous increase in temperature and precipitation starting from ca. 10000 BP (Alley et al., 1993: 527-529; Sherratt, 1997: 273; Bar-Yosef and Meadow, 1995: 44). This is the beginning of the so-called “Holocene”, the last transition from the cold to hot, arid to humid conditions.

The maximum insolation plays an important role in the warming up of Eurasia from ca. 11000 to 9000 BP (Wright, 1993: 3). These climatic data clearly show that the Mediterranean climate appeared ca 11000 years ago in the Eastern Mediterranean (Roberts and Wright, 1993: 200) whereas in Southwestern Anatolia arid climate was observed between 10000 and 6000 BP (van Zeist, Woldring and Stapert, 1975: 140). The continuous increase in temperature is not balanced with precipitation and in a couple of thousand years, aridity becomes a major problem in Anatolia (van Zeist, Woldring and Stapert, 1975: 139; van Zeist and Bottema, 1991: 147; Roberts and Wright, 1993: 202).

3.2 CHANGES IN SEA LEVELS:

The global increase in temperatures and precipitation leads to the melting of ice sheets (Lambeck, 1996; 588) and this eventually raises sea levels.

the second half of the chapter BP (uncalibrated) will be used unless there is a calibrated BC.

Consequently, different types of soil have been exposed, including loess soil, on which people settled in the Neolithic.⁷ The sea level changes have dramatic effects on the human communities during the Neolithic. The striking difference between ancient and modern shorelines is best illustrated by the Aegean-Marmara-Black Sea research (Dennell, 1985: 109; Özdoğan, 1986: 147-155; Özdoğan, 1998a: 26-29; Özdoğan, 1999c: 226) and the investigations in the Aegean (Lambeck, 1996:590-91). The first study summarises in great detail how the Marmara and Black Sea were brackish lakes during the Last Glacial Maximum. During the final Pleistocene warmth, sea levels rose; the Black Sea and the Marmara Sea were connected via the İzmit-Sapanca basin. This created saline conditions for a short time in the Marmara Sea and the Black Sea. Soon after, the sea levels dropped and the Marmara and the Black Sea returned to brackish conditions. Eventually in ca. 6000 BC, the Aegean and the Marmara, which formed one landmass until that time, were connected via the Dardanelles, and this created saline conditions in the Sea of Marmara. The Black Sea was connected to the Marmara Sea ca. 5000 BC via the İzmit-Sapanca basin for the second time and this brought saline water conditions to the Black Sea. The study of Lambeck, (1996) in the Aegean produces further details.⁸ The sea level in the Aegean ca. 10000 BP was 54 - 44 meters lower than today (1996: 599). At that time the Cyclades were a landmass with brackish lakes, the Gulf of Saronikos was another brackish lake, the Thermaikos Gulf was united to land, and Limnos and Anatolia were connected. Furthermore, Thrace extended 60-km further

⁷ This is a uniform pattern, which is observed in the Neolithic. The sites are located on loess soil and alluvial depositions due to easy working of land and its fertility.

⁸ Kurt Lambeck's reconstruction and figures are based on the most recent bathymetric values. This

south (Lambeck, 1996: 601). According to this reconstruction, the Aegean basin has been covered with water at two points; the Mirtoan Sea to the north and the Sea of Crete to the South/Southwest, all of which created a six km. wide channel. This made Franchthi an inland cave-site. The sea level around the cave-site was 11 meters lower than today between ca. 7610 +/- 150 and 6220 +/- 130 BP (Lambeck, 1996: 597). The sea levels in the Aegean at ca 6000 BC were 6 - 2 meters lower than today. This makes an average rise of 0.7-1 mm per year (Lambeck, 1996: 606). Similarly, the Northwest Anatolian sea level was 50 - 40 meters lower and shifted towards north (van Zeist and Bottema, 1991: 96). The Black Sea has been accepted to be a separate system since its water is less saline (Dennell, 1985: 109).

The research on Western Anatolian lakes reveals that there had been both saline and brackish lakes (van Zeist, Woldring and Stapert, 1975: 57). A recent study by Kayan (1996: 368) shows clearly that the Holocene warmth caused a drying-up of very large lakes mainly due to high evaporation. This exposed fertile alluvial plains. Neolithic occupation emerged on the Konya Plain, for example, after the decline in lake levels. Contrary to lower lake levels, sea levels start to increase. This balances the loss of fertile soil on the coastland by the exposure of alluvial plains on ancient lakebeds. Another detail in this model is the relation between the sea level in the Aegean and the depth of river valleys; the lower the sea level is, the deeper the river valleys are cut (Özdoğan, 1982: 42; Kayan, 1996: 367). What oceanographic study and research have implied is the possibility that mainland Greece, the Aegean islands and the empty basin of the

study brings a different model for ancient coastlines.

Aegean once was connected to the Aegean coasts of Anatolia and Greece. This points to the possibility that those large, flat and fertile lands, as observed in Thrace and the deeper river valleys (now submerged) were settled during the Epi-Palaeolithic. Moreover, the settlers in these areas were not only hunters and gatherers but also fishers. During their periodic sea journeys, they might have acted as traders since they were exploiting natural resources such as the Melian obsidian. The inland population lived near extensive lakes, preferably on terraces, hilltops and along the river systems, which fed these lakes.

3.3 NEOLITHIC FLORA AND ANTHROPOGENIC INDICATORS:

The changes in temperature, precipitation and sea levels have effects on the vegetation.

3.3.1 The End Pleistocene Flora

In the glacial periods (ca. 20000-16000 BP), steppe cover is dominant, the only sign of forest cover is formed on coasts (van Zeist and Bottema, 1991: 121-122). Recent research supports the previous view that cold and arid climate does not favour tree growth and therefore *Artemisia* (steppe) type of vegetation is widely distributed (Aytuğ and Görçelioğlu, 1994: 395). Non-Arboreal pollen values⁹ are considerably high when compared to arboreal pollen values, during the glacial periods. Only in Thessaly, as explained by Bottema (1979: 39), the value of arboreal pollens are higher on the Aegean coast.

In the Allerød phase (ca. 12000-11000 BP), when the climate becomes warmer

⁹ The pollen cores are taken from Southwestern Anatolia (Beyşehir Lake) by Bottema and Woldring (1984) and mainland Greece (Lake Xiniyas) by Bottema (1979).

with increasing temperature and precipitation new types of vegetation appears. This climate favours tree growth, and non-arboreal and arboreal pollen values are reversed. The advance of glaciers and the cooler climate is observed during the Younger Dryas phase (ca. 12500/11500 – 10000 BP). This is the last cold phase before the final, global warming up of the Earth, the Holocene (ca. after 10000 BP).

3.3.2 The Holocene Flora

According to the most recent reconstruction of major lakebed pollen cores,¹⁰ the Holocene flora in Anatolia (Bottema and Woldring, 1984: 123-149) and Southeast Europe (Bottema, 1979: 19-40) is as follows.

Between 10000 and 9000 bc, there is forest cover on the Black Sea coast whereas woodland and forest-steppe cover exists in Southwest Anatolia, the land between coastal Black Sea and Central Anatolia, Mediterranean, Aegean, Southern Marmara and Northwestern Anatolia (Hillman, 1996:165). The Central Anatolian vegetation is a steppe and desert-steppe type.

In Thessaly and in the Kopais Basin - Boeotia the Holocene forest replaces the Pleistocene steppes. Approximately at 10680 BP and ca. at 9000 BP there is an increase in oak and mesic type trees such as elm and hazel (Roberts and Wright, 1993: 203). The Macedonian Plain is covered with oak and elm due to

¹⁰ The pollen cores from the Lake District lakes in Southwestern Anatolia.

high precipitation on the northern sites ca. at 9000 BP (Roberts and Wright, 1993: 203).

The reconstruction for ca. 9000 BC on the coasts of Black Sea and Mediterranean are forest and Eu-Mediterranean deciduous oak woodland vegetation (Hillman, 1996: 191). The north west and south of Central Anatolia is covered with oak, terebinth, park woodland and grassland. There is an expansion of steppe cover in these areas (Hillman, 1996: 191). The wild cereal spreads extensively into Central Anatolia from west and Southwest Anatolia. Steppe cover is dominant on the Central Anatolian plateau (Hillman, 1996: 191).

Forest expansion (the spread of pine, oak and juniper woodland) and an inland arid climate are observed in ca. 8000 BP (Aytuğ and Görçelioğlu, 1994: 396).¹¹ Deciduous and mixed deciduous and coniferous forest on coastlands and mountains facing to north are identified (Aytuğ and Görçelioğlu, 1994: 400). According to Bryson and Bryson (1999: 6) precipitation drops in the Çumra area and evaporation increases, therefore there is a problem of finding fresh water. This pattern continues between ca. 8200 and 7200 BP, leading to extreme changes in annual precipitation besides lesser winter rainfall (Bryson and Bryson, 1999: 7). Steppe cover is found only in Northwest Anatolia. The east of Dobrudja has steppe cover in addition to oak, hazel and elm trees at lower elevations, between ca. 8000-6000 BC (Bozilova and Filipova, 1986: 162).

¹¹ Although it seems to be a contradiction here, the situation is compared with the case in 12000-11000 BP. Approximately at 8000 BP the forest cover was more extensive when compared to 12000-

There is 20% increase of arboreal pollen values between ca. 7000-5000 BC (Bozilova and Filipova, 1986: 162), which is generally known as the “Second Climatic Optimum”. The reconstruction for ca. 6000 BP consists of forest in the Black Sea, the Marmara, the Aegean and the Mediterranean (Hillman, 1996: 165). The north, west and south of Central Anatolia are covered with woodland (Hillman, 1996: 165).¹² The Central Anatolian vegetation is of steppe and desert-steppe types (Hillman, 1996: 165). The vegetation on the Drama Plain in mainland Greece is of Mediterranean type (Roberts and Wright, 1993: 202-203). The intensive food production activities in the Neolithic have a negative impact on the vegetation and soil.¹³ Forest clearance is the major indication of agricultural and pastoralist activities. In some cases there is evidence¹⁴ for over-grazing, which points to the fact that large flocks of sheep, goat and cattle are taken to grassland. The sign of Neolithic deforestation is widely encountered in the Central Anatolian plateau, South/Southwest Anatolia and North Anatolia. The best indication of this is the so-called “Beyşehir Occupation Phase” (zones 3 –sub-zones a to d- and 4 of the Beyşehir pollen core) (Bottema and Woldring, 1984: 140).¹⁵ This is identified with the sharp decrease of arboreal pollen values in the pollen cores (Bottema and Woldring, 1984: 146). Uniformly, in the whole of Anatolia, arboreal pollen values decrease and these are replaced by non-

11000 BP.

¹² The difference between “forest” and “woodland” is the sparser tree cover of the latter, when compared to the first one.

¹³ Forest clearance is a serious threat even for our modern world societies. In the Neolithic, especially with increasing population, the motive for more food surplus forces people to cut woodland in order to open farmlands. In the long term, this factor forces the occupants to abandon the settlement.

¹⁴ The so-called “Beyşehir Occupation Phase” from the Beyşehir II pollen core.

¹⁵ There is a long debate on the radiocarbon dates from these zones. Therefore scholars hesitate to

arboreal pollen values (Bottema and Woldring, 1984; 146-8; Behre, 1990: 221; Roberts, 1990; 60-61). A similar situation is observed in mainland Greece (Bottema and Woldring, 1984: 147). There is evidence of forest clearance and replacement of oak by marshland in the Kopais Basin (Allen, 1990: 178), of silting up of valleys and deforestation from the Southern Argolid (van Andel and Zangger, 1990: 143), of cutting woodland in the Peneios Plain (van Andel and Zangger, 1990; 148) and of deforestation and increase in non-arboreal pollen values in the Argive Plain (Jahns, 1990; 335-338). In Southwest Bulgaria non-arboreal pollen values are higher and pastureland deforestation is clear (Bozilova and Tonkov, 1990; 329).

give a time range.

CHAPTER IV

THE DEVELOPMENT OF ARCHITECTURE IN CENTRAL AND WESTERN ANATOLIA, MARMARA REGION AND TURKISH THRACE

4.1 THE ACERAMIC ARCHITECTURE IN SOUTH-CENTRAL ANATOLIA

Evidence for the development of the aceramic architecture derives from Aşıklı Höyük, Musular, Can Hasan III and Suberde.

The type-site of Aşıklı Höyük (Figure 5) is surrounded by a fortification wall which has so far been uncovered in the Southeastern part (Esin, 1999: 125). Two gates give access to the interior of the settlement, which is subdivided by streets into several quarters. Densely packed trapezoidal one or two room buildings (Figure 6) are arranged according to an “insula system” (Esin, 1992: 134) where each house unit remains in a pre-defined space over several phases of renewal. Building material is mud brick without stone foundations. The standard installation is a hearth at the north east corner of the room (Esin, 1999: 118). Houses are constructed without exterior doorways and the space between two neighbouring houses is usually too small for circulation thus the roofs must have been the major traffic and out-door working space. The so-called “T Complex” in the South West of the settlement is constructed from tufa stone using a

casemate wall system (Esin, 1993: 84). This complex might be interpreted as a public building (Esin, 1993: 88).

Musular is a flat settlement, which is located partially on a slope whereas the other half stands on tufa (Özbaşaran, 1999: 149). The aceramic Neolithic layer at Musular reveals a single quadrangular mud brick structure (Figure 7) with a well-preserved west wall (Özbaşaran, 1999: 150). Inside the building, several flat stones surrounded with pebbles and covered with mud brick probably formed the bases for wooden posts. The floor was plastered and bears red burnished paint (Figure 8). This building might be interpreted as a special purpose structure and is compared to Building T at Aşıklı Höyük (Özbaşaran, 1999: 150).

In another trench, a round hearth with a pebble pavement has been discovered together with a pavement made of flat and largish stones (Özbaşaran, 1999: 149). No building structure linked to the hearth has been found.

At Can Hasan III pisé and mud brick structures without stone foundations, which are arranged according to an agglutinative general plan, were found (Figure 9). They form two-roomed rectilinear dwellings, which cluster around centrally located courtyards. Passageways connect courtyards and rooms inside buildings. Beaten earth floors and pisé walls are plastered with clay and some bear traces of red paint. Benches, hearths and ovens built into walls are widely used installations. During two renewal phases new structures were built on top of the older ones (French, 1970: 4).

Suberde covers an area of 1500-2000 square meters, which have been investigated by small soundings only. Due to this limited excavation, no site plan is available. The earliest occupation phase, the so-called “Lower Prehistoric Period”, consists of clay floors and fragmentary mud brick walls. Some of the wall fragments with right angle corners suggest the existence of rectangular dwellings. Earth benches line the walls. Burnt debris shows that the superstructure of the dwellings was made of mud and cane (Bordaz, 1969: 46-47). In between the dwellings round pits with plastered walls have been dug to a depth of 15-20 cm. They might be interpreted as either hearths or as storage bins. The “Upper Prehistoric layer” is badly preserved due to later disturbances. No complete plans have been retrieved, but the fragmentary walls also belong to rectangular structures, some of them with internal partition walls. Plaster and stone are used together. Reddish brown mud shows a similar function to mud brick whereas light brown mud is used like mortar (Bordaz, 1969: 46). Floors are made from either plastered or smoothed earth.

4.2 COMMENTS ON THE ACERAMIC ARCHITECTURE

The earliest Aceramic Neolithic architecture recorded consists of rectangular or trapezoidal buildings with one, two or three rooms. The construction material is pise in Can Hasan III and in Suberde, whereas in Aşıklı Höyük mud brick is used. Evidence from Suberde shows that organic material was used for the upper part and the roof of the buildings. At least in Aşıklı Höyük the densely built structures may have shared roofs.

Amongst the common features in the area, red painted floors point to the use of certain rooms as shrine or special purpose buildings. Exceptional structures such as the casemate Building T at Aşıklı and maybe the Musular dwelling show the concept of public constructions as well. An enclosure wall has so far only been recorded at Aşıklı Höyük.

4.3 THE CERAMIC NEOLITHIC ARCHITECTURE IN CENTRAL ANATOLIA

4.3.1 Çatal Höyük –east-

The “type site” Çatal Höyük –east-, reveals densely packed agglutinative single or multi room structures, which are built of mud brick without stone foundation (Figure 10). Interior passages connect the rooms whereas there are no doorways in the outer walls. Probably the dwellings (Figure 11) were entered from the roof (Mellaart, 1962: 46-49). These flat roofs may have the function of working space as well as courtyards (Mellaart, 1962: 49). Some of these structures (Figure 12) have been interpreted as special purpose buildings (“shrines”) according to their architectural decoration (Matthews, 1997).

4.3.2 Erbaba

From three levels of habitation, eleven house units with a total of twenty-eight rooms were excavated (Figure 13). The best-preserved plan is from the uppermost level. Dwellings are densely packed in an agglutinative way with the long axis of each house oriented towards the northeast. Foundations are set into trenches in which three rows of limestone blocks set into mud mortar are

aligned. Walls are double skinned and filled with earth. Roofs are made of timber and reed and sealed with mud (Bordaz, 1970: 60). Since the rooms are small there is no need for separate roof supports. Some rooms show internal buttresses, which might be either wall re-enforcement or bases for wooden beams, which belong to the roof. Floors are made from beaten earth or plaster. The usual colour of the plaster is grey. Interior passages lined with partition walls have been observed but the most possible entrance into the houses is from the roofs (Bordaz and Bordaz, 1976: 39).

4.3.3 Köşk Höyük

Three Neolithic occupation levels at Köşk Höyük revealed rectilinear, single or two room mud brick buildings with stone foundations (Figure 14). Walls, floors and doorways are plastered with clay (Silistreli, 1986: 129). The roofs are made of reed and then covered with mud. Besides dwelling units, separate depots and granaries are found (Silistreli, 1984: 84). Ovens are located on the central axis of the rooms. A hard plaster (Silistreli, 1990: 95) distinguishes separate working areas. One rectangular two room building with a bench inside reveals several elaborate finds and is thus interpreted as “shrine” (Silistreli, 1989: 62).

4.3.4 Musular

The last phase of occupation at the site belongs to the late Neolithic and consists of a massive, stone-built complex (Figure 15) with two cell-like rooms (Özbaşaran, 1999: 151). One of its walls stands on the bedrock whereas the others are based on an artificial surface made of clay and earth. Pits and working

areas with grinding stones, polishing stones and some tools can be distinguished inside the structures (Özbaşaran, 1999: 151).

4.4 COMMENTS ON THE CERAMIC NEOLITHIC ARCHITECTURE

Architectural evidence excavated in Central Anatolia points to a common sphere of traditions at Çatal Höyük –east-, Köşk Höyük, Erbaba and probably also in Suberde. Settlement planning is clearly visible from the agglutinative buildings at Çatal Höyük –east-. This tradition is linked to the building style at the aceramic site Aşıklı Höyük. The standardised orientation and the axial arrangement of certain interior details are features that are observed at Çatal Höyük –east- and Köşk Höyük. In Erbaba the agglutinative building style also requires the same orientation to be observed. Further shared characteristics are the roof entrances, interior passages, plastered floors and walls, granaries and depots located inside the dwellings. The shrine at Köşk Höyük can be compared to the ones from Çatal Höyük –east-.

Musular, on the other hand, does not follow the same tradition. The site is set apart by the use of stone foundations and of double skinned mud brick walls and especially by the Late Neolithic stone built complex.

4.5 THE CERAMIC NEOLITHIC ARCHITECTURE IN THE LAKE DISTRICT

The type-site Hacilar provides us with a long and reliable sequence. Therefore the site is described first, although chronologically (Bademağacı-Höyücek-Kuruçay-Hacilar) it is the latest settlement.

4.5.1 Hacilar

The earliest Neolithic¹⁶ layers are exposed in 150 square meters trench only. In this sounding seven building layers (VII - I) could be distinguished, whereby the lowermost two are only known by red painted plaster floors. From level V onwards, the architecture consists mainly of small rectangular rooms with thin mud brick walls. These mud bricks are greenish and straw tempered and are set directly on the ground (Figure 16), (Mellaart, 1970: 3-4). Mud plaster is the major binding element in these walls. Some thicker walls stand on stone foundations. Floors are covered with mud plaster, although in some rooms, they are covered with a pebble pavement underneath a lime plaster, which is painted red and burnished. Inside the dwellings as well as in the courtyards oval ovens and silos are found (Mellaart, 1970: 5-7). From level II onwards, walls become thicker and stronger and rectangular ovens come into use (Figure 17). At the end of level I, the early Neolithic settlement is abandoned for several hundred years.

¹⁶ According to Mellaart, the earliest phase (aceramic VII to I) is truly aceramic. Subsequent investigations north of the mound revealed painted floors similar to the ones described by Mellaart.

The following pottery Neolithic occupation in Hacilar partly overlays the early Neolithic layers. Four building levels, IX to VI, belong to this occupation.¹⁷ Of these levels, the earliest two, IX and VIII, are only poorly documented. Fragmentary walls with corners must have belonged to rectangular rooms of which carefully plastered and painted floors are preserved. Many postholes are recorded so that the existence of wooden structures has to be considered (Mellaart, 1970: 16). An oval installation is recorded from one of those rooms (Mellaart, 1961: 71). Level VII represents an earlier phase of the level VI occupation, distinguished by the use of a pebble paved courtyard floor. The burnt level VI settlement is well preserved and exposed on a large scale (Figure 18). Two sub-phases, VI A and VI B, can be distinguished by floor renewals. The settlement consists of large multi-room houses, which are separated by open spaces or communal courtyards (Figure 19 a & b). Four house complexes have been distinguished each composed from two rooms arranged in an “L” shape. Private courtyards can be attached to these house complexes. All houses follow the east-west axis (Mellaart, 1970: 21). They are built from one-meter thick plano-convex mud brick walls on stone foundations. The walls seem to be strong enough to support a second storey (Mellaart, 1961: 42-43). Post supports found inside the rooms also point to the existence of an upper floor. The exterior walls meet at right angles, so there is no internal buttressing. In terms of the interior organisation, they reach a certain level of standardisation. Plastered rows of stakes separate the oblong large room into sections. In these partitions there are

Small amounts of pottery were collected from each of these floors (Duru, 1989b: 101).

¹⁷ The numbering of the building levels was done separately for both the assumed “aceramic” and the “pottery Neolithic” levels. Therefore, the same level numbers occur twice. This will be distinguished in the rest of the text by adding “PN” in front of the level number for the later pottery Neolithic layers.

cupboards, niches and square or rectangular bins with wooden lids are placed along walls for storage purposes (Mellaart, 1970: 14-15). The walls of oblong rooms in this level have white plastered outer surfaces. Floors of rooms are covered with a lime plaster. The broad-room entrance, wooden threshold and double doors are characteristic of that level (Mellaart, 1970: 14). Benches and sleeping platforms are along the west wall. The kitchen, in each house, is located on a platform by the north wall. A large oven is attached to the wall opposite the entrance. The raised hearths are rectangular with a round kerb and are plastered (Mellaart, 1970: 14). It is possible that wall protrusions behind the ovens might be interpreted as chimneys.

4.5.2 Bademağacı

The Neolithic sequence from Bademağacı can be distinguished in five early Neolithic layers (EN 5 to 1) and two late Neolithic layers (LN 2 to 1), (Figure 20). The earliest excavated architecture derives from EN 4 where one small rectangular room with a double skin wall made from clay slabs has been exposed. Better evidence exists for EN 3, which is exposed for over 300 meters. This settlement does not show any systematic planning; freestanding mud brick structures with irregular rectangular plans and rounded corners are built directly on the ground (Duru, 1999: 180). Wood was widely used together with the mud brick. Only in one case a stone foundation made from two rows of stones is recorded (Duru, 1999:180). The dwellings are one-room structures with an entrance in the middle of the long walls. Opposite the entrance is the standard location for round ovens with flat tops (Duru, 1997: 114). Postholes inside the

rooms might have been used as roof supports. Floors are made from hard beaten earth or are plastered with clay (Duru, 1995: 88; 1999: 180). Inside the dwellings, horseshoe shaped troughs and portable hearths are found. Blocked passages between the houses might have been used for storage purposes. A freestanding silo with six compartments forms another storage facility (Duru, 1999: 180) (Figure 21).

Levels EN 2 and 1 have not revealed a clear plan. In the late Neolithic or early Chalcolithic (LN 2 to 1), single laid stone foundations are found in the northern quarter (Duru, 1994a: 70).

4.5.3 Höyücek

The first occupation of the site (“Early Settlements” ESP), which is uncovered only in a small 35 square meters sounding has not revealed any traces of architecture despite the accumulation of four meters of settlement debris. The most probable reason for this is the use of organic building material such as reeds and leaves (Duru, 1991: 158; 1999: 167). The settlement is abandoned and a new occupation, still belonging to the early Neolithic, follows after a certain period of time. This phase (“Shrine Phase” ShP) is exposed on a larger scale (Figure 22). Five rectangular rooms have been built one following the other in a row running from east to west (Duru, 1999: 177). These structures built from mud brick without stone foundations and some of the mud bricks have an exceptional form with a rounded surface (Duru, 1992: 147). Walls were plastered (Duru, 1992: 147). Flat stones are used underneath posts supporting the roof. Because of exceptional furnishings and finds, rooms 4 and 3 are interpreted as

shrines (Duru, 1999: 177). Room 4 contained bins, cupboards, clay boxes, clay platforms and a rectangular oven, attached to the wall opposite the entrance (Duru, 1999: 177). After another settlement interruption, a late Neolithic occupation phase occurs which revealed only fragmentary traces of walls. A group of female figurines was found in-situ on a platform. Finds from this phase comprise abundant figurines so that despite its bad preservation it is labelled the “Sanctuary Phase” SP (Duru, 1999: 177).

4.5.4 Kuruçay

The earliest settlement from Kuruçay must have been located east of the actual excavation area. Slope wash containing early Neolithic pottery is the only evidence for the existence of this early settlement. This secondary deposit is labelled level 13 and overlain by a sterile layer on top of which the earliest architectural remains of level 12 (Figure 23) are recorded (Duru, 1994b: 99).

The following level, Level 12, revealed structures built on slightly higher foundations. The earliest structure is a trapezoidal one-room construction with 1.1 meters wide stone foundations. The upper part of the construction is not preserved. The floor of this building was paved with pebbles. Later, a second structure was attached to the first structure on the eastern side. Its freestanding eastern corners are rounded. The walls are not as thick as the ones of the first structure. The last addition, forming sub-phase “Upper 12”, was a rectangular room, which was built against the southern wall of room 1 (Duru, 1994b: 9-10). The walls are still about one meter wide but the execution of the masonry is less careful than it was with the earlier buildings. On the floors of rooms one and two

a rich inventory of domestic tools, like grinding stones, millstones and vessels, has been found. A horseshoe shape hearth is found in the second room. Worked river stones and round scrapers are from the third room. Even though these rooms were built subsequently, they must have been in use at least partly contemporarily. This raises the question of circulation between these rooms, since no real doorways are found connecting them. Since part of the walls is missing due to erosion, it can not be excluded that the entrances were originally located there. It must also be considered that the level of thresholds might have been higher than the preserved level of stone foundations. Fragmentary walls extending towards the south suggest the existence of further buildings.

The major architectural feature of level 11 is a 26 meters long wall of 1.1 meter width (Figure 24). To the southern side of this wall, two half round structures with a diameter of five meters the interior diameter is three meters have been attached (Duru, 1994b: 11). The circular constructions are accessible by an entrance from the south, which finds its continuation in a passage in the main wall. At a right angle to the main wall fragmentary remains of a third structure are found. North of the main wall further lines of straight walls are found. Remains of domestic units being scanty, the destruction of this settlement phase 11 by a heavy flooding is considered (Duru, 1994b: 11-12). The long main wall is interpreted as a fortification wall (Duru, 1994b: 11). However, the existence of passages in the main wall and the round attachments is a strong point against such an interpretation. The location of the settlement in a flood endangered environment might have required the construction of retaining walls without that any fortificatory function can be proved.

4.6 COMMENTS ON THE CERAMIC NEOLITHIC ARCHITECTURE OF THE LAKE DISTRICT

The earliest Neolithic architecture in the Lake District began probably with reed and leaf huts, as the earliest levels excavated in Bademağacı and Höyücek suggest. The next steps show experiments with building material combining earth, mud, wood and reed. First preformed mud bricks occur. Dwellings are usually free standing and keep to one-room layouts. Their shape is often irregular rectangular. Entrances are located in the middle of the long wall. Domestic installations inside these rooms show that they have been used as working and food preparation areas. As a standard, ovens are placed opposite the entrance, a tradition seen much later in PN Hacılar. Some room units are set apart from the standards, either because of their inventory or because of the special treatment of floors with paint and burnishing. These buildings are thought to be special purpose buildings, perhaps with a religious function.

A very different picture arises from the first architecture at Kuruçay 12. Here we see the use of massive stone foundations. Rooms are organised according to an agglutinative principle with no passageways between rooms. The choice of building material is most probably related to the location of the site close to the ancient shore of Lake Burdur.

In Hacılar the original building principle applied at Bademağacı finds its perfection: the basic principle are free-standing room units, usually two of them constructed side by side forming an “L” complex. Each room, however, has a separate entrance. Compared to the earlier structures, an increase in size can be

stated. Both the width of walls and size of rooms increase considerably. This requires more sophisticated construction for roofs or upper storeys, such as the integration of postholes in the interior room. As in earlier examples at Höyücek, the location of domestic installations such as ovens follows a fixed standard.

As already before, Kuruçay 11 stands out for the use of dry stone walls. The round attachments to the long wall are probably related to the small room 2 with rounded corners attached to the original building 1 in level 12. Due to preservation conditions no further observations on domestic architecture were possible.

4.7 THE PRE-NEOLITHIC SETTLEMENTS IN THE MARMARA REGION

No sites pre-dating the pottery Neolithic have been excavated so far. Therefore no information about their architecture is available. However the location of and formation of the sites can be used as evidence. Surveys by Gatsov and Özdoğan (1994 and 1998) clearly show that there were two groups of sites pre-dating the Neolithic

4.7.1 The Ağaçlı Group

The settlements are found on dunes on the coast of Black Sea, near Manyas lake and Dardanelles. These settlements are on coastal terraces, which slope to the sea (Gatsov and Özdoğan, 1994: 100). Ağaçlı is located nearby perennial streams, in a hilly environment (Gatsov and Özdoğan, 1994: 102). Gümüşdere and Domuzdere are located in a narrow valley (108). Further sites

reported are Domalı, Tepecik and Haramidere (Gatsov and Özdoğan, 1994: 100, 108).

4.7.2 The Çalca Group

The earliest Neolithic settlements from the study area are found during an inland survey and they constitute the Çalca Group (Özdoğan and Gatsov, 1998: 209-223). Çalca, Musluçeşme, Keçiçayırı and Kalkanlı are thought to be pre-pottery Neolithic find places in the south Marmara, since no pottery was found (Özdoğan and Gatsov, 1998: 214-220; Efe, 1995: 100). These sites show a clear mound formation, which might be an indicator for the existence of substantial buildings.

4.8 THE CERAMIC NEOLITHIC ARCHITECTURE IN THE MARMARA REGION

Architecture of the “Fikirtepe Culture” complex is found both on the earlier coastal sites Pendik and Fikirtepe and on the later inland site Ilıpınar next to Lake İznik.

4.8.1 Ilıpınar

The earliest level X village is radially arranged around a spring at its centre and was surrounded by a ditch (Roodenberg, 1999: 197; 2000a; 2000b: 186). A well-preserved example of a level X building is the so-called “Burnt House” in the square W 12. This is a free-standing rectangular single room building with rounded corners. Its long axis runs in a northwest-southeast direction (Roodenberg, 1995a: 50-51). The entrance is in the middle of the one of the

shorter walls. Along the same axis, postholes are found, which probably supported a gable roof (Figure 25) with reed cover (Roodenberg, 1993: 252-3, 1999: 196). The walls are “post walls”, consisting of a row of densely lined standing posts sometimes bound together by organic fibres integrated into a pisé wall (Roodenberg, 1999: 196). The beaten earth floor was covered with clay and no wooden beam has been mentioned. A hearth was attached to the southwest wall with a bench next to it. Mud bins were located in the northern corner (Roodenberg, 1999: 196). The same basic type of building was used with slight variations, when, after a heavy conflagration, the whole village was rebuilt in levels IX and VII (Figure 26). These variations concern the layout, which can be rectangular or trapezoidal, and the construction of floors with wooden boards, which helps to keep the floor dry. A similar function probably applies to mud slab platforms from level VII. Postwalls could be constructed by using the so-called “sandwich technique” whereby a shallow foundation trench, a wooden frame of posts and branches is built and the space between is filled with mud (Roodenberg, 2000a; 2000b: 185). Sometimes, these one-room structures are built side by side but keep to a separate entrance (Roodenberg, 1995a: 45-46). These buildings have been continuously restored and with each renewal a slight shift to the west occurs (Roodenberg, 2000a; 2000b: 186). A reason for this shift might be the need to dig new foundation trenches besides the old ones, which still contained the old posts. Parallel to the existence of post wall buildings, constructions made from mud slabs are reported (Roodenberg, 1999: 196). The dwelling units of the same size were built by mud slabs, which have been cut from a natural clay deposit and set on wooden boards.

It seems that the village increased considerably in size from level X to VII. Whereas the first village comprised ten to fifteen houses arranged in one row around the spring, a second row of houses is added behind in levels IX-VII, thus doubling the total indoor space of the village (Roodenberg, 1999:197).

4.8.2 Pendik

Pendik is the earliest excavated site of the Fikirtepe culture. The settlement consists of loosely arranged pits with radii varying from three to six meters and a depth of 50-80 cm (Harmankaya, 1983: 27-28). Some structures can be even larger but those are not dug into the ground. The pit floor has several layers of construction. First, a pebble pavement is prepared to prevent moisture in the pit. Then, wooden planks are laid on top and plastered (Harmankaya, 1983: 27). In some cases these floors are covered with grey coloured organic material and then pebbles are set into plaster with crushed shells and bones (Pasinli et. al, 1993: 150-151). Through renewal traces on the floor, many sub-phases of occupation can be distinguished. The pit walls have been reinforced with stones, wood and plaster. Flat stones are placed under posts, which supported the roofs of the pits (Harmankaya, 1983: 27). The wooden poles set into the pit walls probably joined at the top and formed the frame for a tent-like superstructure made from branches, reed and leaves and covered with clay plaster. Entrance to a pit is from the west in which the wattle and daub walls are reinforced with cobbles. Between the dwellings, stone paved zones occur. According to the find they are probably open-air working areas used for domestic activities. Small round pits are used as fireplaces or as refuse pits (Harmankaya, 1983: 28). At the end of the habitation, rectangular structures without stone foundations appear, whose

length varied from 4 to 6 meters (Pasinli et. al, 1993: 149).

4.8.3 Fikirtepe

Hut floors and pits (Figure 27) with traces of burnt wattle and daub debris show that Fikirtepe probably had a very similar architecture to Pendik (Bittel, 1971: 1-19). The arrangement of these dwellings is equally irregular.

4.9 COMMENTS ON THE CERAMIC NEOLITHIC

ARCHITECTURE IN MARMARA REGION

The earliest buildings in the Marmara region are free-standing pit dwellings with wattle and daub superstructure, as reported from Pendik and Fikirtepe. At the inland site Ilipinar, post walls were used for the construction of free-standing single room trapezoidal or rectangular dwellings. This building type is not recorded in either Pendik or Fikirtepe even though the best comparisons are found further Northwest in eg. Karanovo. A possible reason for this gap might be the later date of Ilipinar or the preservation conditions in Pendik and Fikirtepe. Alternatively, two distinct construction traditions might have existed in the Marmara area or the coastal sites might have had a different function.

The later development is only known from Ilipinar, where in level VI the introduction of mud bricks lead subsequently to the development of row buildings and internal partitions. Raised house floors, wooden floorboards and possibly the gable roofs at Ilipinar point to the fact that wetter climatic conditions were prevailing in this region when compared to Central Anatolia.

The different cobble pavement layers in the pit dwellings of Pendik might have had a similar function. Common factors in all Marmara sites are the use of free standing buildings and the function of space in between those as open activity areas. It is well possible that the use of gable roofs forced people to use the ground level for open-air activities whereas in Central Anatolia flat roofs would have provided similar working space above the ground.

4.10 THE CERAMIC NEOLITHIC ARCHITECTURE IN TURKISH THRACE

The ceramic Neolithic settlements in Turkish Thrace are excavated in Hoca Çeşme, Aşağıpınar.

4.10.1 Hoca Çeşme

A total of four cultural layers, some with sub-phases, are excavated on this mound (Özdoğan, 1997: 24; Özdoğan, 1998c: 68). The lowermost level IV sits directly on bedrock. Circular hut floors are partly cut into the rock or the rock is smoothed and depressions are filled with gravel in order to obtain a levelled surface. A line of postholes (Figure: 28) drilled into the rock encircles the floors (Özdoğan: 1997: 24; Özdoğan, 1998b: 439; 1998c: 70). Inside the huts some storage pits have been reported (Özdoğan, 1998b: 439). Small stone circles are located between the hut floors. Their function is not clear. A massive stone wall surrounded this settlement (Figure 29). The wall is documented on the northern side where it follows the contour of the limestone rock (Özdoğan, 1998b: 439). It was erected after the surface of the bedrock was levelled and is constructed in dry stone technique with the largest boulders forming the facade. The wall is 1.2

meters wide and is preserved up to a meter high. A wooden palisade was located immediately behind its inner face. Postholes are drilled into bedrock at approximately one-meter distance from each other. It is assumed that the palisade had been connected to a wooden superstructure on top of the wall (Özdoğan, 1998b: 439).

The wall remained visible at least until the end of phase II occupation. During this time span settlement debris accumulated along its inner face while the settlement level rose (Özdoğan, 1998c: 70).

Phase III is sub-divided into two building layers. The plan and the construction materials remain the same. On the northwest a large circular structure was found. This dwelling is set apart from regular huts by its size and by the special treatment of the floor. The floor has been paved with pebbles (Özdoğan, 1997: 25) and was then coated with plaster and painted. Three renewal phases have been mentioned (Özdoğan, 1998b: 440), the first one with yellow paint and the second with red paint (Figure 30).

Three architectural layers have been defined within phase II. Contrary to the earliest two phases, rectangular structures (Figure 31) are found (Özdoğan, 1998b: 448). The walls of these one-room buildings are constructed from mud slabs, which were reinforced by wooden posts (Özdoğan, 1999b: 218). The walls are plastered and painted. Domed ovens on raised platforms, clay bins and working platforms are amongst the installations inside the houses (Özdoğan,

1999b: 218).

4.10.2 Aşağıpınar

The stratigraphy on the mound reveals six major phases of the Neolithic occupation. The lowermost level VI revealed remains of a huge rectangular building with several internal subdivisions (Figure 32). The outer walls are constructed from thick wooden beams and the faces of the wall were covered with thick plaster (Özdoğan, 1998c: 76). The rooms were full of rectangular and circular bins. A domed oven on raised platform and several raised working surfaces are found inside (Özdoğan, Parzinger and Karul, 1998: 145). The level VI settlement burnt down and the site was deserted for a considerable time before the level V occupation began (Özdoğan, 1999b: 220).

4.11 COMMENTS ON THE CERAMIC NEOLITHIC ARCHITECTURE IN TURKISH THRACE

The earliest Neolithic architecture in Turkish Thrace is found at Hoca Çeşme Phases IV and III. Circular hut floors cut into bedrock with a tent like superstructure supported with wooden posts are found. The settlement is surrounded with a massive stone enclosure wall. Remarkable is the painted floor in an exceptionally large building in phase III. Hoca Çeşme phase II and Aşağıpınar level VI bring the introduction of rectangular buildings with more than one room. The superstructure becomes more massive using wooden posts and mud slabs for the wall construction. The Neolithic architecture of Turkish Thrace shows the development from circular to rectangular dwellings. This shift

from round to rectangular goes along with the abandonment of light material tent like superstructures in favour of massive freestanding houses. The most commonly used construction material was wood. This material was both readily available and durable to wet and humid conditions. The construction techniques are post walls, sandwich or mud slabs. The roofs of these houses were probably gabled roofs as is indicated by the position of potholes inside the building. Since gabled roofs are not suitable as activity areas, open-air work zones on ground level have been found within the settlements. Components of domestic installations are bins, hearths, and domed ovens on top of raised platforms. Painted plastered walls or floors might point to special purpose structures.

4.12 CONSPECTUS

The aceramic Neolithic architecture in Central Anatolia has the characteristics of clustered insula planning, as it is evident from Aşıklı Höyük. The impression from the outside must have been that of a very closed and barely accessible settlement. The enclosure wall further restricts the space available for construction.

The structures' flat roofs had the function of work space and circulation areas. Some special purpose structures can be distinguished according to painted floors and certain installations. These characteristics become further elaborated in the early pottery Neolithic site Çatal Höyük -east-. Besides floors, walls have been painted. Inside some structures bucrania have been found together with paintings. The increased amount of highly decorated shrines shows the development of the concept of special purpose structures from Aşıklı Höyük.

Erbaba shares the Central Anatolian tradition of architecture in terms of use of agglutinative planning, flat roofs, roof entrances and the coloured floor plaster.

In the early ceramic Neolithic, the settlements in the Lake District follow a completely different concept of architecture. Bademağacı gives evidence for freestanding structures, which are made from light materials. Later in the early Neolithic, the use of mudbrick for stronger walls is the next step in the development of architecture.

Standardised interior organisation is observed at Höyücek and Hacılar, where in general broad rooms are used with an entrance in the middle of long walls and ovens are located opposite the entrance. Special purpose structures with painted floor plasters have been attested at Hacılar.

Kuruçay differs from the other Lake District sites since stone is the major construction material. The general layout of the settlement is similar to the other Lake District sites. The long wall can probably also be explained by environmental conditions.

The Lake District architecture may be linked to the earliest Neolithic remains from Mersin-Yümüktepe (Garstang, 1953: 13-14). The first remains are huts made from light materials. Later, single room structures on stone foundations appear (Figure 33).

The early Neolithic architecture of the Marmara region is illustrated at Pendik and Fikirtepe. Both settlements are similar in terms of construction materials and the layout. Semi-sunken pit dwellings with light superstructures are standard. The use of rectangular plan appears at the end of the occupation at Pendik.

A different tradition is visible in the earliest remains at Ilıpınar from a freestanding rectangular structure. For the earlier evidence the pit dwellings with light materials might be linked to the Lake District and Mersin. The later development is different from Anatolia and shows closer ties with the Balkans.

The earliest Neolithic remains in Turkish Thrace are the hut floors from Hoca Çeşme. The massive fortification wall is present since the beginning. In the late Neolithic, roughly contemporarily with the beginning of the occupation in Aşağıpınar, rectangular dwellings with post walls occur.

The architecture in Central Anatolia and the Lake District shows a continuous and gradual development into the Chalcolithic. In the Marmara region and in Turkish Thrace some significant changes occur. Mudbrick is introduced as a new building material in Ilıpınar VI.

CHAPTER V

THE NEOLITHIC POTTERY IN CENTRAL AND WESTERN ANATOLIA, MARMARA REGION AND TURKISH THRACE

5.1 THE NEOLITHIC CERAMIC OF CENTRAL ANATOLIA

The Neolithic pottery of Central Anatolia is known from several sites. The major source of information is Çatal Höyük –east-, with its reliable and long sequence. Regarding the pottery assemblage from Çatal Höyük –east-, the main body of information has been obtained from the sixth level. The other sites present a similar picture but small deviations from the shared aspects are seen. Both the common aspects and the variations provide a larger perspective in terms of ceramic production in Central Anatolia.

5.1.1 Çatal Höyük –east-

Pottery is rare in the early Neolithic levels XII to VI. This might be related to the frequent use of wooden containers, examples of which have been preserved in the burnt level VI (Mellaart, 1964: 85-92). In the earliest levels XII to IX the pottery is handmade and has a buff, beige or creme coloured surface. Organic temper is used and the thick-walled vessels are fired at a low temperature. The most frequently used form is a deep holemouth vessel with a flat base. From level VIII onwards grit temper is alternatively used and firing temperatures increased. Red slip can be used on the surface and dark surface colours occur as well (Mellaart, 1962: 54). Usually the surfaces are burnished.

Simple vessel forms are used, such as hemi-spherical bowls and holemouth jars (Figure 34), (Mellaart, 1962: 54). In level VI B “Cream Ware” is introduced. With the beginning of the late Neolithic in level V, considerable changes in the pottery production occur. The overall quantity of pottery increases and it shows a better quality in terms of form and technique (Figure 35). Vessels are now hard fired and the surfaces are highly burnished. The colour range includes reddish, pinkish and orange colours. Cooking and storage vessels have either lug or basket handles. In the upper levels IV to II, decorated pottery occurs in small quantities. Linear decoration is painted in red on white ground. Vertical lugs and long, thin handles can be attached to the vessels. Besides flat bases, four footed vessels and ring bases are found. From level II, brown-black burnished holemouth cooking pots with disc bases and tubular lugs are known (Mellaart, 1962: 54).

5.1.2 Erbaba

The pottery in the lowermost level III is thin walled, grit tempered and monochrome (black, brown-buff or red). This fabric is used for holemouth vessels, jars and bowls with slightly everted necks and horizontal semi-circular perforated handles (Bordaz and Bordaz, 1976: 41). All vessels have flat bases.

In the Upper Levels 2 and 1 the pottery is polished and monochrome (red, brown or yellow). Coarse ware and Gastropod Shell Ware replace the former thin walled brittle ware. which are standing on flat bases are found. These are holemouths with crescentic lugs (Bordaz, 1970: 61). In the “Lower Levels” there is black-brown, coarse pottery. It is sand tempered and thin walled. The

shapes continued in this level. Handles are vertically perforated (Bordaz, 1970: 61). Holemouth jars, straight sided bowls and jars with out turning rim occur. Vessels have either ring or pedestal bases.¹⁸ Crescentic ledges or perforated semi-cylindrical lugs are attached. The surface can bear applique bucranium decorations (Bordaz and Bordaz, 1976: 42).

5.1.3 Köşk Höyük

The pottery of the late Neolithic level 3 is hand-made from the local clay with black, grey, pale brown paste. It is finely slipped (Silistreli, 1984: 84). Geometric motifs are painted in red, brown or black on light ground. The forms are cups, bowls, holemouths and wide mouth vessels with long necks (Silistreli, 1985: 32-33). Appliques of animals and unrealistic human types have been used as decoration (Figure 36) on the monochrome ware (Silistreli, 1989: 62). Rarely, white incrustations are seen.

5.1.4 Musular

The late Neolithic pottery is monochrome and mostly burnished. Surfaces can bear a self slip. Three fine ware and two coarse ware categories are distinguished according to the tempering material sand, grit and straw. Colours of the fine wares range from gray and brown to pinkish buff categories (Özbaşaran, 1999: 151). Sometimes, red slip can be applied. The repertoire of shapes consists of open bowls, plates and short necked globular jars (Figure 37). No decoration is found (Özbaşaran, 1999: 151).

¹⁸ The excavator does not give more information whether this pottery was monochrome or not. The detail of ceramic forms is not given either.

5.2 COMMENTS ON THE NEOLITHIC CERAMIC OF CENTRAL ANATOLIA

The early Neolithic pottery is monochrome, of low firing quality. Dark colours prevail. During the course of the Neolithic, the firing and production quality increase. Lighter colours and red slipped surfaces are only introduced later, as is the use of red or brown paint on light surfaces. Zoomorphic and anthropomorphic appliques are found on monochrome pottery especially in Köşk Höyük. Thin walled brittle fine wares with highly burnished surface occur towards the end of the Neolithic. The ceramic forms are simple with straight or convex walls and flat bases. Everted neck and short necked globular forms are seen. No sharp carinations occur. A wide variety of lugs and handles occur such as crescentic lugs, vertically perforated handles, semi-circular and perforated handles, basket handles. Ring bases and pedestal bases occur later.

5.3 THE NEOLITHIC CERAMIC OF THE LAKE DISTRICT

5.3.1 Hacilar

The earliest Neolithic pottery from the Lake District derives from Hacilar. Recent investigations of an area north and east of the mound, where Mellaart claimed to have documented aceramic Neolithic layers, revealed a sequence of red painted floors similar to the ones Mellaart reported. Down to virgin soil, each layer contained a few fragments of pottery (Duru, 1989b: 101). These fragments belong to a poorly fired, monochrome coarse burnished ware of black, brown or red colours (Figure 38), (Mellaart, 1960: 86).

The ceramics from the later Neolithic levels excavated on the main mound can be distinguished into burnished, slipped and unslipped monochrome wares in buff, cream or red (Mellaart, 1961: 62). The fabric contains grit temper and is hard fired. Level IX pottery has light cream or gray fabric (Figure 39). The surface of the pottery is mottled and can bear red slip. Swung profiles, everted lips and oval shapes are found. Pronounced carinations are present also. These vessels had four legged bases, disc bases, round or flat bases. Some of these forms are equally produced from stone. Tubular lugs are attached to the upper part of the body. A basket handle from this level might be earlier. The decoration consists of simple painted stripes, bands and dots on painted ware (Mellaart 1959: 62). Cream coloured and light grey burnished ceramics continue in level VIII (Figure 40). Familiar shapes are holemouth jars vertical sided, large and shallow bowls and jars. No emphasis is given to the rim. Vertically pierced tubular lugs can be placed on the body in pairs in addition to bucrania lugs (Mellaart, 1958: 134; Mellaart, 1959: 62). With level VII, red, red-brown and brown-buff monochrome wares replace the former light coloured ones (Figure 41). Mottled and fine black topped swung profile cups and cutaway ended globular jars with ring or disc bases are used. Vertically pierced tubular lugs have been placed in pairs to the body (Mellaart, 1958: 143). In Level VI, the main shapes continue, now made from a red monochrome ware (Figure 42), (Mellaart, 1958: 143). Among the main forms, oval and circular jars, bowls, jugs and oval mouths with a slip are present. A special form are theriomorphic vessels such as pigs, birds and boars with stylised horns and ears. When the early Neolithic forms from levels IX and VIII are compared to the later Neolithic forms from levels VII and VI, it is clear that flat bases have been replaced by disc and ring

bases and holemouth vessels with ledge handles by S profiled vessels with pronounced rims and vertically pierced handles. Some forms remain in use during the whole period. These are water jars, flasks, bottles, vessels, drinking cups with funnel necks, lentoid jars with four lugs and sharply carinated squat jars with four lugs (Mellaart, 1961: 69).

5.3.2 Bademağacı

The pottery from the bottom level “Early Neolithic 6” is made from a light coloured gray or beige paste (Figure 43). It is tempered with a mineral with a shiny surface, most probably mica. The vessels have thick walls and a self slipped and lightly burnished surface (Duru, 1999: 188). Most of the shapes are hemispherical bowls or deep holemouth jars with cut off rims. One bowl fragment has an internally broadened rim. Thick flat boxes occur as well. It seems that this pottery imitates wooden proto-types (Duru: 1997: 115; Duru:1999: 188).

In the “Early Neolithic 5” level, both fabrics and forms continue. New are open straight sided bowls, conical bowls and deep bowls with slightly inclining upper part. Carinated bowls with inturned rims and flat bases occur for the first time (Duru, 1999: 188). The pottery of the following level 4 carries on the same tradition but there is a wider repertoire of shapes such as S profile bowls and carinated bowls, both with vertically pierced cylindrical lugs (Figure 44), (Duru, 1999: 188). In the “Early Neolithic 3” level globular pots, simple or S profile jars and slight or pronounced oval mouth vessels occur. Rims can now be thickened. Handle shapes comprise oblique string holes and vertically pierced tubular lugs (Figure 45) (Duru, 1999: 181). There is one vessel with a basket handle (Duru,

1999: 181). Decoration is rare and restricted to wide painted bands on dark gray ground (Duru, 1999: 181). In the “Earlier Neolithic” 2 and 1 phases grey or brown pottery of S profiles, boxes, plates and also closed mouths are known. Either tubular or vertically pierced handles are used (Duru, 1994a: 71-72; Duru, 1996: 45).

5.3.3 Höyücek (Figure 46)

From the earliest occupation phase of the “Early Settlements” (ESP) marble bowls are found. These are thought to be the ancestors of the Neolithic ceramic shapes (Duru, 1991: 157). Pottery is monochrome brown or dark grey and burnished. Bowls with S profile and short neck vessels are current. Bases are either oval or circular. Handles are cylindrical and can be vertically pierced. In the “Shrine Phase” (ShP) the fabric improves. It has a clean paste, brown and grey, and the surfaces are highly burnished (Duru, 1999: 178). It is used for large and deep S profile bowls, jars with short everted neck have the rim folded horizontally to the inside. Singular specimens of bird shaped or kidney shaped vessels occur. Vertically pierced lugs are made. Incised decorations are used (Duru, 1991: 157). In the “Sanctuary Phase” (SP), well fired grey or brown and burnished vessels with carinated S profiles occur. These are bowls and containers without handles. New is a beige slipped ware with red paint (Duru, 1999: 178.) Relief bands around the rims and notches are other possible decorations (Duru, 1991: 156; Duru, 1992: 148). One plate with knobs inside is reported.

5.3.4 Kuruçay (Figure 47)

Kuruçay ceramics can be divided into five main categories (Duru, 1994b: 51-54), the “Fine Ware” and the “Kitchen Ware”. Group A is a fine ware without any temper. Most of group A vessels have a red slipped surface. Beige slip occurs as well as ground for red paint. Surfaces are well burnished. Vessel shapes are simple open forms or S profile forms on thick flat or disc shaped bases. Tubular lugs are used. In terms of decoration applique reliefs and bucrania are preferred. The second fine ware group B consists of pottery with pebble inclusions. The painted decoration has been made by geometric, herringbone and lozenge designs. The third category C is formed by mineral tempered pottery with a rough surface. The coarse ware group D is found has pebble inclusions and a smoothed surface. Fine dark grey pottery with burnished and slipped surface forms group E.

Throughout the Neolithic, A is the most abundantly used group, forming 90 % of the assemblage. In the lowermost level, Level 13, pottery group A is used. In general closed mouths, S profile bowls and globular jars are known. Vertically pierced handles are found. There are very few sherds with dark red painted bands (Duru, 1989a: 83). In Level 12, there is a clear development of pottery in terms of production painting and applique decoration (zoomorphic reliefs). Pottery group A with red slip is the most abundantly used. Groups B and C occur in small quantities. Variety in forms increases. New shapes are S profile bowls with carinations, oval vessels, long neck jars. Painted decoration is used for thick bands of chevrons, geometric and/or curling bands (Duru, 1989a: 83-84). Besides the previous wares, coarse ware D and fine ware E occur in level

11. The shapes are S profile jars, cylindrical terracotta beakers, zoomorphic containers, jars on three feet. Inverted rims function as handles. Tubular lugs, ledge and basket handles and animal headed knobs are found (Duru, 1985: 23). There is an increase in linear paint. Bucrania are painted.

5.4 COMMENTS ON THE NEOLITHIC CERAMIC OF THE LAKE DISTRICT

The earliest pottery in the Lake District is a monochrome poorly fired pottery like the examples from “Aceramic” Hacilar, Bademağacı Early Neolithic (EN) 6-3 and Höyücek Early Settlement Phase (ESP) and Shrine Phase (ShP). Simple shapes like plates, bowls and jars were common. In the course of time techniques of slip, burnishing and better firing developed. It is thought that wooden and stone containers are the proto-types for these ceramics (Duru, 1992: 148-9).

According to Duru (1999: 183), the earliest pottery can be linked to the pottery from Beldibi B2. The date of this group is not clear.

With an increased complexity in the ceramic technology in Hacilar IX-VIII, Höyücek Sanctuary Phase (SP) and Kuruçay 13 new shapes and decoration types appeared. Forms become more complex. Swung profile cups and cutaway ended globular jars on ring or disc bases are introduced. Carinated profiles, anti-splash rims and zoomorphic vessels appeared on oval and circular bases or feet at the same time. Besides tubular lugs, animal headed knobs can be used. Painted decoration is restricted to linear motives. The later development is seen at

Hacılar VII-VI and Kuruçay 12. Pottery forms get more complex and the use of paint for linear and geometric motifs increases.

5.5 THE NEOLITHIC CERAMIC OF MARMARA REGION

The Neolithic pottery from the Marmara region is characterised by the so-called “Fikirtepe Ware”. Its earliest development can be traced at the site of Pendik, with the later phase represented at Fikirtepe itself. Ilipinar gives evidence for the later part of the period.

5.5.1 Ilipinar

Level X wares are divided into three main groups: chaff tempered ware, sandy ware and calcite ware (van As and Wijnen, 1995: 94-95). General observations in production reveal evidence for coiling and paddle-anvil technology. Surfaces can bear a slip, can be burnished in colours that range from beige to grey and dark brown, and can be mottled (Thissen, 1995: 109-10). All three fabrics are used for the production of restricted bowls. S profile bowls, holemouth jars, globular jars and deep bowls with oval mouths are the main forms (Figure 48). J. Roodenberg mentions three sherds of red on white painted pottery which are completely foreign to the settlement (Roodenberg, 1995d: 168 footnote). The almost complete absence of decoration on pottery has been reported (Thissen, 1995: 110) Level IX pottery shows some slight differences. Increase in sandy ware is observed. Thin walled vessels with slipped and well burnished surfaces show a further developed technology (Thissen, 1995: 110-111). S profile bowls are preferred and holemouth jars decrease. Globular jars are replaced by higher and elongated vessels with collared necks.

The decoration of this phase consists of fingertip and nail impressions and channels made with a blunt tool (Roodenberg, Thissen and Buitenhuis, 1990: 85). Level VIII shows a decline in pottery quality. Vessels have thicker walls and show less burnish. Sandy ware is used. Among the main shapes recorded are S profile bowls, unrestricted and plain rimmed holemouth jars (Roodenberg, Thissen and Buitenhuis, 1990: 85-8). Low quality, miniature vessels with vertical, thick or everted walls and less burnished surfaces occur. Large tab handles are attached either in pairs or fours on miniature vessels (Thissen, 1995: 111). The decoration on pottery remains consistent except for the appearance of finger pinching (Roodenberg, Thissen and Buitenhuis 1990: 87). From level VII onwards the pottery is of better quality (Thissen, 1995: 100). The inclusions remain the same but the vessels are thin walled, better fired and have a smoother and polished surfaces. Three main vessel forms are used. The first one is the restricted bowl with S profile. The second is the plain rimmed restricted bowl. The last are restricted bowls with up- or out-turning rims. New features in this level are deep carinated bowls and oval vessels. Tab handles are used in pairs whereas knob handles are found in fours on the bodies (Thissen, 1995: 112). Finger and nail impressions and incised or excised geometric patterns on the shoulders of vessels occur (Roodenberg, 1999: 199).

5.5.2 Pendik

The pottery is handmade and mostly of coarse fabric with organic and/or seashell temper. Only few fine ware examples occur. The usual fabric is well fired, burnished and has a monochrome dark-grey, brown, matt red or grey coloured surface (Harmankaya, 1983: 28). Vessels with straight or convex sides,

S profile bowls and pots and jars with narrow mouths, globular bowls, strainers and lids are common (Pasinli et. al, 1993: 151). Special forms are triangular and square footed rectangular boxes and pottery stands on round or flat bases. In addition to triangular and round handles, one horn handle, possibly an out-of-context find, is recorded. Decoration consists of shallow incisions or impressed dots used for linear-geometric motives, which are executed on well-worked surfaces without any painting (Figure 49), (Harmankaya, 1983: 28).

5.5.3 Fikirtepe

The ceramic repertoire consists of handmade, grey, brown or reddish monochrome pottery (Figure 49). There is only one burnished bowl. The ceramic forms are oval cups, large vessels, low-neck jars, out flaring cups and mugs, in addition to a rectangular bowl with a four-nail foot. True handles are rare. Lugs with string holes or vertical perforations occur either in pairs or fours. The decoration consists of simple geometric motives, such as triangles, shades, and checkerboard patterns. Cross-type motifs fill empty spaces. Decorations in band type are rare (Bittel, 1960: 31-32). Pottery with incised textile-like decoration might represent a later developed stage of the Fikirtepe assemblage. Such a chronological distinction is based on Yarımburgaz 4 material (Özdoğan, 1997: 19).

5.6 COMMENTS ON THE NEOLITHIC CERAMIC OF MARMARA REGION

The development of pottery begins with hand made monochrome pottery with simple shapes at Pendik. The pottery has dark and matt colours and

contains organic or sea shell inclusions. Simple shapes and holemouth jars are reported and the vessels can have large lugs. Simple incisions occur. The Fikirtepe repertoire has S profile bowls which can be oval also. Another highly significant type is rectangular boxes with four nail feet. The main decorative elements are incised or impressed linear and geometric motives. Rarely, red slip is applied to the surface.

The chronological position of Ilıpınar X is discussed controversially. Based on one specimen of incised nail foot belonging to phase X, M. Özdoğan proposes a correlation to Classic Fikirtepe (Özdoğan, 1997: 21). On the other hand, J. Roodenberg dates Ilıpınar later than Fikirtepe because of its rectilinear dwellings in level X (Roodenberg, 1995b: 167).

It is difficult to estimate the exact chronological position of Ilıpınar X when compared to the Fikirtepe Culture pottery. The only exception for this is a fragment, from a secure context, of a footed rectangular open box which bears incised and punctured decoration (Roodenberg, Thissen and Buitenhuis, 1990: 82). This would point to a correlation with Classic Fikirtepe. Phase IX decoration consists of incisions, impressions and channeling and these might be further similarities to Fikirtepe. The Ilıpınar VIII material with its textile-like incised and impressed decoration can be correlated with Developed Fikirtepe and Yarımburgaz 4.

Towards the end of the Neolithic occupation at Ilıpınar, phase VII, deep carinated bowls and oval vessels are observed. The elements of decoration are

incised and excised geometric patterns besides finger nails and finger impressions.

5.7 THE NEOLITHIC CERAMIC OF TURKISH THRACE

The ceramic repertoire of Thrace, known from Hoca Çeşme, Aşağıpınar, and Yarımburgaz is quite significant in order to understand the relations of this region with the rest of Anatolia and the Balkans. The earliest material is found at Hoca Çeşme. Evidence for the later part derives from Aşağıpınar.

5.7.1 Aşağıpınar

The pottery from the lowermost Level VI is usually monochrome dark and red (Özdoğan, 1998c: 76). Only rarely traces of white paint on red occur (Figure 50).

5.7.2 Yarımburgaz

Level 5 pottery has sand or grit temper with dark or red burnishing. It is divided into two groups; the micaceous ware and the gritty ware. Flat bases are found (Figure 51). Common features of decoration are pattern burnishing, shallow incision and nail impressions (Özdoğan, 1998c: 72).

In Level 4 two sub-phases are distinguished (Özdoğan, 1998c: 72-73). From the earliest sub-phase, the “Micaceous Ware” is made from finely levigated clay with sand or mica temper. The surfaces are well smoothed and dark slipped. The “Gritty Ware” is coarse, the surface either wet smoothed or burnished. During the upper phase of Level 4, lustrous fine burnished, sand or grit tempered

pottery is well fired, red burnished and red slipped. It has a mottled surface. The shapes consists of open bowls, holemouth jars, necked jars with sharp carinations besides incurving rims and globular short necked bowls on large flat bases. Tubular or knob handles can be attached to all these vessels. Incised or impressed geometric motives including the textile-like patterns are preferred..

5.7.3 Hoca Çeşme (Figures 52-53)

The pottery of Phase IV contains hand-made, mostly thin walled, lustrous burnished, red or black wares (Özdoğan, 1997: 24-25; Özdoğan, 1998b: 440). No coarse ware is reported. The repertoire consists of deep bowls with S profiles. Vertically pierced tubular lugs and crescentic lugs are attached to bodies. Bead rims and flat bases are reported (Özdoğan, 1997: 25). A pottery with white on red decoration on the surface is reported (Erzen, 1995: 457). Zoomorphic vessels, which have been sometimes decorated with curvilinear motives or vertical relief bands or fine grooved or incised patterns, are found (Özdoğan, 1998b: 440; 1998c: 69). Hoca Çeşme Phase III indicates the transition from monochrome pottery to white paint on red ground as a regular feature. The pottery assemblage is coarse, thicker and has slightly more carinated forms (Özdoğan, 1997: 26; Özdoğan, 1998b: 448). Soft curves are rare now and jars with high necks occur (Özdoğan, 1998b: 440). New are tall neck jars and small handles. Equally new is the footed, rectangular or triangular vessel. The other new feature is the appearance of thickly smeared red coating on black. This type of pottery is either incised or excised (Özdoğan, 1998c: 69-70). Red on black, light cream on red black mottled pottery is usually stamped or incised (Özdoğan, 1997: 25; Özdoğan, 1998b: 440). Phase II red and black wares with

thicker walls continue in decreasing amounts in this phase. There is no fine quality burnished surface finish on these and sherds are thicker (Özdoğan, 1997: 26).

5.8 COMMENTS ON THE NEOLITHIC POTTERY OF TURKISH THRACE

The earliest pottery is from Yarımburgaz cave level 5. The hand-made pottery has mica, grit and sand inclusions. Dark colours including red are seen on fine burnished, sometimes pattern burnished surfaces. The main shapes are holemouth jars with flat bottoms. The roughly contemporary settlement to Yarımburgaz 5 is Hoca Çeşme IV. Deep bowls with S profiles on flat bases and vertically pierced tubular lugs are added to the repertoire. The earliest pottery with white paint on red is seen at this stage. The development continues in Hoca Çeşme III when tall neck jars, footed rectangular or triangular vessels and soft curves are introduced. White on red pottery becomes typical starting from this level. Red smearing is another new feature. Incision and excision continue in use.

After a considerable gap, in Yarımburgaz level 4 micaceous ware and gritty wares are found. In 4b holemouth jars, sharply carinated profiles are found with incised textile-like motives. The Hoca Çeşme II pottery repertoire at that time is formed by thick walled red and black wares. Aşağıpınar VI shows the absolute dominance of monochrome pottery.

5.9 CONSPECTUS

The early Neolithic pottery is found in Çatal Höyük -east- level XII, Bademağacı levels 6-3, Pendik and Ilıpınar phase X. The pottery is hand-made in all areas as a rule. The basic difference is observed in temper. Pottery from Çatal Höyük -east- contains organic temper whereas Bademağacı pottery has mica temper. Pendik pottery, partly as a result of material availability, contains seashell and organic temper. In Ilıpınar X chaff is used more than sand and calcite. Monochrome, burnished light colours such as beige, cream and grey are commonly seen. Shapes of the early Neolithic pottery are in general very simple. Holemouth jars are common at Çatal Höyük -east- and Bademağacı, S profile bowls and globular jars in Pendik and Ilıpınar X. Cylindrical lugs are found from Bademağacı EN 4. Basket handles are found as early as Bademağacı EN 3 and later at Çatal Höyük -east. Heavy lugs are preferred in Ilıpınar X. In the course of time the Central Anatolian and the Lake District pottery show divergent developments. In Central Anatolia and the Lake District, red on white painted linear decoration is introduced. In the Marmara area, with the shift to sandy wares, incision, excision and incrustation are used as decoration.

Characteristic pottery of the middle Neolithic is found in Çatal Höyük -east- level VI B, Erbaba level III, Hacılar level IX, Höyücek “Sanctuary Phase” (SP), Kuruçay level 12, Ilıpınar phase IX, Fikirtepe, Yarımburgaz level 5 and Hoca Çeşme phase IV. The pottery is still hand-made. Grit temper is widely popular in the Central Anatolian and Lake District sites of Erbaba III and Hacılar IX. Sand temper is restricted to Ilıpınar IX and Yarımburgaz IV. Light colours are used for monochrome pottery in the Lake District. Grey, brown and red

monochrome pottery is found in Marmara and Thrace settlements of Ilıpınar IX, Fikirtepe and Hoca Çeşme IV. Red slip burnish is commonly found in the Lake District sites of Hacılar IX and Kuruçay 12. Regular burnish is observed at Höyücek “SP”. Carinated S profile bowls are reported from Hacılar IX, Höyücek SP and Kuruçay 12. Regular S profile bowls are common in the Marmara and Thrace settlements of Ilıpınar IX, Hoca Çeşme IV. A highly distinctive form is triangular or rectangular ‘box shaped’ vessels on high feet. Oval cups and bowls are found in the Lake District sites of Hacılar IX, Kuruçay 12. Flat bases seem to have been widely used in Erbaba III, Hacılar IX, Kuruçay 12, Yarımurgaz 5 and Hoca Çeşme IV. Disc bases show a more limited distribution to the Lake District, where they are found in Hacılar IX and Kuruçay 12. Tubular lugs are used in Hacılar IX and Kuruçay 12. The Northwestern Anatolian sites of Fikirtepe and Hoca Çeşme IV are similar in terms of the use of vertically perforated handles. Like the wares and shapes, the decoration also forms two distinct groups. Painted linear or geometric decorations are seen in the Lake District sites of Hacılar IX and Kuruçay 12. The Marmara and Thrace settlements of Yarımurgaz 5 and Ilıpınar IX use finger or nail impressions. Incised geometric motives are found in Fikirtepe and Hoca Çeşme.

The late Neolithic pottery shows the regional diversification between the Central Anatolian-Lake District group and the Marmara-Thrace group more clearly. The hand-made pottery usually contains sand and grit temper in Musular, Ilıpınar VIII and Yarımurgaz 4 (a-b). The Central Anatolian and the Lake District pottery is red or brown monochrome in Köşk Höyük III, Musular, Erbaba I and Hacılar VI. Slip is well established in the Central Anatolian

repertoire as it is found at Köşk Höyük III and Musular. Burnishing is more of a Northwestern Anatolian tradition as seen at İhpınar VIII and Yarımburgaz 4 (a-b). The shapes reflect the regional groups much better. Holemouth jars are common in Çatal Höyük -east- I and Köşk Höyük III. Open bowls seem to be wide-spread in the Central Anatolia and the Lake District since these shapes are found in Köşk Höyük III, Musular and Hacılar VI. The Northwestern Anatolian tradition is represented by carinated profiles, necked bowls and necked jars from Yarımburgaz 4 (a-b) and Hoca Çeşme II. The inland Anatolian shapes stand on flat or disc bases, as found in Musular and Er Baba I. The regional diversity is documented here by the use of various types of feet as stands in the Marmara and Thrace. Crescentic lugs and vertically pierced tubular handles are used in the Central Anatolian and the Lake District repertoire. A similar consistency is not visible in the Northwest Anatolian group. Painted decoration develops in Central Anatolia and the Lake District. The Marmara region and Thrace prefer pinching, incision, excision and stamped linear or geometric motives.

CHAPTER VI

THE SUBSISTENCE PATTERNS IN CENTRAL AND WESTERN ANATOLIA, MARMARA REGION AND IN TURKISH THRACE

6.1 THE EPI-PALAEOLITHIC PERIOD

The environmental setting of the Ağaçlı Group, from coastal Black Sea, indicates exploitation of sea or lake resources mainly (Gatsov and Özdoğan, 1994: 100). Although the evidence has not been recovered yet, it is possible that specialised hunting and gathering was practiced. This might have led to the experimentation with fauna and flora.

6.2 THE ACERAMIC NEOLITHIC PERIOD

6.2.1 Aşıklı Höyük

The aceramic Neolithic subsistence of Central Anatolia is known from Aşıklı Höyük, Suberde and Can Hasan III. According to the Akgöl pollen core, the Melendiz valley must have been a forested area with oak, juniper, pistachio, elm and steppe cover grasses, with hackberry further away (Esin, 1998: 98). This makes the site a favourable location for sedentary living. The data from Aşıklı Höyük show that meat was preferred to food plants. Most animal bone remains derive from sheep and goat, which might have been on the edge of domestication (Esin, 1991a: 29). The kill off pattern for sheep and goat shows two peaks, one in the first year and a second later at an age between eight to fifteen years when they reach to peak in terms of meat weight (Payne, 1985: 114). This may be

explained as selective slaughtering. According to Buitenhuis (1996: 418), people at the site may have been able to domesticate some species during winter hunts. Amongst the hunted species, there are cattle, pig, donkey, rabbit, red deer, aurochs, fallow deer, horse, fox, rodents, hare, beaver, fish and various types of birds (Payne, 1985: 110-12; Esin et al, 1991: 132). Plant remains show that a domesticated variety of einkorn wheat is under cultivation. Barley, wheat and other types of cereals are not encountered at the site (Esin et. al, 1991: 132; Esin, 1992: 139; van Zeist and de Roller: 1995: 179-185). The general image of Aşıklı Höyük people is that of a sedentary hunter-gatherer population. Subsistence is based on wide spectrum hunting and an additional breed of sheep and goat. Gathering of wild plants such as hackberry, corn, pistachio, and nutshells, almond is still important at that time (van Zeist and de Roller, 1995: 182-183). Lastly, they practice agriculture at a simple level (Esin, 1991b: 140). This economic order at Aşıklı is a good indicator of how these early settlements started with a mixed economy. Later, in the ceramic Neolithic, this type of subsistence is replaced by a fully specialised economy.

6.2.2 Suberde

The animal bone assemblage from the lower Prehistoric layer at Suberde consists of wild sheep, goat, cattle, pig, wolf, fox, red stag, red deer, roe deer and fallow deer remains (Bordaz, 1965: 32; 1969: 57-59). The only domesticated animal is dog, which might have been kept for its assistance to hunters (Bordaz, 1973: 283). Unfortunately, there is no further information about the domestication degree of other animal species. No cereal or other plant remains are reported.

In the so-called “Upper Prehistoric Layer” butchering of sheep and goat decreases and is replaced by an increasing amount of butchered wild oxen (Bordaz, 1969: 57). Still there is no evidence for farming. The main reliance of Suberde people is on specialised hunting and gathering (Bordaz, 1969: 60; 1973: 287).

6.2.3 Can Hasan III

The site of Can Hasan III provides evidence mainly about rye cultivation, around 6600 BC. (Hillman, 1978: 157). Rye, which grows on volcanic soil below 1000 meters above sea level, is a crop of secondary importance. It is found in middens, in mud brick, on floors and in hearths (Hillman, 1978: 165). It has tough rachis and could indicate that this plant has been already domesticated (Hillman, 1978: 166).

6.3 THE CERAMIC NEOLITHIC PERIOD

6.3.1 Çatal Höyük –east-

At Çatal Höyük -east- carbonised plant remains indicate agricultural practices. They are hunting wild animals besides breeding sheep, goat and herding cattle (Mellaart, 1962: 56). Cattle are both in wild and domesticated forms at Çatal Höyük -east-; fish is important also (Payne, 1985: 110,113). The animal domestication, for Buitenhuis (1996: 411), is practiced in order to use secondary products from sheep, goat and cattle. From the fifth phase, emmer, wild einkorn, naked barley, hulled barley and lentil point to agricultural activity (Mellaart, 1970: 6-7).

6.3.2 Erbaba

Erbaba's economic reliance has focused on the consumption of domesticated plants and the hunting and breeding animals (Bordaz and Bordaz, 1976: 40). The data from the lower levels show that there are domesticated emmer, einkorn, wheat, barley, lentils, peas and bitter vetch. These species are known from carbonised seeds and remains (Bordaz, 1970: 60-61). Among the other palaeo-botanical finds, there are naked and hulled types of barley, einkorn wheat, emmer wheat (the major type), free threshing wheat (both tetraploid and hexaploid; hard wheat and bread wheat respectively), spelt wheat, bitter vetch and lentils (van Zeist and Buitenhuis, 1983: 49-55). The classification of plant remains was the fully processed crops first and then cleaning weeds, threshing left overs (Bordaz and Bordaz, 1982: 90). The evidence indicates that cereals and pulses formed the basis of the Neolithic diet at Erbaba, although the level of intentional growing of such plants was not clear (Bordaz and Bordaz, 1983: 57-59). The fauna of the same levels consisted of domesticated sheep, goat, and cattle and the use of their secondary products. Other wild animals like pigs, deer and bird are hunted. Fishing is another source of food (Bordaz and Bordaz, 1976: 41).

6.3.3 Musular

At Musular are remains of grain and hackberry are reported in addition to faunal remains, which consist of sheep, goat and cattle (Özbaşaran, 1999: 152).

6.3.4 Hacilar

In the earliest levels at Hacilar no carbonised plant remains are recorded. However hearths and ovens indicate cooking activities. Sheep, goat and cattle are butchered (Mellaart, 1961: 72). The butchering practices have not been mentioned. Dog has already been domesticated and, among other domesticated species in the site, there are sheep, goat, cattle, hare and fallow deer. There is no detailed information in the reports or in the publication itself about the status of animals, either being domesticated or not.

At Hacilar, there is information on the prehistoric diet from the later Neolithic levels. There are wheat, lentils, peas, bitter vetch and barley, which have been found in bins and depots inside structures (Mellaart, 1961: 45). From the late Neolithic level, Level VI, there are bins and depots, which contain legumes and grain. This indicates how well established the agricultural practices are. Cattle, sheep and goat bones from level VI might have belonged to domesticated animals. Deer and pig are hunted (Mellaart, 1970: 8-9). Possibly, Hacilar people are farmers first of all. The yield must have been high enough and therefore grain was kept in houses. There is not enough information to determine the significance of hunting in the society. Husbandry might have played an important role in the Hacilar economy since domesticated animal remains are plenty. Although farming and other types of food procurement systems are observed, gathering was simultaneously practiced.

6.3.5 Pendik

At Pendik, hunting, fishing and seashell gathering are practiced. Sheep, goat, cattle and pig husbandry are known to exist (Harmankaya, 1983: 29). The mixed economy consists of farming, fishing, mollusc gathering, hunting and stock breeding (Özdoğan, 1983: 410-411).

6.3.6 Fikirtepe

At Fikirtepe, the type-site on the south coast of the Black Sea, the faunal evidence consists of domesticated sheep, goat, cattle and pig. The wild species are deer, wolf, rabbit, goose and eagle. There is evidence for fishing and mollusc gathering (Bittel, 1960: 33-34).

6.3.7 Ilıpınar

The faunal remains at Ilıpınar indicate a major shift from domesticated sheep and goat to pigs in early levels (Buitenhuis, 1995: 153). After that transitional stage, cattle herding became significant till the end of the occupation. In addition to these, there was hunting and fresh water mussel gathering. In terms of plants, carbonised remains of naked barley have been found in an oven, in the “Burnt House” (Roodenberg 1993: 258). In later levels, carbonised flax (flax cultivation), six rowed hulled barley, hulled free threshing wheat (emmer, einkorn types), wild oat, pulses (lentils, grass pea, bitter vetch), figs, blackberry, grapes and wild weed are identified (Roodenberg, 1993: 258).

6.3.8 Hoca Çeşme

During the fourth phase of Hoca Çeşme, there are domesticated sheep, goat and cattle remains. Pig bones and seashell remains have been found in all levels, whereas cattle bones are found only in top levels and sheep remains come from the bottom levels. Pits for live shell fish storage have also been reported (Özdoğan, 1997: 23).

6.4 CONSPECTUS

From the aceramic Neolithic occupations in Central Anatolia and the Lake District it is possible to gain an impression that people were sedentary hunters and gatherers. The faunal and floral assemblages indicate specialisation in the consumption of certain species and plant types, which would be domesticated soon after. -The economy of the Northwestern Anatolian sites, the Marmara and Thrace, in the later era, rely on domesticated species besides molluscs and fish, which replaced the economy of earlier phases; more hunting and use of sea resources (Buitenhuis, 1994: 142). There are different ideas about the origins of Ilıncık settlers. It has been discussed that these people are from Central Anatolia. When they were moving towards the west they might have brought domesticated sheep and goat to Ilıncık. In the course of time, people adapted the environment and they started cattle herding, pig breeding and hunting lesser wild animals (Roodenberg, 1993: 258). The debate on the expansion or retreat of forest cover has been linked to pig breeding (Roodenberg, 1993: 258). Hoca Çeşme evidence may also illustrate a gradual adaptation (Özdoğan, 1997: 27).

CHAPTER VII

CHRONOLOGY

For the purpose of this study a rough distinction (figure 60) of four Neolithic sub-phases (Aceramic, early, middle and late Neolithic) is used. The exact position of each site within these major phases could not always be established beyond doubt (Özdoğan, 1999b: 216, 221). This situation is illustrated at best by figures 61 and 62. The comparison of cultural assemblages helps to establish relative chronology but the detailed chronology awaits further precision.

7.1 ACERAMIC NEOLITHIC

Aceramic Neolithic sites discussed in this study are Aşıklı Höyük, Can Hasan III, Musular and Suberde. Within this group, Aşıklı Höyük with its long cultural sequence seems to be the oldest. Covering approximately the first half of the 8th millennium BC. Can Hasan III is in terms of architecture well comparable to Aşıklı and probably contemporary with it. Absolute dates from Can Hasan III are missing and the published date of 6500 BC (French, 1970: 142) seems to be too late. Musular must be dated to the end of the Aşıklı sequence or slightly later (Özbaşaran, 1999: 153). This dating is based on the analysis of lithic material, which has not been subject to this study and is confirmed by the radiocarbon dates.

The existence of a similar aceramic Neolithic in western Anatolia has

been suggested recently from survey data (Gatsov and Özdoğan, 1994: 99-100). Unfortunately, the exact dates for the second group is not known at the time being. It is possible that there is an overlap between the Ağaçlı group and the Çalca group.

7.2 CERAMIC NEOLITHIC

The earliest settlement in the ceramic Neolithic seems to be represented by the so-called aceramic Hacılar and by Çatal Höyük –east- level XIII, for which an absolute date of 7500 BC has recently been given (Hodder, 2000). The early pottery Neolithic occupation of Çatal Höyük –east- would thus immediately follow the aceramic Neolithic from Aşıklı Höyük. The architecture at both sites may point to such a close relation. The latest dates given for the occupation at Çatal Höyük –east- fall into the middle of the 7th millennium BC (Kuniholm and Newton, 1996: 345-347). Bademağacı 6 can be compared with Çatal Höyük –east- VII and VI (Duru 1997: 116) but no absolute dates are available. The Höyücek sequence must overlap partly with Bademağacı. Erbaba Level III, with its thin walled monochrome pottery can probably be linked to Bademağacı Level 6.

The beginning of the next phase, characterised by the introduction of red paint on white, is seen towards the middle of the 7th millennium BC at Çatal Höyük –east- IV to II. Whether the introduction of red on white occurred contemporarily in the Lake District, where it is characteristic for the Sanctuary Phase at Höyücek, Kuruçay 13 and Hacılar IX, is not yet clear due to the lack of absolute data. Köşk Höyük can probably be contemporary with Çatal Höyük -

east- II-I but the available data are not sufficient to ascertain this.

This red on white painted pottery is further elaborated in the following period, as is illustrated by assemblages from Kuruçay 12-11 and Hacilar VI.

Three red on white painted sherds found in Ilıpınar X might be a hint at a direct correlation between these two areas. Ilıpınar X, however, does not represent the earliest pottery Neolithic in the Marmara area. The so-called “Archaic Fikirtepe” phase, represented at Pendik, probably predates Ilıpınar X, which must probably rather be linked to the Classic phase of the Fikirtepe Culture. Thus, the early Neolithic in the Marmara area runs at least parallel with the middle part of the Central Anatolian Neolithic. Absolute dates are available only for Ilıpınar X, ranging between 5700 and 5500 BC (Roodenberg, 1999: 200). Neither Pendik nor Fikirtepe allow for absolute dating. But even if Pendik predates Ilıpınar X by a considerable time, the earliest dates from Thrace are still far older than the earliest dates from the Marmara area. Hoca Çeşme IV is between 6400-6200 BC will thus be contemporary with Kuruçay 12, Höyücek Sanctuary Phase, Hacilar IX and Çatal Höyük -east- VI. (Özdoğan, 1999b: 194, figure 44). Whether this distribution pattern of early Neolithic cultures with a gap in the Marmara area reflects a real pattern is subject to discussion. Several possibilities have to be considered. Firstly, the radiocarbon dates for Ilıpınar might be too late. Secondly, the earliest Neolithic settlements have not yet been found. Thirdly, if this is a true pattern, the Neolithisation of the Marmara area began much later than in Central and Southwestern Anatolia and in Thrace. Towards the end of the Neolithic, links between Ilıpınar VIII, Hoca Çeşme II, Yarımburgaz 4 and Aşağıpınar 6 can be firmly established thanks to the characteristic monochrome

textile pattern incised pottery found at all these sites. In Central Anatolia and the Lake District, the contemporary Çatal Höyük -west-, Can Hasan I, Kuruçay post level 10 and Hacilar level V, with their elaborate painted pottery, are already considered Chalcolithic.

7.3 ANATOLIA AND THE EAST

Compared to the absolute dates of the aceramic Neolithic sites in Southeastern Turkey, the occupation at Aşıklı Höyük would be begin slightly later than the earliest Neolithic sites there but would be parallel with the later part of the Taurus PPN-A, that is the Grill Building phase in Çayönü (Bıçakçı, 1998: 139, 150 Fig 3). The first experiments with pottery making are seen in the early levels of Çatal Höyük -east-. Other experiments with vessel making take place in the middle Euphrates valley and Syria with White ware found at sites like Bouqras (after Moore, 1985: 62). The firm establishment of the monochrome pottery tradition is seen with the thin walled highly burnished “Dark Faced Burnished Ware”, which is characteristic for Amuq A, Mersin XXXIII-XXVIII (Garstang, 1953:18, 21 Figure 11/34) and which is probably linked to thin walled ware at Bademağacı 6. The link between Yümüktepe and the early Lake District sites is further emphasised by the architectural tradition of freestanding light material huts (Duru, 1999: 171). However, the characteristic impresso patterns and the red paint applied to some of Amuq A and Mersin-Yümüktepe early material is not seen in the Lake District. The early monochrome pottery in Çatal Höyük -east- is set apart by the general use of organic temper (Mellaart, 1964: 81). Painted pottery decoration is established in Central Anatolia earlier than in Yümüktepe where it is only characteristic for late

Neolithic XXV-XXIII (Garstang, 1953: 39) seems to occur earlier in Central Anatolia and the Lake District then in Yümüktepe it only appears in the Late Neolithic XXVII (Garstang, 1953: 40 Figure 22). Further comparisons for Southeastern Turkey prior to the Halaf period are difficult due to the lack of pottery Neolithic sites.

7.4 ANATOLIA AND THE WEST

The earliest pottery Neolithic settlements on the European continent are preceded by a period during which experiments with pottery making took place throughout the 7th millennium, eg at Franchthi and Sesklo (Afram Stern, 1996: 189-195). Pottery Neolithic sites are found in Thessaly and Macedonia and date to the last third of the 7th millennium BC (Thissen, 2000: 94). They are characterised by a monochrome pottery with red polished surface (Winn and Shimabuku, 1989, 102-104, Figures 5/35-37) like the examples from Achilleion Ia (Afram Stern, 1996: 121).

Painted decoration and impresso decoration are introduced slightly later in Achilleion Ib-IIb, which is contemporary with the Pre and Proto-Sesklo phase (Afram Stern, 1996: 120). The pottery forms are mostly closed and globular shapes. These forms are also observed in Yarımburgaz Level 5 and Pendik. The use of finger, nail, thumb notch impressions and the so-called “Barbotine” on pottery is observed in Yarımburgaz 5, Ilıpınar X-IX and Hoca Çeşme IV together with Proto-Starçevo and Pre-Sesklo cultures in Southeastern Europe. Dark red colour is found on ceramics from Classic (and possibly Developed) Fikirtepe and the “Solid Style” from Sesklo I (Afram Stern, 1996: 126).

During the Greek middle Neolithic, which covers the second third of the 6th millennium, the elaborately painted Sesklo ware is one example for the development of highly diversified regional styles. It seems to be possible to link the Sesklo painted pottery (5700-5400 BC) with the Anatolian painted pottery of the late Neolithic-Chalcolithic assemblage in the Lake District. Contemporary developments further northeast are seen at the beginning of the Karanovo sequence I to II. The highly distinctive post wall architecture of Karanovo I-II (Hiller and Nikolov, 1988: 57-58) is also found in the Marmara area, where it has been in use since Ilıpınar X. The pre-Karanovo I occupation from Pendik, Fikirtepe and Ilıpınar X to IX can be linked to the Balkans because of distinctive types of architecture, bone tools and figurines. Pottery parallels are less well established.

The pottery sequence from Hoca Çeşme IV-II, which testifies to the introduction of white paint on red ground, point at a parallel development with Bulgaria. The upper level II can be equated with Karanovo I/II (Nikolov, 1997: 105-110 plates 21-53). The use of black burnished pottery from Hoca Çeşme II and Karanovo II supports this equation.

CHAPTER VIII

FURTHER COMPARISONS OF SELECTED SMALL FINDS

In this part, the discussion focuses on the similar bone tools and objects, footed miniature vessels, pintaderra and figurines. Although the body of data is huge only the finds from the type-sites and objects from the secure contexts are mentioned since space is limited.

8.1 STONE TOOLS

A full discussion of the lithic industry can not be produced within the limits of this study. In order to understand the relationship between Epi-Palaeolithic and Neolithic in the Marmara and Turkish Thrace, however, a brief look at the stone tools is necessary.

8.1.1 Ağaçlı Group

Pebble was preferred for this group of tools although obsidian and flint occur in lesser quantities (Gatsov and Özdoğan, 1994: 101-109).

The tool industry from this group mainly consists of single platform, conical platform or changed orientation cores (Gatsov and Özdoğan, 1994: 103-104).

The tool repertoire is formed by retouched end scrapers with several variations such as circular, semi-circular, fan shaped or shouldered types (Gatsov and Özdoğan, 1994: 104-105). Perforators, backed or arched blades are the other types (Gatsov and Özdoğan, 1994: 106, 109). This repertoire may link Ağaçlı

group to Epi-Gravettian tradition (Gatsov and Özdoğan, 1994: 109).

8.1.2 Çalca Group

This assemblage is quite different from Epi-Palaeolithic examples (Özdoğan and Gatsov, 1998: 214). The high quality local flint was used for the flake industry of this group (Özdoğan and Gatsov, 1998: 215). Obsidian was used for micro-cores, blades and bladelets (Özdoğan and Gatsov, 1998: 221). The core types are either single platform or changed orientation (Özdoğan and Gatsov, 1998: 215). Narrow blades, angle retouched end scrapers with variations such as circular, semi-circular types and side scrapers are reported (Özdoğan and Gatsov, 1998: 218). Notched tools and perforators are found also (Özdoğan and Gatsov, 1998: 220).

8.1.3 Coastal Fikirtepe Culture

The collection of tools indicate a rich variety of bullet cores, micro blades and scrapers (Özdoğan, 1999b: 215). On the other hand, tools from Ağaçlı group and the Coastal Fikirtepe culture can be linked to each other in terms of the use of prismatic cores (Gatsov and Özdoğan, 1994: 112-113 figures 1-2), round end scrapers (Gatsov and Özdoğan, 1994: 114 figure 3/2, 115 figure 4/9), perforators (Gatsov and Özdoğan, 1994: 118 figure 7/11), end scrapers (Gatsov and Özdoğan, 1994: 117 figure 6/8) from Ağaçlı and the coastal Fikirtepe repertoire (Özdoğan, 1999b: 173 figure 4). On the other hand, it is almost impossible to find a similarity between Çalca group and the coastal Fikirtepe culture.

Suberde can be linked to Çalca-Keçiçayırı-Kalkanlı group in terms of lithics (Özdoğan, 1999b: 212). Keçiçayırı gives evidence for pressure flaking also, which recalls Çatal Höyük –east-.

8.2 BONE TOOLS AND OBJECTS (Figures 54-55- 56)

Bone tools have been used to draw comparisons between the neolithic sites in the study area and sites in the Balkans. These comparisons are briefly discussed here.

Commonly found tools are awls and polishers, whereas the bone spoons are the most widely spread objects within the research area.

Awls have been shaped out of a straight piece of bone. The working end of the tool has a sharp point and used for making holes or piercing. The polishers are straight pieces of bones, which are used to scrub surfaces of pottery or other materials in order to straighten the surface.

The bone awl from Çatal Höyük -east- is reported to be a level VI find (Mellaart, 1964: 99 figure 42/6). Awls from Musular are reported also (Özbaşaran, 1999: 149 figure 12). Similar examples are found in Pendik (Özdoğan, 1999b: 215 figure 24). Another example is from Ilıpınar phase X (Marinelli, 1995: 136 figure 1). Çatal Höyük –east- polishers are mostly found in level II (Mellaart, 1964: 99 figure 42/ 8-9). These have close parallels from Pendik and also Fikirtepe (Özdoğan, 1999b: 216 figure 24). Kuruçay awls form

another parallel at this stage (Duru, 1994b: 65 plate 213).

A spoon from Çatal Höyük –east- Level II (Mellaart, 1964: 101) may be one of the earliest examples of this group. A spoon without the handle is reported from Musular (the context has not been given), which has three vertical grooves (Özbaşaran, 1999: 149 figure 10). A level VI spatula is similar to Pendik- Fikirtepe (Özdoğan, 1999b: 215 figure 19) and Ilıpınar “Post Wall” (phase X-IX) (Roodenberg, 1999: 200 figure 9) spoons. James Mellaart mentions spatulas from level VI in Hacılar (Mellaart, 1970: 160 plate 464). In Kuruçay an awl from level 12 (Duru, 1994b: 67 plate 213/1), fragments of spoons from level 13 (Duru, 1994b: 65 plates 208/1, 217/1) and level 12 (Duru, 1994b: 65 plate 208/2) are reported. Spoons, carved out of bone, from the Neolithic level at Pendik, Fikirtepe, Hoca Çeşme and Aşağıpınar are also known (Özdoğan, 1999b: 219 plate 19). Some of them were nicely carved. Close parallels are found at Ilıpınar phases IX-X (Marinelli, 1995: 127-128 figure 6).

The parallels of these Central and mostly Northwestern Anatolian bone tools and objects are found in the Southeast European settlements. In Achilleion, awls with striking similarities are reported from phases IV-II (Winn and Shimabuku, 1989: 259 figures 9.2/2-6, 9.3/1-4). The finds from Sesklo also present support in this case (Pyrgaki, 1987: 334 plate 118, 373-374 plate 169). Awls and points from the Neolithic levels in Karanovo have been mentioned (Hiller and Nikolov, 1988: 64). A recent study on bone tools, with a catalogue, shows how similar tools had been produced from levels I and II (Höglinger, 1997: 161-187 plates 72-79). Karanovo I spoons form the other group, which

links the late Neolithic Northwestern Anatolia – Turkish Thrace to the Balkans (Höglinger, 1997: 157-160 plate 71).

8.3 FOOTED MINIATURE VESSELS (Figure 57)

The “Shrine Phase” occupation at Höyücek provides evidence for a conical footed “table” (Duru, 1999: 178 figure 21), which looks slightly different from the well-known group of the Classical Fikirtepe phase. A rectangular miniature vessel is footed and the surface bears an incised checkerboard decoration (Özdoğan, 1999b: 213 figures 31, 34).

In Achilleion, these are referred to as “basins”, and triangular forms are found in all phases starting from Ib (Gimbutas, 1989: 205). The examples from phase IVa are well made and bear red painted designs on white ground (Gimbutas, 1989: 208 figure 7.66/2). Another example of these footed triangular vessels is known from Sesklo, which has been attributed to cultic use (Pyrgaki, 1987: 101 plate 35/2). Triangular forms dominate the so-called “Cult Tables” in Karanovo, which are found mostly from levels I and II (Gauss, 1997: 235-255). In both levels, the assemblage has a white colour. The incrustated decoration is mostly half ovals and checkerboard patterns in level I (Gauss, 1997: 253 plates 98/1, 99/1). The repertoire of incrustation gets richer in level II with the introduction of ovals and meanders (Gauss, 1997: 253-254 plates 101/1, 103/1, 4 and 104/1).

8.4 PINTADERAS (Figure 58)

The function of these clay or stone objects are thought to be tattooing the body, stamping decoration on pottery, textile or bread (von Wickede, 1990:6). Paint might have been applied to the sealing surface and then pressed but imprints have never been found (von Wickede, 1990: 58-59, 62).

The earliest find place is Çatal Höyük –east- levels IV-II (Mellaart, 1962: 56 plate VII/c; Mellaart, 1964: 96-97 figure 41). These clay made, round seals bear incised meanders, spirals and the like, which are attributed to textile dying. From Bademağacı, a seal with incised concentric circles and dots from EN 3 level has been reported (Duru, 1999: 181 figure 39). In the Marmara region and Turkish Thrace, the only evidence comes from Hoca Çeşme (Özdoğan, 1999b: 216 figure 25). The context of it has not been mentioned. The sealing surfaces are round and a handle is attached. These clay seals leave images of concentric circles and lozenges.

Two examples are found at Achilleion III b and IV b (Gimbutas, 1989: 212 figure 7.73 and plates 7.22-23). The earlier example is carved out of alabaster and has a handle on top of the sealing board. This seal bears the impression of labyrinth design. The later seal is badly worn. Clay made round surface has an round handle on top and leaves concentric or spiral design. In Sesklo, various seals with the same motives have been reported (Pyrgaki, 1987: 449-451 plates 212-213).

8.5 FIGURINES (Figure 59)

Figurines constitute the most popular type of small finds and are widely spread from Central Anatolia to Southeast Europe. Figurines show clear links between the Marmara-Turkish Thrace group and the Balkans. These art objects, which are mostly representations of the female sex, can be divided into two main groups. Çatal Höyük –east- and Hacilar form a single group (the Central Anatolian-Lake District group). In Hacilar, figurines are mostly from level VI, whereas in Çatal Höyük –east- they were excavated from the so-called “Shrines” of levels II, VI and VII. Clay or stone made and mostly female figurines are usually nude and depict fat and stylised bodies. Various positions such as lying, seated, enthroned, reclining and giving birth are known. Hands are usually shown on breasts or next to the body. Some facial features and especially the pubic triangle have been expressed by incisions. Some figurines bear traces of paint, which might have been used to give details of dressing. This group has been extensively published (Mellaart, 1962: 56 plate IX; Mellaart, 1963: 82-95 plate XVIII and figures 19-32; Mellaart, 1964: 73-81 plate XVI and figures 26-32 and Mellaart, 1970: 165-176 plates 472, 474-508). Höyücek “Shrine Phase” gives evidence of fat female representations in reclining and sitting poses with incised pubic triangles (Duru, 1999: 178 figures 22-23). An emphasis had been placed on the lower body. The Marmara example comes from the earliest settlement, Pendik. The natural representation of a standing female with emphasised lower body is a sharp difference from the Central Anatolian-Lake District group both in terms of depiction and posture (Özdoğan, 1999b: 216 figure 27). Thracian component of the so-called “Pendik Figurine” is found at Hoca Çeşme phase I (Özdoğan, 1999b: 219 figure 26/g). Ilıpınar figurines from the post wall village,

phases X-IX, give evidence of large torsoes of seated female figurines (Roodenberg, 1999: 200 figure 9.1). Unfortunately these are fragments and further discussion can not be done.

A Southeast European parallel is found at Achilleion II b (Gimbutas, 1989: 185-188 figure 7.26/1 and plate 7.4). This is a female representation with a plump body. The head was lost. Hands are on the chest and the pubic triangle is expressed by incised lines. The lower part of the body is more expressed than the upper body. In fact, as Papathanassopoulos notes (1996: 151, 153), the early Neolithic figurines from Thessaly and Macedonia have the characteristic feature of being shown with fat buttocks. Franchthi Cave early Neolithic figurines reflect this aspect very well (Talalay, 1993: 7 figure 1). Sesklo figurines can be summarised in two groups. The earlier examples are hardly more than schematic representations of female body (Pyrgaki, 1987: 430 plate 191). Middle Neolithic female figurines, on the contrary, give incised details of the face and especially the belly and the pubic triangle. Breasts are shown. As a rule, these represent fat women with an emphasis on the hips (Pyrgaki, 1987: 443 plate 209). The first examples of figurines from Karanovo, level I, are not different from idols (Hiptmair, 1997: 255-257 110/1-5). Karanovo II brings the co-appearance of developed idols, which have incised eye lines, nose and hair (Hiptmair, 1997 plate 110/5) and the first real figurines. Female sex is represented by the first real figurines with emphasised lower body (Hiptmair, 1997: 257-261 plates 111-113). Knees and the pubic triangle are expressed by incised lines.

8.6 CONSPECTUS

The further data obtained from this very summarised survey of stone tools, bone tools and objects, pintaderas and footed miniature vessels supports the chronological and material cultural equations in the previous chapter.

Stone tools of Ağaçlı group might indicate that a local Epi-Palaeolithic population in the Marmara region have contributed to the Neolithisation of this region. Their possible interactions with Central Anatolia and the Lake District are clearly illustrated by Çalca-Musluçeşme-Keçiçayırı group.

Apart from bone tools, pintaderas, footed miniature vessels, figurines especially, further emphasise the diversity in the material cultures of the Central Anatolian-Lake District group and the Marmara-Turkish Thrace-Balkans-Southeastern Europe group.

CHAPTER IX

CONCLUSION

The body of data, which has been discussed in this work clearly shows the presence of three separate groups in the area of research. Namely, these groups are Central Anatolian group, the Lake District group and the Marmara-Turkish Thrace group.

The tradition in architecture clearly supports this grouping. The clustered insula planning of the aceramic Neolithic in Central Anatolia, ie. Aşıklı Höyük, with flat roofs as circulation areas, painted floors and standardised interior furnishing continue to be used, with further elaboration, in the ceramic Neolithic settlements such as Çatal Höyük –east- and Erbaba. On the other hand the Lake District sites prefer free standing structures, which are built by light materials. In the later part of the Neolithic the use of mud brick and stone came into the use. Entrances are located at long walls and usually an oven is located opposite the entrance. Floor painting is observed in some constructions at Hacilar, which can be special purpose structures. The Lake District tradition of architecture can be linked to Yümüktepe in terms of use of stone foundations for stronger walls. The striking difference in the manner of construction in the Marmara region is first seen at Pendik and Fikirtepe. These settlements revealed semi-sunken pit dwellings with light (wooden) superstructures, which recall tents. The Epi-Palaeolithic Ağaçalı might have produced similar examples if excavated. The inland settlement Ilıpınar gives evidence for free standing

rectangular structures, which are built by posts and mud. This might be interpreted as a similarity with the Balkans. Hoca çeşme in Turkish Thrace shows a parallel tradition to Pendik and Fikirtepe in terms of the use of semi-sunken habitation areas, the huts. This tradition of free standing houses seems to be shared by all the coastal sites from Mersin to Bademağacı to the Marmara sites. Rectangular dwellings appear only towards the end of the Neolithic, at Aşağıpınar.

The ceramic evidence further supports this grouping of the Neolithic complexes. The early Neolithic pottery, all hand made, contains different temper materials in Central Anatolia, the Lake District and the Marmara. Simple shapes are preferred in general but handles vary. The difference between the ceramic tradition is clearer in terms of decoration. Red on white painted linear decoration begins in Central Anatolia-Lake District, which indicates a closer tradition of ceramic production than the architecture. On the other hand incision and excision are used in the Marmara. The footed miniature vessels from Pendik are good indicators of parallels with the Balkans. The middle Neolithic pottery indicates increasing divergence. Central Anatolia-Lake District prefers different shapes than the Marmara-Turkish Thrace as well as the bases and handles. Painting in the first group and impressed decoration in the second are observed.

The increasing divergence between these groups are illustrated at best by the late Neolithic shapes. Painted decoration develops in Central Anatolia-Lake District whereas incision, excision and pinching forms the basis of decoration in the Marmara-Turkish Thrace group.

The subsistence patterns in these groups are different also. The specialised hunting and gathering of the aceramic Neolithic are replaced by cultivation in Central Anatolia at the beginning of the ceramic Neolithic. The ceramic Neolithic subsistence in Central Anatolia-Lake District group shows both cultivation and herding of domesticated species. On the other hand, the economy of the coastal settlements in the Marmara and Turkish Thrace group shows heavy reliance on aquatic resources, which might have been a long rooted tradition, since the Epi-Palaeolithic. The occupation of the inland Marmara settlement Ilıpınar begins with fully domesticated sheep and goat in Ilıpınar X. Immediately after this level, in Ilıpınar IX a sudden shift to domesticated pig and cattle is observed. The presence of sheep and goat may link the origins of this settlement to Central Anatolia-Lake District group.

The examination of bone tools and objects indicate that although there are similar types from both groups, especially spoons mark the difference between Central Anatolian-Lake District group and the Marmara-Turkish Thrace group. It is possible to compare latter to the Neolithic cultures in the Balkans. Footed miniature vessels, which are almost non-existent in the inland group (except for a distant example from Höyücek “Shrine Phase”) strengthens this statement. The closest parallels to these objects are found in Achilleio, Sesklo and Karanovo. The so-called “Pintadera” is another indicator for the difference between the Marmara-Turkish Thrace group and Central Anatolia-Lake District group. The evidence clearly indicates similarities with southeast Europe and therefore the marmara-Turkish Thrace group might be located with the Neolithic cultures in the Balkans and the mainland Greece. The figurines may form a

convicting set of evidence. Central Anatolian-Lake District group clearly prefers a different concept of illustration than the figurines in the Marmara-Turkish Thrace group. The latter may be easily linked to the Balkan and the mainland Greek examples.

The chronological evaluation of the material cultural remains readily shows a gradual development for each area. The aceramic cultures in Central Anatolia can be used to explain the roots of developments together with certain level of influence on the Lake District from Yümüktepe for the earlier part. A similar case is seen in the Marmara. In fact an Epi-Palaeolithic tradition can be traced back in this area, the Ağaçlı group. It is possible that aceramic Neolithic sites in the Marmara region existed as the Çalca group and that those might be linked to an influence from Central Anatolia-Lake District group. This relation can be established with the help of lithics.

The appearance and the development of Neolithisation in the Marmara-Turkish Thrace is certainly a local development with some outer contact (Central Anatolia and the Lake District) at the beginning of the process. The presence of the Epi-Palaeolithic Ağaçlı group on the coast of Black Sea is a support for this statement. Although the evidence has not been found yet, it is highly possible that the deep river valleys and plains in the Sea of Marmara and the Aegean, which are now submerged after sea level changes, were settled by similar sites as the Ağaçlı group. The local aceramic Neolithic occupation within that area is known from the Çalca group. This should be the time that long distance contacts with Central Anatolia and the Lake District had been established. The main

reason for this can be obsidian trade but also the exchange of other commodities and ideas, especially are inevitable. Such relations between Çalca group and Suberde are illustrated by the lithics. Keçiçayırı, from this group, has been linked to Çatal Höyük –east- in terms of the use of pressure flaking. In the course of time, the Neolithic settlements on the coast such as Pendik and Fikirtepe, on river deltas like Hoca Çeşme appear. The ceramic Neolithic developments must be seen as local elaborations of the changes that took place in the preceding era. The population in these settlements created the local Neolithic assemblage of architecture, pottery, tools, subsistence and the like. Therefore it is possible to assume the existence of “Local Neolithic Complexes” in the Marmara-Turkish Thrace group. These settlements might have kept long distance relations, which had been established by their ancestors but the material cultural remains illustrate closer links to the Balkans and the mainland Greece.

The present status of research in the field must clearly give more weight to the exploration of the coastal band from the Marmara to the Mediterranean. Since the global warming in the Holocene brought an increase in sea levels, there might be settlements from the Epi-Palaeolithic in the submerged basins of the Sea of Marmara and the Aegean. The investigation of the coastal band will also allow a detailed evaluation of the issue of contacts along the coasts. Apart from the initiation of excavations on the coasts of the Aegean, deep-sea cores must be taken in order to clarify the climatic and environmental details of this period. Projects should aim both at increasing our knowledge on the Neolithic of Northwest Anatolia and at defining the possible ancestors and their relations.

BIBLIOGRAPHY

BIBLIOGRAPHY

Allen, Harriet. 1990. "A Postglacial Record from the Kopais Basin, Greece." In Sytze Bottema, Gertie Entjes-Nieborg and Willem van Zeist, eds., *Man's Role in the Shaping of the Eastern Mediterranean Landscape*. Rotterdam-Balkema, 173-181.

Alley, R. B., et al. 1993. "Abrupt Increase in Greenland Snow Accumulation at the end of the Younger Dryas Event," *Nature*. 362: 527-529.

Aram-Stern, Eva. 1996. *Die Ägäische Frühzeit*. (The Early Periods in the Aegean) Wien: Verlag der Österreichischen Akademie der Wissenschaften.

Aytuğ, Burhan and Ertuğrul Görcelioğlu. 1996. "Archaeobotany in Anatolia." In Şahende Demirci and et al., ed.s, *Archaeometry' 94. The Proceedings of the 29th International Symposium on Archaeometry*. Ankara, 393-400.

Bailey, Douglas W. and Ivan Panayotov (ed.s). 1995. *Prehistoric Bulgaria*. Monographs in World Archaeology No:22 Prehistory Press.

Balkan-Atlı, Nur, et al. 1999. "Obsidian Sources, Workshops and Trade in Central Anatolia." In Mehmet Özdoğan and Nezi̇h Bařgelen, eds, *Neolithic in Turkey*. Istanbul: Arkeoloji ve Sanat Yayınları, 133-145

Bar-Yosef, Ofer and Richard H. Meadow. 1995. "The Origins of Agriculture in the Near East." In T. Douglas Price and Anne Birgitte Gebauer, eds., *The Last Hunters, First Farmers: New Perspectives on the Prehistoric Transition to Agriculture*. Santa Fe, 39-94.

Bass, Bryon. 1998. "Early Neolithic Offshore Accounts: Remote Islands, Maritime Exploitations, and the Trans-Adriatic Cultural Network." *Journal of Mediterranean Archaeology*. 11(2): 165-190.

Behre, Karl-Ernst 1990. "Some Reflections on Anthropogenic Indicators and the Record of Prehistoric Occupation Phases in Pollen Diagrams from the Near East." In Sytze Bottema, Gertie Entje-Nieborg, and Willem van Zeist, eds., *Man's Role in the Shaping of the Eastern Mediterranean Landscape*. Rotterdam-Balkema, 219-229.

Bıçakçı, Erhan. 1998. "An Essay on the Chronology of Pre-Pottery Neolithic of the Eastern Taurus Region (Turkey) with the Building Remains and C-14 Dates." In Güven Arsebük, Machteld J. Mellink and Wulf Schirmer, ed.s, *Light on Top of the Black Hill. Studies Presented to Halet Çambel*. Istanbul: 137-150.

Binford, Louis R. 1983. *In Pursuit of the Past*. Thames & Hudson: London.

Bittel, Kurt. 1960. "Fikirtepe Kazısı," Paper presented at the 5th International Congress of Turkish History.

Ankara: Türk Tarih Kurumu 9 (5): 29-36.

----- 1971. "Bemerkungen über die Prähistorische Ansiedlung auf dem Fikirtepe bei Kadıköy,"
(Comments on the Prehistoric Settlement from Fikirtepe near Kadıköy).
Istanbul Mitteilungen. 19-20: 1-19.

Bordaz, Jacques. 1964. "First Campaign, Summer 1964,"
Anatolian Research Project, Suberde Excavations. 64 (2).

Bordaz, Jacques. 1965. "Suberde Excavations 1964,"
Anatolian Studies. 15: 30-32.

----- 1969. "The Suberde Excavations, Southwestern Turkey: An Interim Report,"
Türk Arkeoloji Dergisi. 17 (2): 43-71.

----- 1970. "A Preliminary Report of the 1969 Excavations at Erbaba, A Neolithic Site Near Beyşehir, Turkey,"
Türk Arkeoloji Dergisi. 18 (2): 59-64.

----- 1973. "Current Research in the Neolithic of South-Central Turkey. Suberde, Erbaba and their Chronological Implications,"
American Journal of Archaeology. 77: 282-288.

Bordaz, Jacques and Louis A. Bordaz. 1976.
"Erbaba Excavations, 1974,"
Türk Arkeoloji Dergisi. 23 (2): 39-43.

----- 1982. "Erbaba: The 1977 and 1978 Season in Perspective,"
Türk Arkeoloji Dergisi. 26 (1): 85-92.

Bottema, Sytze. 1979. "Pollen Analytical Investigations in Thessaly (Greece)," *Palaeohistoria*. 21: 19-40.

Bottema, Sytze and Henk Woldring, 1984. "Late Quaternary Vegetation and Climate of Southwestern Turkey. Part II." *Palaeohistoria* 26: 123-149.

Bozilova, Elizabeta and M. Filipova. 1986. "Palaeoecological Environment in Northeastern Black Sea Area During Neolithic, Eneolithic and Bronze Periods." *Studia Praehistorica* 8: 158-165.

Bozilova, Elizabeta and Spassimir B. Tonkov. 1990. "The Impact of Man on the Natural Vegetation in Bulgaria from the Neolithic to the Middle Ages." In Sytze Bottema, Gritje Entje-Nieborg, and Willem van Zeist, eds., *Man's Role in the Shaping of the Eastern Mediterranean Landscape*. Rotterdam-Balkema, 327-332.

Braidwood, Robert, J. and Bruce Howe. 1972. *Prehistoric Investigations in Iraqi Kurdistan*. Chicago: University of Chicago Press.

Bryson, Reid A. and Robert U. Bryson. 1999. "Holocene Climates of Anatolia as Simulated with Archaeoclimatic Models," *Türkiye Bilimler Akademisi- Arkeoloji Dergisi*. 2: 1-14.

Buitenhuis, Hylke. 1994. "Note on Archaeozoological Research Around the Sea of Marmara," *Anatolica*. 20: 141-144.

-----, 1995. "The Faunal Remains." In Jacob J. Roodenberg, ed., *The Ilipinar Excavations I, Five Seasons of Fieldwork in NW Anatolia, 1987-91*.
Leiden, 151-156.

-----, 1996. "Archaeozoology of the Holocene in Anatolia: A Review." In Şahinde Demirci, Ay Melek Özer and Geoffrey D. Summers, eds., *Archaeometry 94. The Proceedings of the 29th International Symposium on Archaeometry*.
Ankara, 411-421.

Childe, V. Gordon. 1934. *New Light on the Most Ancient East: The Oriental Prelude to European Prehistory*.
London: Kegan Paul.

-----, 1936. *Man Makes Himself*.
London: Watts.

Clark, Grahame. 1980. *Mesolithic Prelude*.
Edinburgh University Press.

Conolly, James. 1999. "Technical Strategies and Technical Change at Neolithic Çatalhöyük, Turkey."
Antiquity. 73: 791-800.

Dennell, Robin. 1985. *European Economic Prehistory: A New Approach*.
Academic Press.

Duru, Refik. 1985. "Kuruçay Höyüğü Kazıları 1984,"
Kazı Sonuçları Toplantısı. 7: 23-25.

-----, 1989a. "Kuruçay Höyüğü Kazıları 1988,"

Kazı Sonuçları Toplantısı. 11: 81-90.

-----. 1989b. "Were the Earliest Cultures at Hacilar Really Aceramic?".
In Kutlu Emre et al. ed.s, *Anatolian and the Ancient Near East. Studies
in Honour of Tahsin Özgüç*.
Ankara: Türk Tarih Kurumu, 99-105.

-----. 1991. "Höyücek Kazıları 1990,"
Kazı Sonuçları Toplantısı. 13 (1): 155-161.

-----. 1992. "Höyücek Kazıları 1991,"
Kazı Sonuçları Toplantısı. 14 (1): 147-153.

-----. 1994a. "Bademağacı Kazıları 1993,"
Kazı Sonuçları Toplantısı. 16 (1): 69-77.

-----. 1994b. *Kuruçay Höyük I*.
Ankara: Türk Tarih Kurumu.

-----. 1995. "Bademağacı Kazıları 1994,"
Kazı Sonuçları Toplantısı. 17 (1): 87-93.

-----. 1996. "Bademağacı Kazıları 1995,"
Kazı Sonuçları Toplantısı. 18 (1): 43-48.

-----. 1997. "Bademağacı Kazıları 1996,"
Kazı Sonuçları Toplantısı. 19 (1): 113-121.

-----. 1999. "The Neolithic of the Lake District." In Mehmet Özdoğan
and Nezih Başgelen, eds.,
Neolithic in Turkey.
Istanbul: Arkeoloji ve Sanat Yayınları, 165-191.

Efe, Turan. 1995. "Orman Fidanlığı'nda 1992-1994 Yılları Arasında Yapılan Kurtarma Kazıları."
Kazı Sonuçları Toplantısı. 17 (1) : 95-107.

-----, 2000. "Recent Investigation in Inland Northwestern Anatolia and Its Contribution to Early Balkan-Anatolian Connections." In Stefan Hiller and Vassil Nikolov, ed.s, *Karanovo Band III. Beiträge zum Neolithikum in Südost Europa*.
(Karanovo Volume III. Contributions to the Neolithic in Southeast Europe).
Wien: Phoibos Verlag, 171-183.

Erzen, Afif. 1993. "1991 Yılı Enez (Ainos) Kazıları,"
Kazı Sonuçları Toplantısı. 14: 205-221.

-----, 1995. "1992 Yılı Enez Kazısı,"
Kazı Sonuçları Toplantısı. 15 (2): 455-473.

Esin, Ufuk. 1991a. "Aşıklı Höyük (Kızılkaya-Aksaray) Kurtarma Kazısı 1989,"
Türk Arkeoloji Dergisi. 29: 1-34.

-----, 1991b. "1990 Aşıklı Höyük Kazısı (Kızılkaya Köyü-Aksaray İli),"
Kazı Sonuçları Toplantısı. 13 (1): 131-153.

-----, 1992. "1991 Aşıklı Höyük Kurtarma Kazısı,"
Kazı Sonuçları Toplantısı. 14 (1): 131-146.

-----, 1993. "1992 Aşıklı Höyük (Kızılkaya -Aksaray) Kurtarma Kazısı,"
Kazı Sonuçları Toplantısı. 15 (1): 77-95.

-----, 1998. "The Aceramic Site of Aşıklı and its Ecological Conditions Based on its Floral and Faunal Remains,"

Türkiye Bilimler Akademisi-Arkeoloji Dergisi. 1: 95-104.

-----, 1999. "Aşıklı." In Mehmet Özdoğan and Nezih Başgelen, eds., *Neolithic in Turkey*.

Istanbul: Arkeoloji ve Sanat Yayınları, 115-132.

Esin, Ufuk, et al. 1991. "Salvage Excavations At The Pre-Pottery Site of Aşıklı Höyük in Central Anatolia,"

Anatolica. 17: 123-174.

Fagan, Brian M. 1991. *In the Beginning: An Introduction to Archaeology*. (7th edition).

Santa Barbara: Harper Collins Publishers.

Flannery, Kent. 1972. "The Origins of the Village as a Settlement Type in Mesoamerica and the Near East." In Peter Ucko, G. W. Dimbleby and Ryth Tringham, ed.s, *Man, Settlement and Urbanism*.

London: Duckworth, 23-53.

French, David. 1970. "Notes on Site Distribution in the Çumra Area," *Anatolian Studies*. 20: 4, 139-148.

Garstang, John. 1953. *Prehistoric Mersin. Yümüktepe in Southern Turkey*.

Oxford: The Clarendon Press.

Gates, Marie-Henriette. 1997. "Archaeology in Turkey," *American Journal of Archaeology*. 101: 240- 260.

Gatsov, Ivan and Mehmet Özdoğan. 1994. "Some Epi-Palaeolithic Sites from NW Turkey. Ağaçlı, Domalı and Gümüşdere,"

Anatolica. 29: 97-120.

Gauß, Walter. 1997. "Kulttische." (Cult Tables)

In Stefan Hiller and Vassil Nikolov, ed.s, *Karanovo: die Ausgrabungen im Südsektor 1984-1992*. (2 vols.)

(Karanovo: The Excavations in the Southern Sector 1984-1992).
Horn / Wien: Verlag Ferdinand Berger & Söhne,
235-255.

Gimbutas, Marija. 1989. "Figurines and Cult Equipment: Their Role in the Reconstruction of Neolithic Religion." In Marija Gimbutas, Shan Winn and Daniel Shimabuku, ed.s, *Achilleion. A Neolithic Settlement in Thessaly, Greece, 6400-5600 BC*.
Los Angeles: Institute of Archaeology University of California, 171-251.

Harmankaya, Savaş. 1983. "Pendik Kazısı 1981,"
Kazı Sonuçları Toplantısı. 4: 25-30.

Harmankaya, Savaş, Oğuz Tanındı and Mihriban Özbaşaran.
1997. *Türkiye Arkeolojik Yerleşimleri II. Cilt*.

Harris, David R. 1990. *Settling Down and Breaking Ground: Rethinking the Neolithic Revolution*.
London: Institute of Archaeology, University College.

----- . 1996. "The Origins and Spread of Agriculture and Pastoralism in Eurasia: An Overview." In David R. Harris, ed., *The Origins and Spread of Agriculture and Pastoralism in Eurasia*.
London: Institute of Archaeology, University College, 552-573.

Hastorf, Christine, A. 1998. "The Cultural Life of Early Domestic Plant Use," *Antiquity*. 72: 773-782.

Hiller, Stefan and Vassil Nikolov. 1988.
Tell Karanovo 1988.
Salzburg: Institut für Alte Geschichte und Altertumsforschung.

----- . 1989. *Tell Karanovo 1989*.

Salzburg: Institut für Klassische Archäologie

----- (ed.s). 1997. *Karanovo: die Ausgrabungen im Südsektor 1984-1992*. (2 vols.)
(Karanovo: The Excavations in Southern Sector: 1984-1992).
Horn / Wien: Verlag Ferdinand Berger & Söhne.

----- (ed.s). 2000. *Karanovo Band III. Beiträge zum Neolithikum in Südost Europa*.
(Karanovo Volume III. Contributions to the Neolithic in Southeast Europe).
Wien: Phoibos Verlag.

Hillman, Gordon. 1978, "On the Origins of Domestic Rye -Secale Cereale: The Finds from Aceramic Can Hasan III in Turkey," *Anatolian Studies*. 28: 157-174.

-----, 1996. "Late Pleistocene Changes in Wild Plant-Foods Available to Hunter-Gatherers of the Northern Fertile Crescent: Possible Preludes to Cereal Cultivation." In David R. Harris, ed., *The Origins and Spread of Agriculture and Pastoralism in Eurasia*. London, 159-203.

Hiptmair, Peter. 1997. "Neolithische Statuetten und Figürliche Darstellung." (The Neolithic Statuettes and Figural Representations).
In (ed.s). S. Hiller and V. Nikolov 1997. *Karanovo: die Ausgrabungen im Südsektor 1984-1992*. (2 vols.)
(Karanovo: The Excavations in the Southern Sector: 1984-1992).
Horn / Wien: Verlag Ferdinand Berger & Söhne, 271-285.

Hodder, Ian (ed). 1996. *On the Surface: Çatalhöyük 1993-95*.
Exeter: Mc Donald Institute for Archaeological Research Monographs,
British Institute of Archaeology at Ankara Monograph No: 22.

-----, 1999. "Renewed Work at Çatalhöyük." In Mehmet Özdoğan and Neziha Başgelen, eds., *Neolithic in Turkey*. Istanbul:Arkeoloji ve Sanat Yayınları, 157-164.

-----, 2000. "Newsletter."
[Http://catal.arch.cam.ac.uk](http://catal.arch.cam.ac.uk)

Höglinger, Peter. 1997. "Neolithisches Bein- und Geweihgerät." (The Neolithic Bone and Antler Tools). In S. Hiller and V. Nikolov, ed.s., *Karanovo Die Ausgrabungen im Südsektor 1984-1992*. (2. Vols.). (Karanovo: The Excavations in the Southern Sector: 1984-1992). Horn / Wien: Verlag Ferdinand Berger& Söhne, 157-197.

Imbrie, J. and K.P. Imbrie. 1986. "Ice Ages"
Cambridge:Harvard University Press.

Jahns, Susanne. 1990. "Preliminary Note on Human Influence and the History of Vegetation in Southern Dalmatia and Southern Greece." In Sytze Bottema, Gertie Entje Nieborg and Willem van Zeist, ed.s., *Man's Role in the Shaping of the Eastern Mediterranean Landscape*. Rotterdam-Balkema, 333-340.

Kayan, İlhan. 1996. "Geomorphological Outlines of Turkey." In Şahinde Demirci, Ay Melek Özer, and Geoffrey D. Summers, eds., *Archaeometry '94. The Proceedings of the 29th International Symposium on Archaeometry*. Ankara, 365-374.

Kenyon, Kathleen M. 1960a.
Excavations at Jericho.
London: British School of Archaeology in Jerusalem.

-----, 1960b. *Archaeology in the Holy Land*.
New York: Praeger.

Kuniholm, Peter and Maryanne Newton. 1996.
“Interim Dendrochronological Progress Report 1995/6.” In Ian Hodder,
ed., *On the Surface: Çatalhöyük 1993-95*. Exeter: McDonalds Institute
for Archaeological Research Monographs, British Institute of
Archaeology at Ankara Monograph No: 22 : 345-347.

Lambeck, Kurt. 1996. “Sea-Level Change and Shore-Line Evolution in
Aegean Greece since Upper Palaeolithic Time,”
Antiquity. 70: 588-611.

Marinelli, M. 1995. “The Bone Artifacts of Ilıpınar.” In Jacob J.
Roodenberg, ed., *The Ilıpınar Excavations I, Five Seasons of Fieldwork
in NW Anatolia, 1987-91*. Leiden, 121-142.

Matthews, Roger. 1997. “Çatal Höyük.” Speech Delivered at a Lecture
in Turkish-American Association. Ankara, May 8.

Mellaart, James. 1954. “Preliminary Report on a Survey of Pre-
Classical Remains in Southern Turkey,”
Anatolian Studies. 4: 175-240.

Mellaart, James. 1958. “Excavations at Hacilar. First Preliminary
Report,”
Anatolian Studies. 8: 127-156.

----- . 1959. “Archaeological Survey of the Konya Plain,”
Anatolian Studies. 9: 31-33.

----- . 1960. “Excavations at Hacilar, Third Preliminary Report, 1959,”
Anatolian Studies. 10: 83-104.

----- . 1961. “Excavations at Hacilar. Fourth Preliminary Report, 1960,”
Anatolian Studies. 11: 39-75.

----- 1962. "Excavations at Çatalhöyük, First Preliminary Report, 1961,"
Anatolian Studies. 12: 41-65.

----- 1963. "Excavations at Çatalhöyük, 1962,"
Anatolian Studies. 13: 43-103.

----- 1964. "Excavations at Çatalhöyük, Third Preliminary Report, 1963,"
Anatolian Studies. 14: 39-119.

----- 1966. "Excavations at Çatalhöyük, 1965, Fourth Preliminary Report,"
Anatolian Studies. 16: 165-191.

----- 1970. *Hacılar*. (2 vols.)
Edinburgh.

Moore, Andrew M.T. 1985. "Buqras." In Harvey Weiss, ed., *Ebla to Damascus*.
Washington D.C.: Smithsonian Institution, 60-62.

Moore, Andrew M. T. and Gordon Hillman. 1992. "The Pleistocene to Holocene Transition and Human Economy in Southwest Asia: The Impact of the Younger Dryas,"
American Antiquity. 57 (3): 482-494.

Nikolov, Vassil. 1997. "Die Neolithische Keramik."
(The Neolithic Ceramics). In Stefan Hiller and Vassil Nikolov, ed.s,
Karanovo. Die Ausgrabungen im Südsektor.
(Karanovo. The Excavations in the Southern Sector).
Horn/Wien: Verlag Ferdinand Berger&Söhne, 105-147.

Özbaşaran, Mihriban. 1999. "Musular: A General Assessment on a New Neolithic Site in Central Anatolia." In Mehmet Özdoğan and Nezih Başgelen, eds., *Neolithic in Turkey*. Istanbul:Arkeoloji ve Sanat Yayınları, 147-155.

Özdoğan, Mehmet. 1982. "Doğu Marmara ve Trakya Araştırmaları," *Türk Arkeoloji Dergisi*. 26: 37-49.

-----, 1983. "Pendik: A Neolithic Site of the Fikirtepe Culture in the Marmara Region." In Rainer Michael Boehmer- Harald Hauptmann, eds., *Beiträge zur Altertumskunde Kleinasiens, Festschrift für Kurt Bittel*. Mainz am Rhein, 401-411.

-----, 1986. "Marmara Bölgesinde Kültür Tarihi ile İlgili Bazı Sorunlar Ve Bunların Çözümüne Jeomorfoloji Araştırmalarının Katkısı," *Arkeometri Sonuçları Toplantısı*. 1: 139-162.

-----, 1991. "1989 Yılı Marmara Bölgesi Araştırmaları ve Töptepe Kazısı," *Kazı Sonuçları Toplantısı*. 12 (1): 345-375.

-----, 1992. "Pre-Bronze Age Sequence of Central Anatolia: An Alternative Approach." In Ursula Magen and Mahmoud Rashad, ed., *Vom Halys zum Euphrat*. Münster: Ugarit Verlag, 1-10.

-----, 1993. "Vinča and Anatolia: A New Look at a very Old Problem," *Anatolica*. 19: 173-193.

-----, 1995. "Neolithisation of Europe: A View from Anatolia,"

Porocilo o Raziskovanju Paleolitika, Neolitika in eneolitika v Sloveniji.
22: 25-61.

-----, 1997. "The Beginnings of Neolithic Economies in Southeastern Europe: An Anatolian Perspective,"
Journal of European Archaeology. 5.2 (1): 1-33.

-----, 1998a. "Anatolia From the Last Glacial Maximum to the Holocene Climatic Optimum: Cultural Formations and the Impact of the Environmental Setting,"
Paléorient. 23 (2): 25-38.

-----, 1998b. "Hoca Çeşme An Early Neolithic Anatolian Colony in the Balkans?" In Peter Anreiter, et al, eds., *Man and The Animal World. Studies in Archaeozoology, Archaeology, Anthropology and Palaeolinguistics in Memoriam Sándor Bökönyi*. Budapest, 435-451.

-----, 1998c. "Recent Excavations in Eastern Thrace and Contact Between the Prehistoric Cultures of Anatolia and the Balkans,"
Türkiye Bilimler Akademisi- Arkeoloji Dergisi.
1: 63-94.

-----, 1999a. "Preface." In Mehmet Özdoğan and Nezh Başgelen, eds., *Neolithic in Turkey*.
Istanbul:Arkeoloji ve Sanat Yayınları, 9-12.

-----, 1999b. "Northwestern Turkey: Neolithic Cultures in Between the Balkans and Anatolia." In Mehmet Özdoğan and Nezh Başgelen, eds., *Neolithic in Turkey*.
Istanbul: Arkeoloji ve Sanat Yayınları, 203-224.

-----, 1999c. "Concluding Remarks." In Mehmet Özdoğan and Nezh Başgelen, eds., *Neolithic in Turkey*.
Istanbul:Arkeoloji ve Sanat Yayınları, 225-236.

-----, 2000. "The Appearance of Early Neolithic Cultures in Northwestern Turkey. Some Problems." In Stefan Hiller and Vassil Nikolov, ed.s, *Karanovo Band III. Beiträge zum Neolithikum in Südost Europa*.
(Karanovo Volume III. Contributions to the Neolithic in Southeast Europe).
Wien: Phoibos Verlag, 165-170.

Özdoğan, Mehmet and Nezih Başgelen (ed.s). 1999. *Neolithic in Turkey*. (2 Vols).
Istanbul: Arkeoloji ve Sanat Yayınları.

Özdoğan, Mehmet, Hermann Parzinger and Necmi Karul. 1998.
"Kırklareli Höyüğü 1997 Yılı Kazısı."
Kazı Sonuçları Toplantısı. 20 (1): 139-164.

Özdoğan, Mehmet and Ivan Gatsov. 1998. "The Aceramic Neolithic Period in Western Turkey and in the Aegean,"
Anatolica. 24: 209-232.

Papathanasaopoulos, George, A. (ed.) 1996.
The Neolithic Culture in Greece.
Athens : N. P. Goulandris Foundation.

Parzinger, Hermann. 1993. *Studien zur Chronologie und Kulturgeschichte der Jungstein- Kupfer- und Frühbronzezeit zwischen den Karpaten und Mittlerem Taurus*. (2 Vols.)
(The Study of Chronology and Culture History of the New Stone, Copper and Early Bronze Ages between the Carpathians and Taurus).
Mainz.

Pasinli, Alpay, and et al. 1993. "Pendik Kurtarma Kazısı,"
Müze Kurtarma Kazıları Semineri. 4:147-163.

Payne, Sebastian. 1985. "Animal Bones From Aşıklı Höyük,"
Anatolian Studies. 35: 109-122.

Perkins, Jr. D. 1969. "Fauna of Çatalhöyük. Evidence of Early Cattle Domestication in Anatolia,"
Science. 164: 177-179.

Pumpelly, R. (ed). 1908.
Explorations in Turkestan. (2 vol.s)
Washington: Carnegie Institute.

Pyrgaki, Marie. 1987. "L'Habitat au Cours de la Préhistoire (de la Période Précéramique à L'Âge du Bronze) D'après les Trouvailles Effectuées à Sesklo et à Dimini, en Thessalie." (2. Vols.)
(The Habitat in the Course of the Prehistory (from the Aceramic Neolithic to the Bronze Age) According to the finds in Sesklo and Dimini in Thessaly)
Published Ph.D. Thesis.
Athens: National University of Athens Faculty of Letters.

Redman, Charles. 1978. *The Rise of Civilisation*.
San Francisco.

Renfrew, Colin 1979.
Problems in European Prehistory.
Edinburgh University Press.

Roberts, Neil. 1990. "Human Induced Landscape Change in South and Southwest Turkey During Later Holocene." In Sytze Bottema, Gertie Entjes-Nieborg, and Willem van Zeist, eds., *Man's Role in the Shaping of the Eastern Mediterranean Landscape*.
Rotterdam-Balkema, 53-67.

Roberts, Neil and H. E. Wright. 1993. "Vegetational, Lake Level, and Climatic History of the Near East and Southwest Asia." In H. E. Wright, and et al., eds., *Global Climates Since the Last Glacial Maximum*.
University of Minnesota Press, 194-220.

Roodenberg, Jacob J. 1993 "Ilipınar X to VI: Links and Chronology,"

Anatolica. 19: 251-267.

-----, 1995a. "Stratigraphy and Architecture." In Jacob J. Roodenberg, ed., *The Ilıpınar Excavations I, Five Seasons of Fieldwork in NW Anatolia, 1987-91*. Leiden, 35-76.

-----, 1995b. "Chronologies and Conclusion." In Jacob J. Roodenberg, ed., *The Ilıpınar Excavations I, Five Seasons of Fieldwork in NW Anatolia, 1987-91*. Leiden, 167-174.

-----, 1999. "Ilıpınar, An Early Farming Village in the İznik Lake Basin." In Mehmet Özdoğan and Neziha Başgelen, eds., *Neolithic in Turkey*. Istanbul: Arkeoloji ve Sanat Yayınları, 193-202.

-----, 2000a. "Development in Prehistoric Ilıpınar." Speech Delivered at a Lecture in the Department of Archaeology and Art History of Bilkent University. Ankara, March 22.

-----, 2000b. "Early Village Development at Ilıpınar, NW Anatolia." In Stefan Hiller and Vassil Nikolov, eds., *Karanovo Band III. Beiträge zum Neolithikum in Südost Europa*. (Karanovo Volume III. Contributions to the Neolithic of the Southeast Europe). Wien: Phoibos Verlag, 185-191.

Roodenberg, Jacob J., Laurens Thissen and Hylke Buitenhuis. 1990. "Preliminary Report On the Archaeological Investigation At Ilıpınar In NW Anatolia," *Anatolica*. 16: 61-141.

Sherratt, Andrew. 1996. "Plate Tectonics and Imaginary Prehistories: Structure and Contingency in Agricultural Origins." In David R. Harris, ed., *The Origins and Spread of Agriculture and Pastoralism in Eurasia*. London: Institute of Archaeology, University College, 130-140.

-----. 1997. "Climatic Cycles and Behavioural Revolutions: The Emergence of Modern Humans and the Beginning of Farming," *Antiquity*. Volume: 71 No:272: 271-287.

Silistreli, Uğur. 1984. "Pınarbaşı ve Köşk Höyükleri," *Kazı Sonuçları Toplantısı*. 5: 81-85.

-----. 1985. "Köşk Höyüğü," *Kazı Sonuçları Toplantısı*. 6: 31-36.

-----. 1986. "1984 Köşk Höyüğü," *Kazı Sonuçları Toplantısı*. 7: 129-141.

-----. 1989. "1987 Köşk Höyük," *Kazı Sonuçları Toplantısı*. 10 (1): 61-66.

-----. 1990. "1988 Köşk Höyük Kazısı," *Kazı Sonuçları Toplantısı*. 11 (1): 91-97.

Steadman, Sharon R. 1995. "Prehistoric Interregional Interaction in Anatolia and the Balkans: An Overview." *Bulletin of American School of Oriental Research*. 299: 13-29.

Talalay, Lauren, E. 1993. *Deities, Dolls and Devices Neolithic Figurines from Franchthi Cave, Greece*.
Bloomington & Indianapolis: Indiana University Press.

Thissen, Laurens C. 1995. "A Synopsis of Pottery Shapes from Phases X to VI." In Jacob J. Roodenberg, ed., *The Ilipinar Excavations I, Five Seasons of Fieldwork in NW Anatolia, 1987-91*.
Leiden, 109-119.

-----, 1997. "Greece and Western Turkey: Trans-Aegean relations during the Early Neolithic." Paper presented at the International Symposium of the Aegean in the Neolithic, Chalcolithic and Early Bronze Age.
Urla, İzmir, 13-19th October.

-----, 2000. "A Chronological Framework for the Neolithisation of the Southern Balkans." In Stefan Hiller and Vassil Nikolov, ed.s, *Karanovo Band III. Beiträge zum Neolithikum in Südost Europa*. (Karanovo Volume III. Contributions to the Neolithic in the Southeast Europe).
Wien: Phoibos Verlag, 193- 212.

Thomas, Julian. 1991. *Rethinking the Neolithic*.
New York: Cambridge University Press.

Trigger, Bruce G. 1995.
A History of Archaeological Thought.
Cambridge University Press.

van Andel, Tjeerd H. and Curtis N. Runnels. 1988. "An Essay on the 'Emergence of Civilisation' in the Aegean World,"
Antiquity 62: 234-247.

-----, 1995. "The Earliest Farmers in Europe."
Antiquity. 69: 481-500.

van Andel, Tjeerd H. and Eberhard Zangger, 1990. "Landscape Stability and Destabilisation in the Prehistory of Greece." In Sytze Bottema, Gertie Entjes-Nieborg and Willem van Zeist, eds., *Man's Role in the Shaping of the Eastern Mediterranean Landscape*.
Rotterdam-Balkema, 139-157.

van As, A. and M.H. Wijnen. 1995. "The Neolithic and Chalcolithic Pottery from Ilımar's Phases X-V. A Technological Study." In Jacob J. Roodenberg, ed., *The Ilımar Excavations I, Five Seasons of Fieldwork in NW Anatolia, 1987-91*. Leiden, 77-107.

van Zeist, Willem, Henk Woldring, and D. Stapert. 1975. "Late Quarternary Vegetation and Climate of Southwestern Turkey," *Palaeohistoria*. 17: 55-143.

van Zeist, Willem and Sytze Bottema. 1991. *Late Quarternary Vegetation of the Near East*. Wiesbaden.

van Zeist, Willem and Gerrit Jan de Roller. 1995. "Plant Remains From Aşıklı Höyük, A Pre-Pottery Neolithic Site in Central Anatolia," *Vegetation History and Archaeobotany*. 4: 179-185.

van Zeist, Willem and Hylke Buitenhuis. 1983. "A Palaeobotanical Study of Neolithic Er Baba, Turkey," *Anatolica*. 10: 47-89.

von Wickede, Alwo. 1990. *Prähistorische Stempelglyptik in Vorderasien*. (The Prehistoric Stampglyptics in the Near East) Munich: Profil Verlag.

Watkins, Trevor. 1996. "Excavations at Pınarbaşı: The Early Stages." In Ian Hodder, ed., *On the Surface: Çatalhöyük 1993-95*. Exeter: McDonald Institute for Archaeological Research Monographs, British Institute of Archaeology at Ankara Monograph No: 22 : 47-57.

Watson, Patty-Jo. 1995. "Explaining the Transition to Agriculture." In T. Douglas Price and Anne Birgitte Gebauer, eds., *The Last Hunters First Farmers: New Perspectives on the Prehistoric Transition to Agriculture*. Santa Fe, 21-37.

Weiss, Harvey (ed). 1985. *Ebla to Damascus*.
Washington D.C. : Smithsonian Institution.

Winn, Shan and Daniel Shimabuku. 1989. "Pottery."
In Marija Gimbutas, Shan Winn and Daniel Shimabuku, ed.s,
Achilleion. A Neolithic Settlement in Thessaly, Greece, 6400-5600 BC.
Los Angeles: Institute of Archaeology University of California, 75-165.

-----, 1989."Bone and Ground Stone Tools." In Marija Gimbutas, Shan
Winn and Daniel Shimabuku, ed.s, *Achilleion. A Neolithic Settlement in
Thessaly, Greece, 6400-5600 BC*.
Los Angeles: Institute of Archaeology University of California, 259-
273.

Wolle, Anja. 1999. "Newsletter."
[Http: //catal.arch.cam.ac.uk](http://catal.arch.cam.ac.uk)

Wright, H. E. Jr. 1993. "Introduction." In H. E. Wright, and et al., eds.,
Global Climates Since the Last Glacial Maximum.
University of Minnesota Press, 1-11.

FIGURES

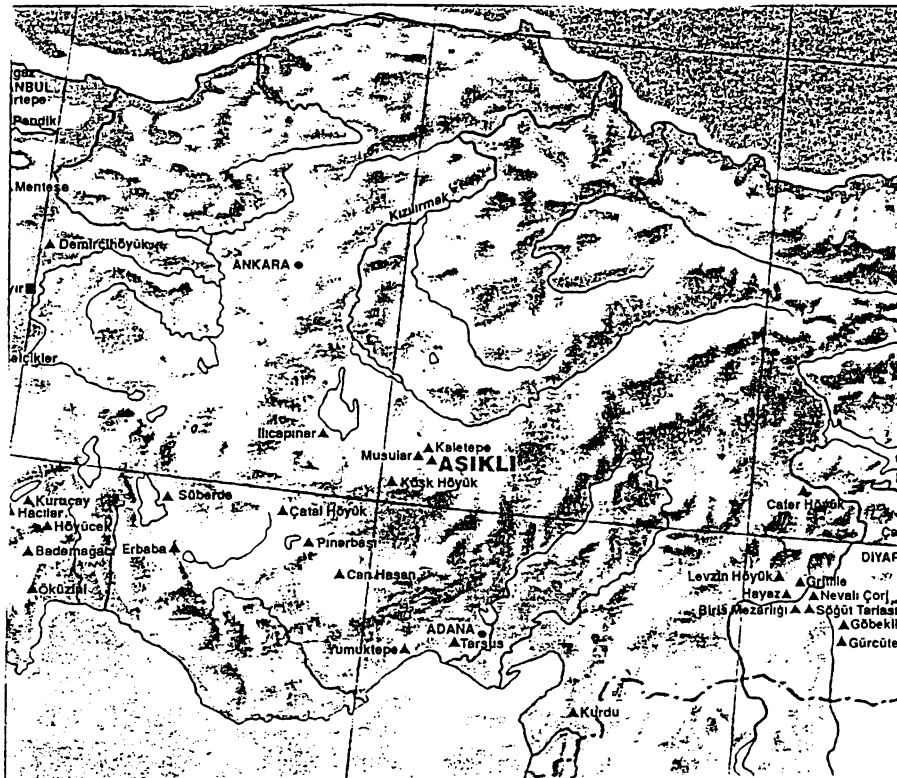


Fig. 1 Map of Central Anatolia

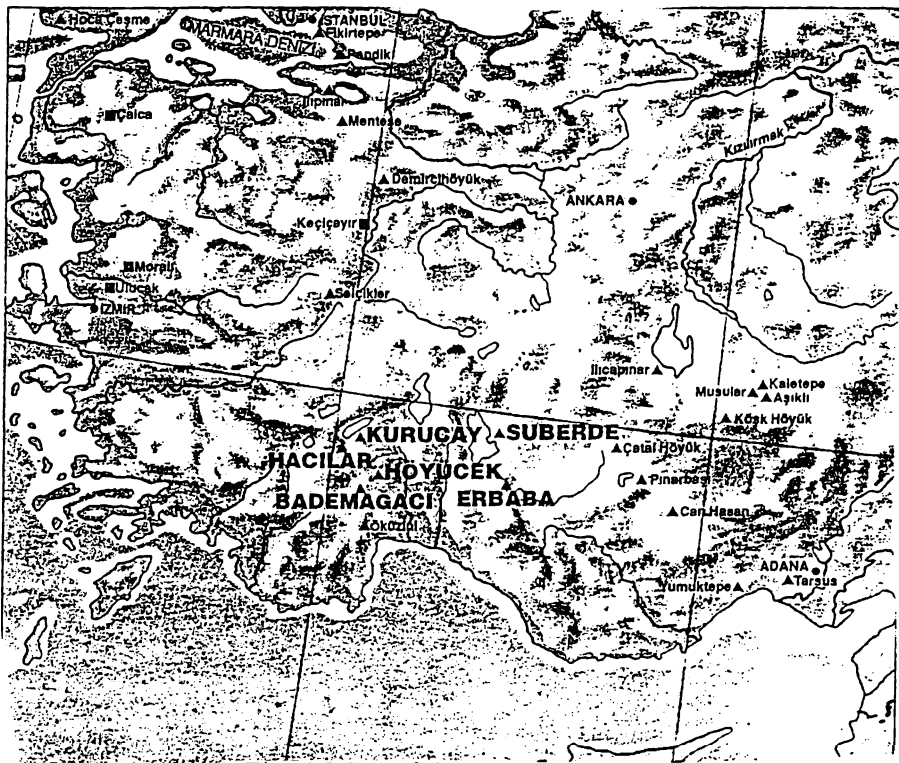


Fig. 2 Map of the Lake District

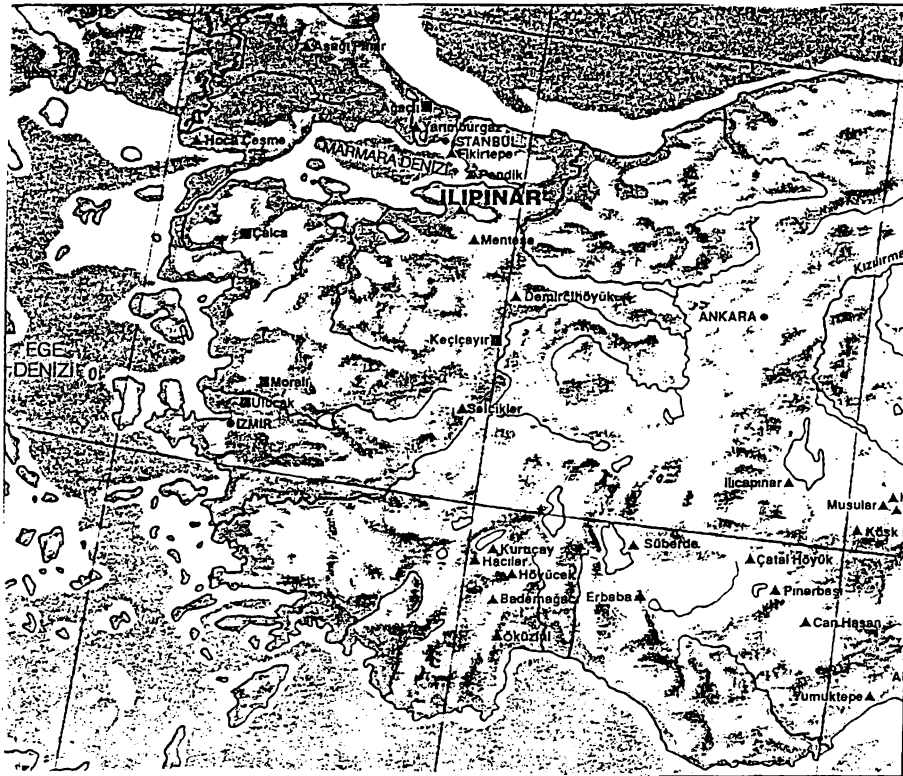


Fig. 3 Map of the Marmara Region



Fig. 4 Map of Turkish Thrace

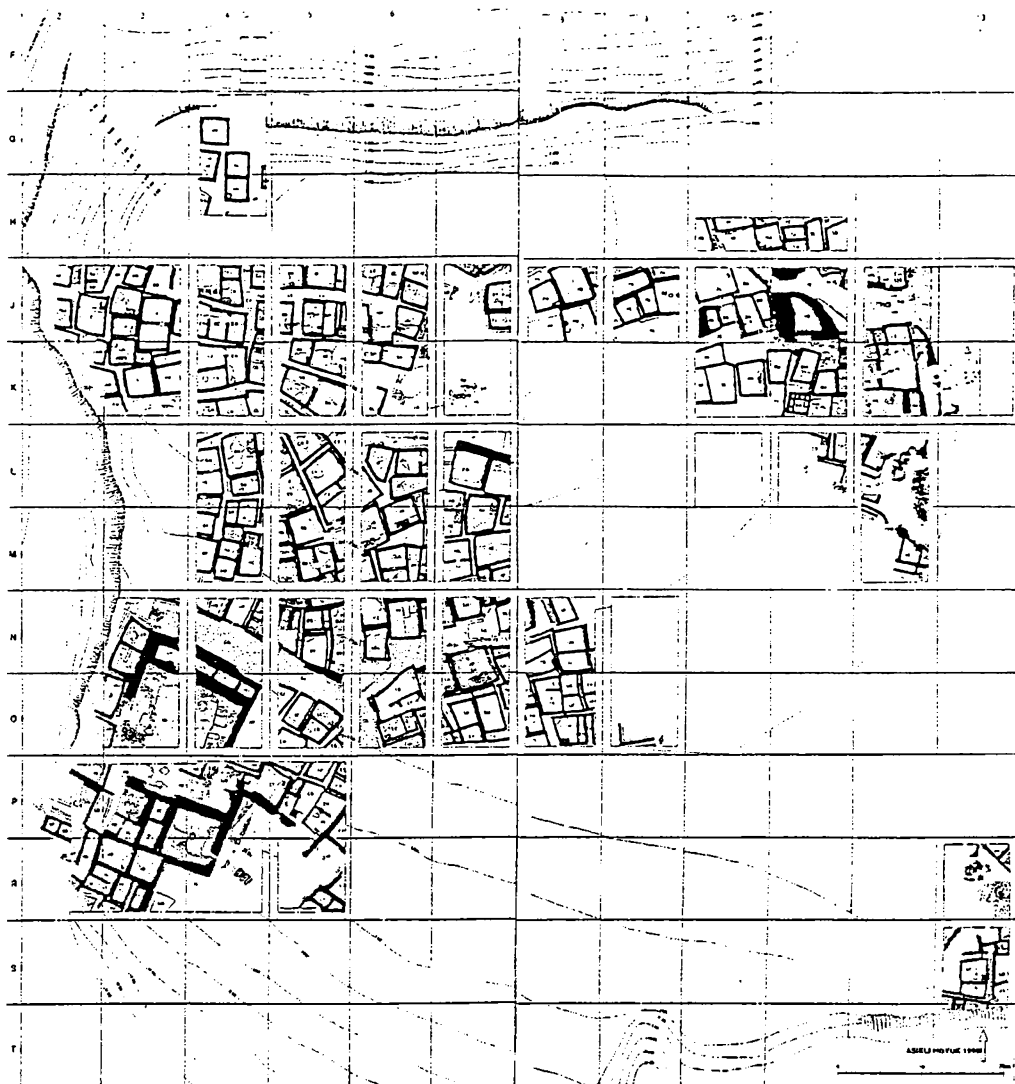


Fig. 5 Aşıklı Höyük schematic plan

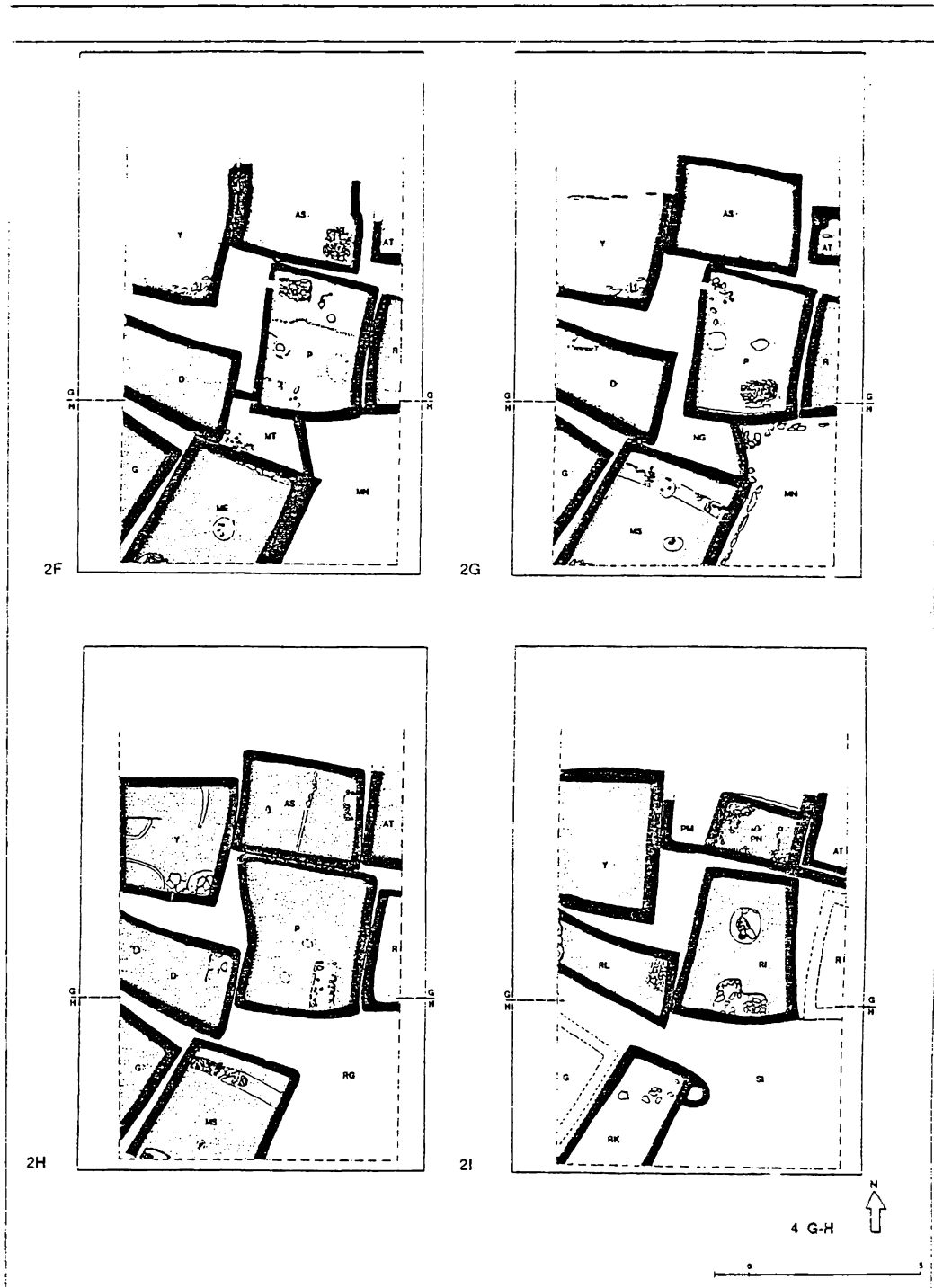


Fig. 6 Aşıklı Höyük schematic plans of building phases 2B-2E

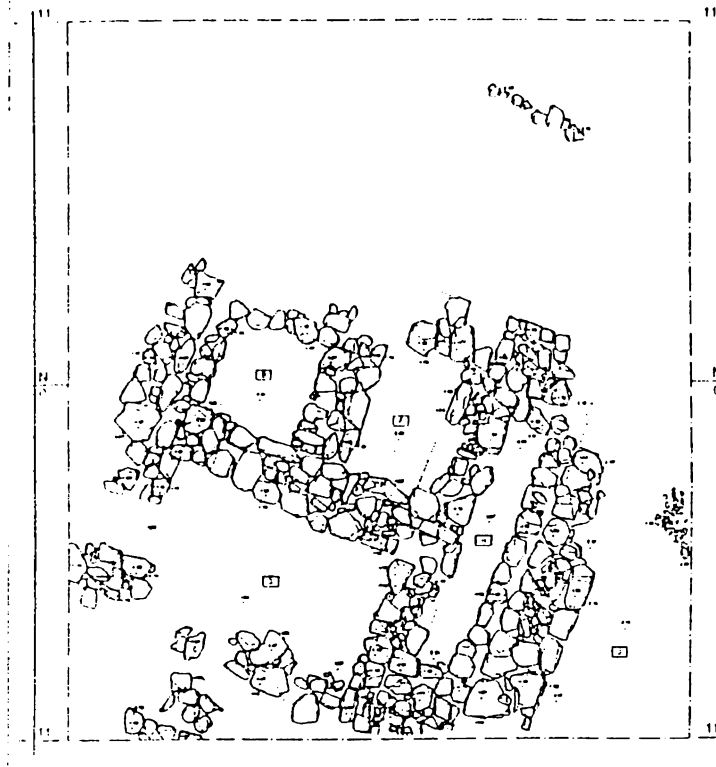


Fig. 7 Musular architectural remains from N-O 11

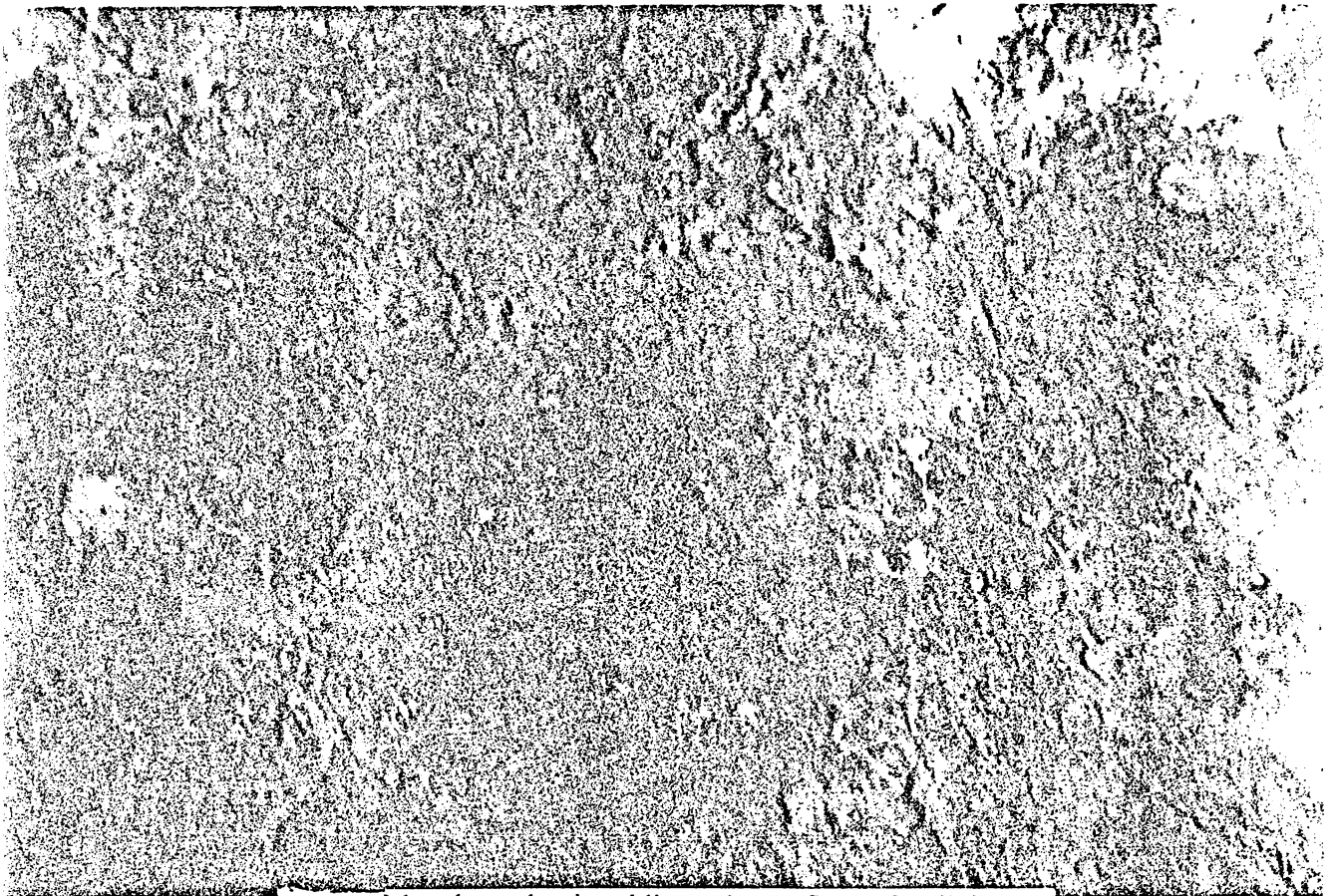


Fig. 8 Musular red painted lime plaster floor of Building A

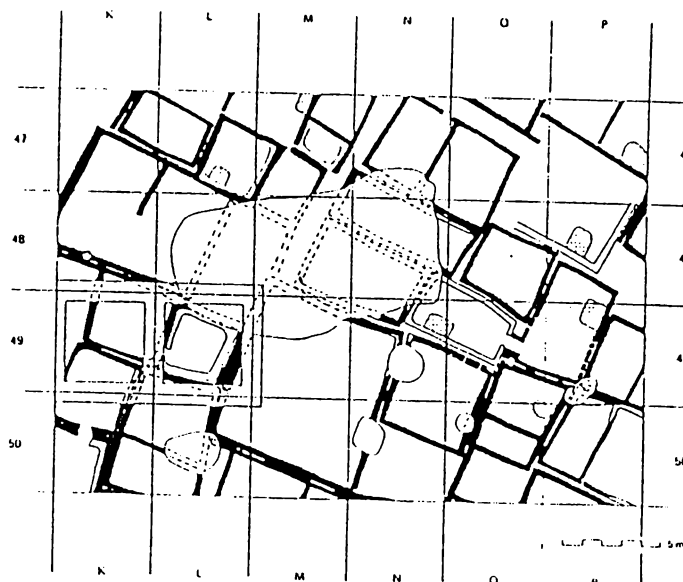
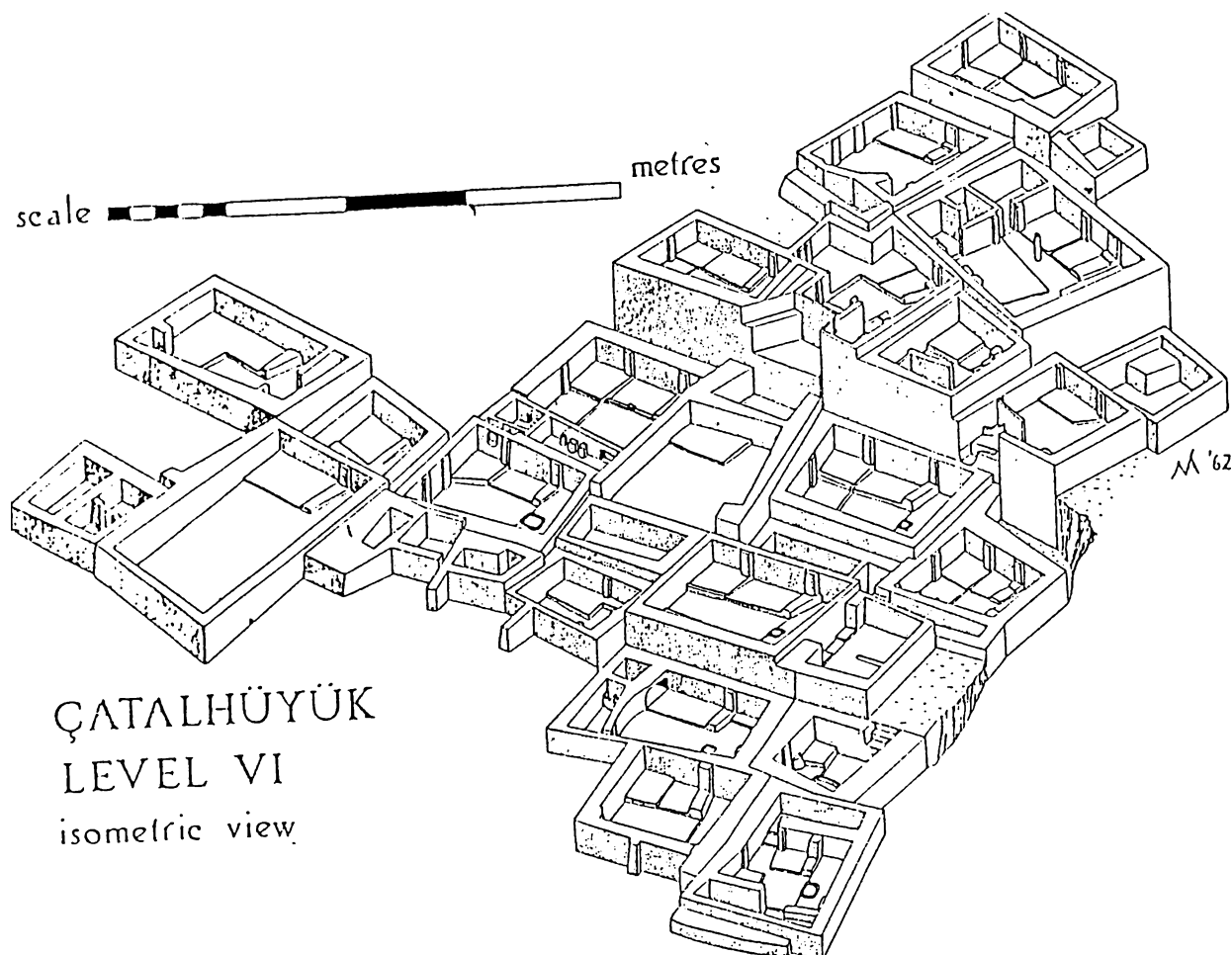


Fig. 9 Can Hasan III schematic plan



ÇATALHÜYÜK
LEVEL VI
isometric view

Fig. 10 Çatal Höyük -east- Level VI schematic plan

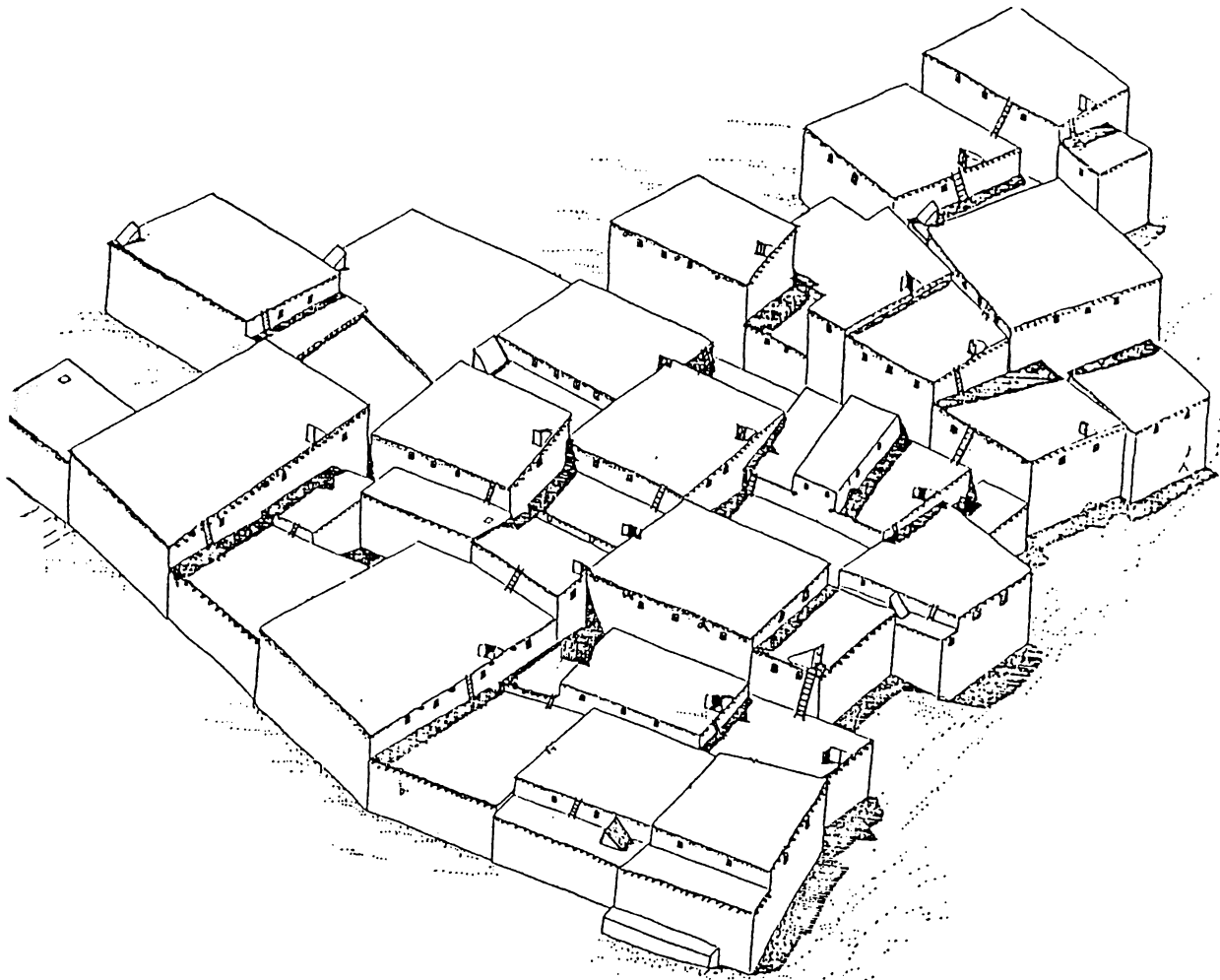


Fig. 11 Çatal Höyük –east- Level VI reconstruction

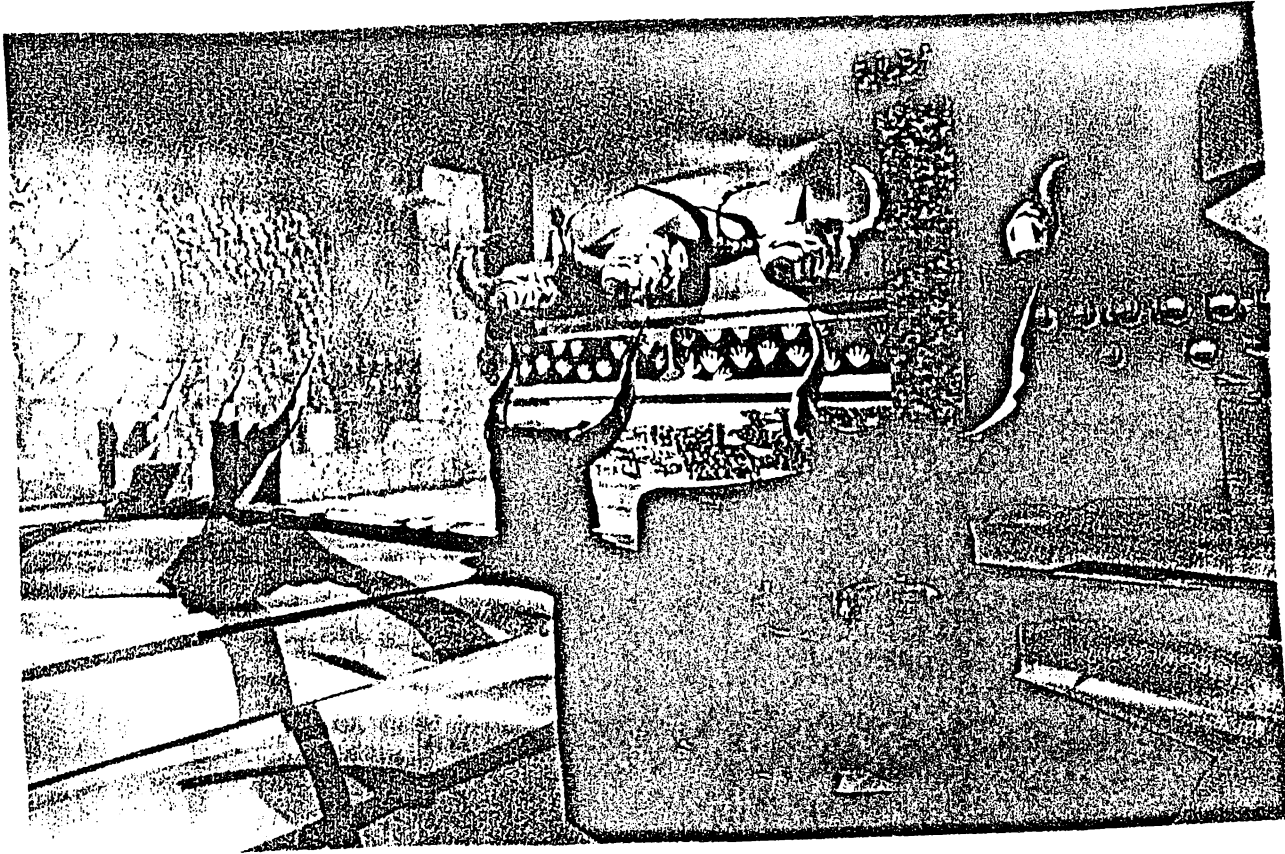


Fig. 12 Çatal Höyük –east- virtual reality reconstruction of an elaborate building

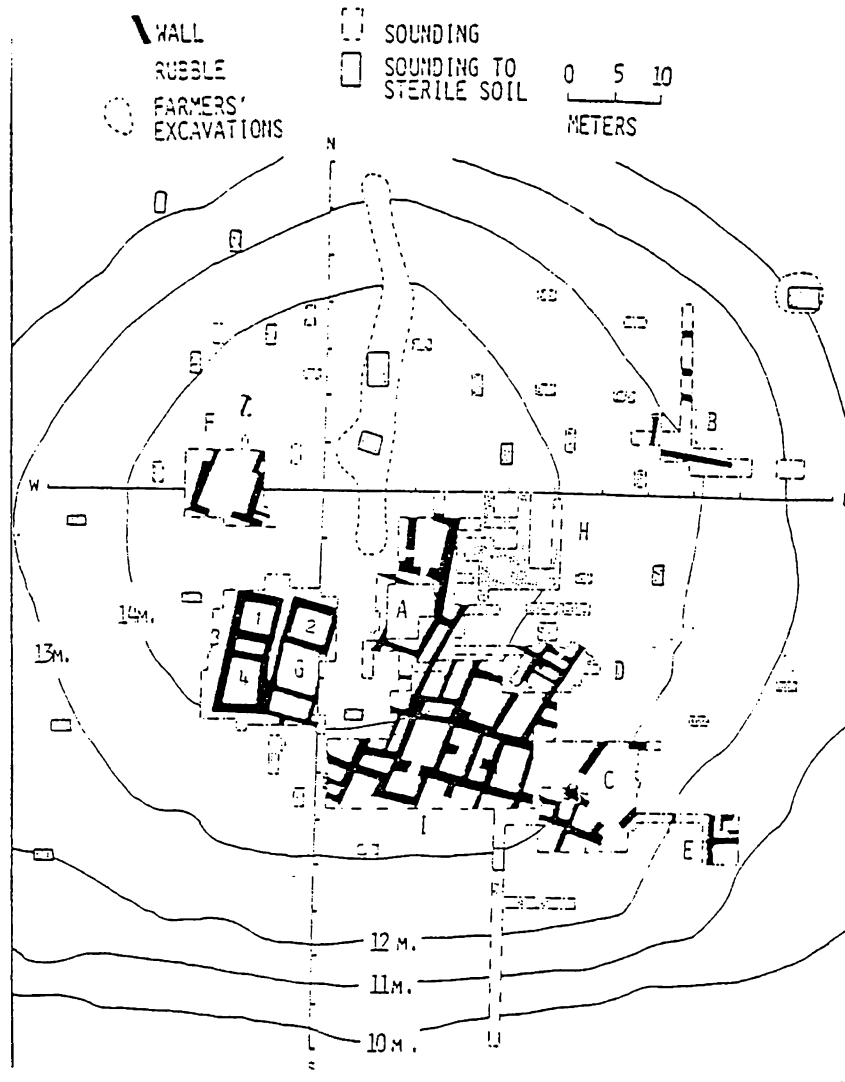


Fig. 13 Erbaba schematic plan

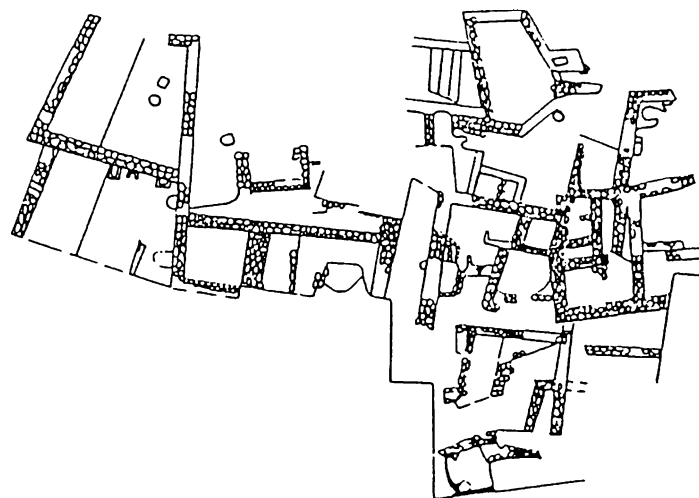


Fig. 14 Köşk Höyük schematic plan

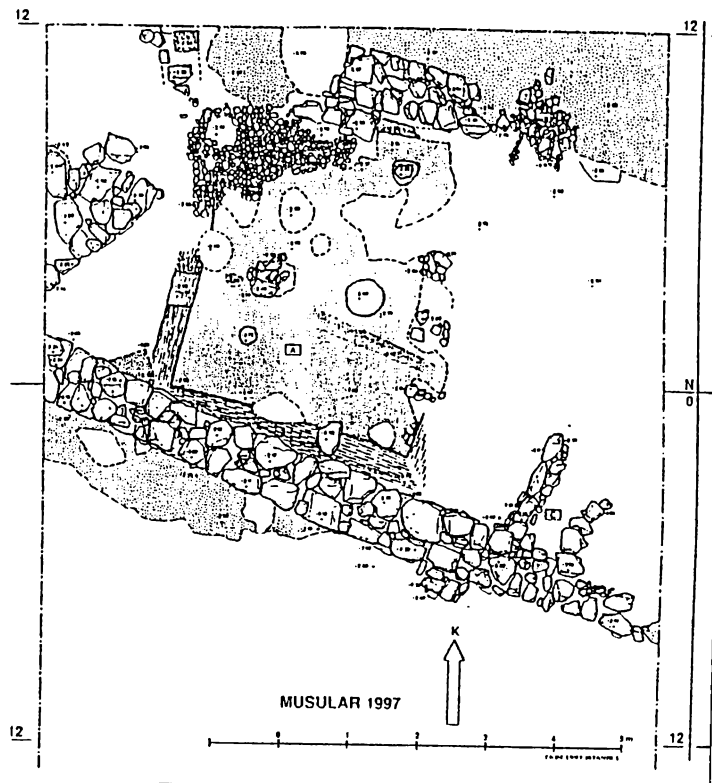


Fig. 15 Musular architectural remains from N-O 12

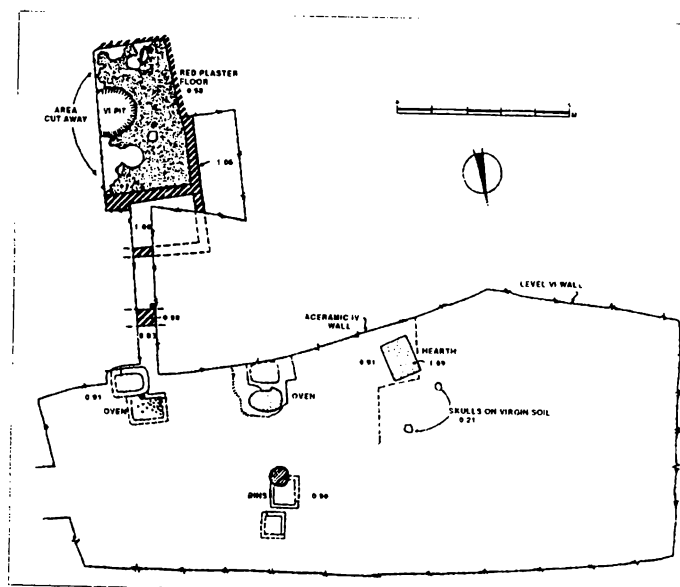


Fig. 16 Hacilar plan of EN Level V

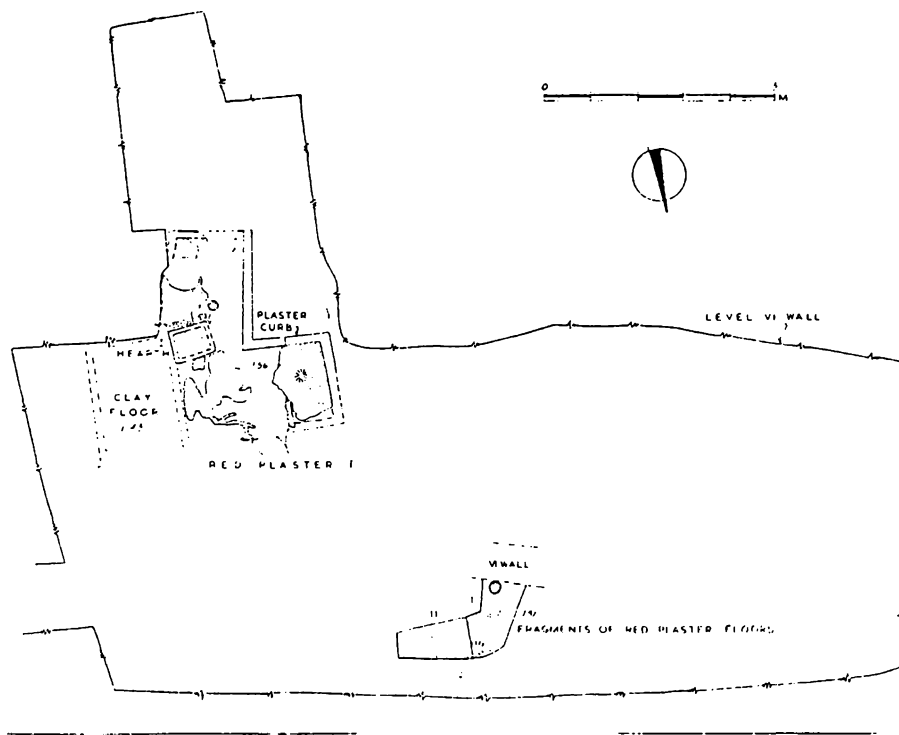


Fig. 17 Hacilar plan of EN Level II

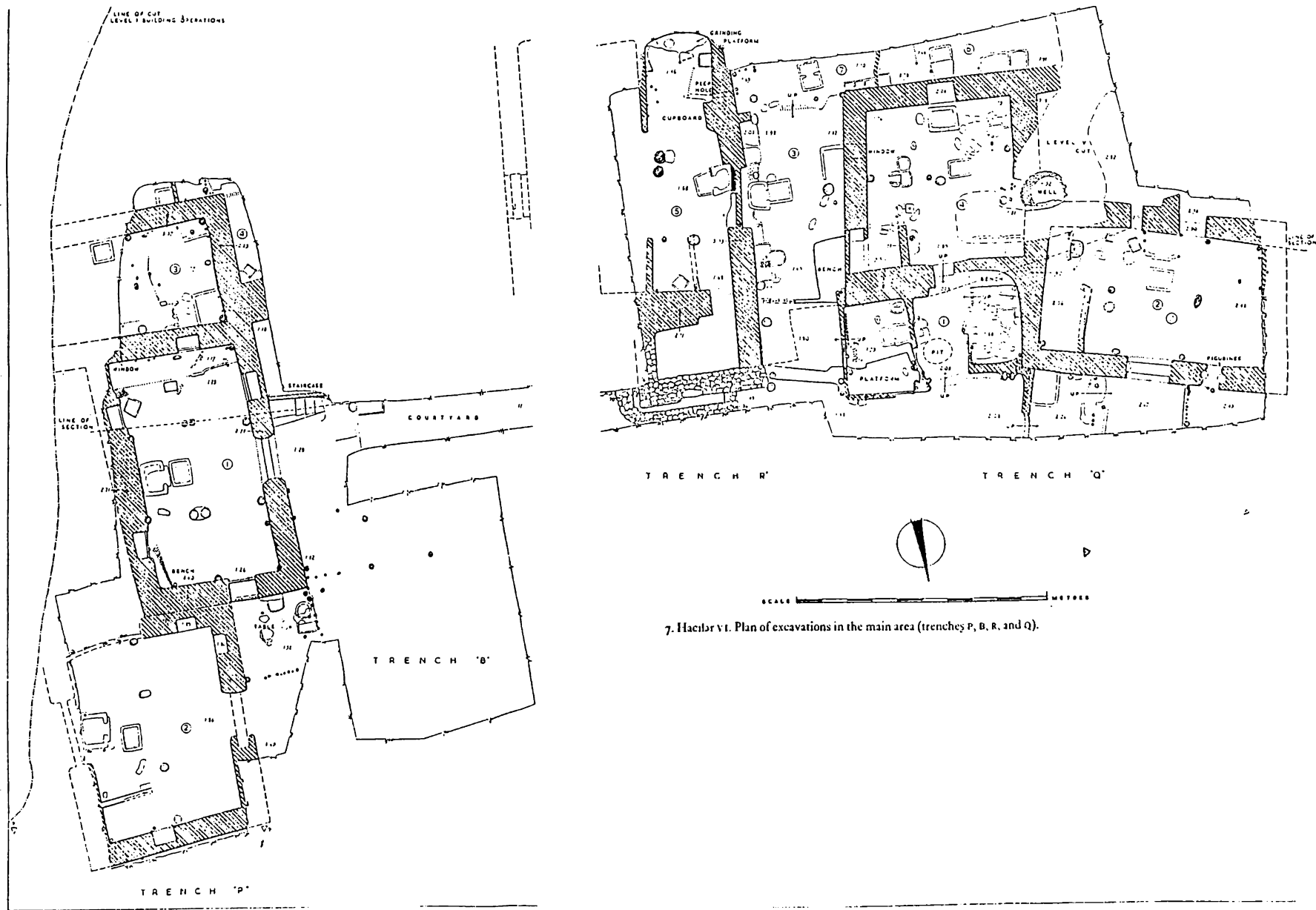


Fig. 18 Hacilar plan of Level VI

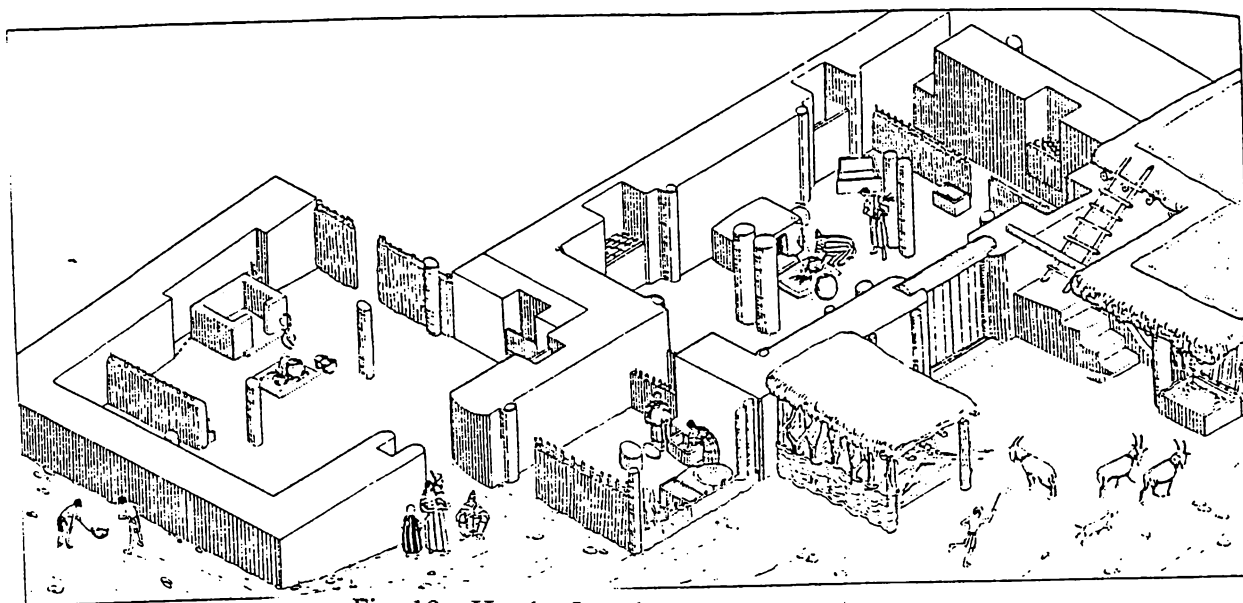


Fig. 19a Hacilar Level VI Reconstruction

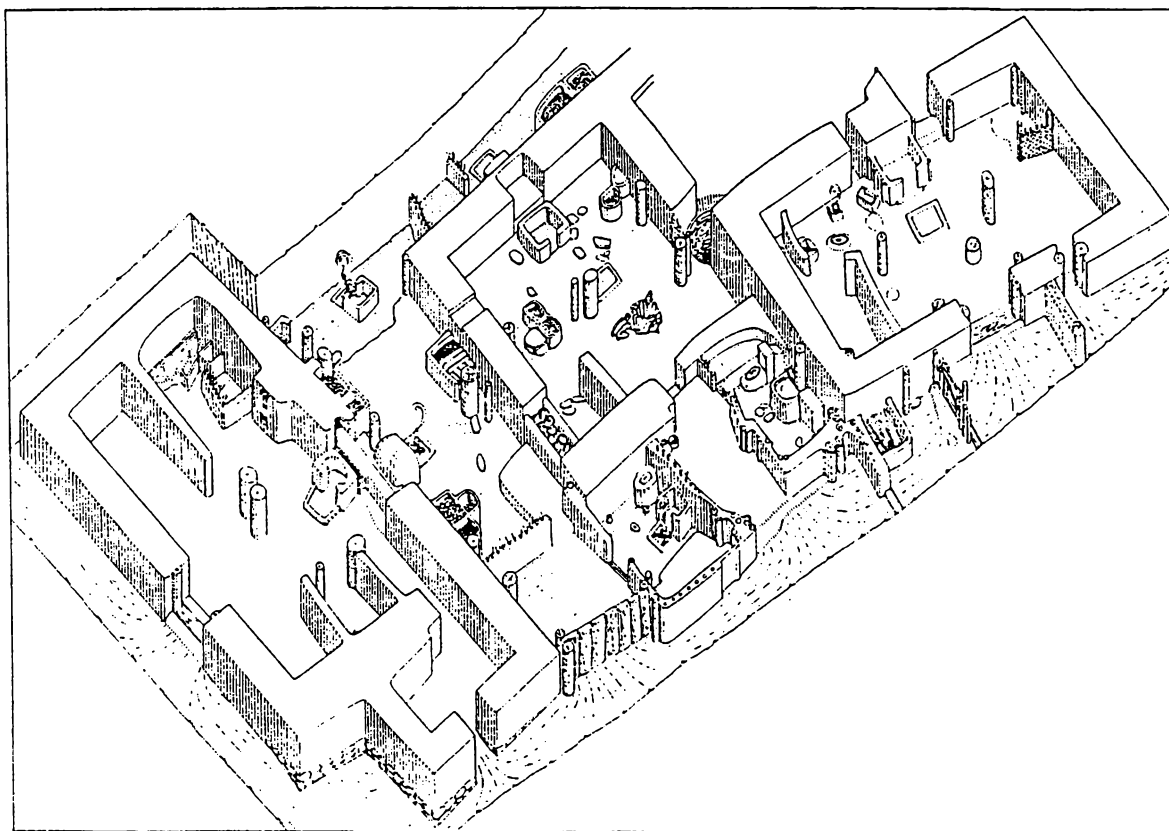


Fig. 19b Hacilar Level VI Reconstruction

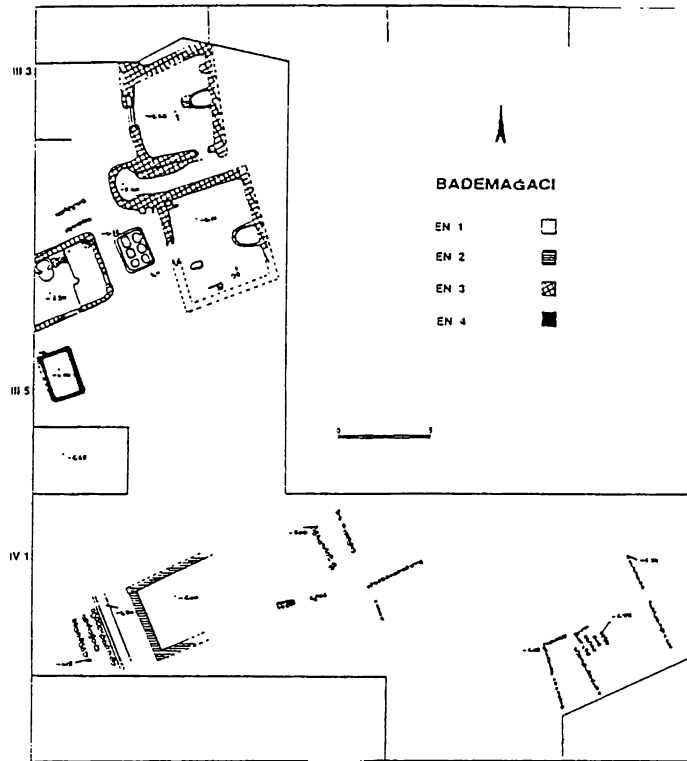


Fig. 20 Bademağacı general plan of the settlements



Fig. 21 Bademağacı storage facility from the EN 3 settlement

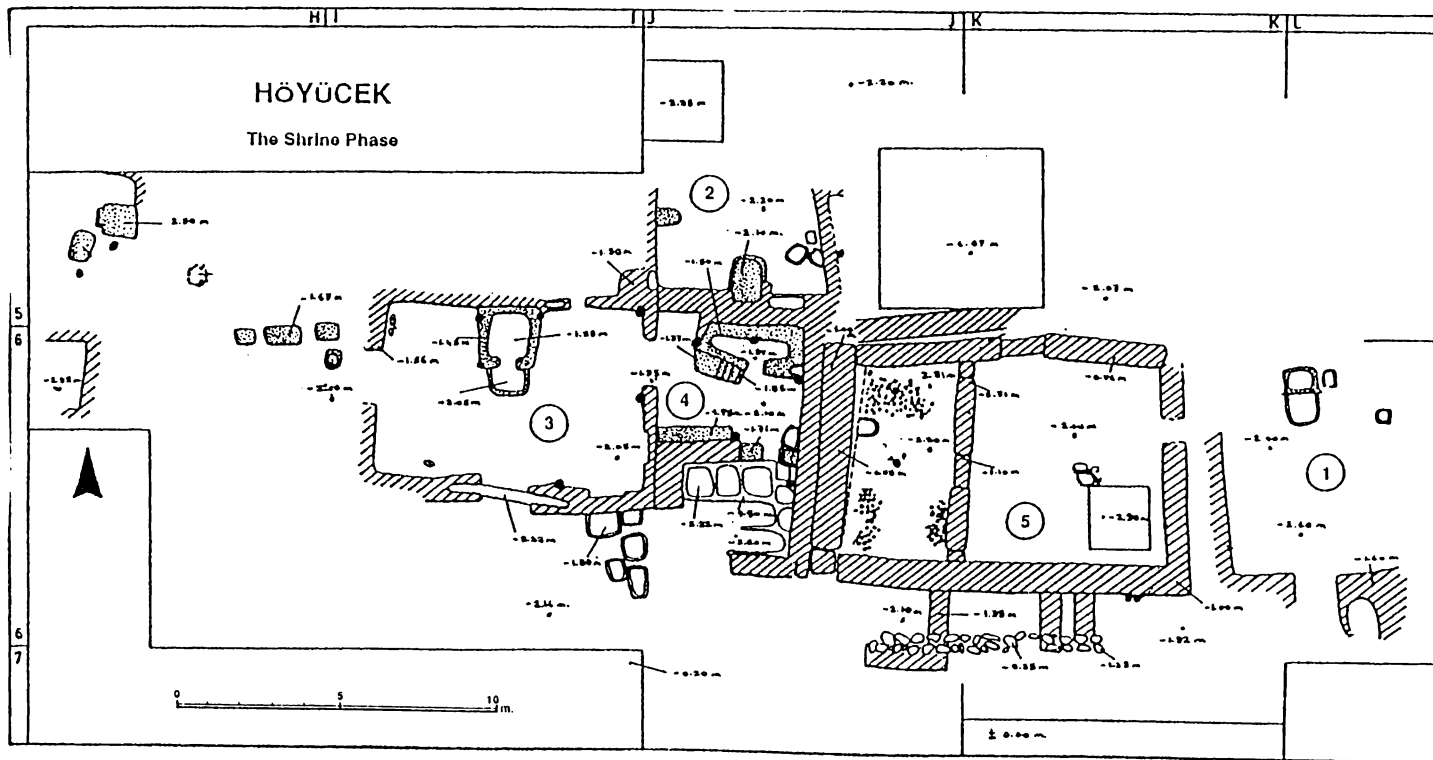


Fig. 22 Höyücek plan of the Shrine Phase

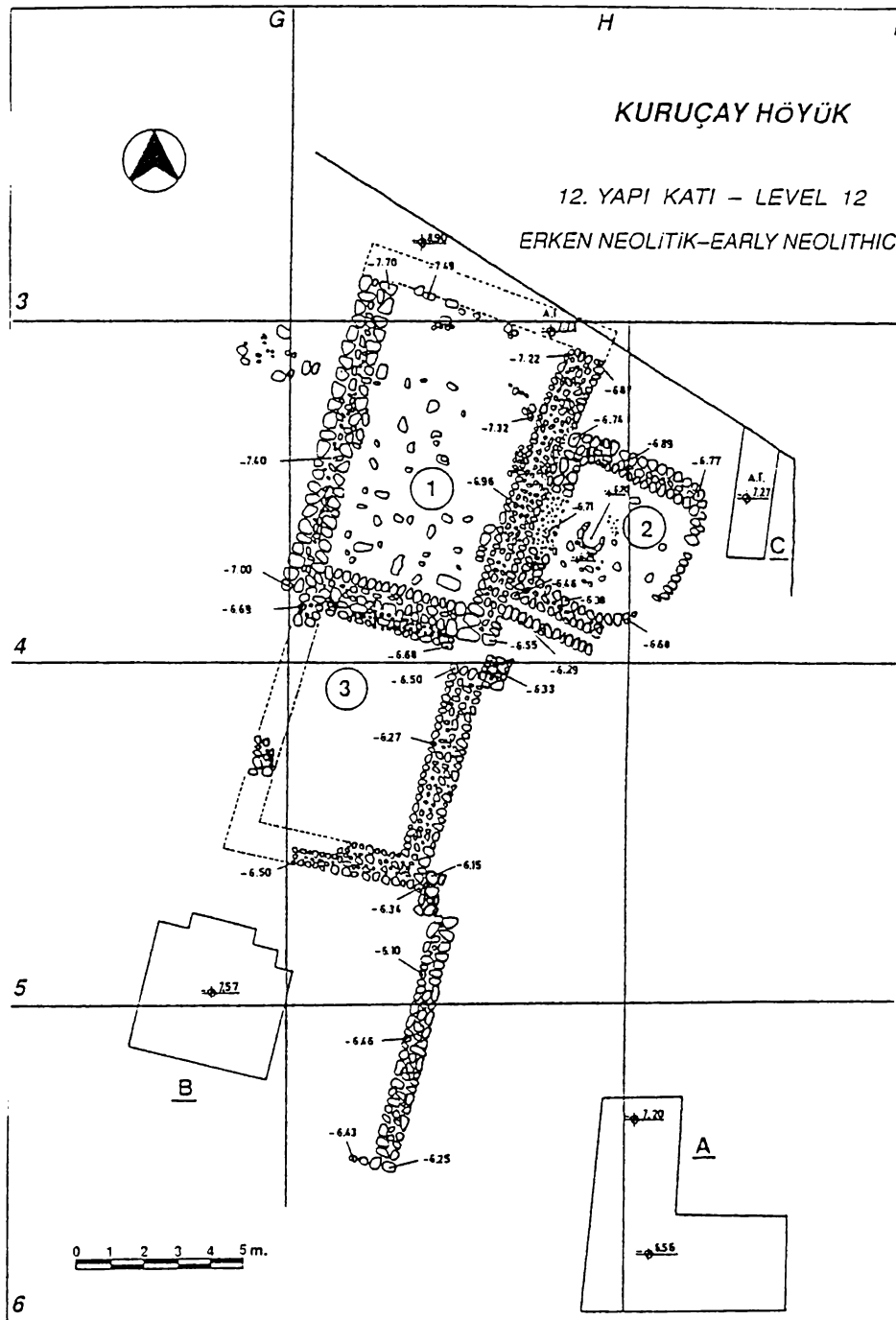


Fig. 23 Kuruçay plan of Level 12

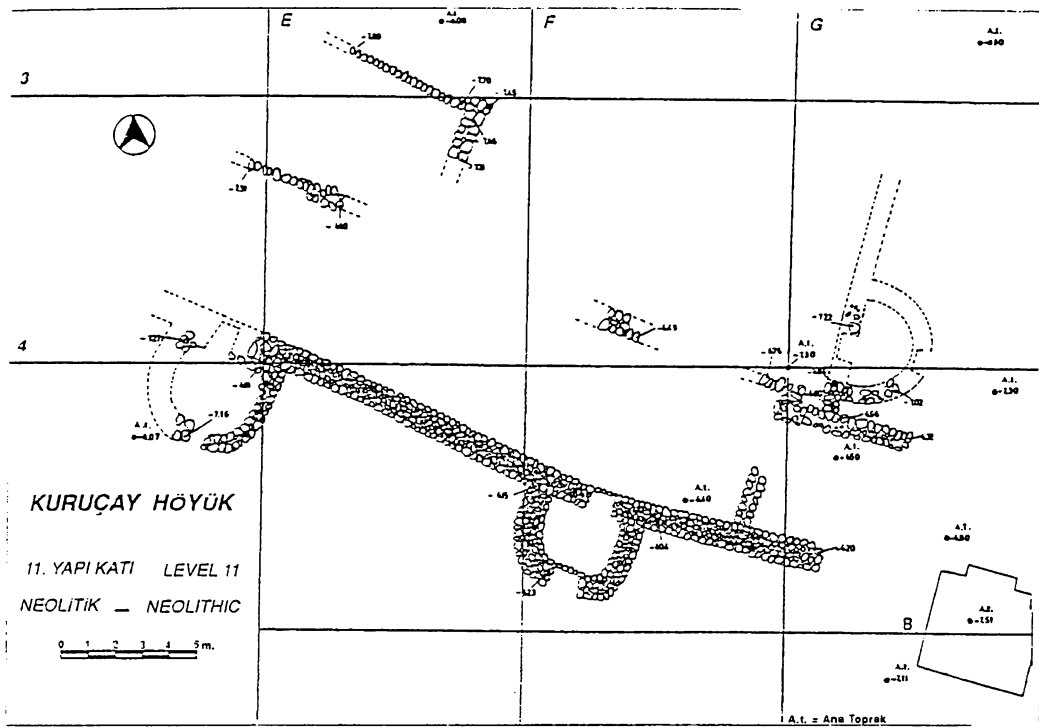


Fig. 24 Kuruçay plan of level 11

Fig. 25 Ilıpınar reconstruction of burnt house from phase X

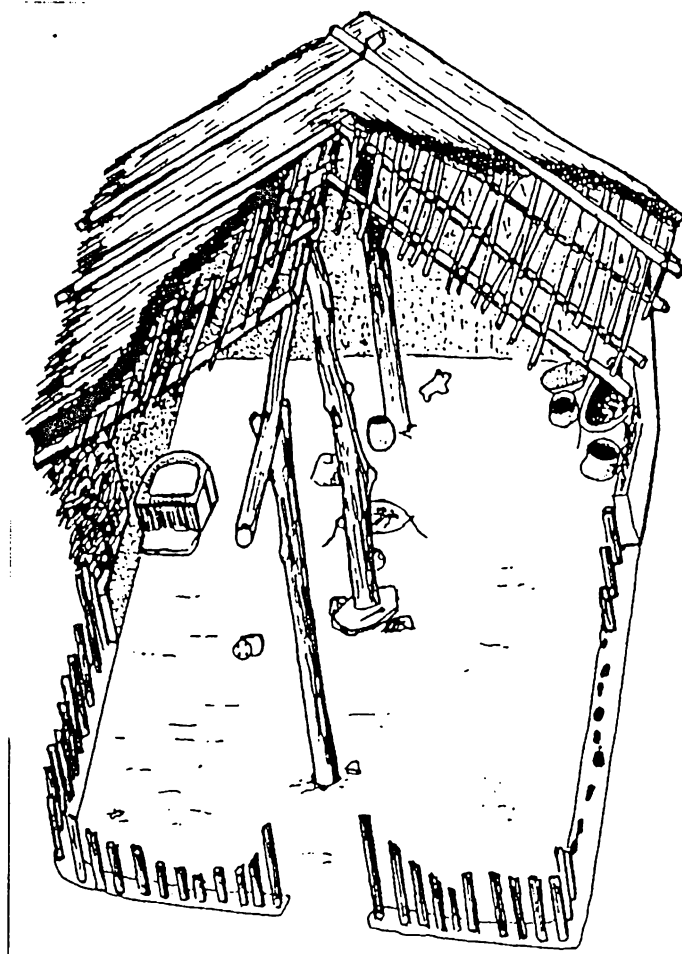
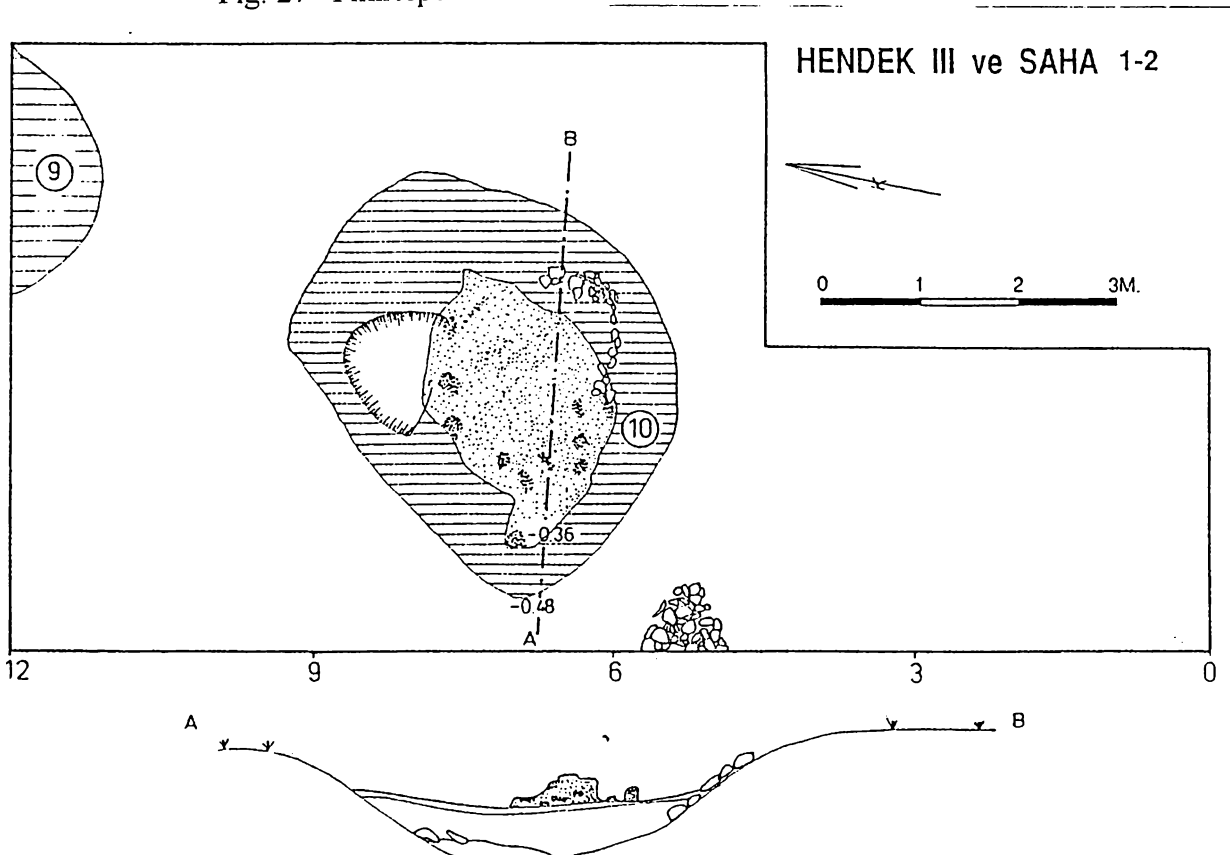




Fig. 26 Ilıpınar schematic plan of phases IX-VIII

Fig. 27 Fikirtepe round hut with semi-subterranean floor



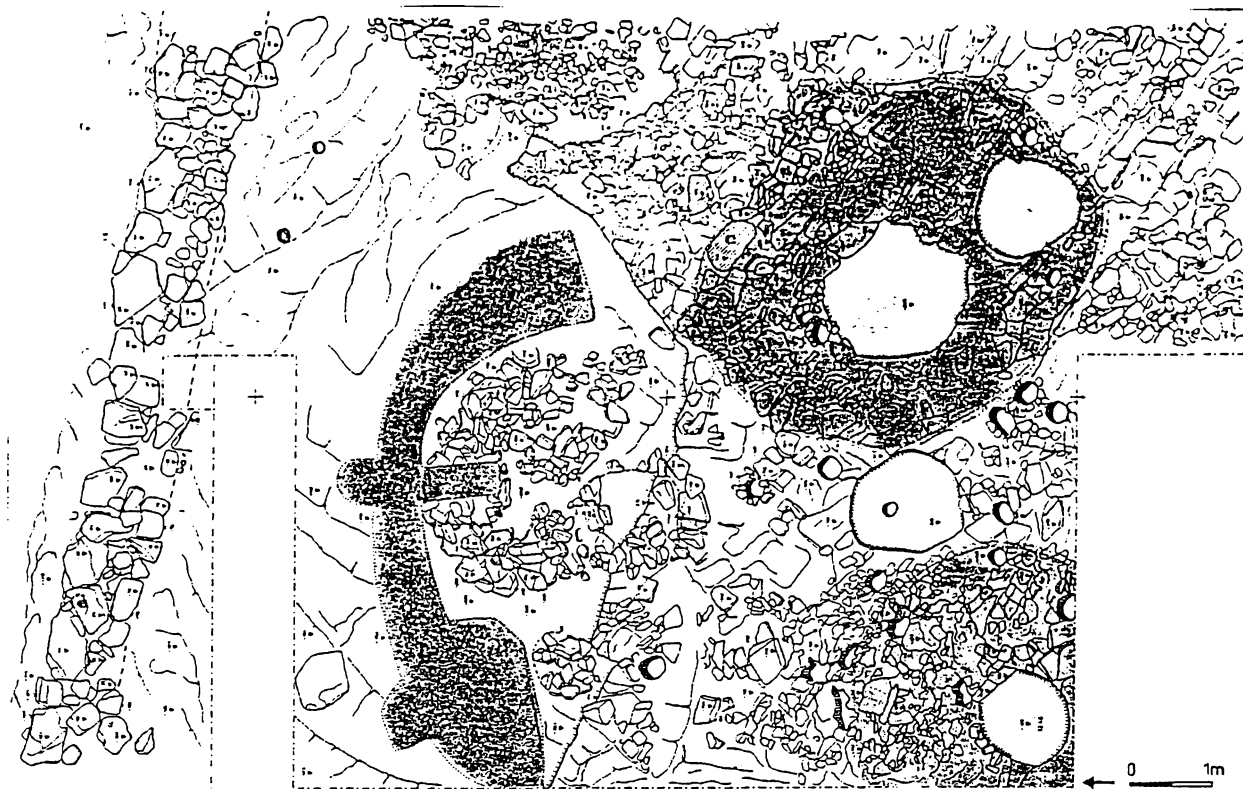


Fig. 28 Hoca Çeşme phase IV round buildings cut into the bed-rock

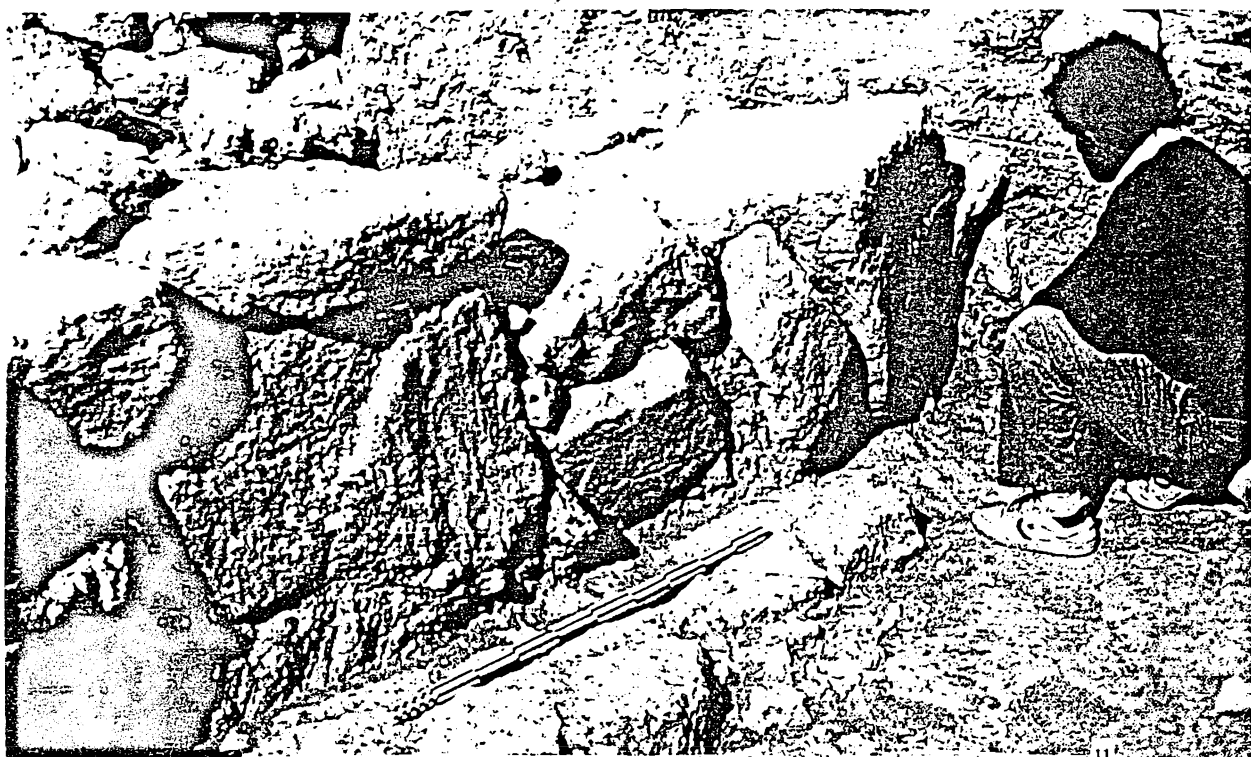


Fig. 29 Hoca Çeşme phases IV-III a detail from the enclosure wall

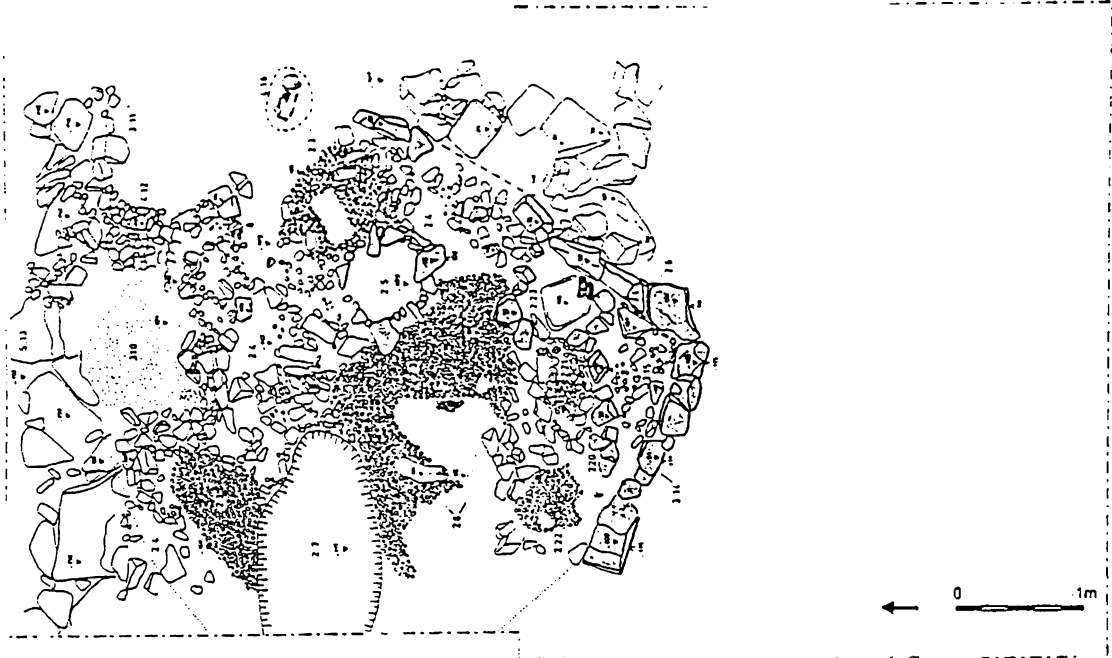


Fig. 30 Hoca Çeşme phase III round building with paved and painted floors

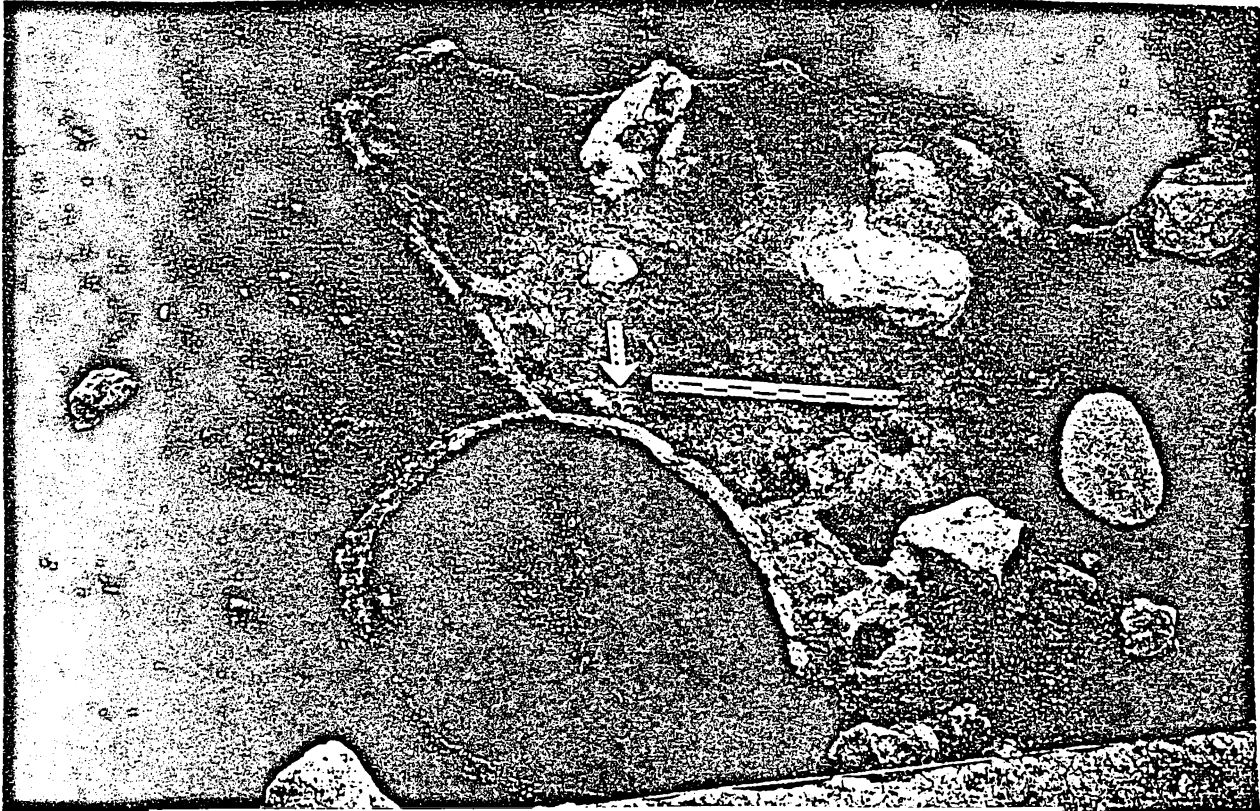


Fig. 31 Hoca Çeşme phase II the first, rectangular mud slab building



Fig. 32 Aşağıpınar Layer 6 the burnt Neolithic Building

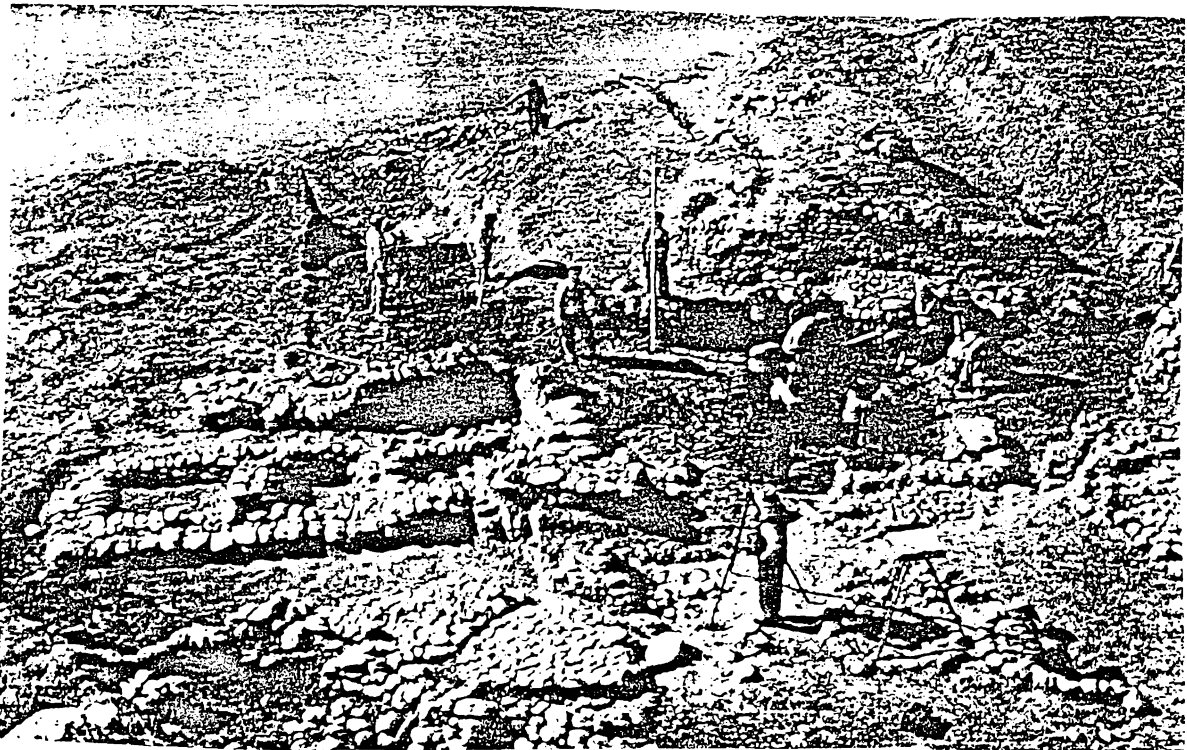


Fig. 33 Yümüktepe silo bases of Level XXIV

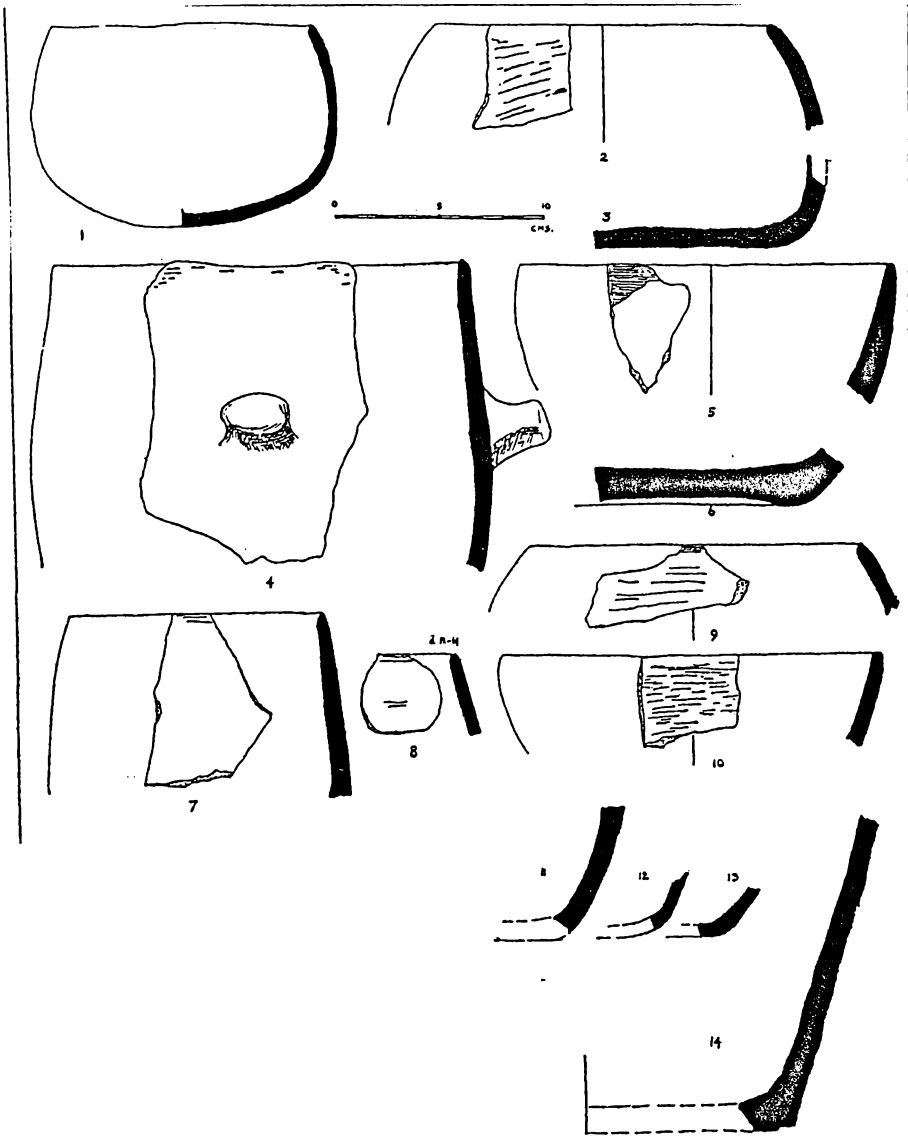


Fig. 34 Çatal Höyük -east- pottery from levels X-VII

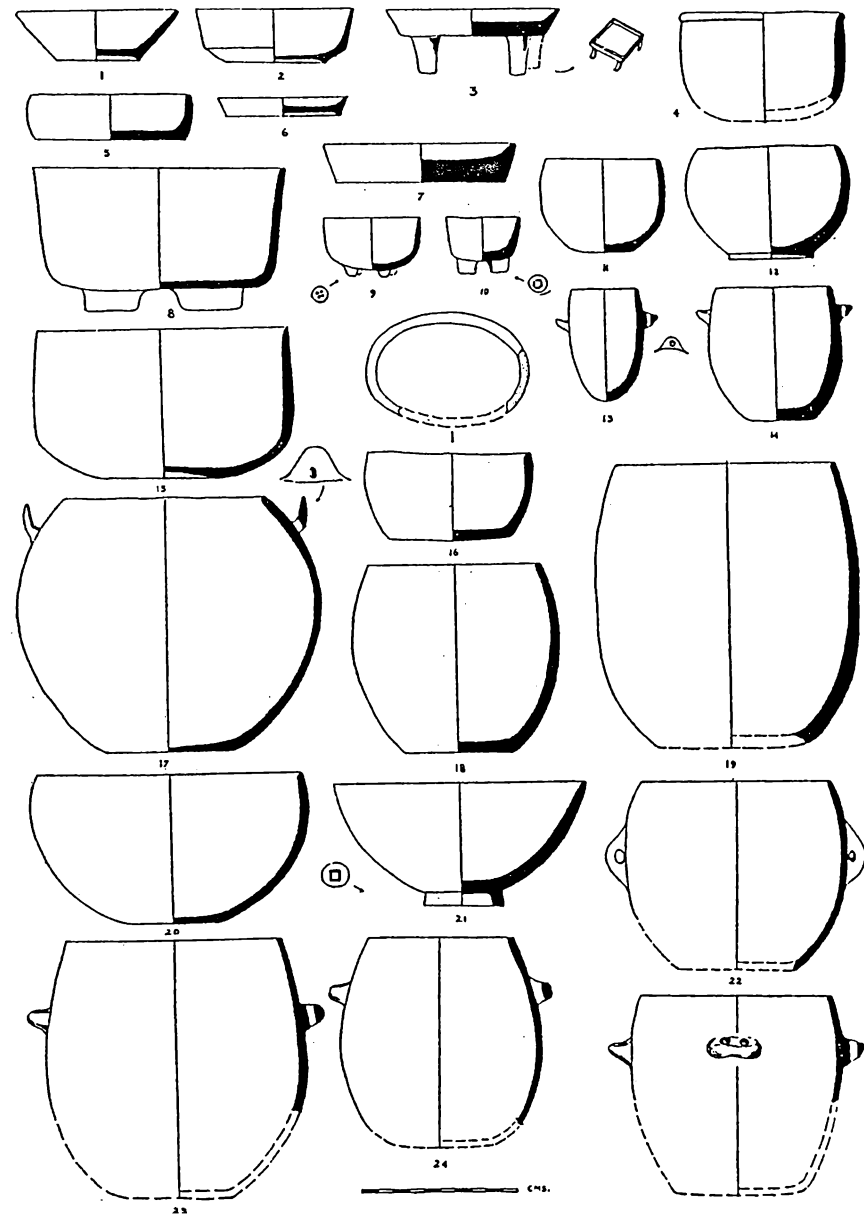


Fig. 35 Çatal Höyük -east- pottery from levels VIII-II

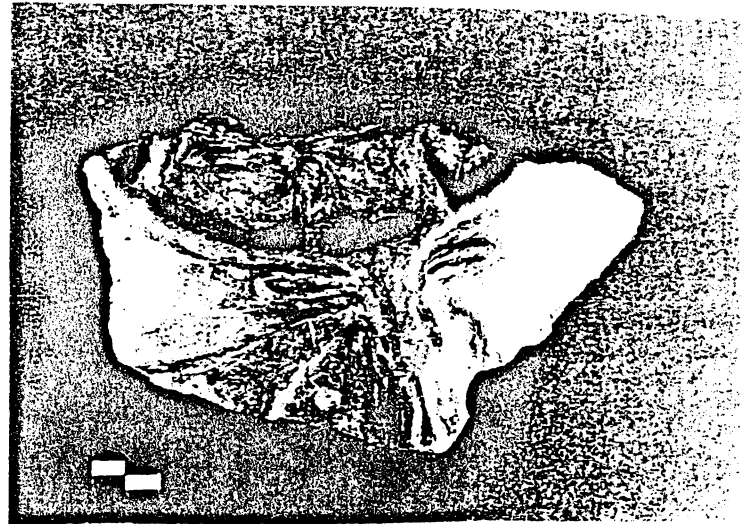
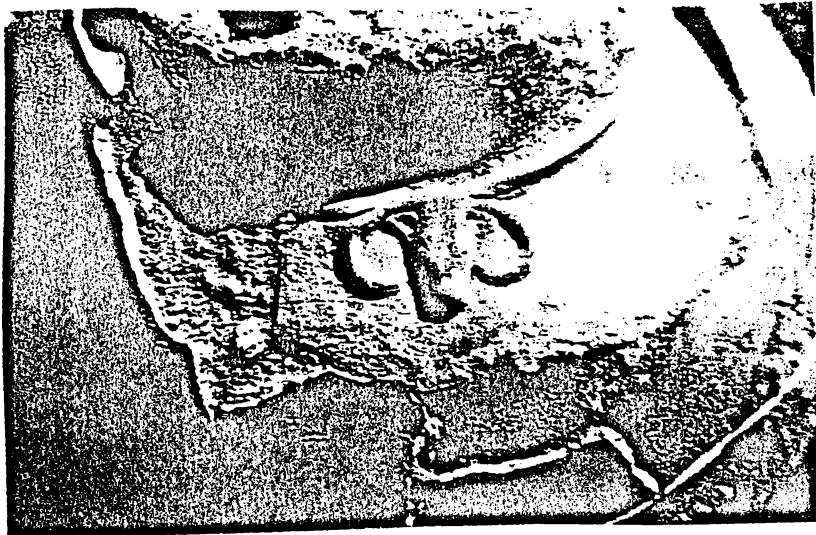
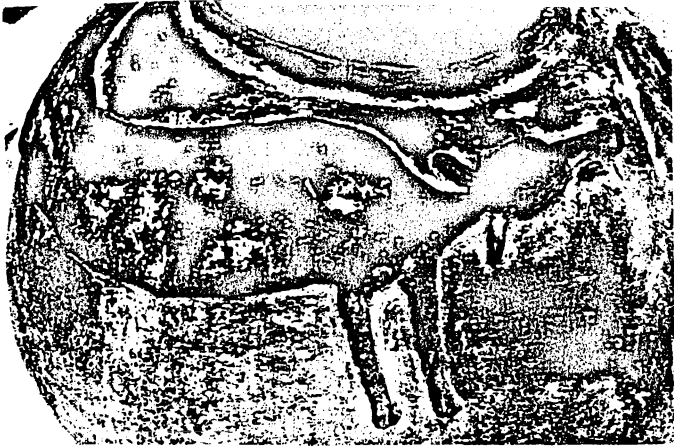


Fig. 36 Köşk Höyük pottery from Level III

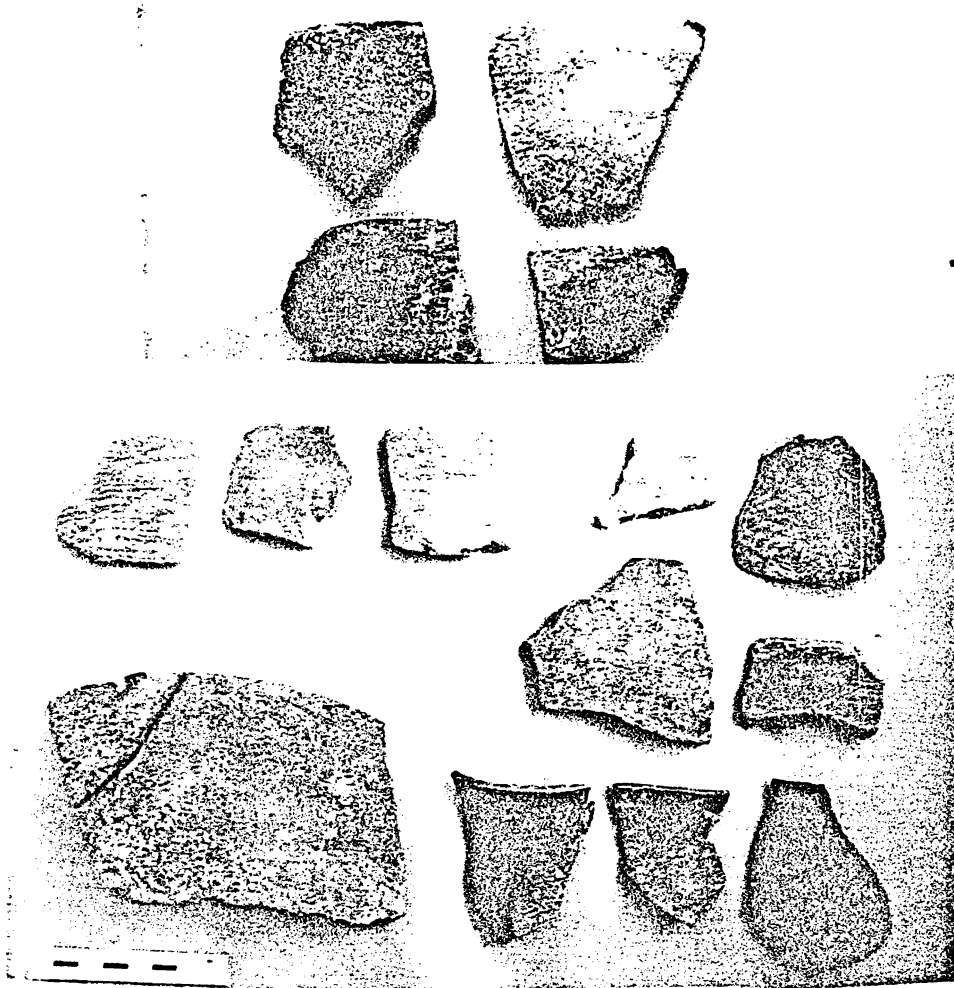


Fig. 37 Musular sherds and rim pieces

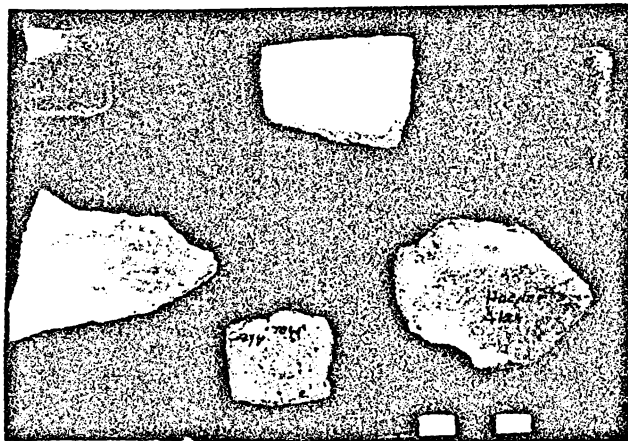


Fig. 38 Hacilar "EN" sherds

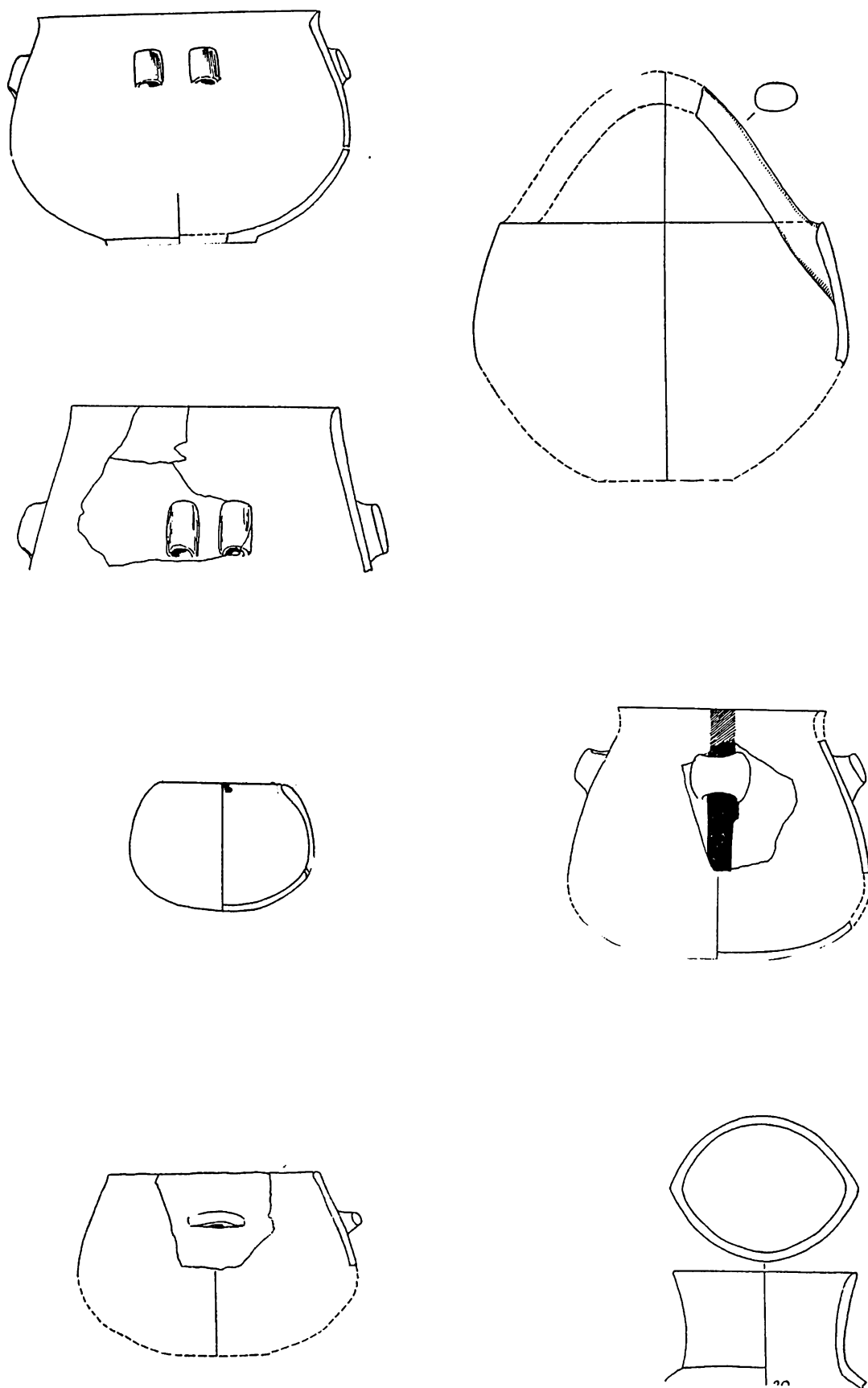


Fig. 39 Hacilar Level IX pottery

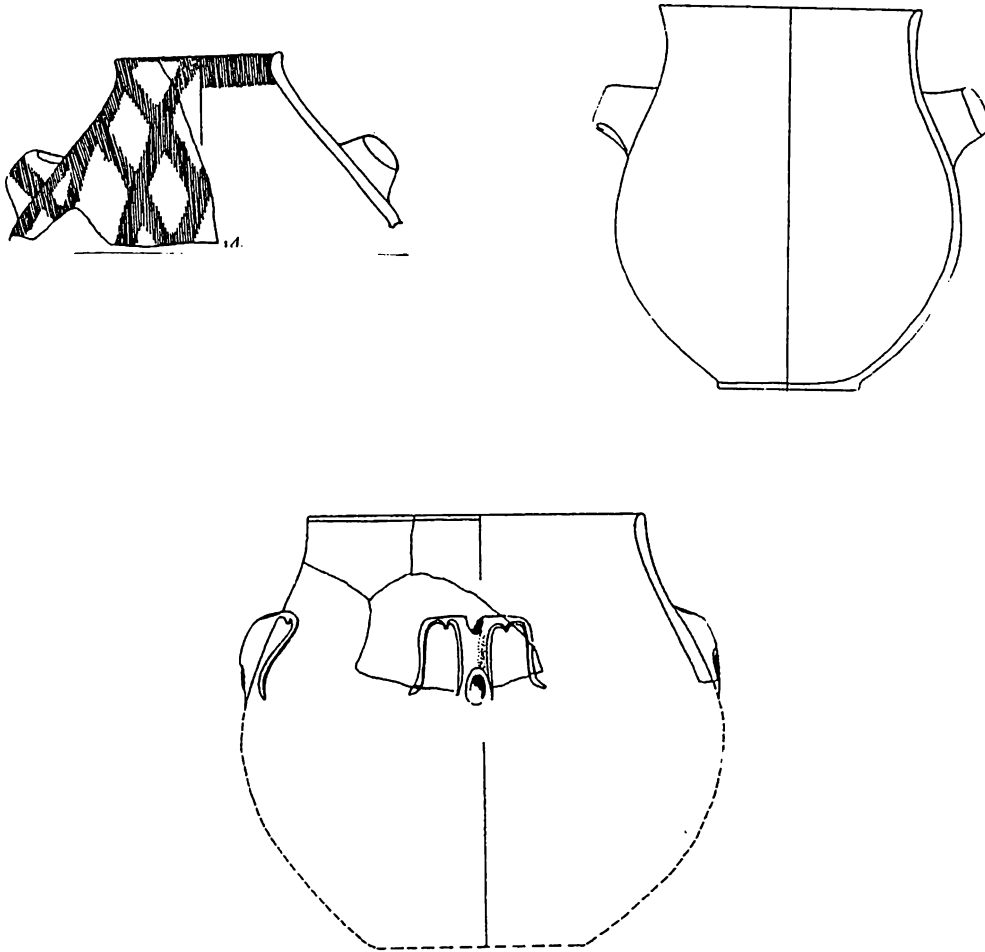


Fig. 40 Hacilar Level VII pottery

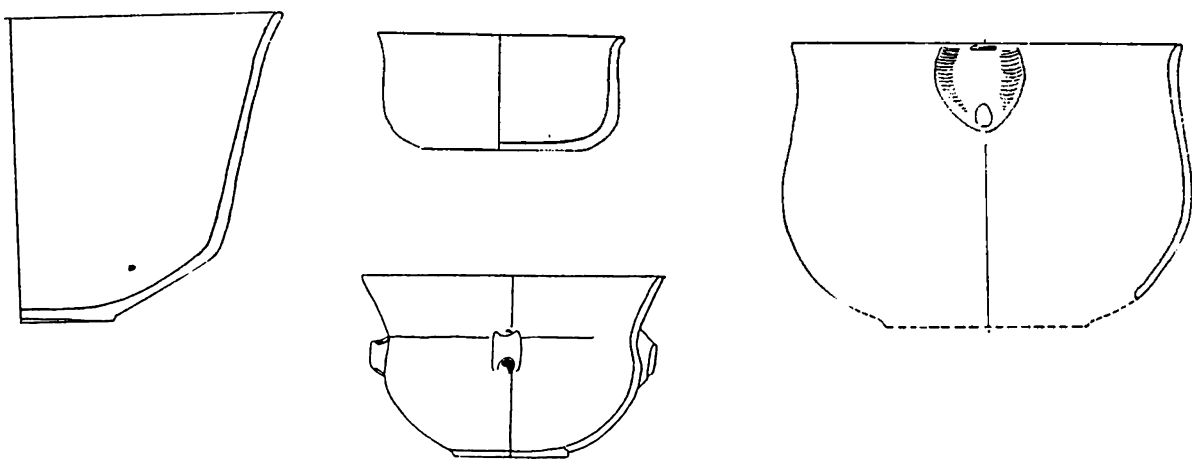


Fig. 41 Hacilar Level VIII-VII pottery

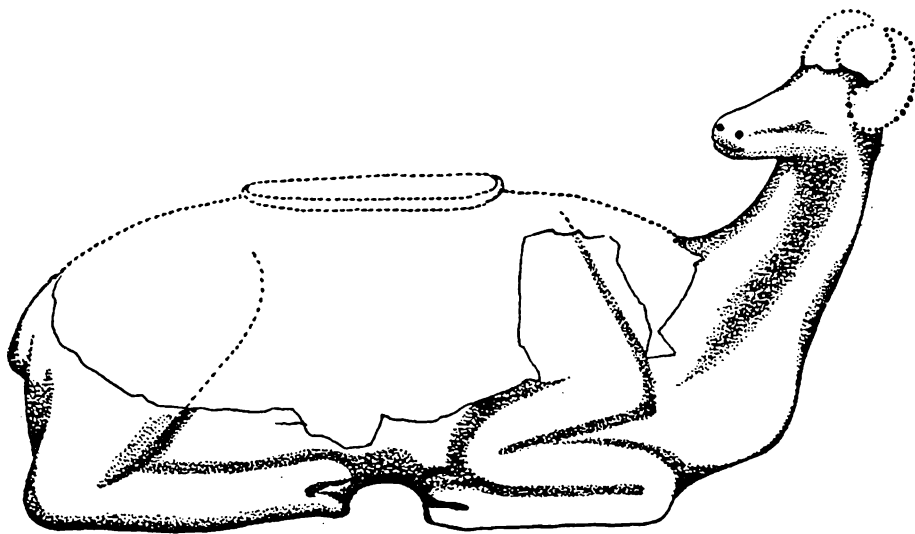
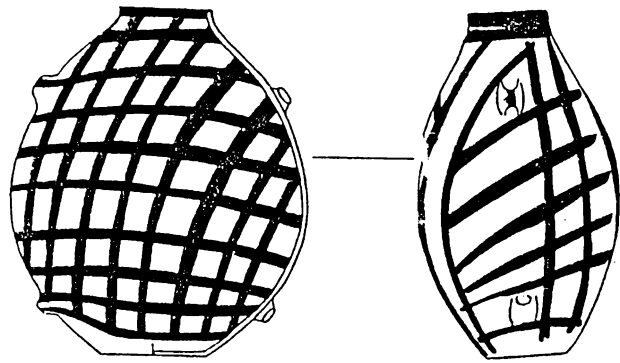


Fig. 42 Hacilar Level VI pottery

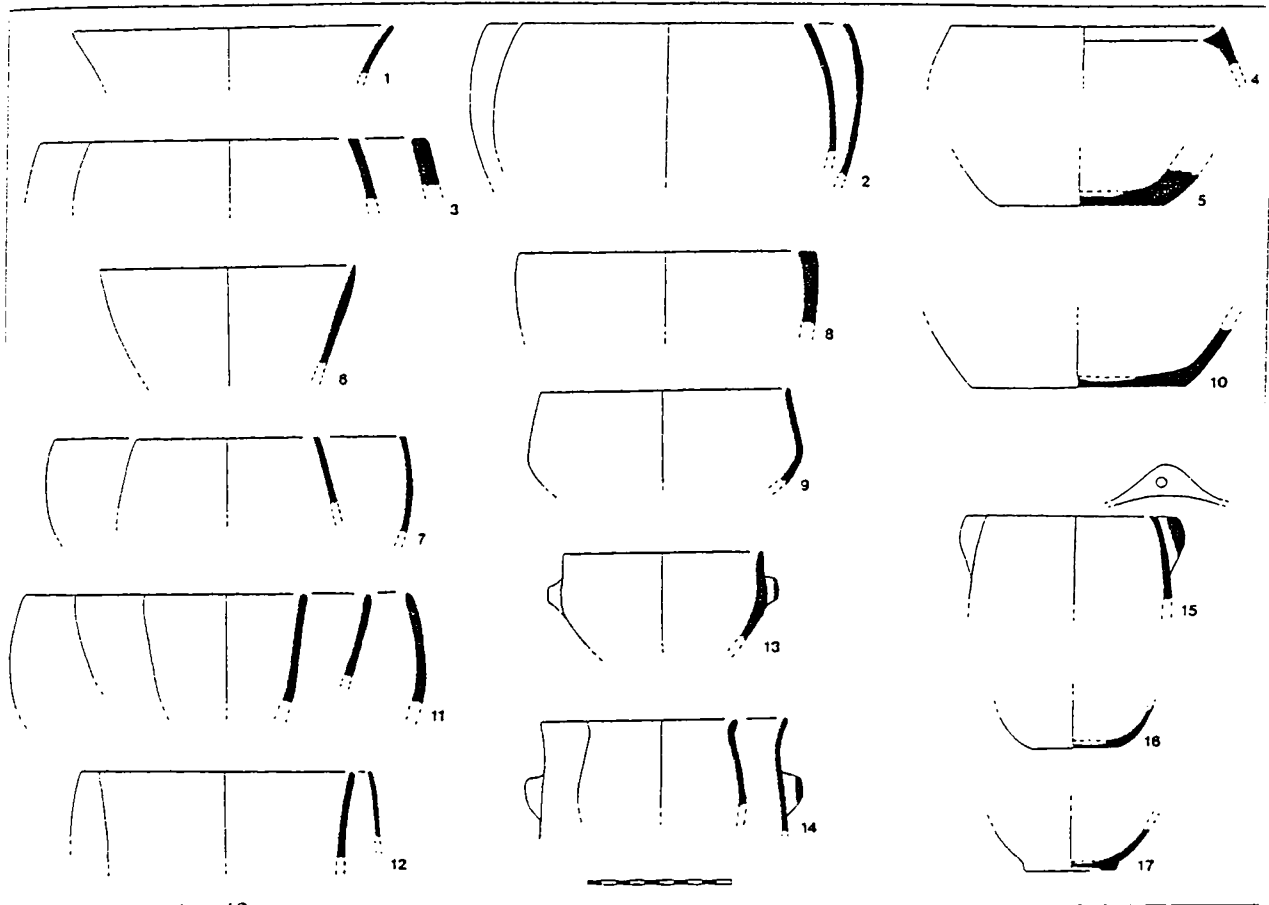


Fig. 43 Bademağacı selected pottery from EN 6 (1-5), EN 5 (6-10) and
EN 4 (11-17)



Fig. 44 Bademağacı EN 4 box

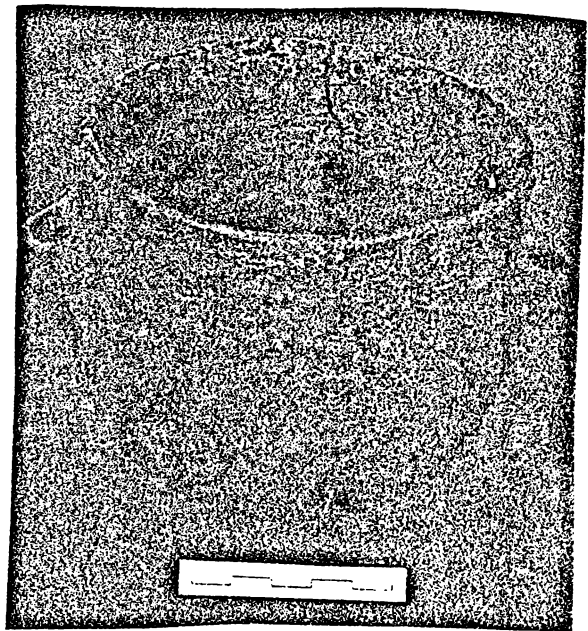
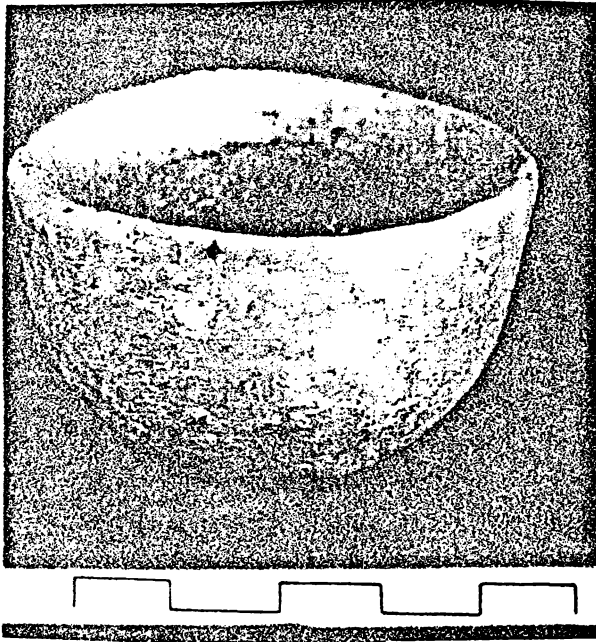
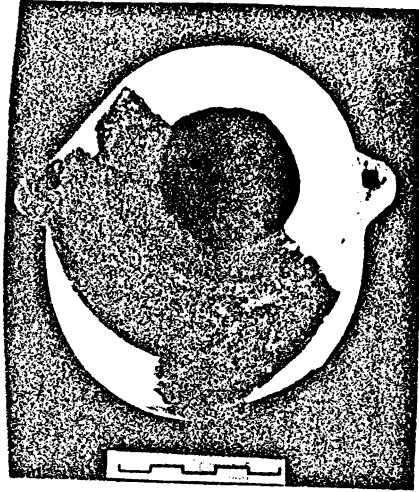


Fig. 45 Bademağacı EN 3 pottery



Fig. 46 Höyücek pottery from the Early Settlement Phase

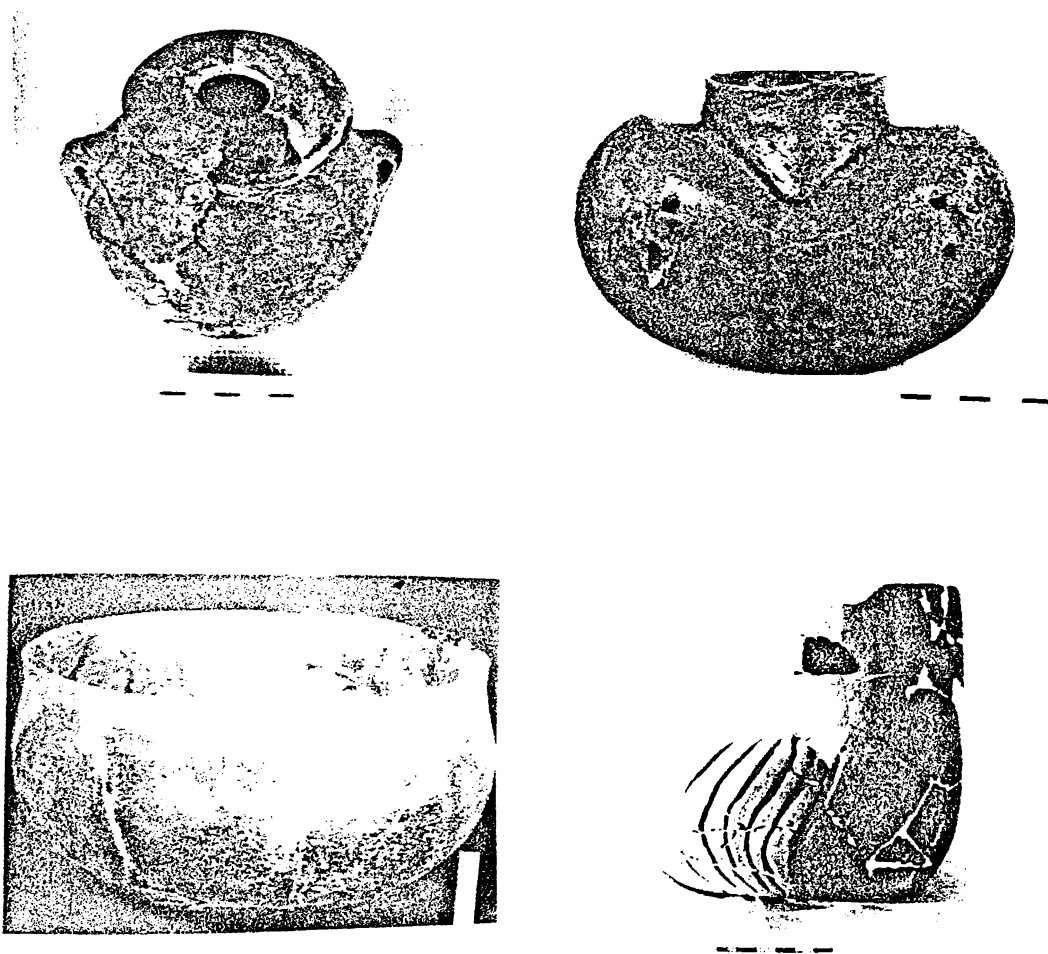
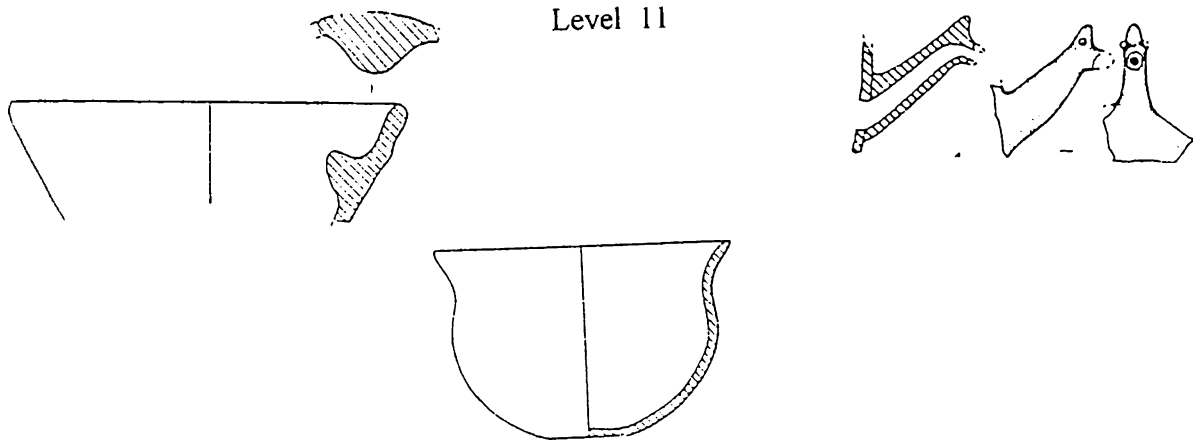
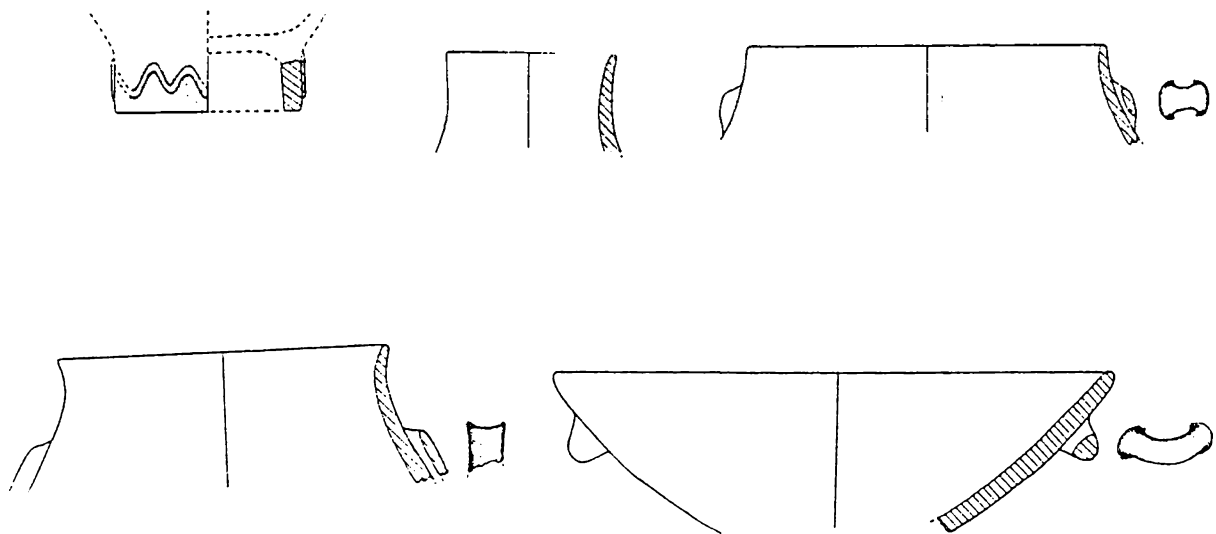


Fig. 46 Höyücek pottery from the Shrine Phase

Level 11



Level 12



Level 13

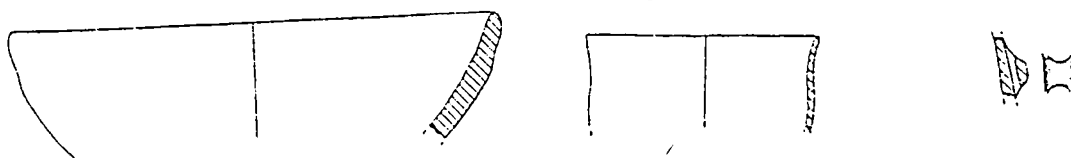


Fig. 47 Kuruçay pottery from levels 13-11

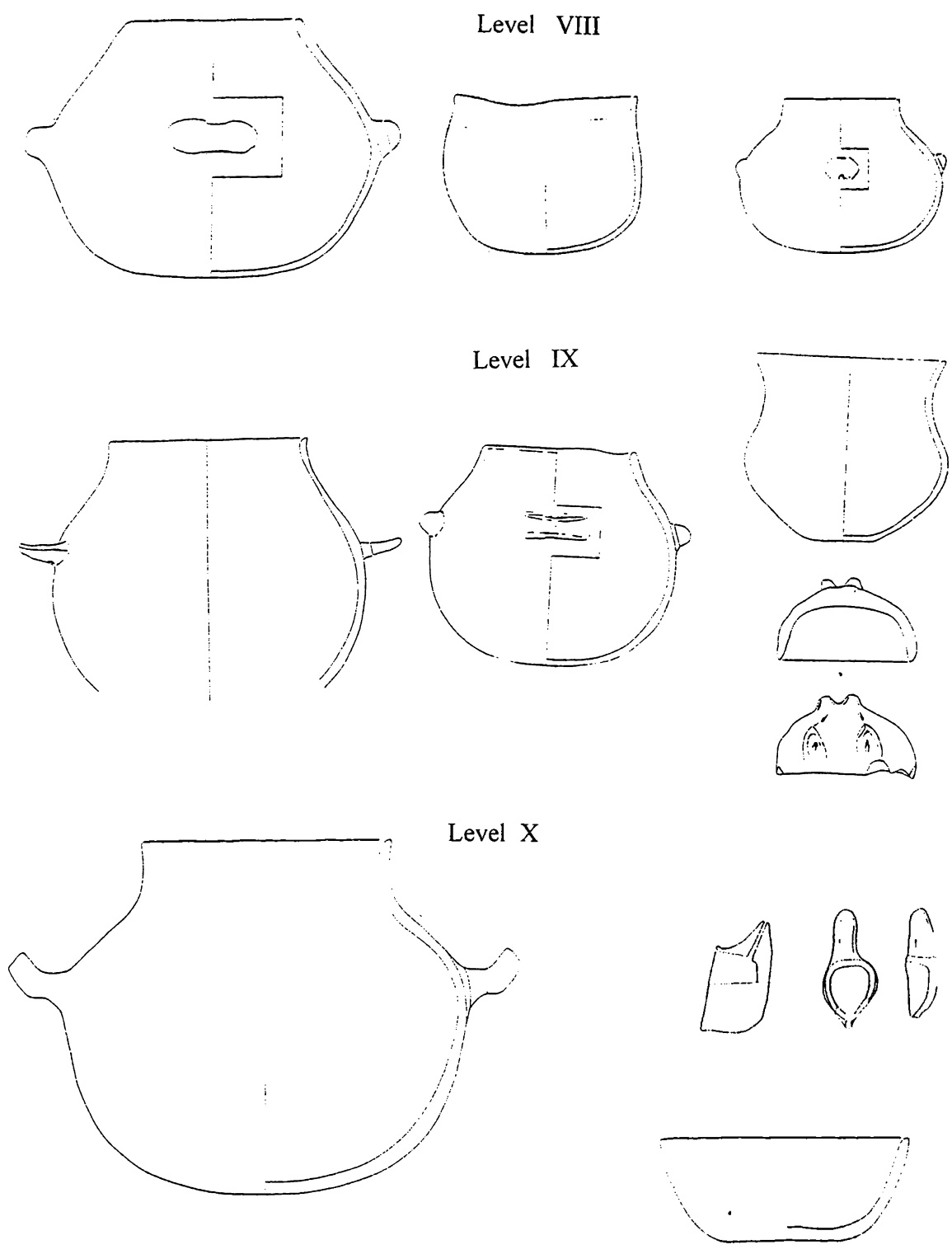


Fig. 48 Ilipinar Pottery from phases X- VIII

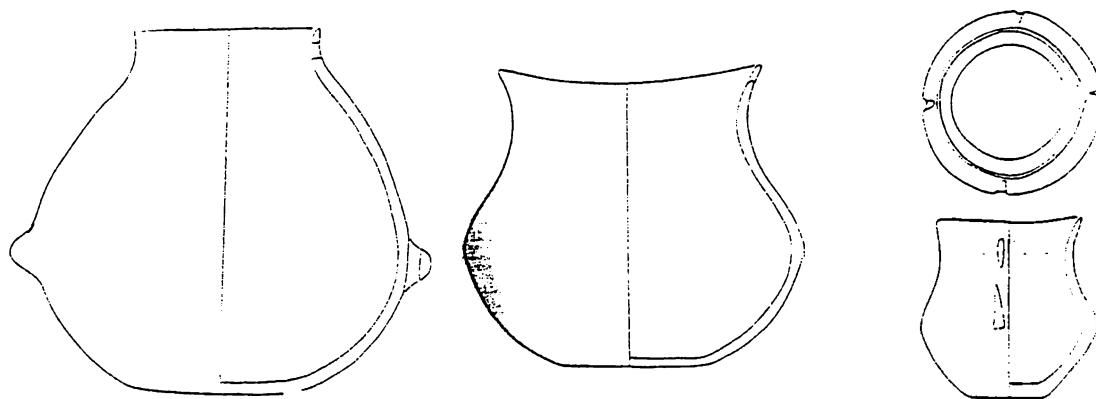


Fig. 48 Ilipinar pottery from phase VII

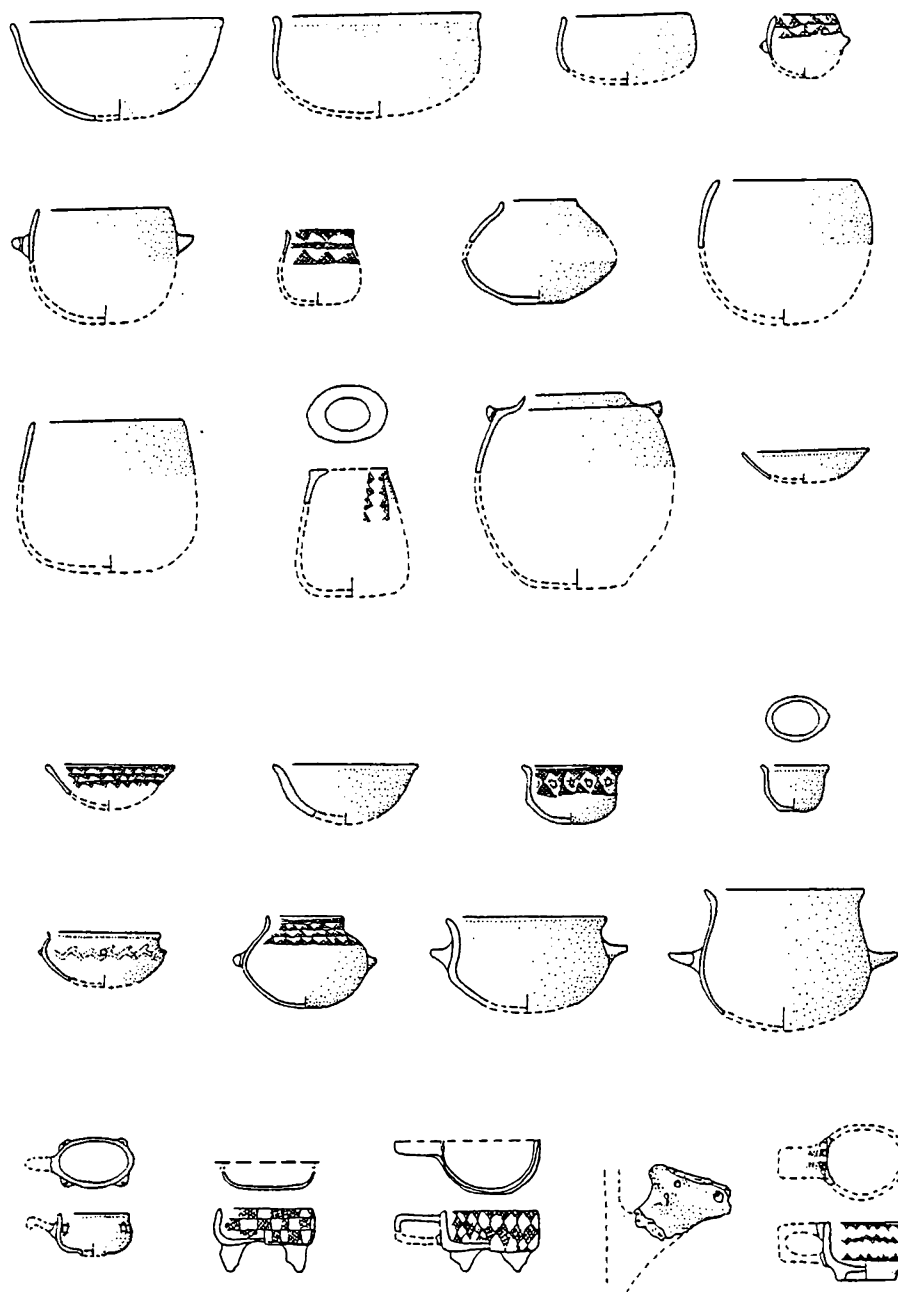


Fig. 49 Archaic and Classical Fikirtepe Pottery

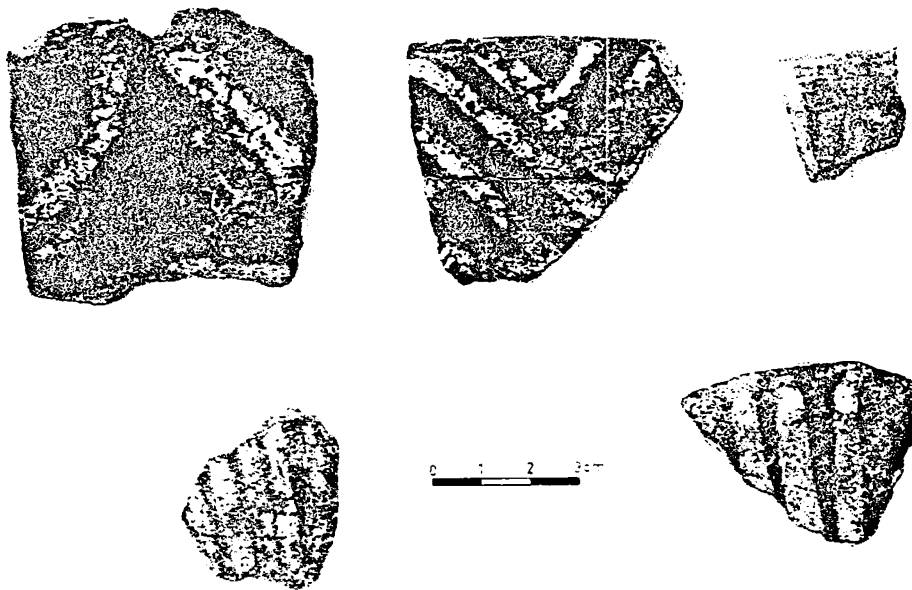


Fig. 50 Aşağıpınar white on red painted pottery

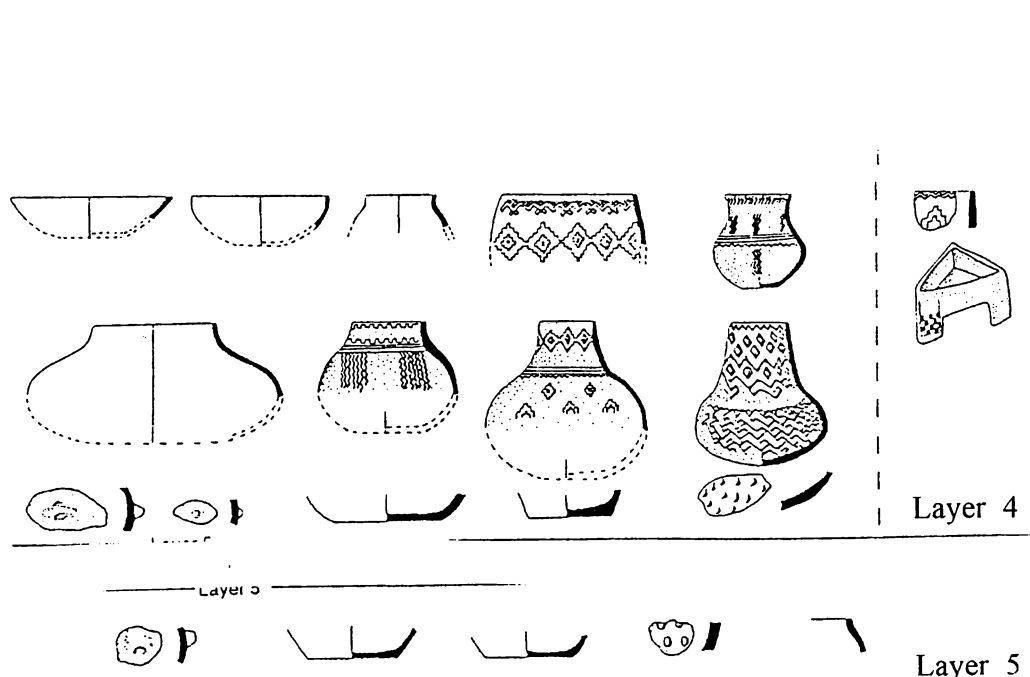


Fig. 51 Yarimburgaz typological pottery sequence of layers 5-4 .

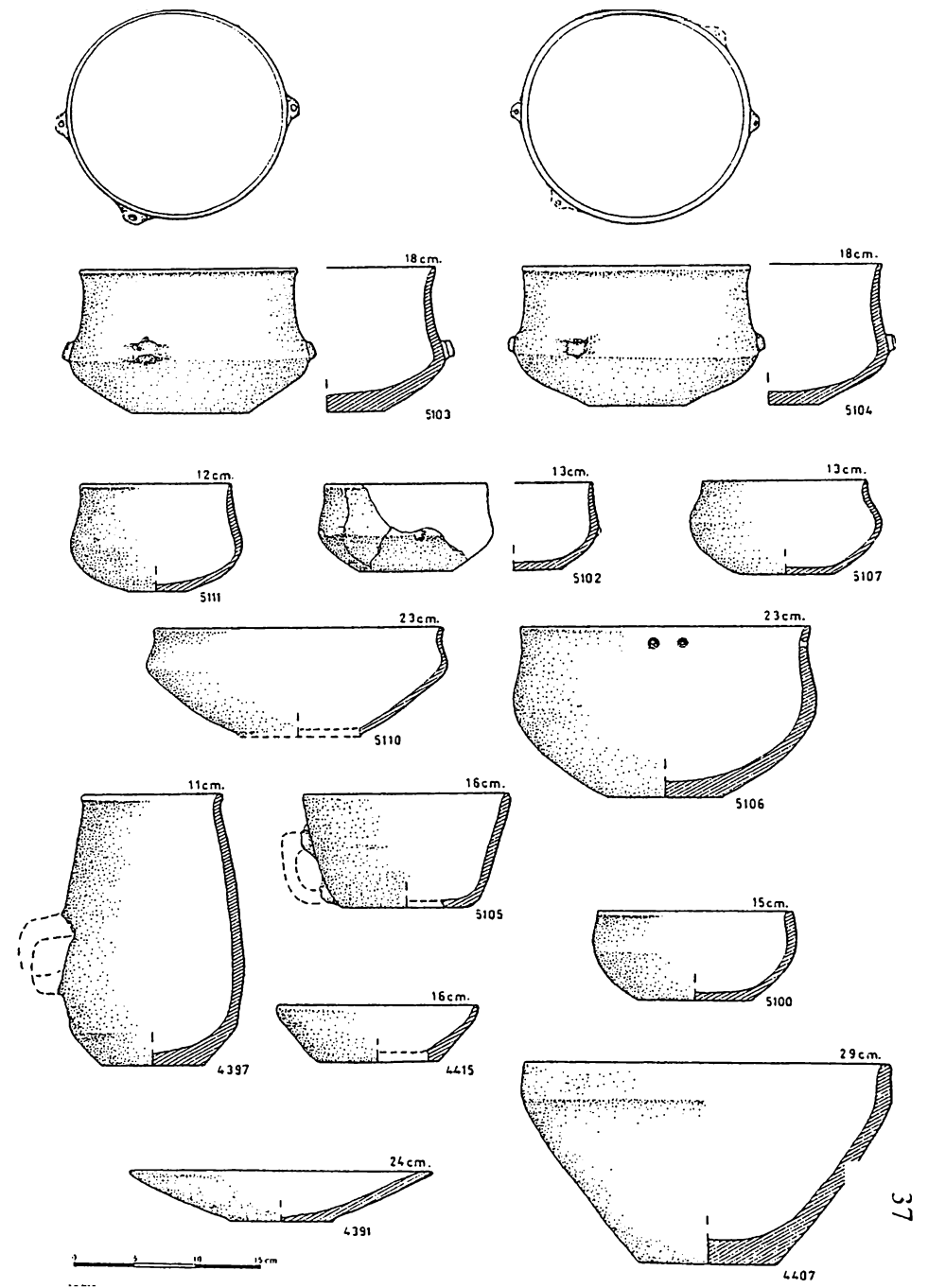


Fig. 52 Hoca Çeşme main vessel types from IV-II

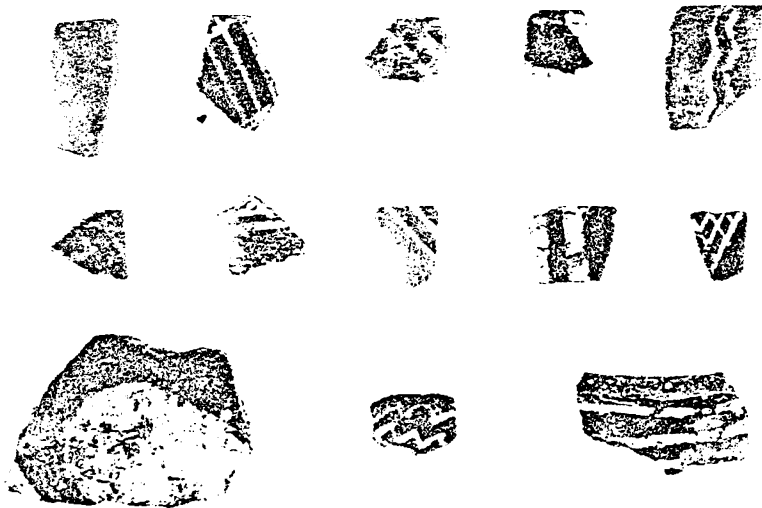
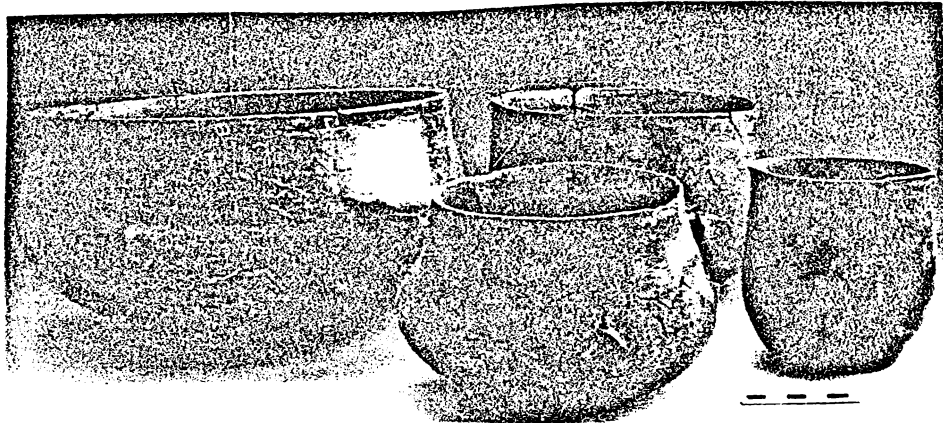
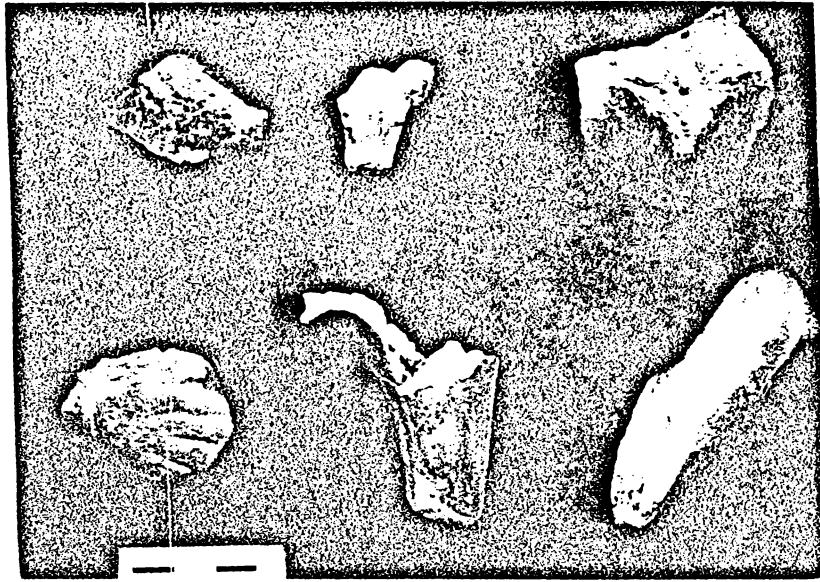
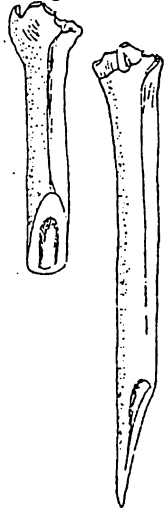
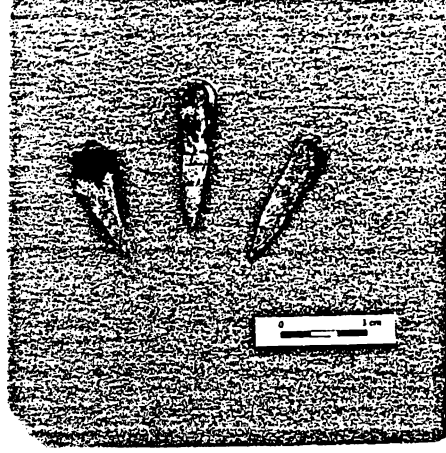


Fig. 53 Hoca Çeşme pottery from III-II

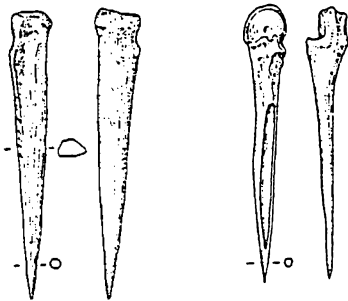


1. Çatal Höyük



2. Musular

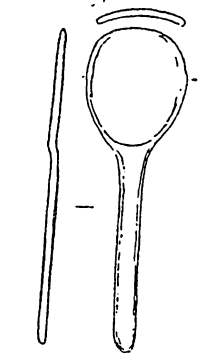
3-4 Ilıpınar



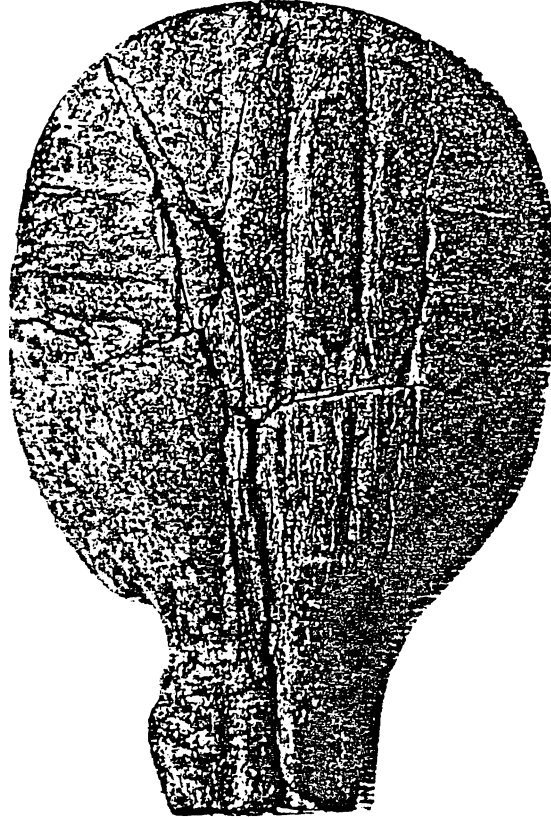
5. Kuruçay



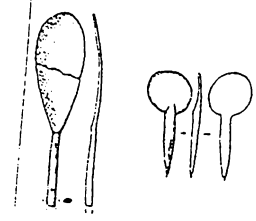
Fig. 54 Bone awls and polishers



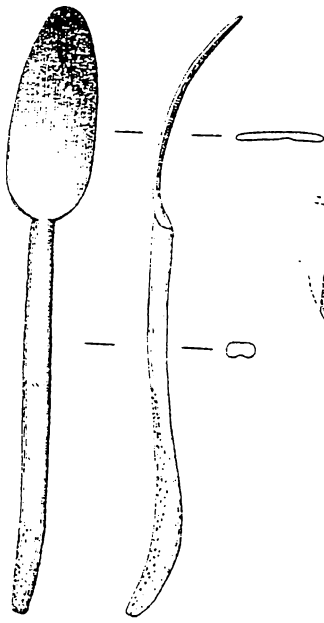
1. Çatal Höyük



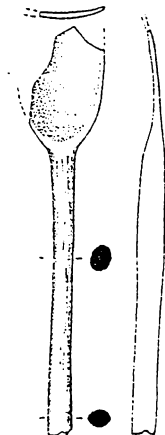
2. Musular



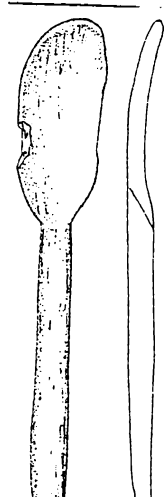
3. Pendik



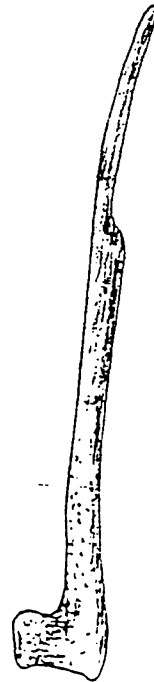
5. Ilıpınar



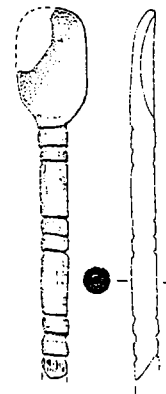
6. Fikirtepe



7. Hoca Çeşme

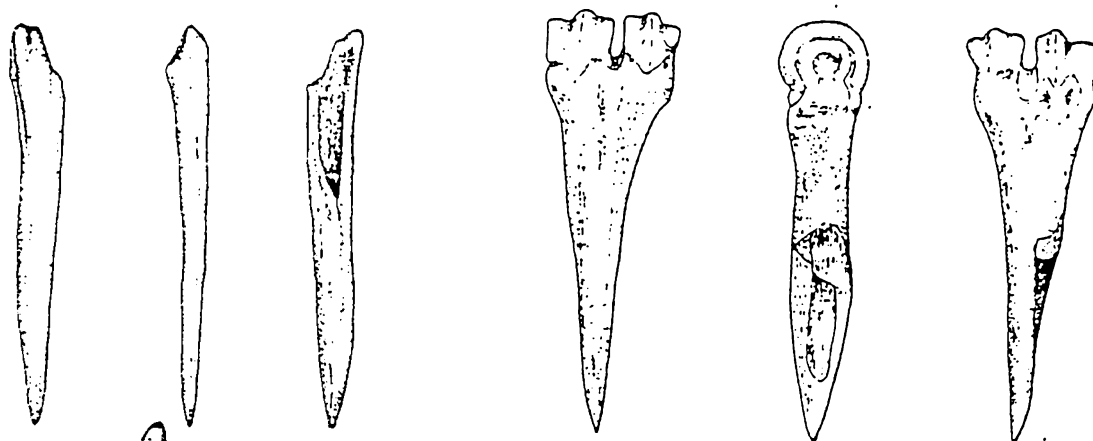


8. Kuruçay



9. Aşağıpınar

Fig. 55 Bone spoons/spatulae

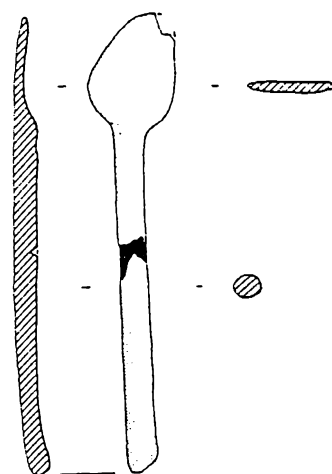


1. Achilleion

2. Achilleion



3. Sesklo

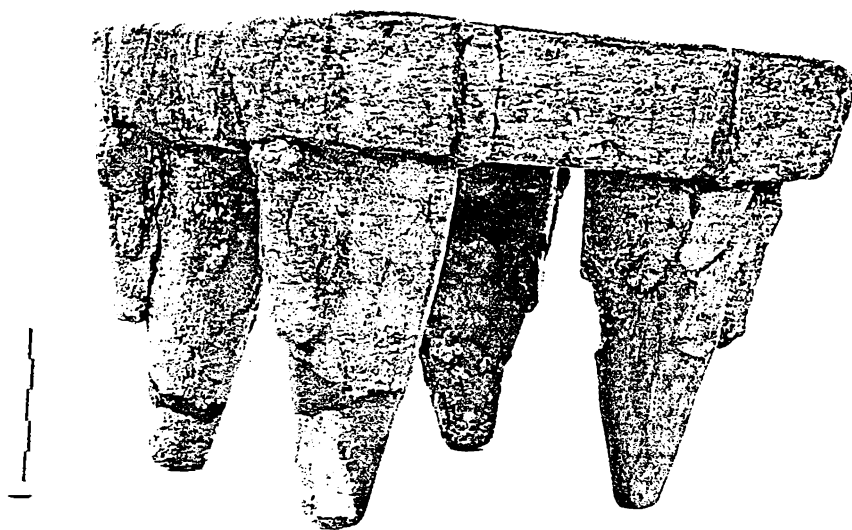


5. Karanovo- spoon

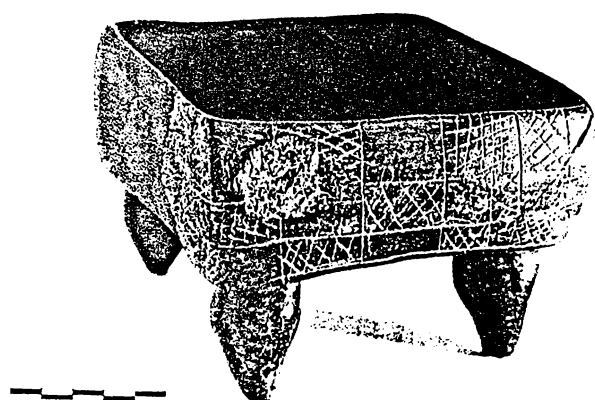


4. Karanovo

Fig. 56 Bone awls and polishers and a spoon from Southeast Europe

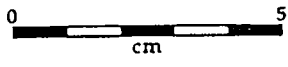
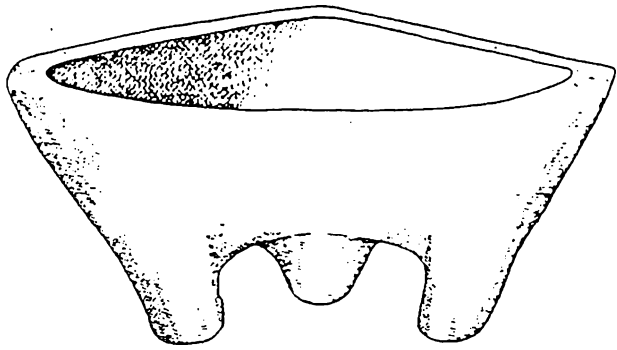


1. Höyücek

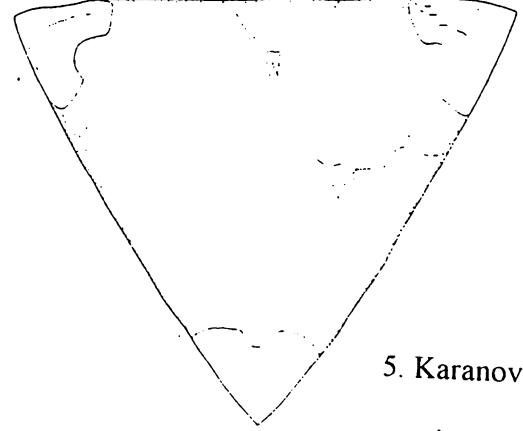
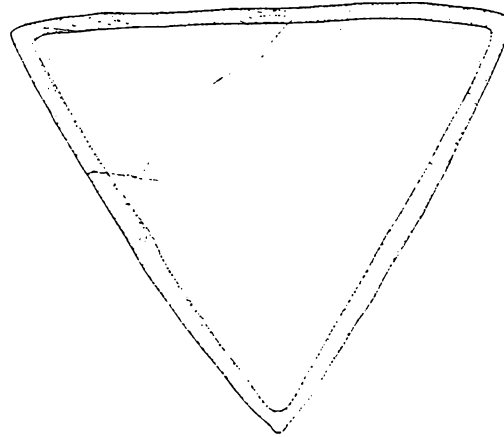
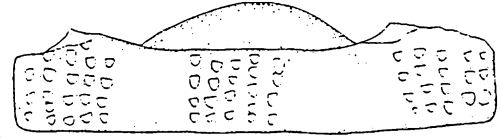
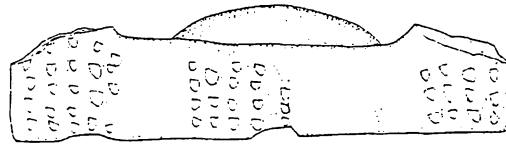
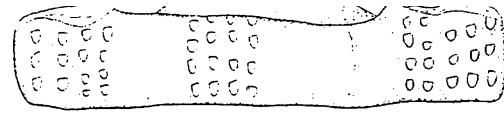


2. Fikirtepe

Fig. 57 Footed miniature vessels



3. Achilleion



5. Karanovo

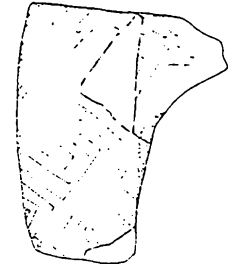
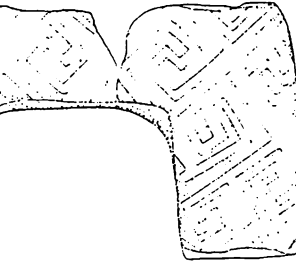
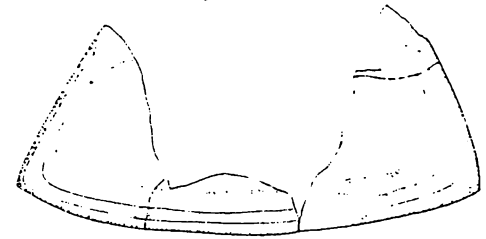
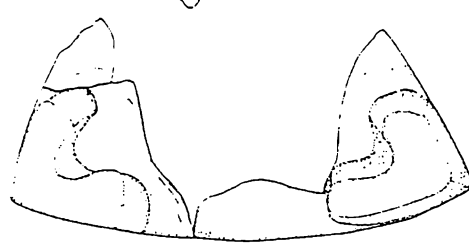
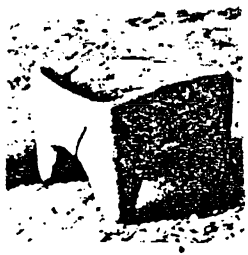


Fig. 57 Continued

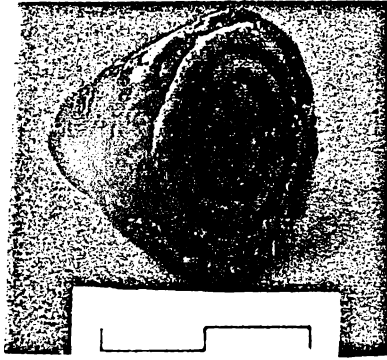
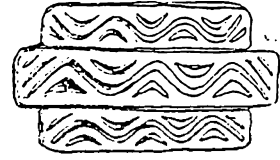


4. Sesklo

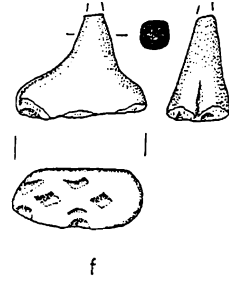
1. Çatal Höyük



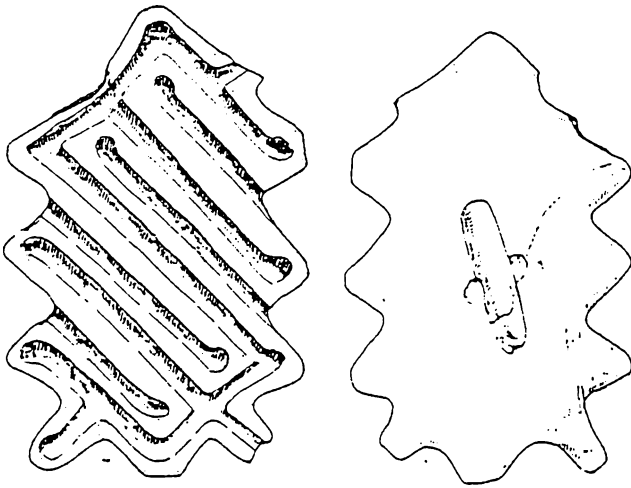
2. Çatal Höyük



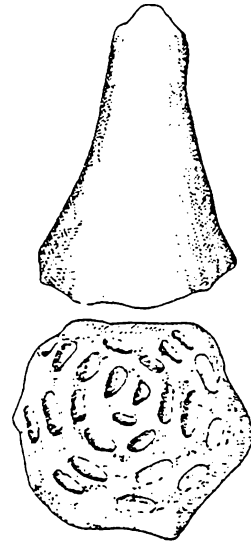
3. Bademağacı



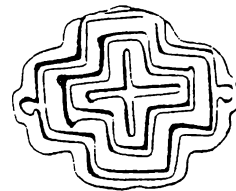
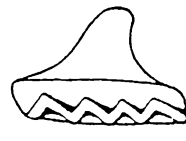
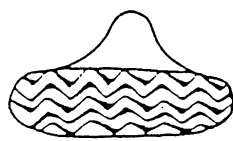
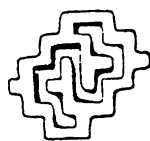
4. Hoca Çeşme



5. Achilleion

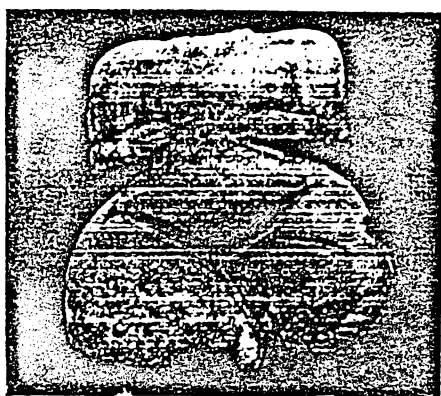


6. Achilleion

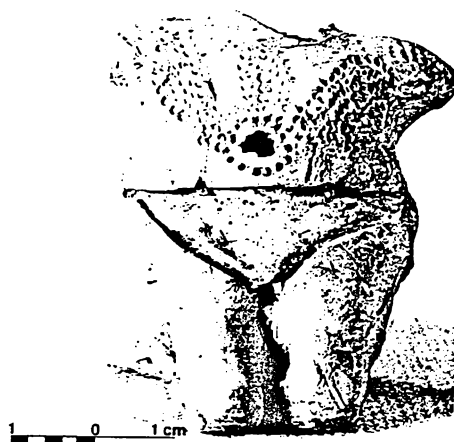


7- 10 Sesklo

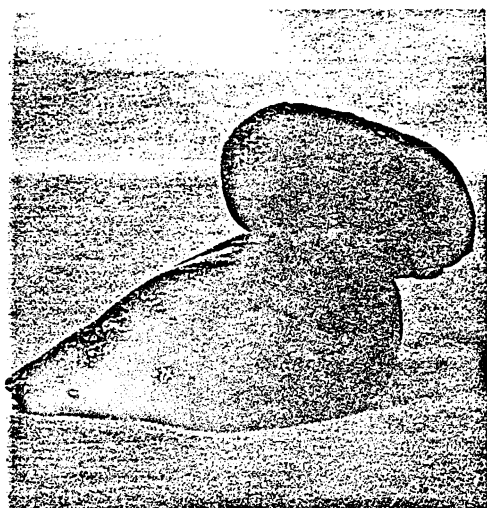
Fig. 58 Pintaderes



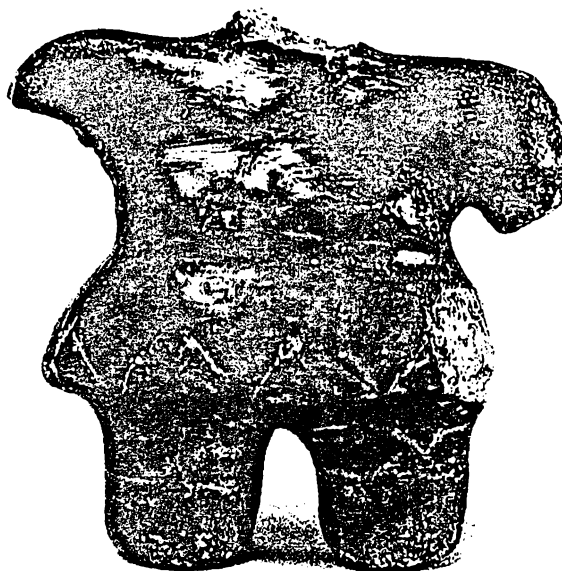
1.Çatal Höyük



2.Höyücek



3.Höyücek



4.Pendik

5.Ilıpınar

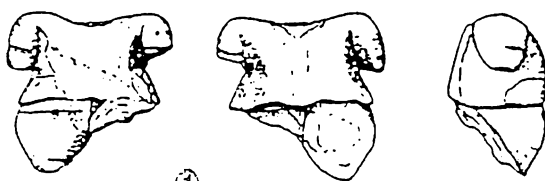


Fig. 59 Figurines



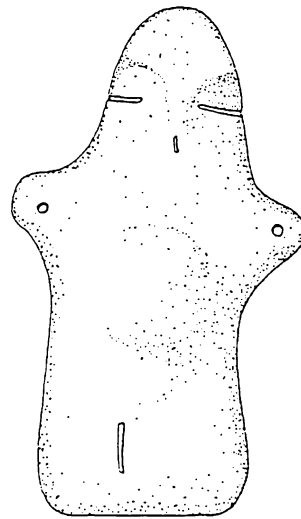
7. Franchthi Cave



8. Achilleion



9. Sesklo



10. Karanovo

11. Karanovo

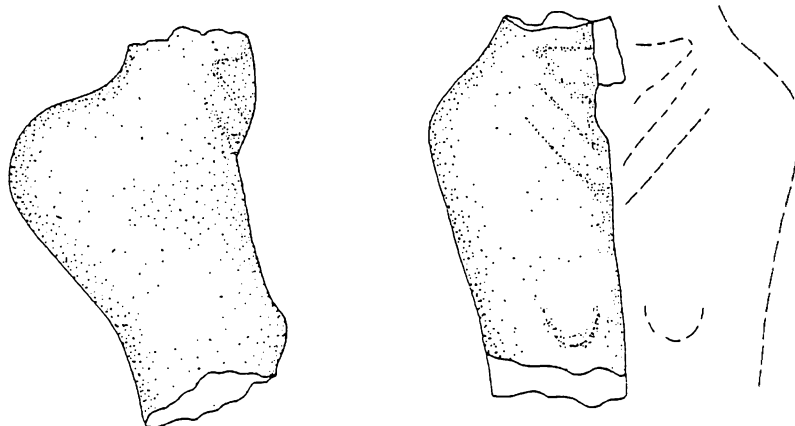


Fig. 59 Continued

<u>East/South</u>	<u>C. Anatolia</u>	<u>Lake District</u>	<u>Marmara</u>	<u>Thrace</u>	<u>Balkans</u>
LN					5500
Late Painted	Mersin	Hacılar VI	Ilıpınar VIII	Y.burgaz- A.pınar 6	Karanovo I-II
	5700			H.Çeşme II	Starçevo
MN	XXI		11		5700
	5800				5800
Early Painted	XXV		12		E. Sesklo
	Mudbrick Amuq B	Hacılar IX-Höyücek-Kuruçay			
	6000				
	XXVI		13	H.Çeşme III	Anza 1a&b
EN	XXVII			C.Fikirtepe	6125 Achilleion
					N.Nikomedia
	6300	Settlement Phase	Ilıpınar IX		6200
	XXXVIII				
Monochrome	Amuq A	II		A.Fikirtepe-Ilıpınar X	Proto- 6400 Sesklo
	6500 Red on White -IV				
		Bademağacı 6	Pendik	Y.burgaz 5- H.Çeşme IV	
	XXXIII	IX			
	7000	X			
		XII			
	7500 Çatal H. XIII				
	7500 Musular –Final Aşıklı- Suberde				
Aceramic	Can Hasan III				
	7900 Aşıklı				

Fig. 60 Chronological Chart by Thesis' Author

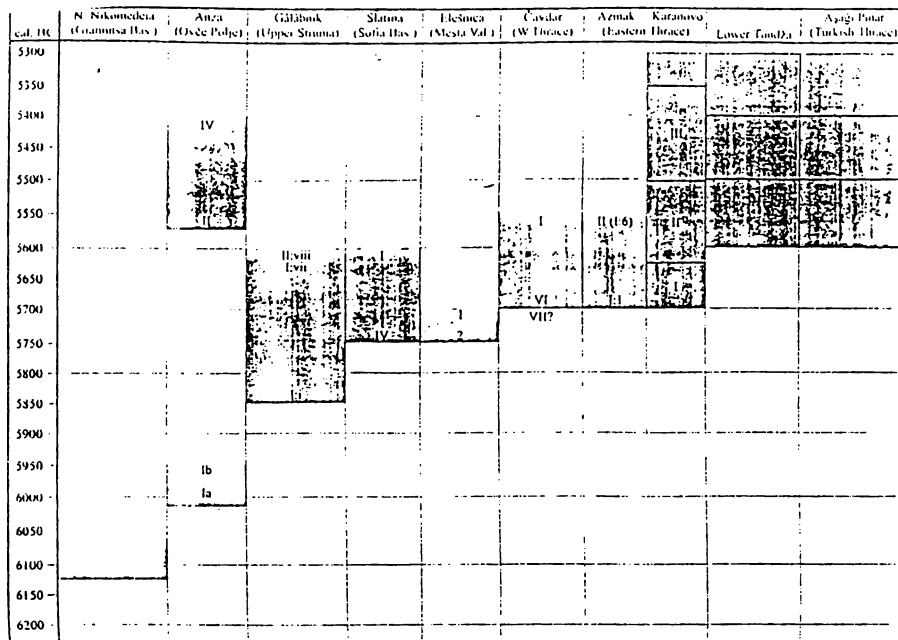


Fig. 61 Chronological Chart by Laurens Thissen

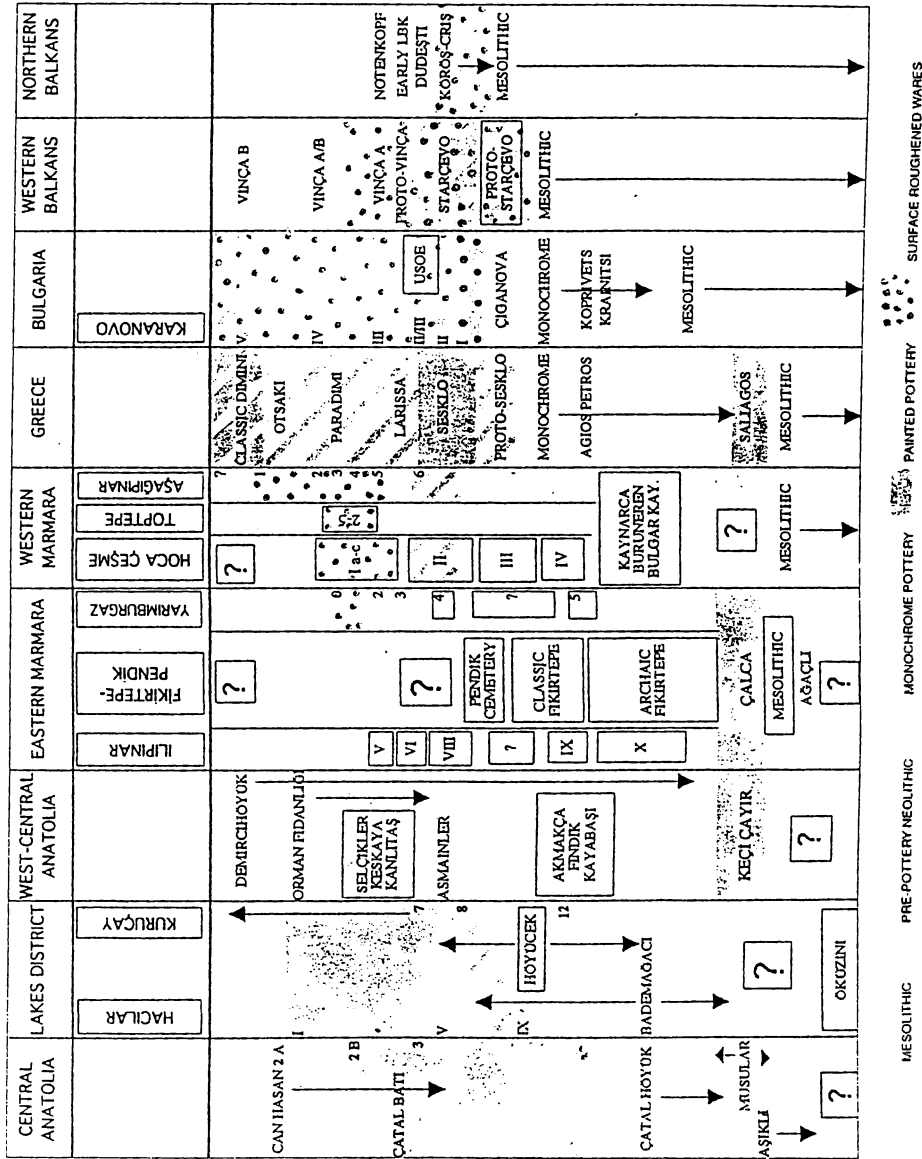


Fig. 62 Chronological Chart by Mehmet Özdoğan