1974

The Origin of Neolithic Pottery Forms

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TO

MUM, PUDS AND CHEETAH

WITHOUT WHOM -

THERE WOULD HAVE BEEN NO POINT.

IN VINO VERITAS

SAN-SHIH FU

Thirty spokes will converge
In the hub of a wheel;
But the use of the cart
Will depend on the part
Of the hub that is void.

With a wall all around
A clay bowl is molded;
But the use of the bowl
Will depend on the part
Of the bowl that is void.

Cut out windows and doors
In the house as you build;
But the use of the house
Will depend on the space
In the walls that is void.

So advantage is had
From whatever is there;
But usefulness rises
From whatever is not.

Tao Te Ching: A New Translation by R.B.Blakney

THE ORIGIN OF NEOLITHIC POTTERY FORMS

by
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A Thesis
submitted in partial fulfillment of the
requirements for the Degree of Master
of Arts in Religion and Culture

WILFRID LAURIER UNIVERSITY
Waterloo, Ontario.

March, 1974.

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ACKNOWLEDGMENTS

I wish to express my gratitude to Dr. Lawrence E. Toombs for his help and encouragement during the preparation of this thesis;

...In that old Potter's Shop I stood alone
With the clay Population round in Rows.

And, strange to tell, among that Earthen Lot
Some could articulate, while others not:
And suddenly one more impatient cried-
'Who is the Potter, pray, and who the Pot?'

Then said another - 'Surely not in vain
My Substance from the common Earth was ta'en
That He who subtly wrought me into Shape
Should stamp me back to common Earth again.'...

The Rubaiyat of Omar Kahayyam

The award of a Zion Foundation grant for the summer of 1972 made it possible for me to return to Israel and to spend three months at the American School of Oriental Research in Jerusalem in preparation of a Repertorie of Early Neolithic Pottery Forms.

Lastly I would like to express my sincere thanks to D'Arcy Dutton, Patricia Dutton, Robert Dopp, Sandra Dopp and Yvonne Woelfle for their kindness, patience and encouragement and for their technical assistance in the production of the manuscript.

Anne Valerie Pritchard

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INTRODUCTION

It is an unfortunate fact that there is no direct archaeological evidence at any site in the Palestine-Syria-Anatolia area to attest to the transition from non-ceramic to ceramic containers and storage vessels. It has, therefore, not yet been possible to determine the origin of the pottery-making technique. Unlike the agricultural revolution whose gradual appearance is attested to at several sites in the Near East the art of pottery-making can not be followed from the earliest evidence of man's use of clay to the production of the first fired vessel in the way that the hunter's first gathering of wild grains can be traced to the eventual deliberate planting and harvesting.

Jericho, which would appear to be the most likely site to provide such evidence was first excavated in 1930 by John Garstang, who believed pottery to have been "invented" at the site, evolving from the first molding of figurines in clay to the clay lined pit and eventually to the first portable clay vessel. In his "The Story of Jericho", Garstang describes the evolution of the clay lined pit to the point where its removal from the ground seemed imminent. "A development saw the borders of the vessels carried up above the floor and sometimes assuming the dimensions of a large bin the base of which was always below floor level."[1]

Further excavation of the tell by Dr. Kathleen M. Kenyon ln 1951, begun at the point where Garstang left off, provided evidence to the contrary. After the Pre-Pottery Neolithic B town came to an abrupt

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[1]Garstang, John, The Story of Jericho p.54 Cf. photograph of clay lined pit with edges raised above floor level p.57.

end a gap in occupation was found to have occured. The newcomers who re-inhabited the site after the gap brought the fully developed art of pottery making with them.[2] A similar abrupt introduction of pottery appears at every site examined in the preparation of this thesis. There exists, however, such a vast body of evidence for the Pre-Pottery Neolithic people's knowledge and use of clay for many purposes other than the production of pottery that one is reluctant to make the assumption that the technique of pottery-making came into the Near East, fully developed, from outside.

Clay was used to plaster floors and walls long before it was used to construct a portable vessel from the material. At Beidha, near Petra, ceilings and wall surfaces were plastered and in some instances even coloured.[3] Jericho boasted plaster basins set in finely burnished plastered floors[4] and plaster water storage vats built against walls to catch and conserve rainfall in the Pre-Pottery Neolithic B town.[5] Similar unbaked clay receptacals or bins in floors were found at Hacilar.[6]

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[2]Kenyon, Kathleen M. Archaeology in the Holy Land. p. 62.

[3]Kirkbride, Diana. "The Excavation of a Neolithic Village at Seyl Aqlat, Beidha, Near Petra." Palestine Exploration Quarterly. 92, 1960. pp.138-39.

[4]Kenyon, Kathleen M. "Jericho and its Setting in Near Eastern History." Antiquity. 120, 1956. p. 186.

[5]Kenyon, Kathleen M. Archaeology in the Holy Land. p.48.

[6]Mellaart, James. "Excavations at Hacilar: Forth Preliminary Report, 1960." Anatolian Studies. Vol. X, 1960. p.99.

The properties of clay were obviously well understood as it was even found at this site to have been used to plaster stone querns to the floor.[7]

The Jarmo people lived in mud-walled (louf or pisé) houses. These houses were provided with clay ovens which were complete with chimneys and with floors of packed mud over beds of reeds.[8] Also at level 5 at Jarmo a basin shaped hole, 50 cm. in diameter had been scooped in the floor, faced with clay and a fire built in it. The fire then hardened the clay producing an "unportable basin".[9] Professor Braidwood points out that clay basins run through a succession of levels at Jarmo but at level 6 and below "portable" pottery vessels are not yet in use.[10]

Another indication of the incipient awareness of the potential of clay is its use in modeling figurines both human and animal which are common to almost all sites in this study. Probably the earliest and best known example of human portraiture is the plastered skulls found in the Pre-Pottery Neolithic B level at Jericho. The lower part of these had been covered with plaster, molded into the likeness of human features. With eyes of inset cowrie shells each head presents a most individual

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[7]Mellaart, James. "Excavations at Hacilar: First Preliminary Report." Anatolian Studies, Vol. VIII, 1958, p. 133.

[8]Braidwood, R. "A Preliminary Note on Prehistoric Excavations in Iraqi Khurdistan." Sumer, Vol. VII, p. 103.

[9]Braidwood, R. and Braidwood, Linda. "Jarmo: A Village of Early Farmers in Iraw." Antiquity XXIV, 1951, p. 192.

[10]Braidwood, R. "Near Eastern Prehistory." Science, June 20, 1958, Vol. 127, No. 3312, p.1428 and Fig. 8.

character.[11] Human and animal figurines were found in all levels at Jarmo.[12] Markedly pregnant "mother godesses" were constructed of baked and unbaked clay although, the baked clay figurines were apparently confined to the ceramic, or as Dr. Braidwood refers, the "upper most third" of the tell.[13] Human, animal and fertility figurines were found at Munhatta in the preceramic level and in Level 2 which is contiguous with Jericho level IX.[14]

These examples of the use of clay in the Pre-Pottery era for purposes other than the construction of portable vessels would indicate that the knowledge and familiarity with the material was such that it offered the potential for the technique of pottery-making to develop spontaniously at a number of sites in the Near East. The fact that a site has not yet been discovered where this occurs does not necessarily mean that one does not exist. It should be remembered that down to the year 1950, only three sites containing Neolithic pottery had been discovered in Israel and Jordan![15] There is a great deal of material as yet unexcavated (or unpublished as the case may be) and its eventual recovery will hopefully provide answers to this and other questions

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[11]Kenyon, Kathleen M. Archaeology in the Holy Land, p. 52.

[12]Braidwood, Robert, J. "Discovering the World's Earliest Village Community." Illustrated London News, Dec. 15, 1951, p. 995.

[13]Braidwood, Robert , J. "A Preliminary Note on Prehistoric Excavations in Iraqi Kurdistan." Sumer VII, 1951, p. 103 cf. Figure 1

[14]See Figure 1

[15]Kaplan, J. "The Neolithic Pottery of Palestine." Bulletin of the American Schools of Oriental Research. No. 156, Dec. 1959, p. 15.

Figure: 1 CLAY FIGURINES Scale, 1:1

Figure: 1 CLAY FIGURINES

1. Clay animal figurine, baked clay
   Jarmo
   Level not reported in publication
   Prehistoric Investigations in Iraqi Khurdistan.Pl. 16:1

2. Clay animal figurine, baked clay
   Jarmo
   Level not reported in publication
   Prehistoric Investigation in Iraqi Khurdistan. Pl. 16:2

3. Human Figurine, baked clay
   Jarmo
   Level not reported in publication
   Prehistoric Investigations in Iraqi Khurdistan. Pl. 16:7

4. Human figurine, baked clay.
   Jarmo
   Level not reported in publication
   Prehistoric Investigations in Iraqi Khurdistan. Pl. 16:8

5. Human figurine, baked clay
   Munhata
   Level 2,
   Syria XLIII, 1966, Pl. VI:16

6. Phallic symbol, hardened, unbaked clay
   Munhata
   Preceramic Level
   Syria XLIII, 1966, Pl. VI:1

7. Human figurine, unbaked clay
   Munhata
   Preceramic Level
   Syria, XLIII, 1966, Pl. VI:2

8. Human figurine, unbaked clay
   Munhata
   Level 2
   Syria, XLIII, 1966, Pl. VI:13

facing the archaeologist today.

Professor Ruth Amiran in commenting upon the lack of evidence for the origin of the pottery making technique suggests that the incipient awareness of the potential use of clay as shown by the peoples of the Palestine, Syrian and Anatolian areas indicates that a local link should be sought for the origin of pottery making.[16] The alternative to this explanation is that the technique was brought in, fully developed, from outside. It was in response to Professor Amiran's plea for more study in this area that the topic of this thesis suggested itself. It is hoped that the conclusions reached at the end of this study will not only fulfill the specific purpose of determining the origin of the forms used in the earliest production of pottery, but also a broader one of providing a stepping stone for future study into the origin of the pottery-making technique itself.

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[16] Amiran, Ruth. Ancient Pottery of the Holy Land, p. 17.

ORIGIN OF NEOLITHIC POTTERY FORMS

The purpose of this study is to attempt to determine the origin of the forms used in the first production of pottery. In the transition to a new medium the characteristic forms do not evolve instantly. It is far more likely that the first forms were copied from a pattern or model. Man did not pick up a lump of clay and immediately model it into a convenient sized jug. Never having seen a jug it is far more likely that he would copy a familiar vessel in spite of the fact that the new medium did not lend itself so readily to the production of the copy. This mismanagement of a new medium is described under the heading of The Theory of Technological Lag.

> When a new technological medium is developed its potentialities and limitations are only slowly discovered by a process of trial and error. In the initial stages of the employment of the new medium, models for its use are not yet available, and the technology demanded by its distinctive chemical and physical properties is not understood. In this vacuum of knowledge and experience the users of the new medium must turn to functional models already being produced in different media. If, for example, the functional category is "container" the tentative beginnings of the use of clay for this purpose will slavishly imitate containers made of other materials. The form of the object in the old medium may not, however, lend itself readily to reproduction in the new. For a time the new medium is handled by techniques appropriate to the old but ineffective or difficult when applied to the new. The result will be inefficient or distorted use of the new medium, sometimes displaying awkward or inefficient forms with occasional absurdities.[1]

After an extended period of experimentation the new material becomes sufficiently familiar to the craftsman that its natural properties suggest distinctive forms and methods of manufacture which will remain characteristic of that material.

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[1]Toombs, Dr. L.E. "Non ceramic prototypes of Neolithic Pottery." Unpublished paper read at Canadian Society for Archaeology Abroad. Calgary, November, 1973, p. 2.

Assuming that this theory applies to the medium of clay in the development of pottery making then it should be possible to determine the origin of the Neolithic Pottery forms by a careful study of the containers used before ceramic vessels came upon the scene and a comparison with the earliest pottery forms to determine which were, in fact the skeuomorphs of these forms. The fact that this assumption is not ill founded is indicated by the discovery at various sites in the Near East of unusual pottery objects, which appear to be copies of artifacts existing in another medium such as stone or wood and for which the properties of clay are not suited. At Catal Huyuk, a table made of clay was uncovered[2] which resembles a table made from a stone slab which had been found at Seyl Aqlat.[3] At Grubba,[4] and at Hacilar,[5] clay spoons were found which were believed by the excavators to have had bone prototypes. The fact that these discoveries are isolated would tend to substantiate the belief that the earliest potters had not yet developed a good understanding of the properties of clay and were imitating the forms which were common to other mediums.

It is proposed to examine a selection of sites in the Near East

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[2]Mellaart, J. "Excavations at Catal Huyuk, First Preliminary Report, 1961." Anatolian Studies Vol. XII, 1962, pp. 54-55

[3]Kirkbride, Diana. "The Excavation of a Neolithic Village at Seyl Aqlat, Beida, Near Petra." Palestine Exploration Quarterly, 92, 1960, p. 139.

[4]Mellaart, James. "The Neolithic Site of Ghrubba." Annual of the Department of Antiquities of Jordan, III, 1956, p. 28.

[5]Mellaart, J. "Excavations at Hacilar: First Preliminary Report." Anatolian Studies. Vol. VIII, 1958, p. 133.

which were occupied during the period of time generally accepted by scholars to be the Early Neolithic Era when the first pottery was being produced in this area. From a study of the pottery excavated at these sites and other non-ceramic vessels in use at this time and earlier it is hoped that probably prototypes for Neolithic Pottery forms will make themselves obvious.

CHAPTER I

NEOLITHIC SITES IN THE PALESTINE AREA

Beidha

Duweir

Teluliot Batashi

Abu Gosh

Jericho

Ghrubba

El Khiam

Megiddo

Munhata

Abu Usba

Nahal Oren

Sha'ar Ha-Golan

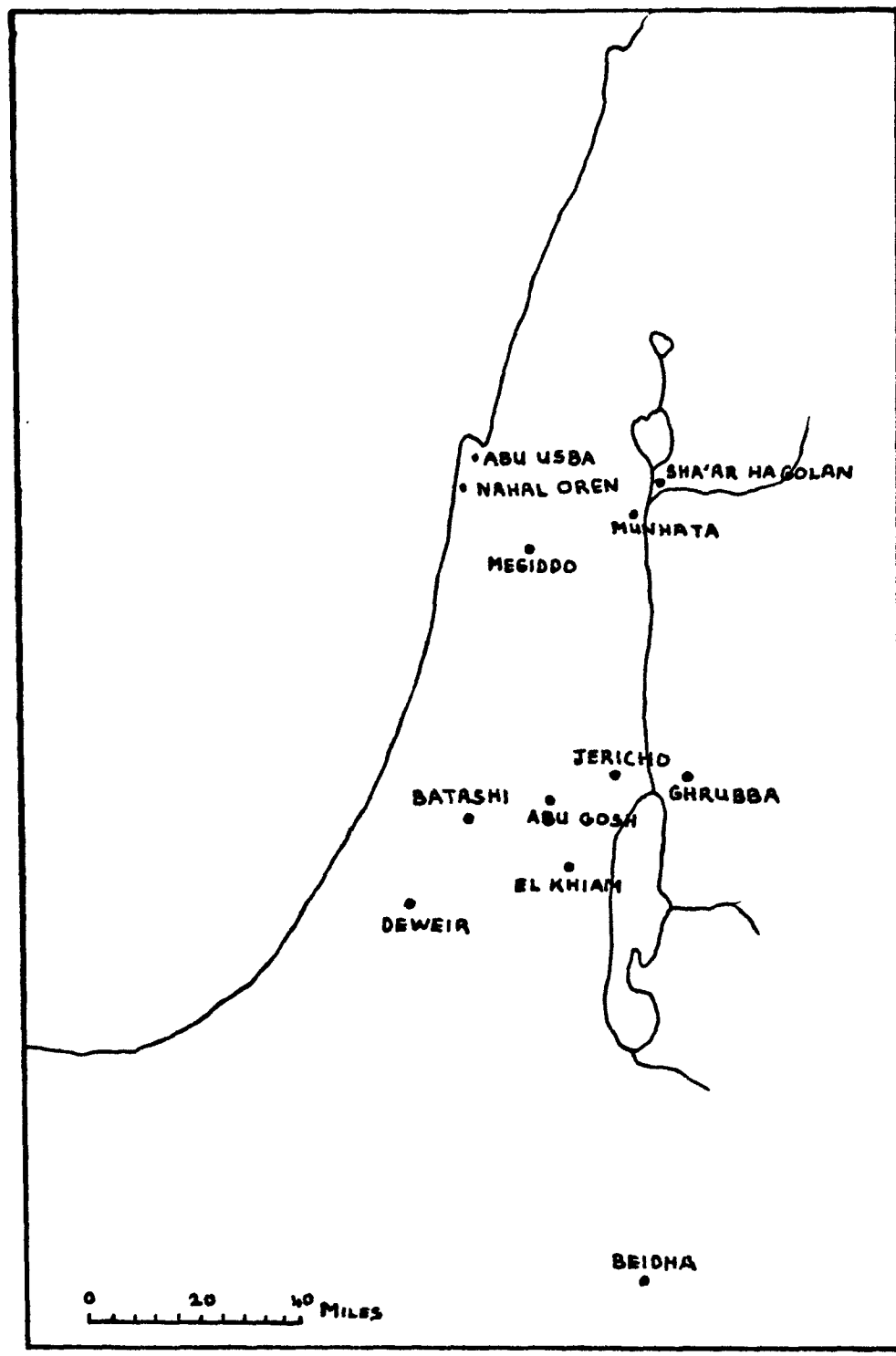
ABU USBA
NAHAL OREN
SHA'AR HAGOLAN
MUNHATA
MEGIDDO
JERICHO
GHRUBBA
BATASHI
ABU GOSH
EL KHIAM
DEWEIR
BEIDHA
0
20
40 MILES

Figure 2.

SEYL AQLAT, BEIDHA

The Neolithic village was first uncovered by its excavator Diana Kirkbride in 1956. Seyl Aqlat is a seasonal torrent-bed situated in Wadi el-Beidha about one and one half hours walk north of Petra and fifteen minutes south of el-Barid. The seyl begins as a vertical drainage fault high up in the sandstone cliffs which line the western side of the wadi, and descends in a series of steep drops and deep waterholes until it finally flows out into the main wadi from a narrow cleft. The seyl bed is dry for most of the year, but after rain it becomes a small river which rapidly loses itself in the sands of the main wadi with some water being retained for several weeks in rock waterholes. The south bank of the seyl is formed by sandstone cliffs and the northern by a bank at least fifteen meters in height composed of fine wind-laid sand. On the top of this bank is a low, but clearly defined tell running for about 80 meters.[1]

The first season of excavation was launched in 1958. The site was found to have been occupied during the Mesolithic as well as the Neolithic era. Artifacts of the lower Natufian were found with only local differences from those of Mugharet el Wad level B2.[2] There is no transitional period as at Jericho between the Mesolithic and Neolithic levels. At the Seyl Aqlat site two meters of sterile sand

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[1]Kirkbride, D. "The Excavation of a Neolithic Village at Seyl Aqlat, Beidha, Near Petra." Palestine Exploration Quarterly, Vol. 92, 1960, p. 136.

[2]Kirkbride, D. "The Excavation of a Neolithic Village at Seyl Aqlat, Beidha, Near Petra." Palestine Exploration Quarterly, Vol. 92, 1960, p.143, cf. Garrod & Bate, 1937.

separate the two.

The Neolithic deposit proved to be contained in over 3 meters of closely packed levels. Seven different stages of building have so far been distinguished. A radiocarbon date of 7090 BC with higher half life was obtained from the fourth level which had been destroyed by fire.[3] The village was probably in use between ca. 7200 and 7000 BC.

Buildings of two different types were found: small rooms with corridor units which seem to have been communal stores and one large rectangular room which is thought to have been residential.

Plastered floors both of the burnished mud plaster type found at Jericho[4] and also of a very hard, white kind resembling modern cement were present, while in the later periods, although the floors were of earth, the ceilings may have been covered with plaster-coloured haematite.

At Jericho two types of querns were found: the boat-shaped with a wall all around and an open ended type. At Seyl Aqlat both these types of querns were also present.

At Seyl Aqlat the flint culture, querns, and plaster floors of the Jerichoan type confirm a definite link with Jericho Pre-Pottery Neolithic B.

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[3] Mellart, James. Earliest Civilizations of the Near East, p.37.

[4] Kenyon, Kathleen M. "Some Observations on the Beginnings of Settlement in the Near East." Journal of the Royal Anthropological Institute, 89, 1958, Plate I:111.

TELL ed-DUWEIR (Lachish)

The mound of Tell ed Duweir which has been identified as the biblical Lachish is located in the low hills to the west of Hebron. Excavations were begun by Sir Henry Wellcome and subsequently by Sir Charles Marston. When the digging began in 1932 it was hoped to excavate the whole mound through all stages of its operation, however, political problems in the area and the death of the director brought work to an end in 1938.

The excavation of the town levels, of which the latest belonged to the Hellenistic and Persian periods, only reached the town of "Early Iron II". Evidence for occupation at earlier periods comes from caves and tombs, from a section cut in the edge of the mound, and from clearance of areas for dumping.[1]

The main center of the Chalcolithic era was on exposed ground north west of Tell ed Duweir. However, the lower slopes of the site near the north east corner afforded better shelter and some large natural caves.[2] The fact that man was established in the vicinity in earliest times is shown by the presence of a Natufian flint end scraper[3] deep in the midden at the base of the slopes and nearby there was also a painted sherd[4] of the distinctive Pottery Neolithic A fine

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[1] Kenyon, Kathleen M. Archaeology in the Holy Land, p.311.

[2] See Lachish IV pl. 10:1, Pls. 88-89 and Lachish III, Pls.128-129.

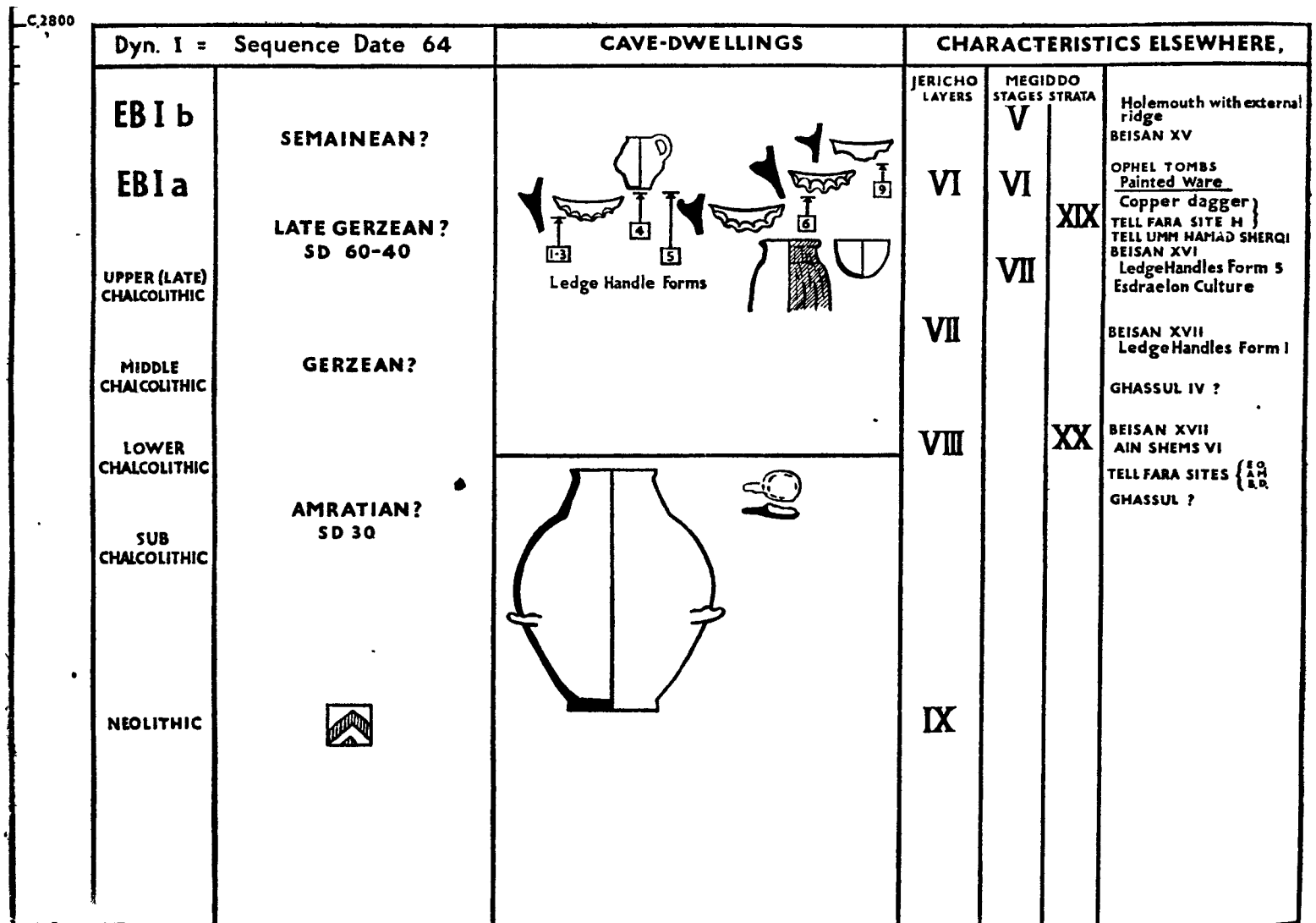
[3] See Lachish IV Group 4022, pp. 288f and Appendix C.

[4] See Fig. 3.

Figure 3.

TELL ED-DUWEIR

Neolithic to Early Bronze



Lachish IV, Fig. 1., p.28.

ware associated with the latter part of Jericho IX.[5]

Twenty five miles to the south, near Tell Fara in Wadi Ghuzzeh, lie some of the earliest pottery sites preserved through aridity and the consequent absence of later settlements. The Fara settlements provide several links with the cave-dwellings of the north-west settlement at Duweir, and some contact is established with Teleilat Ghassul in the Jordan Valley to the east. The current date for the last phase of that site is estimated by Albright between 3800 and 3400 B.C.[6] More than 500 years before, by the same reckoning, the pottery Neolithic of Jericho IX is represented by the single Neolithic Sherd which was recovered from the midden on the north-east corner of the mound.[7]

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[5]See: G.E.Wright, The Pottery of Palestine to the End of the Bronze Age. p. 8-9/ Also, Lachish IV p. 44 and K. Kenyon, Archaeology in the Holy Land, p. 63.

[6]Rel. Chron., p. 29.

[7]Lachish IV p. 29.

TELULIOT BATASHI

The site known as Teluliot Batashi consists of two small artificial mounds which are situated on the south bank of the stream-bed of the Sorek River. In 1955, excavations were begun on the periphery of, and on the larger mound itself which was about a quarter acre in area.

At the base of the larger mound two Neolithic shelter-pits parallel in period to stratum IX at Jericho were discovered.[1] Two periods of settlement were distinguished, the lowest being marked IVb and the upper IVa. Over the Neolithic Stratum lay a Chalcolithic stratum III which has been dated pre-Ghassulian by J. Kaplan.[2] Among the finds of this level some Yarmukian Neolithic pottery was uncovered. Stratum II was EB and Stratum I MB.

A distinctive difference in the character of the decoration of the Neolithic pottery of phase IVb and IVa was noted. Burnishing of the undecorated vessels was equally common in both phases. The paint in the lower phase, IVb, was much inferior to that of the upper IVa, being yellow, dark-brown or black in colour, in contrast to the red and dark-red common in the upper phase. Dr. Kaplan suggests that the craft of painting pottery is at this point in its initial stage, while the technique of burnishing is already well developed. Some

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[1] Eretz Israel, No. 5, 1958 fig. 3. cf."The Neolithic Pottery of Palestine." J. Kaplan, Bulletin of the American Schools of Oriental Research, No. 156, 1959, p. 17.

[2] Kaplan, J. "Excavations at Wadi Rabah." Israel Explorati. Journal, Vol. 8, 1958, pp. 159-60.

geometrical decoration was found chiefly in the upper phase while linear decoration was found in the lower, but differs from the former in details of execution. Even the herring-bone patterns common among the Batashi Neolithic pottery differed from the corresponding Neolithic Yarmukian motifs, chiefly in their manner of execution.

We may add here some additional differences not specifically noted by the excavator. The vessels of IV B tend to be simpler in design with few and relatively crude handles, and with uncomplicated rim forms. The excavator's suggestion that painting technique is in an early stage may be extended to vessel form. Of particular interest are the flat bottomed bowls which suggest possible stone bowl prototypes and the narrow necked jug suggestive of a leather original.

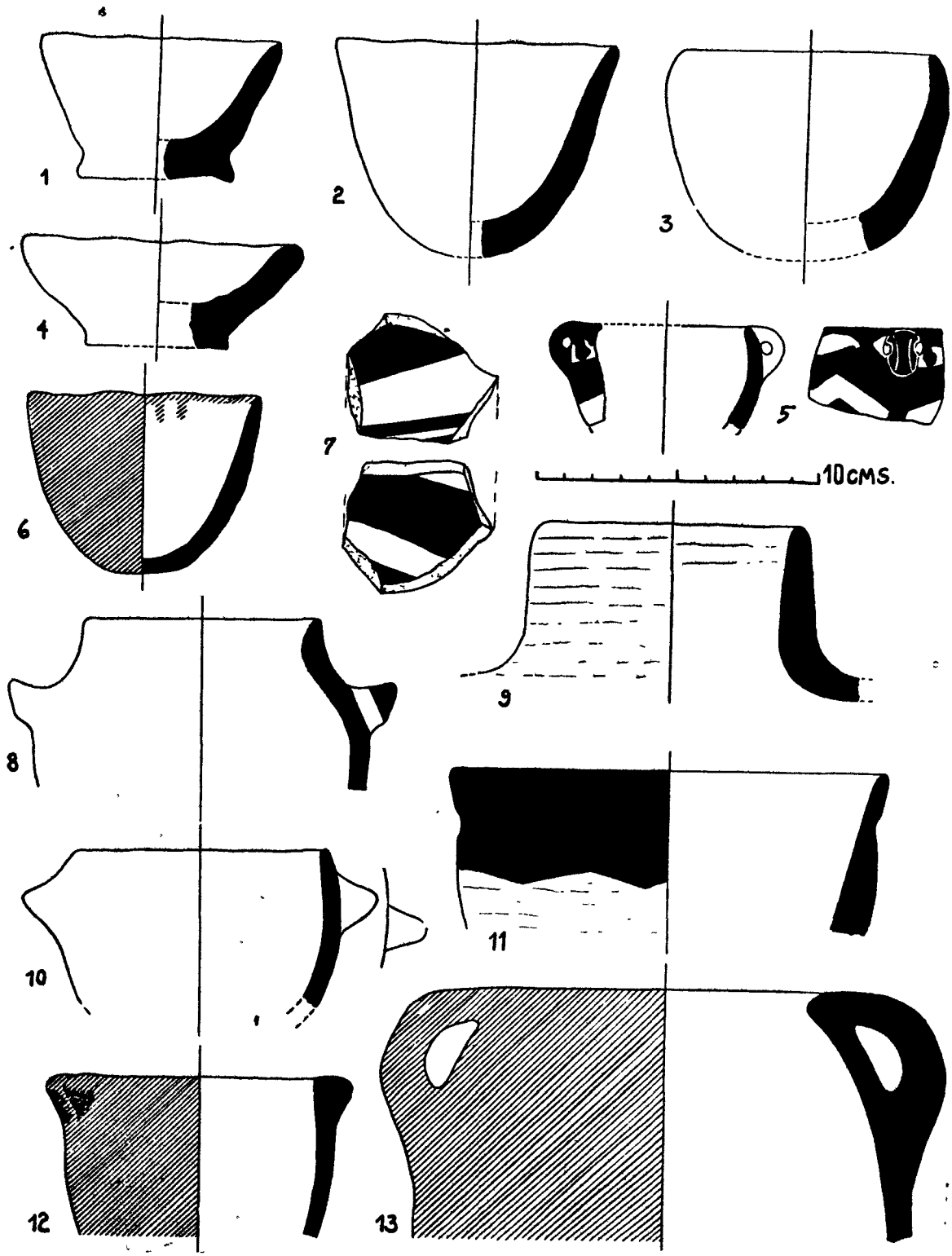

Figure: 4 THE NEOLITHIC POTTERY OF TELULIOT BATASHI
Reproduced from Eretz Israel, No. 5, 1958
Fig. 7, p. 17.

Figure: 4 THE NEOLITHIC POTTERY OF TELULIOT BATASHI

1. Bowl,
   Level IVB
   Eretz-Israel, No. 5, 1958, Fig. 7:1

2. Round-bottomed bowl
   Level IV A-B
   Eretz-Israel, No. 5, 1958, Fig. 7:2

3. Round-bottomed bowl
   Level IVA
   Eretz-Israel, No. 5, 1958, Fig. 7:3

4. Bowl, disc base.
   Level IV A
   Eretz-Israel, No. 5, 1958, Fig. 7:4

5. Two handled cup, painted ware.
   Level IV A
   Eretz-Israel, No. 5, 1958, Fig. 7:5

6. Round-bottomed bowl, burnished outside
   Level IV A
   Eretz-Israel, No. 5, 1958, Fig. 7:6

7. Body sherd, painted.
   Level IV A
   Eretz-Israel, No. 5, 1958, Fig. 7:7

8. Jar, two horizontal lug handles
   Level IV B
   Eretz Israel, No. 5, 1958, Fig. 7:8

9. Jar rim
   Level IV A
   Eretz-Israel, No. 5, 1958, Fig. 7:9

10. Rounded bowl, lug handles
    Level IV A-B
    Eretz Israel, No. 5, 1958, Fig. 7:10

11. Straight-sided bowl. Painted ware
    Level IV B
    Eretz-Israel, No. 5, 1958, Fig. 7:11

12. Straight-sided bowl, burnished outside
    Level IV A
    Eretz Israel, No. 5, 1958, Fig. 7:12

Figure: 4 Contd. THE NEOLITHIC POTTERY OF TELULIOT BATASHI

13. Store Jar vertical loop handles, burnished outside
Level IV A
Eretz Israel, No. 5, 1958, Fig. 7:13

ABU GOSH

The village of Abu Gosh is located to the west of Jericho. The structural features included rectangular houses with stone walls and limestone floors. Elongated querns and pestles were found along with obsidian tools and axes of stone.

The lithic and ceramic finds were analogous to corresponding levels at Jericho including the two types of pottery: coarse ware and finer stuff. The material was examined by Ben Dor [1] and found to be virtually identical to Jericho Level IX.

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[1] "Jericho: City and Necropolis, 1936." Annals of Archaeology and Anthropology. XXIII, p. 77-84.

JERICHO

The site of Jericho lies 900 feet below sea level in the Jordan Valley between the Sea of Galilee and the Dead Sea. Long recognized as one of the oldest and most prominent tells in Palestine it was excavated as early as 1867 by Major-General Sir Charles Warren who conducted an exploration and survey expedition for the Palestine Exploration Fund.

Between 1908 and 1911 a team of Austro-German archaeologists carried on an excavation under the direction of L. Sellin and T. Watzinger.

It was not until Professor John Garstang of Liverpool University conducted his major expeditions between 1930 and 1936 that revolutionary discoveries were made concerning the Neolithic Period.

In 1951 starting from the point at which Professor Garstang's excavations were suspended Dr. Kathleen M. Kenyon began a series of excavations at Jericho which have formed the basis of our knowledge of the Neolithic Era.

Occupation of the tell appears to begin in the Proto-Neolithic era and continues unbroken with the exception of a major gap during the Iron I period through to the Byzantine era. This continuous occupation is attributed to an underground spring at the site which has from antiquity provided copious irrigation for the normally dry alluvial soil which surrounds it. Jericho is a fertile oasis in the waste plain through which the Jordan runs between the sea of Galilee and the Dead Sea.

Dr. Kenyon theorizes that hunters may have visited the spring

from earliest Palaeolithic times. One hand axe from that period was found on a Neolithic level but it is impossible to tell whether this was a local artifact.[1]

The first structure on the site is dated in the Mesolithic era by Dr. Kenyon and from the associated debris and objects a clear affinity is shown with the Natufian levels of the Mount Carmel caves.

The first permanent as opposed to transient occupation of the site occurs in the Proto-Neolithic period to which Dr. Kenyon gives a C-14 date of ca 9000 BCE.[2] During this time the residents of Jericho accumulated 13 feet of occupational debris consisting of innumerable floor levels identified as the sole remains of hut structures in the Nomadic style which were apparently occupied on a permanent basis. During this Proto-Neolithic stage when no solid dwellings were built the flint and bone industry is allied to that of the Mount Carmel Natufian and is considered by Dr. Kenyon to be directly derived from the first Natufian hunters to visit the site of the spring evidence of whom is inferred by the Mesolithic structure.

PrePottery Neolithic A (PPNA)

The first permanent dwellings occur about 8000 BCE[3] in the level to which the designation PrePottery Neolithic has been given. These appear to have had their prototypes in the former Proto-Neolithic hut structures believed to have been hide-covered frames.

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[1]Kenyon, Kathleen M. Archaeology in the Holy Land, p. 41

[2]Kenyon, Kathleen M. Archaeology in the Holy Land, p. 330.

[3]Kenyon, Kathleen M. Archaeology in the Holy Land, p. 331.

The round walls are constructed with hand moulded, plano-convex or hog-backed bricks. These brick dwellings were found over the entire surface of the tell, the settlement having expanded to an area of an estimated 10 acres. It is at this point in its history that the town acquired its first massive defense system.

Examination of plant evidence has shown that cultivated grains are found in the PrePottery Neolithic A levels at Jericho.[4] The inference has been made from the projected size of the settlement that irrigation on a wide-spread community co-operative basis would have been necessary to cultivate sufficient food to support its growing population and that the defence system, also a large municipal project, was made necessary for the protection of stored food surpluses.

The cause of the end of the PrePottery Neolithic A civilization or the duration of the break in occupation thereafter is not known. There is considerable erosion evident upon the tell before it is reoccupied by an entirely different group of peoples to whom the name PrePottery Neolithic B is given.

PrePottery Neolithic B (PPNB)

The most striking feature of this new people is their architecture which they brought with them fully developed. The dwellings are large with rectangular rooms built around a courtyard. The walls are constructed of cigar shaped or "hog-back" bricks, thumb-indented in a herring-bone pattern. Floors, and in some cases the walls, are covered with burnished plaster.

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[4]Kenyon, Kathleen M. Archaeology in the Holy Land, p. 331.

The use of pozzolanic substances in the lining of such things as floors, walls, built-in basins and storage pits as well as its utilization in art or religious capacities in the now famous plaster skulls of this period of Jericho's history points toward an insipient awareness of the usefulness of clay in daily life.

There is no evidence as to whether the PrePottery Neolithic B or "Plaster Floor People" came from a nearby area of the Jordan Valley or from some part of the Fertile Crescent. It is evident, however, that they brought their civilization with them fully developed. Dr. Kenyon theorizes that if the "Hog-back Brick People" erected defenses against the "Plaster Floor People" then they must have been present in sufficient numbers and proximity to suggest that their origin was not too far afield and further excavations in the Jordan Valley may unearth a large number of townships of the "Plaster Floor People".[5] This theory, presents certain problems relating to the archaeologist's inference as to the extent to which one culture is influenced by its predecessor.

Pottery Neolithic A (PNA)

The Pre-Pottery Neolithic B of Jericho comes to an abrupt end with the destruction of the town followed by a break in occupation on the tell. Although there is a considerable period during which erosion scarred the face of the mound it has not been possible to determine the duration of the break.

The newcomers who finally settled on the eroded ruins of the

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[5]Kenyon, Kathleen M. "Jericho and Its Setting in Near Eastern History." Antiquity, No. 120, 1956, p. 191-92.

old town proved to be more primitive than their predecessors in every way but one, the making of pottery. The pottery first makes its appearence over the surface of the tell in a series of curious pits dug into the earlier occupation levels. These pits appear to cover the mound as they are present at any point at which it has been excavated. It was first believed by Dr. Garstang that they represented small quarries from which material was dug for the construction of mud bricks.[6] However, further examination of the evidence brought about the conclusion that they were in actuality pitdwellings.[7] The pits were large, the deepest recorded being five meters below the contemporary surface.[8] The undercut or concave sides appear to have been reinforced by inserting broken pieces of pottery or stone into the walls. Traces of slight walls of pise and stone were also found.[9] A series of floors in the bottom of these pits indicates that the people inhabiting them were almost troglodytes. This manner of life is not unique to Jericho. A Chalcolithic site of subterranean dwellings has been uncovered at Tell Abu Matar near Beersheba.[10]

The Pottery Neolithic A people obviously arrived at Jericho

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[6] Kenyon, Kathleen M. Digging up Jericho, p. 79.

[7] Kenyon, Kathleen M. Archaeology in the Holy Land, p. 60.

[8] Kenyon, Kathleen M. Digging up Jericho, p. 78.

[9] Kenyon, Kathleen M. Archaeology in the Holy Land, p. 60.

[10] "Abu Matar". Israel Exploration Journal, 5, 6.

with the art of pottery making already developed. The pottery is of two distinct types, a coarse ware and a fine decorated ware.

The coarse ware is crude in form and construction. The ware itself is soft and crumbly indicating that it was fired at a low temperature. Straw was added to the clay in large quantities to bind it together. The clay contains numerous small to large grits. The surface of the crude ware often is smoothed with a handful of grass.

Although the finer ware also crumbles easily and contains considerable straw binder it is a better fired product constructed of a more carefully washed clay. The chief distinction in the two wares, however, is the finishing applied to the finer stuff. The smooth outside surface is generally covered with a cream coloured slip. A red slip is then applied, partially covering the vessel and leaving a pattern in reserve cream slip, usually showing chevrons or triangles. The vessel is then finished by burnishing the red slip to a high luster leaving a most distinctive pottery type.

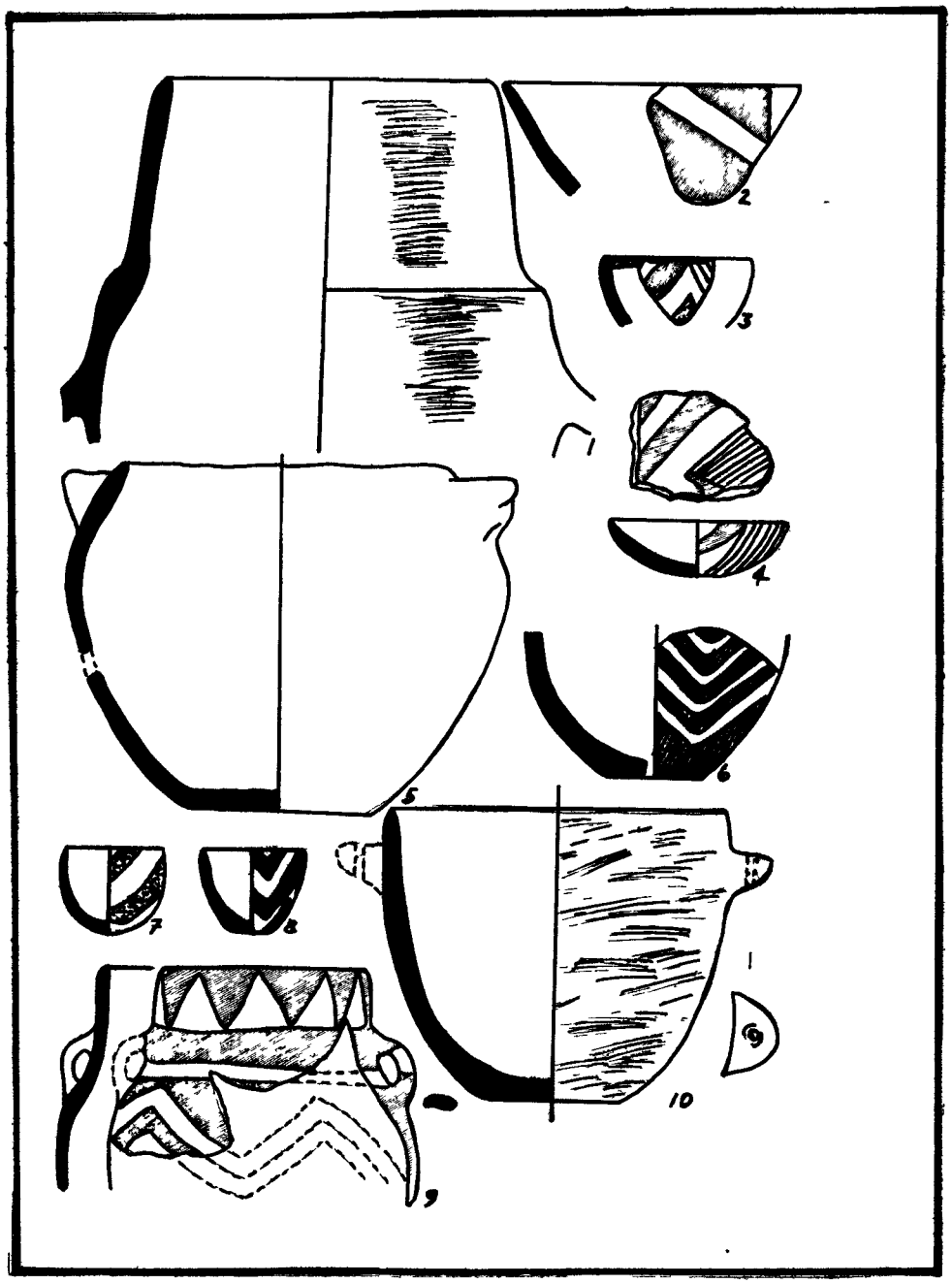
It is obvious not only from the ware but from the repertoire of forms that the art of pottery making was not greatly advanced. The most common vessels are simple rounded or straight sided bowls with flat bases and high necked jars with slightly globular bodies. Small lug handles are often found at the base of the jar necks. There was no moulding or applied decoration on any vessel found in this period.

Pottery Neolithic B (PNB)

The Pottery Neolithic B people who succeeded the Pottery Neolithic A group appear to have continued in the same tradition as their predecessors for some time at least. The distinction between the two

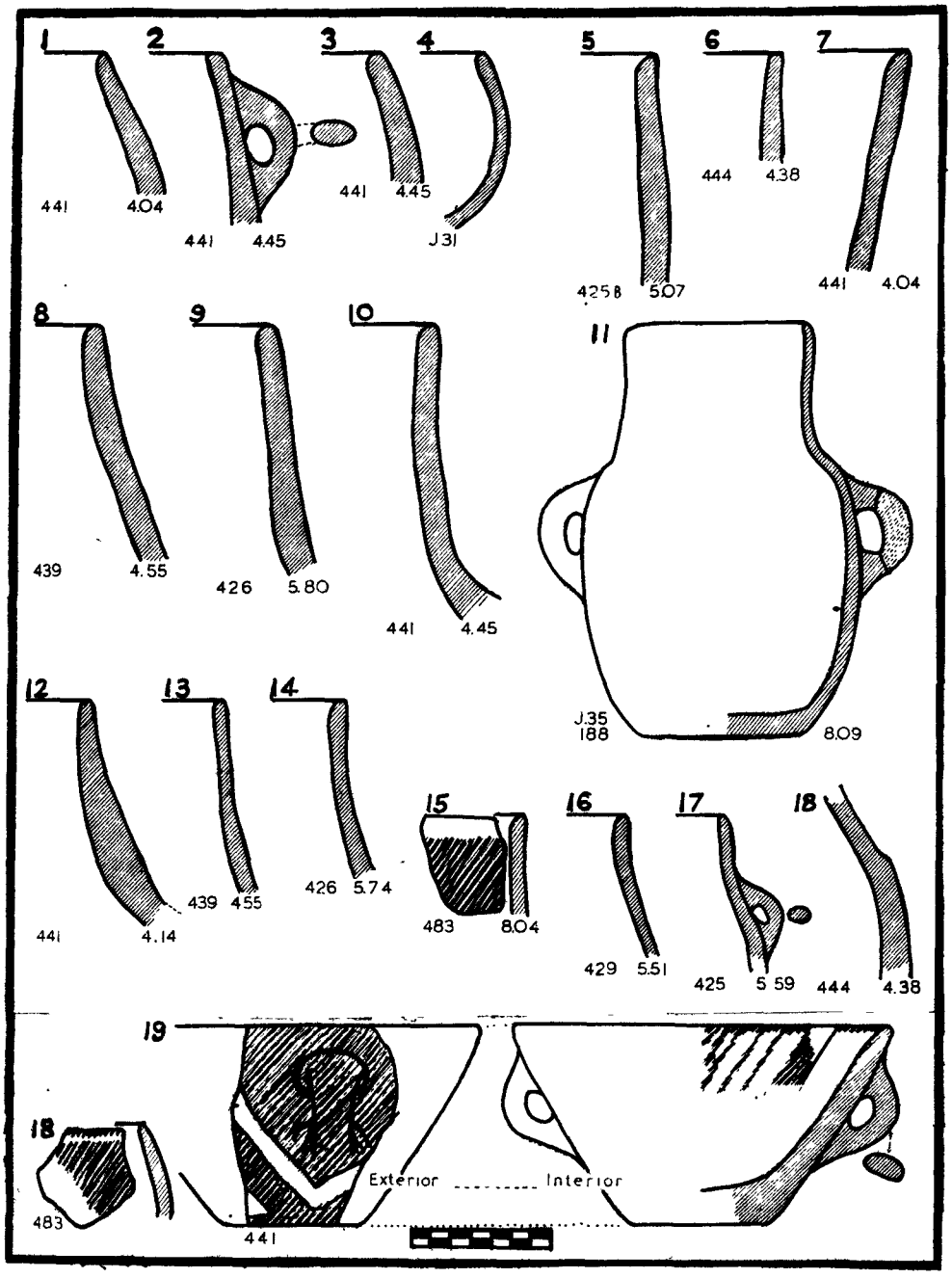
groups is not yet clear. The Pottery Neolithic B people built their huts in the upper levels of the pits which had been occupied by the Pottery Neolithic A people. This group, which Dr. Kenyon believes either superceded or more probably, mingled with the A group, produced new more highly developed pottery type. The vessels are finer, the clay is better fired and the forms are more advanced and diverse in shape. Notable characteristics of Pottery Neolithic B include the bow rim and jar handles which splay out at their attachment to the vessel. The burnished red on cream decoration is replaced by a deep red slip which is sometimes burnished. The most prominent decorative feature of this new pottery is the introduction of herringbone incisions usually separated by grooves and sometimes accentuated by a band of cream slip.

The Pottery Neolithic B people eventually developed a form of free standing architecture. Houses were built on a stone foundation with a mud brick superstructure. These bricks were hand as opposed to mold made and in a plano-convex or bun shape. Later constructional development produced more solid structures with rectiliniar stone walls.



Pottery of the Neolithic A period at Jericho
Reproduced from Archaeology in the Holy Land.
Page 61, Fig. 4. Scale, 1:5.

Figure 5.



Pottery of the Neolithic Level IX at Jericho. Reproduced from Annuals of Archaeology and Anthropology. (1936) XXIII. Plates XXIX & XXXI.

Figure 6

GHRUBBA

The site of Ghrubba is located on the southern side of Wadi Nimrin approximately 2 kilometers west of the Shunah Police Post on the Jerusalem-Amman road. The site is marked by a slight rise of about one metre in height. A large pit full of black ashes was exposed on the southern side of the wadi.

The pit was sealed by layers 1-4 which extended above it. The excavators believe that the pit may have been used for outdoor cooking during the warm weather.[1]

Layers 5-15 produced Neolithic pottery with linear decoration similar to Jericho IX and Megiddo XX. The closest pottery parallels appear to be the earliest pottery of Mersin, Cilicia, or the unpublished material of the Amuk B culture of Tell Jedeidah XIV.

The pottery inventory is small and includes cups, bowls and jars. Two clay spoons of red-washed ware were found as well as fragments of figurines and spindle whorls.

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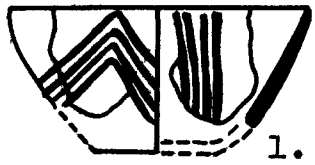
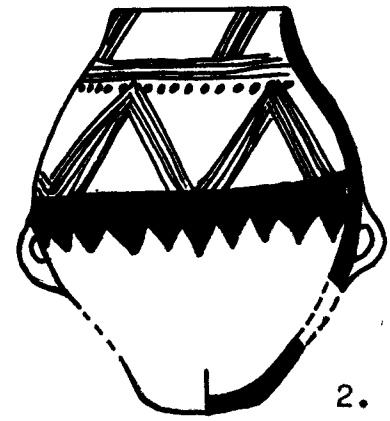
[1]Mellart, J. "The Neolithic Site of Ghrubba." Jordan Department of Antiquities Annual, No. 111, 1956, p. 24.

Figure: 7 THE NEOLITHIC POTTERY OF GHRUBBA



1.



2.

1. Bowl, buff, red decoration
Scale 1:5
Annual of the Department of Antiquities of Jordan, III, Fig. 5:65

2. Jar, buff, red decoration
Scale 1:5
Annual of the Department of Antiquities of Jordan, III, Fig. 6:122

EL KHIAM

The site of El Khiam is located 12 km. in a straight line south-east of Bethlehem in the desert of Judea. It is located on a sloping terrace at the foot of a cliff on the right side of Wadi Khareintum. The terrace is dolomite limestone. Part way up the cliff are openings of five caves which probably were inhabited during the lower Pleisticine Era.

The excavation took place on the terrace through seven meters of earth which were found to contain twelve levels.

Level I, the latest level is Pottery Neolithic. Levels II and III are PrePottery Neolithic and Levels IV through XII all belong to the Old Stone Age.

Ground stone implements such as mortars and pestals were abundant on the site. In Level V a simple stone bowl without feet was found.[1]

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[1] See Fig. 30:5

MEGIDDO

Between 1925 and 1939, the tell at Megiddo was excavated on a grand scale by Professor James Breasted. The original intention was to clear the mound in its entirety, excavating it layer by layer. This project proved to be beyond the resources of the Oriental Institute of Chicago which was financing the operation. Strata I to V dating from approximately 350 B.C. to 1000 B.C. were completely cleared. Excavation on the tell itself was carried beyond that stage only in four areas. In addition to work on the tell itself, a large area was cleared on the lower slopes of the hill for the purpose of freeing space for dumping. In this was found a further sequence of the earliest periods of occupation, dating from the beginning of the early Bronze Age to the end of the third millennium.[1]

The earliest evidence of habitation at Megiddo is found in cave 4067 in Stratum -XX.[2] This cave is a natural formation in the bedrock roughly 3 x 5 meters in area. The artifacts consist solely of stone and bone objects without a trace of pottery. The earliest, pre-pottery inhabitants of what then was a barren rocky hill were undoubtedly attracted to the spot by the adjacent spring now known as 'Ain el-Kubbi. This generous flow of water was to insure habitation of the site for centuries to come.[3]

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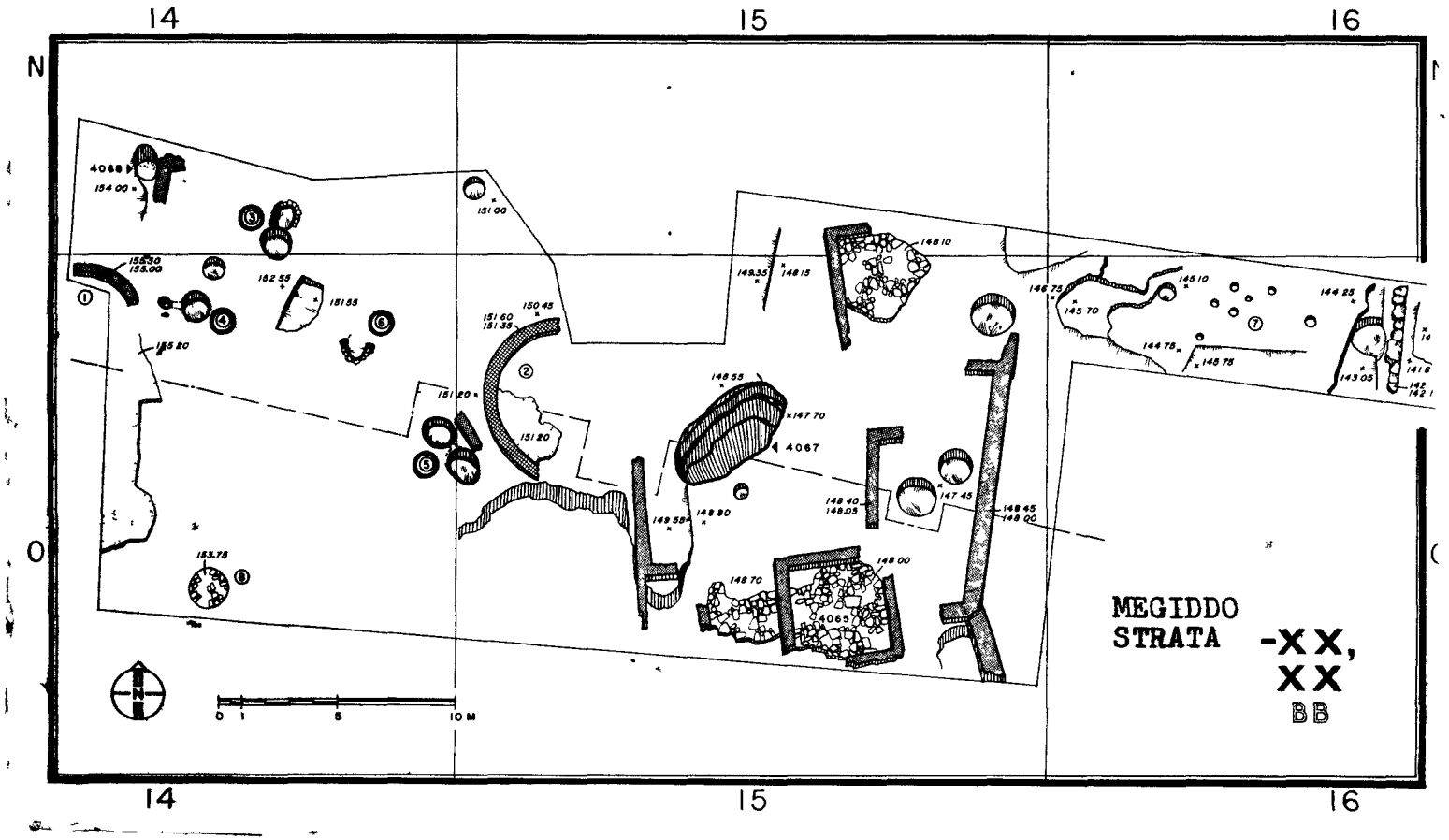
[1] Kenyon, Kathleen M. Archaeology in the Holy Land, p. 319.

[2] See Top Plan Strata -XX & XX. Fig. 8.

[3] Megiddo II, p. 59.


14
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148.35
148.15
146.75
145.10
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144.25
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145.75
143.05
148.55
147.70
4067
147.45
148.40
148.05
148.65
148.00
149.58
148.90
148.70
148.00
4065
153.78
MEGIDDO
STRATA -XX,
XX
BB
0 1 5 10 M

Figure: 8

Contiguous to cave 4067 and to the north east of it lay a series of pairs of pits. In each case one pit lies at a higher level than the other and is connected by a rock-cut opening at the level of its base. They are probably oil or wine presses. Number 3 is a shallow pit with an adjacent fireplace, and Number 6[4] is part of another fireplace. Six other circular pits lie within the area. Number 8 is an isolated stone-paved circle 1.70 m. in diameter. At number 7, numerous small pits and cone-shaped depressions, possibly pot-stands are cut into the rock.[5]

It is in stratum XX where a few sherds of the burnished red on cream ware familiar from the Pottery Neolithic A of Jericho IX were found. The excavators believe the introduction of pottery to have been very peaceful causing only gradual change in the lives of the people.[6] Pottery appears to have been introduced in Stratum XX and the flint industry shows no significant change from that of the preceding strata. At Jericho there is no recognizable difference between flint implements of the latest pre-pottery layer X and the earliest pottery bearing layer IX.

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[4]See Fig. 8. Top-plan Strata -XX & XX

[5]Megiddo II, pp.60-61.

[6]Crowfoot, Joan. Megiddo II, p. 144.

MUNHATA

The site of Munhata is located to the south of Lake Tiberias in the Jordan Valley.

The first occupation stratum is Pre-Pottery Neolithic which is represented in levels three to six from the surface. Following level three is a period of abandonment of uncertain length. Reoccupation after the gap occurs in level two. The first pottery occurs in level two. In fact, the excavations at level two are marked by abundant pottery the forms of which are not well known.

Pre-Pottery Neolithic level six was found to contain a number of small human and animal figurines of baked clay.

Father Jean Perrot designated the first pottery level (Level 2) as being contemporary with Pottery Neolithic A & B at Jericho and the Neolithic of Batashi, Sha'ar Hagolan, Byblos and Ghrubba.[1]

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[1]See Stratigraphy Chart Fig. 10 cf. Syria, 41, 1964, 323ff.

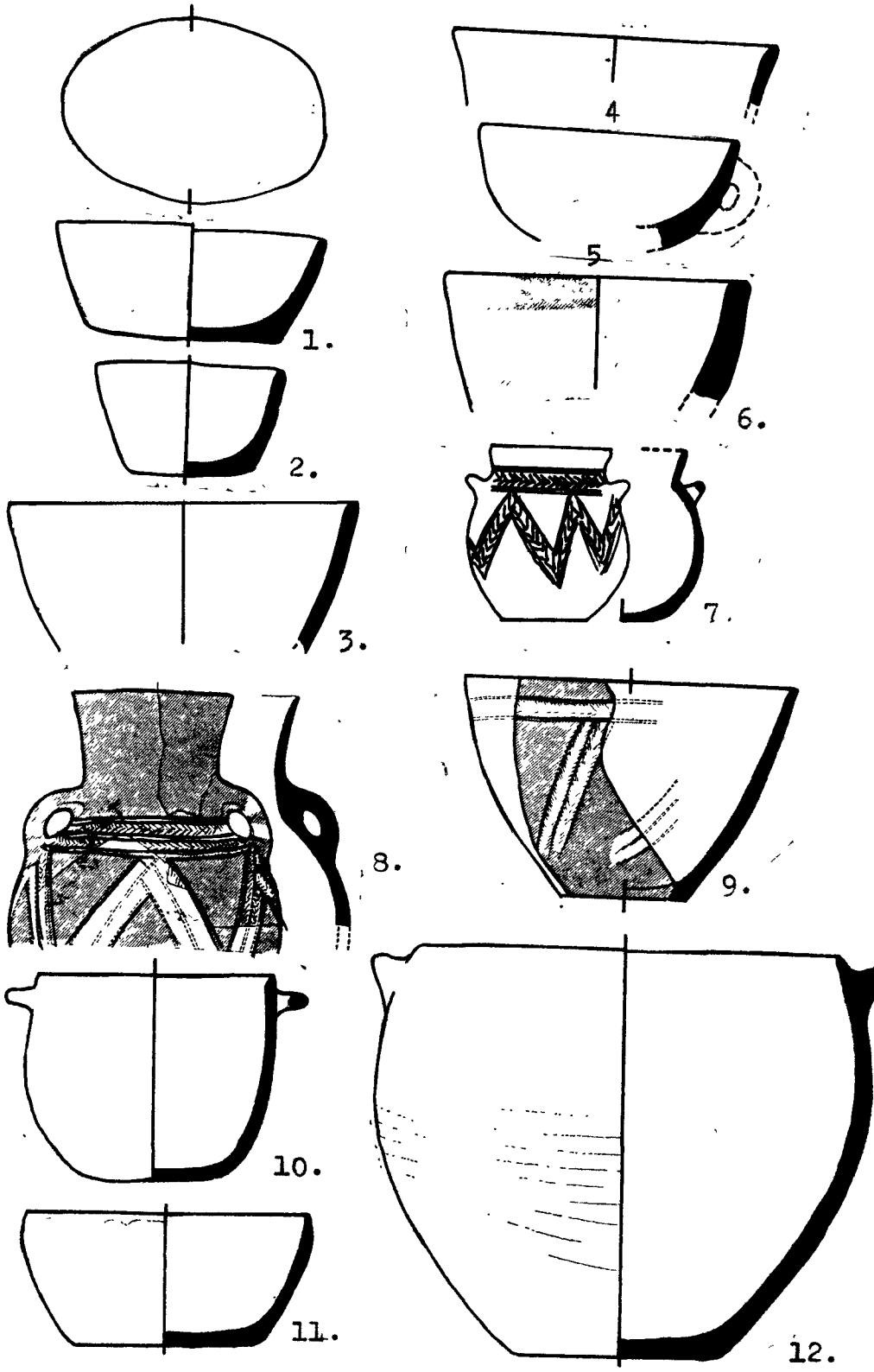

Figure: 9 THE NEOLITHIC POTTERY OF MUNHATA

THE NEOLITHIC POTTERY OF MUNHATA Figure: 9

1. Oval bowl
   Level 2, Locus 529
   Syria, 41, 1964. Fig. 3:1

2. Bowl, large grits
   Level 2, Locus 567
   Syria, 41, 1964. Fig. 3:2

3. Large bowl
   Level 2, Locus 529
   Syria 41, 1964. Fig. 3:3

4. Burnished bowl with some straw temper
   Level 2, Locus 561
   Syria, 41, 1964. Fig. 3:4

5. Bowl with vertical loop handle
   Level 2, Locus 573
   Syria, 41, 1964. Fig. 3:5

6. Thick-walled bowl
   Level 2, Locus 529
   Syria, 41, 1964. Fig. 3:6

7. Jar, buff, incised decoration
   Level 2, Locus 434
   Syria, 41, 1964. Fig. 4:11

8. Jar, incised and painted decoration
   Level 2
   Syria, 43, 1966. Fig. 6:2

9. Bowl, incised and painted decoration
   Level 2
   Syria, 43, 1966. Fig. 6:5

10. Bowl with lug handles
    Level 2
    Syria, 43, 1966. Fig. 6:15

11. Bowl
    Level 2
    Syria, 43, 1966. Fig. 6:14

12. Storage Jar, Lug handles
    Level 2
    Syria, 43, 1966. Fig. 6:19

Figure 10 Stratigraphy Chart

C 14 Date	Phases	MUNHATA	Comparable Sites
3200	B	ABANDONED	
	VI		
	A	LEVEL 2	Sheikh Ali 304, T. Batashi, Sha'ar Hagolan, Byblos, Ghrubba, Jericho A-B,
4600			

Syria, 41, (1964)

THE ABU USBA CAVE

Mugharet Abu Usba lies on the northern bank of the Wadi Fallah which is one of several wadis opening from Mount Carmel towards the coastal plain. A sounding of the cave was first made by Professor M. Stekelis in 1941.

The Neolithic finds were made in Stratum B under the remains of Roman times and modern shepherds. A startling announcement was made by Dr. Stekelis in his Preliminary Report when he claimed to have uncovered ceramic remains at a level which associated flint tools and traces of fauna led him to date in the Mesolithic or Upper Natufian period.[1] Since the introduction of pottery into Palestinian life is generally accepted to have taken place during the Neolithic era the substantiation of this claim by Professor Stekelis would have made him the excavator of the earliest pottery remains thus far uncovered. Professor William F. Albright expressed his doubts with regard to this early dating of the pottery and suggested that it be dated to the period intermediate between Jericho VIII and Ghassul, thereby placing it in the Chalcolithic period.[2]

The ceramic remains in question were unfortunately lost while being shipped from Palestine to the United States during the Second World War. Controversy as to the correct dating of the pottery continues based on photographs and drawings of the sherds. Later examination

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[1] Stekelis, M. "Preliminary Report on Soundings in Prehistoric Caves in Palestine." Bulletin of the American Schools of Oriental Research. No. 86, 1942, pp. 2-10.

[2] Albright, W.F. "Observations on the Date of the Pottery-bearing Stratum of Mugharet Abu Usba." Bulletin of the American Schools of Oriental Research. No. 86, 1942, pp. 10-14; ed.; "Remarks on Dr. Stekelis's Late Prehistoric Chronology," Bulletin of the American Schools of Oriental Research, No. 89, 1943, pp. 24-25.

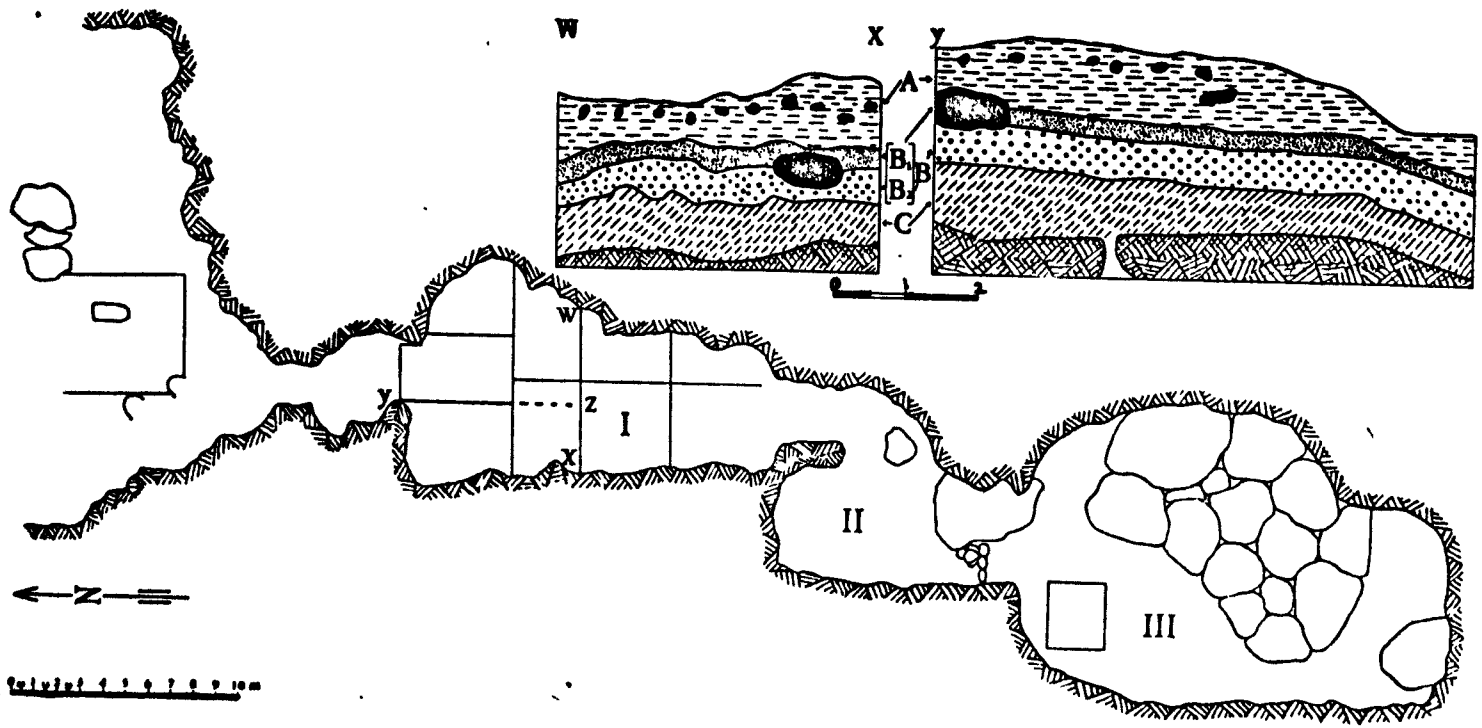

Figure: 11 Ground plan and sections of the Abu Usba Cave
Reproduced from Israel Exploration Journal 2, 1952, Fig. 2. p.17

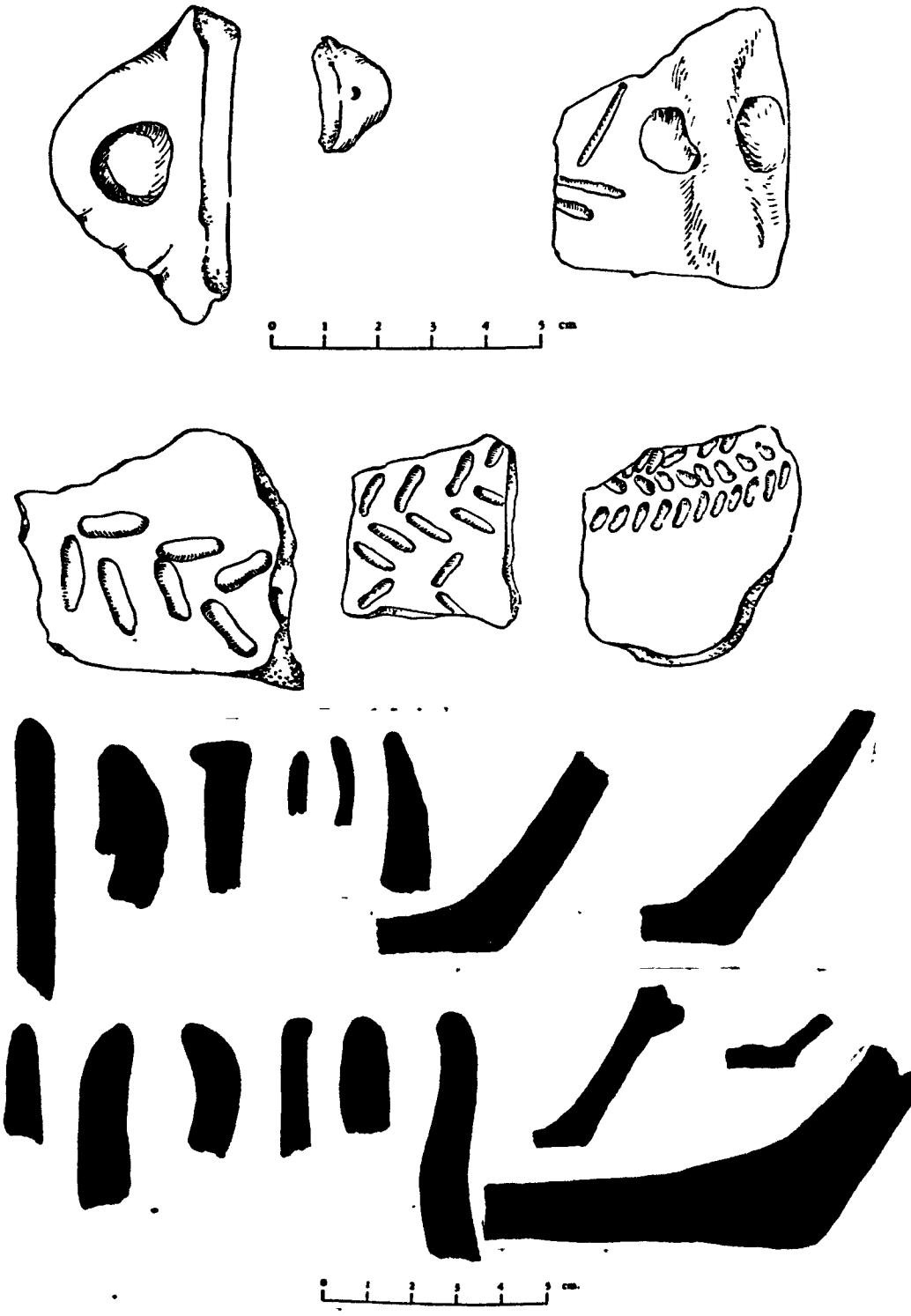

Figure: 12 POTTERY OF THE ABU USBA CAVE

and study of the available material tends to uphold Dr. Stekelis's dating of the associated flint and faunal remains in the Upper Natufian while suggesting that the Abu Usba pottery is, in fact, an intrusive element dating to Ghassul III.[3] Accepting the general consensus of scholarly opinion that the stratigraphy of Stekelis's is unreliable and that the pottery is Ghassulian rather than Natufian, the Abu Usba material, in spite of its initial promise, is not directly relevant to this thesis.

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[3]Kaplan, J. "The Neolithic Pottery of Palestine." Bulletin of the American Schools of Oriental Research, No. 156, 1959, pp. 15-22.

NAHAL OREN

The site of Nahal Oren on the western cliff of Mount Carmel was excavated under the auspices of the Hebrew University, the Municipality of Haifa, and the Department of Antiquities for six seasons between 1951 and 1960. Located on a sloping terrace near a cave opening the site was originally fed by mountain streams which are still visible today in their route to the sea.

Three levels of occupation were uncovered, Upper Palaeolithic (in 2 stages), Natufian, and Pre-Pottery Neolithic.

Above the Natufian layers in the Pre-Pottery Neolithic B strata I and II stone round houses between 2 and 5 meters in diameter, each with a stone hearth, were found. Stone vessels were very common particularly platters and bowls made of local limestone. They are shallow and have flat or rounded bases.[1] The querns are made of either limestone or basalt. Querns whose surfaces has 2 levels are especially numerous. They represent a development from the preceeding stage.[2]

On the lowest floor level of structure Number 5 near the hearth a large flat stone quern was found with an oval concave grinding surface. On the floor of building Number 9, a large flat stone platter of exceptional workmanship was found, its diameter reaching 0.5 meters. Traces

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[1]Stekelis, M., and Yizraely, T. "Excavations at Nahal Oren: Preliminary Report." Israel Exploration Journal, Vol. 13, No. 1, 1963, p. 4. cf. Mellart, Earliest Civilizations of the Near East, p.37.

[2]Stekelis, M., and Yizraely, T. "Excavations at Nahal Oren: Preliminary Report." Israel Exploration Journal, Vol. 13, No. 1, 1963, p. 4.

Excavations at Nahal Oren

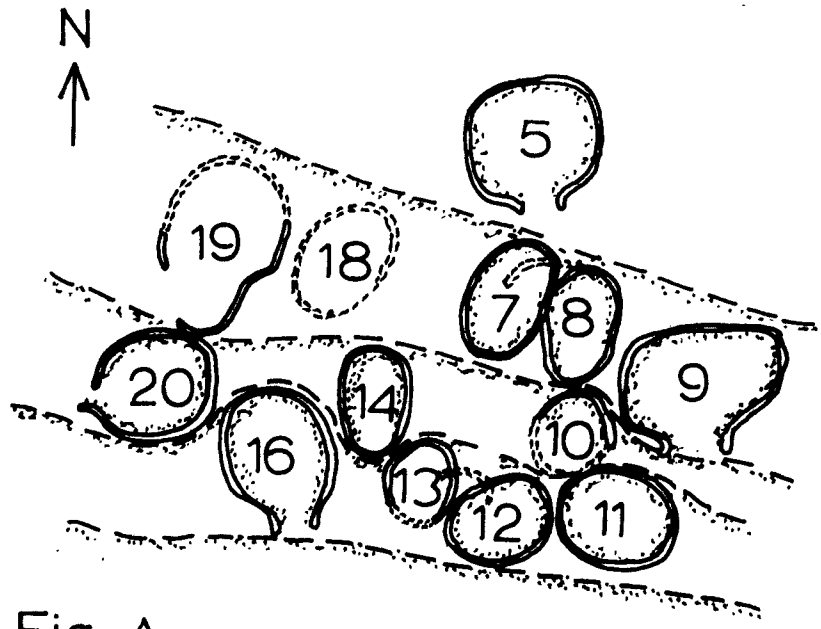

Fig. A

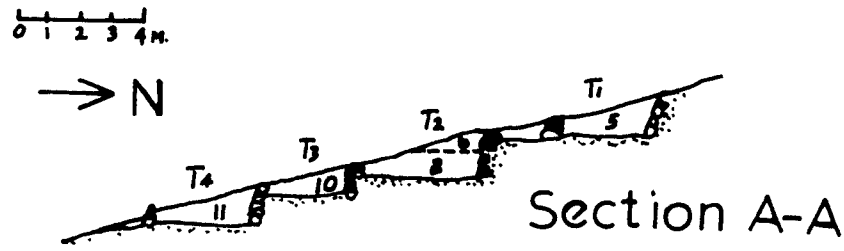

Fig. B

Plan and Section of Houses In Stratum II.

Figure 13 A & B
IEJ, Vol. 13, No. 1 (1963) p. 5.

of polishing were found. Other large and small limestone bowls were also found.[3]

Although a resemblance to the Pre-Pottery Neolithic A of Jericho, where a tendency toward round houses was found,[4] on the basis of the material culture, Stekelis and Yizraely compare the settlement to the Pre-Pottery Neolithic B of Jericho.

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[3]Stekelis, M., and Yizarely, T. "Excavations at Nahal Oren: Preliminary Report." Israel Exploration Journal, Vol. 13, No. 1, 1963, p. 9.

[4]Kenyon, Kathleen M. Digging up Jericho, p. 70. Archaeology in the Holy Land, p. 43 and plate 6:a.

SHA'AR HA-GOLAN

The site of the Neolithic Village near Sha'ar ha-Golan in the Jordan Valley is located in the Ghor on the banks of the Yarmuk River after which the Yarmukian Culture is named.

The stratigraphy of the site as recorded by Dr. M. Stekelis is as follows:[1]

A. 0-0.70 m. Black earth. Stone foundations of rectangular houses built of unhewn stones. Pottery of Early Bronze Age IV was discovered near the foundations.

B. 0.70-1.10 m. Black earth. This layer was found below the stone foundations; it was further found in the anti-tank trench and in the exposed section of the riverbank. It produced no antiquities.

C. 1.10 - 2.20 m. Grey earth with angular stones and some rolled pebbles. This layer is rich in flint implements and animal bones; Sus scrofa, Gazzella sp., Equus sp., Bos sp., Camelus sp. In many places fragments of crude hand-made pottery was picked up together with flint tools. It is this layer which yielded the most Neolithic finds including the distinctive Yarmukian pottery.

D. 2.20 - ... A gravel-bed composed of basalt and flint pebbles was found directly under the layer of grey earth (C). Its depth is not yet known as only 0.70 m. have been dug. Cores and flakes of Palaeolithic technique were picked up from the top of this gravel bed.

Although no structural features were recovered large quantities of flint and bone objects were found. A distinctive art form peculiar to Sha'ar ha-Golan is the pebble carving. The stone carvings which are believed to have religious or magical significance are usually executed on flat, oval pebbles.

Basalt and limestone carvings representing phallic symbols

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[1]Stekelis, M. "A New Neolithic Industry: The Yarmukian of Palestine." Israel Exploration Journal, I, 1951, p. 2-4.

and female figurines are common. Limestone cups were also uncovered. The inside of the cups was hollowed out and covered by scorings made with a sharp flint. One fragment of a cup was found to be decorated on the outside with a carved herring-bone pattern.

Pottery was manufactured on the site from local clay tempered with coarse sand, quarts and basalt grits and chopped straw.

The pottery was fired at a low temperature probably over an open fire. The inventory of forms included jars, bowls and platters. Globular bodies with flat bases and the characteristic Yarmukian "Bow-Rims" are common. The vessels were smoothed inside and out and sometimes finished with a slip.

The most distinctive feature of the Yarmukian pottery is the incised herringbone decoration inscribed in the clay with a sharp instrument before firing.

The pottery shows definite parallels with the Pottery Neolithic B of Jericho [2] and the herringbone incisions also occur at Byblos.

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[2]Kenyon, Kathleen M. Archaeology in the Holy Land, p. 65-66.

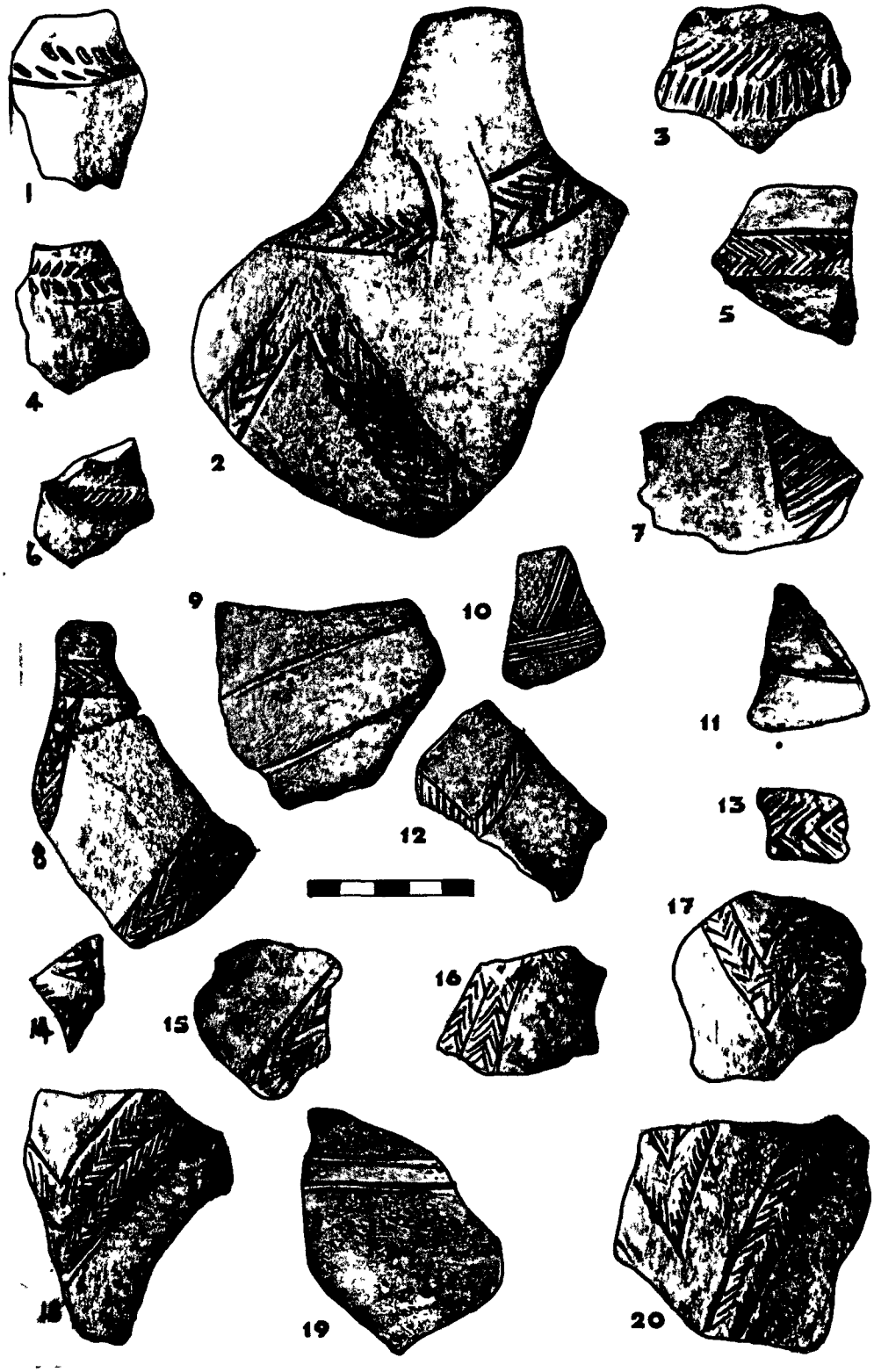

Figure:14 THE NEOLITHIC POTTERY OF SHA'AR HA-GOLAN
Reproduced from Israel Exploration Journal, 1, 1951. Plate i.

Figure:14 THE NEOLITHIC POTTERY OF SHA'AR HA-GOLAN

1. Fragment of small closed vessel, irregular incised herring-bone pattern.

2. Jar, incised herring-bone bands at the base of the neck and the body forming triangles.

3. Fragment of small closed vessel, irregular incised herring-bone pattern.

4. Fragment of small closed vessel, irregular incised herring-bone pattern.

5. Bowl fragment. Straight sides, plain lip, incised.

6. Shoulder of closed vessel with incised herring-bone band.

7. Fragment of closed vessel. Incised decoration.

8. Bowl fragment. Straight sides, plain lip, incised.

9. Vessel fragment. Painted and incised decoration.

10. Vessel fragment. Incised decoration.

11. Vessel fragment. Incised decoration.

12. Bowl fragment. Incised decoration.

13. Vessel fragment. Incised decoration.

14. Vessel fragment. Incised decoration.

15. Vessel fragment. Incised decoration.

16. Fragment of small closed vessel. Decorated with herring-bone bands.

17. Bowl fragment. Incised decoration. Traces of slip.

18. Fragment of closed vessel. Incised decoration.

19. Fragment of an open walled vessel. Incised decoration.

20. Fragment of a closed vessel. Herring-bone incisions.

NB. The term "closed vessel" is used to mean one having an inverted rim, and the diameter at the rim less than that of the body.

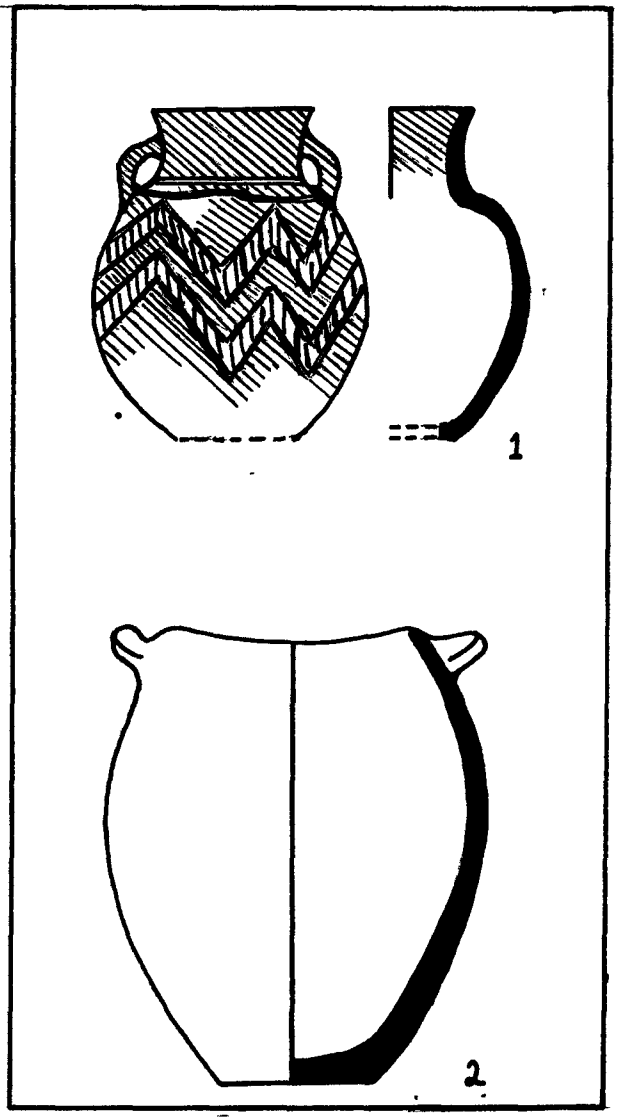

Figure: 15 WHOLE VESSELS FROM SHA'AR HA-GOLAN

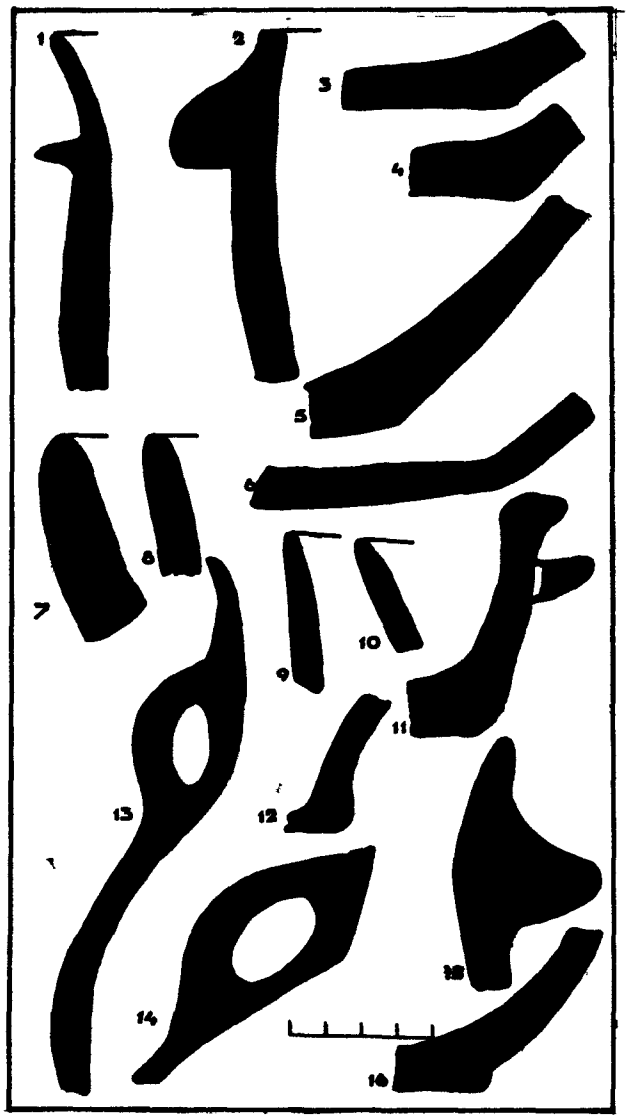

Figure: 16 POTTERY OF SHA'AR HA-GOLAN
Reproduced from I.E.J. 1, 1951.
Plate xvii.

Figure: 15 WHOLE VESSELS FROM SHA'AR HA-GOLAN

1. Jar, buff, incised and painted red decoration
   Scale 1:5
   Ancient Pottery of the Holy Land, Plate 1:1

2. Jar, brown grey
   Scale 1:5
   Ancient Pottery of the Holy Land, Plate 1:11

Figure: 16 POTTERY OF SHA'AR HA-GOLAN

1.- 16. Cross sections of sherds found at the site of Sha'ar Ha Golan. The inventory of pottery forms includes bowls and jars.

CHAPTER II

VAISSELLE BLANCHE SITES IN SYRIA AND LEBANON

Ramad

Byblos

Soukas

Ras Shamra

VAISSELLE BLANCHE

An interesting phenomenon which occured between the Pre-Pottery Neolithic and the earliest Pottery Neolithic phases is the appearance of the pozzolanic pot.[1] These vessels have, thus far, been uncovered at Ramand, Byblos, Soukas, Ras Shamra and Hama[2] where they are referred to briefly in publication as "vaisselle blanche." The pozzolanic substance was used to make large "plaster" bowls and basins on a low foot or hollow base. The thickness of this peculiar Syrian Ware and the white material are strongly reminiscent of the pre-pottery limestone bowls and plates used in the Neolithic Period.[3]

The Vaisselle Blanche appears at Ramand in pre-pottery layers, and at Ras Shamra and Soukas they are contiguous with the earliest baked pottery.[4]

As Professor Ruth Amiran notes[5] probably the most interesting feature of these pozzolanic pots is the fact that the vessels appear to have been formed in a mould.

Another class of pottery which has no parallels in Anatolia or Cilicia and appears to represent a local adaptation, was found in

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[1]Pozzolana: a pulverulent siliceous or siliceous and aluminous substance that reacts chemically with slaked lime at ordinary temperature and in the presence of moisture to form a cement.

[2]See map Fig. 17

[3]Mellart, James. Earliest Civilizations of the Near East, p.60.

[4]Van Liere, W.J. & De Contenson, H. "Holocene Environment and Early Settlement in the Levant." Les Annales Archeologiques de Syrie. Vol. XIV, 1964, p. 127.

[5]Amiran, Ruth. Ancient Pottery of the Holy Land, p.17, note #3.

Early Neolithic Byblos and in the Beqa'a. A simple monochrome ware was coated with a white lime-plaster slip on either the exterior, the interior, or both. This technique which serves no purpose on a pottery vessel is believed by Professor James Mellart to be an adaptation derived from earlier techniques for making a vessel of wood, basketry or skin watertight and fire-resistant.[6]

Although these two white wares proved unsatisfactory and their use did not last long, it is unfortunate that no more than a footnote is given to this pozzolanic pottery in excavation reports for, as Professor Amiran points out, such phenomenon provide links between the pre-pottery Neolithic and the introduction of pottery making in the Neolithic Age.[7] It is these links which tend to substantiate the theory that the art of pottery-making was developed locally, growing out of the Pre-Pottery Neolithic features rather than being introduced, fully developed, from outside.

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[6]Mellart, James. Earliest Civilizations of the Near East, p. 60.

[7]Amiran, Ruth. Ancient Pottery of the Holy Land. p. 17.

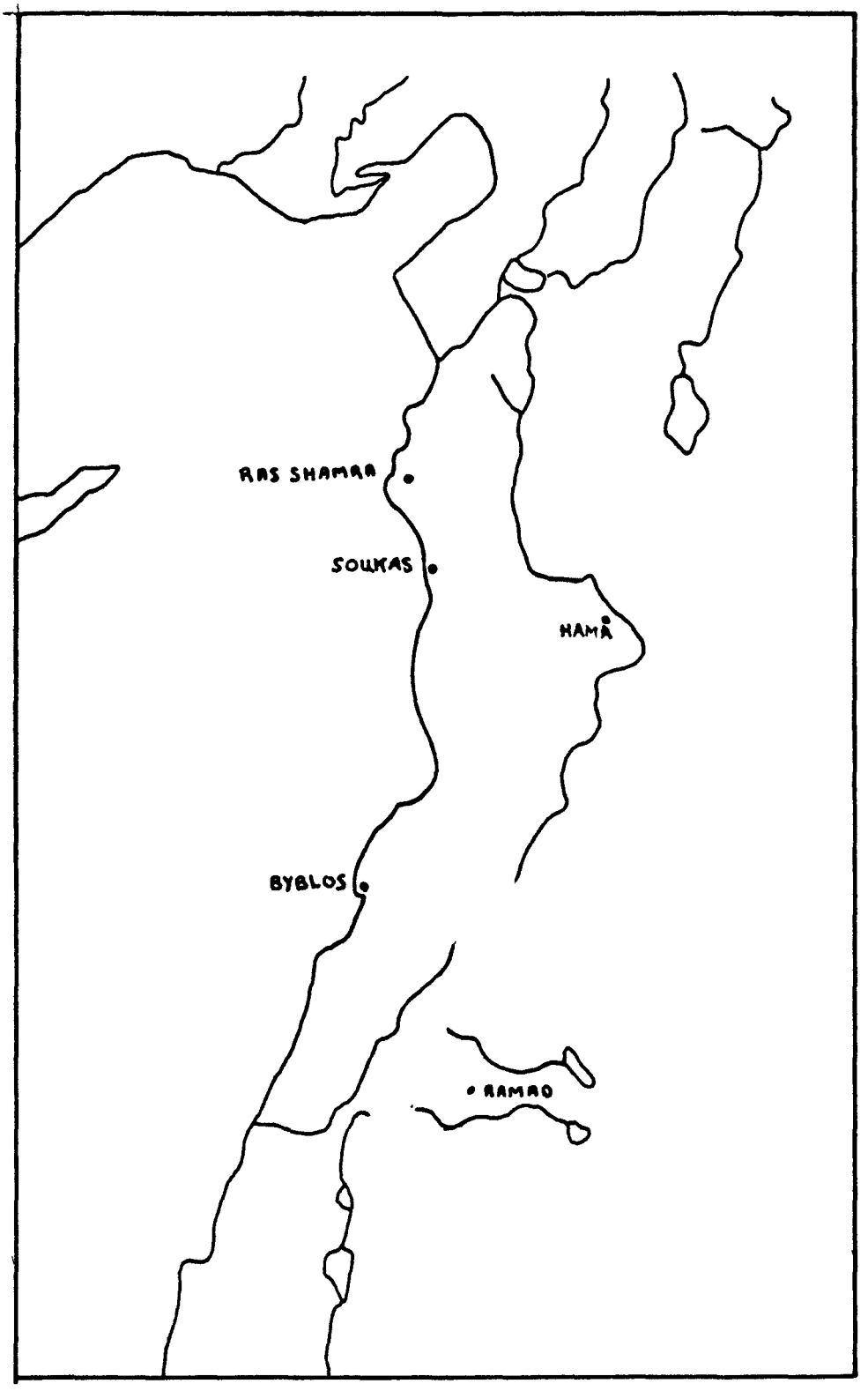

Figure: 17 Sites at which pozzolanic pottery has been uncovered.

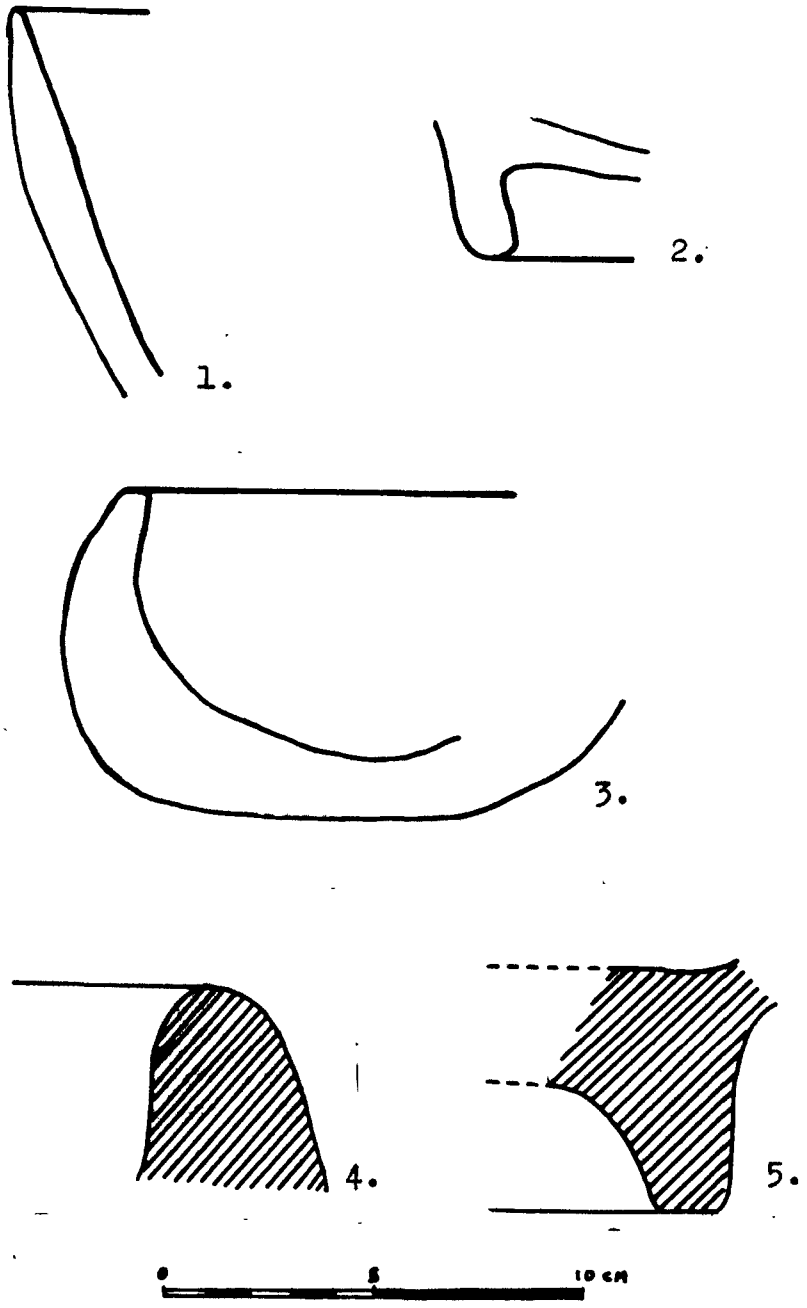

Figure: 18 POZZOLANIC POTTERY "Vaisselle Blanche"

Figure: 17 POZZOLANIC POTTERY "Vaisseele Blanche"

1. Bowl rim, plaster
Tell Soukas, Level 84-82
Les Annales Archéologiques de Syrie,
VOL. XI-XII, 1961-62 Fig. 3:B

2. Bowl base, plaster
Tell Soukas, Level 84-82
Les Annales Archéologiques de Syrie,
Vol. XI-XII, 1961-62 Fig. 3:C

3. Bowl, limestone plaster
Tell Soukas
Level 84-82
Les Annales Archéologiques de Syrie.
Vol. XI-XII, 1961-62, Fig. 3:A

4. Large vessel, whitish ware, large mineral inclusions, light and crumbly mortar, well smoothed surface.
Tell Ramad
Pre-Pottery Neolithic Layer
Les Annales Archéologiques de Syrie,
VOL. XIII, 1963, Fig. VII:1

5. Footed vessel, whitish ware with large mineral inclusions, light and crumbly mortar, well smoothed surface.
Tell Ramad
Pre-Pottery Neolithic Layer
Les Annales Archéologiques de Syrie,
Vol. XIII, 1963, Fig. VII:2

TELL RAMAD (Kattana)

Tell Ramad is located in the Damascus drainage basin to the south-west of the city of Damascus. The lowest layers of excavation reveal a definite connection with the Pre-Pottery B of Jericho. There are the same flint implements, the same types of querns, similar limestone plaster surfaces and brick walls.[1] Stone and marble plates, cups and bowls were found in the pre-pottery and pottery layers.[2]

At Ramad the Pre-Pottery Neolithic was separated from the Pottery Neolithic by a level in which white plates and dishes of moulded lime "Vaisselle Blanches" were found. The excavators made the following note concerning this unusual pottery:

> Pottery: Large footed vessels are made of a crude whitish ware with large mineral temper: the calcareous clay is a light and crumbly mortar formed with pozzolanic material in a mold: the surface is well smoothed outside and inside. This ware is similar to a variety of coarse fabric found on the coast in the earliest pottery-bearing level at Ras Shamra[3] at Tell Soukas[4] and also at Byblos.[5] As in the coastal sites, this white ceramic is associated with burnished ware. The undecorated brown burnished bowl from Tell Ramad[6] would not be unfamiliar at Ras Shamra Vb, but still more at home in earliest Byblos.
>
> W.J.Van Liere and H. de Contenson "A Note on Five Early Neolithic Sites in Inland Syria Anneles Archéologiques de Syrie, XIII, 1963, p. 180."

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[1]Vaux, Roland de, Palestine During the Neolithic and Chalcolithic Periods, Cambridge Ancient History Vol. I, Ch. IX, 1966, p. 13.

[2]See Fig. 32:1,2.

[3]Level Vb "Neolithic Moyen": C.Schaeffer, A. Kuschke, H. de Contenson, Ugaritica IV, Paris, 1962, passim.

[4]Layers 84-82: P.J.Riis, "L'Activite de la Mission Archeologique, Tell Soukas." Les Annales Archéologiques of Syrie. 1961-1962, p.135-136, Fig. 3.

[5]Neolithique ancien, according to information provided by M. Dunard and H. Balfet.

[6]See Fig. 19:7

BYBLOS

The town of Byblos on the Syrian coast was one of the best known ports in the ancient world. It was from its harbour that most of the natural resources of the Lebanon reached the rest of the Mediterranean.

The Byblos Early Neolithic settlement was located on a consolidated sand dune on the coast. The houses were built on either side of a deep wadi. Most appear to have been small and rectangular in plan, built on a stone foundation with a flimsy superstructure. The floors were covered with layers of white plaster similar to those of the Pre-Pottery Neolithic B of Jericho.[1] The Neolithic phase at Byblos can be divided into Early, Middle and Late Neolithic. The dates obtained by Carbon 14 for the middle strata are 5043 ± 80 B.C. and 4592 ± 200 for the summit.[2]

A large number of different wares were uncovered in the Neolithic levels. One type of ware with incised decoration, often in herringbone pattern, appears to have affinities to the ware of Sha'ar ha Golan and the Pottery Neolithic of Jericho.[3]

In the Middle Neolithic Period the bow-rim and many types of incised decoration appear. The handle with widened attachments is found in late Neolithic.

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[1] Kenyon, Kathleen M. Archaeology in the Holy Land, p. 66.

[2] Cambridge Ancient History. Vol. I, Chapter IX, p. 21.

[3] Kenyon, Kathleen M. Archaeology in the Holy Land, p. 67. cf. M. Stekelis, "A New Neolithic Industry: The Yarmukian of Palestine." Israel Exploration Journal I, 1950-51, 1ff.

It is during the middle Neolithic that Byblos has most similarities with the Yarmukian both in stone objects and in pottery shapes.

In the Early Neolithic of Byblos an unusual pottery type is found. A northern-type monochrome pottery is coated with a white lime plaster slip on the exterior, the interior, or both. This may be a forerunner to, or an adaptation from the "Vaisselle Blanche", the pozzolanic, mold-made pots occurring at Ramad in pre-pottery layers and at Ras Shamra and Soukas where they are found together with the earliest baked pottery.[4] Professor James Mellart believes that since this technique is useless on pottery, it may be an adaptation from an earlier method of reinforcing and waterproofing skin and basket vessels.[5]

Byblos is an important site as it simultaneously provides parallels with the Pottery Neolithic of Jericho and the Yarmukian of Sha'ar ha-Golan thereby indicating that the two were to some degree contemporaneous.

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[4]Liere, Willen J. van and 'de Contenson, H. "Holocene Environment and Early Settlement in the Levant." Les Annales Archéologiques de Syrie, Vol. XIV, 1964, p. 127.

[5]Mellart, James. Earliest Civilizations of the Near East, p. 60.

TELL SOUKAS

It is believed by its excavators that the site of Tell Soukas was inhabited during the 6th millennium BC.[1] The earliest Neolithic levels, 82 to 84 are located on a small ridge which is now at the base of the tell. Although the Neolithic inhabitants understood the art of pottery-making stone and plaster utensils remained in use. The "Vaisselle Blanche" appears contiguously with the earliest baked pottery.

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[1] Riis, P.J. "L'Activite de la Mission Archeologique, Tell Soukas." Les Annales Archéologiques de Syrie, Vol. XI-XII, 1961-62, p. 135.

RAS SHAMRA

The site of Ras Shamra lies on the coast of northern Syria, due east of the eastern tip of Cyprus. The excavations of the site were undertaken by the Academie des Inscriptions et Belles-Lettres de Paris. Work was begun in the spring of 1929 under the direction of Claude F. A. Schaeffer.

There is no doubt that Ras Shamra is the site of the ancient city known in the second millennium B.C. as Ugarit. The name occurs many times in texts discovered on the site and is familiar in the Amarna and Mari letters. The site was occupied from the Neolithic Age onward.

It was estimated that there were five main strata in the 18 meters of occupational debris that made up the artificial mound. The following dates are given to the strata by Dussaud and Schaeffer:[1]

Stratum I - ca. 1500 - 1100 B.C.

Stratum II - ca. 2100 - 1500 B.C.

Stratum III - ca. 3500 - 2100 B.C.

Stratum IV - ca. 4000 - 3500 B.C.

Stratum V - the Neolithic Age

There are three phases of the Neolithic:

Level Va - Late Neolithic

Level Vb - Middle Neolithic

Level Vc - Early Neolithic

The early Neolithic is characterized by an absence of pottery.

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[1]Kappelrud, A.S. The Ras Shamra Discoveries and the Old Testament, p. 3.

The Middle Neolithic is considered to be the transitional phase to the production of pottery and in Level 5B traces of pottery are rare.

The Late Neolithic shows the full development of the ceramic technique.

The earliest pottery is very fragile and simply sun dried. As the potters became more refined in their art two clear types of pottery emerged. There was a fine ware which was delicate and thin walled and an coarser ware of ordinary pottery suitable for the every-day uses to which it was put. This latter most often coming in larger sized vessels.

In villages around Ras Shamra one still finds in use today baskets woven of flexible wooden rods on the outside and reinforced inside with a layer of dried clay which served to hold cereal, grains and farina after the harvest. The excavators suggest that it was probably the occurrence of vessels such as these being hardened in an accidental fire which suggested the technique of intentionally baking pottery.[2] This evolution was probably quite rapid and resulted in the appearance of better pottery types. The mixture of these types complicates the separation between Middle and Late Neolithic.

In the Middle Neolithic level Vb at Ras Shamra fragments of a "Vaisselle en chaux" or the Vaisselle Blanche were found.

In the opinion of the excavators the Neolithic pottery appears to indicate connections with other parts of Syria and with the regions

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[2] Ugaritica IV, Paris, 1962, p. 161.

around the upper Euphrates.[3]

[3]Kappelrud, A.S. The Ras Shamra Discoveries and the Old Testament, p. 4.

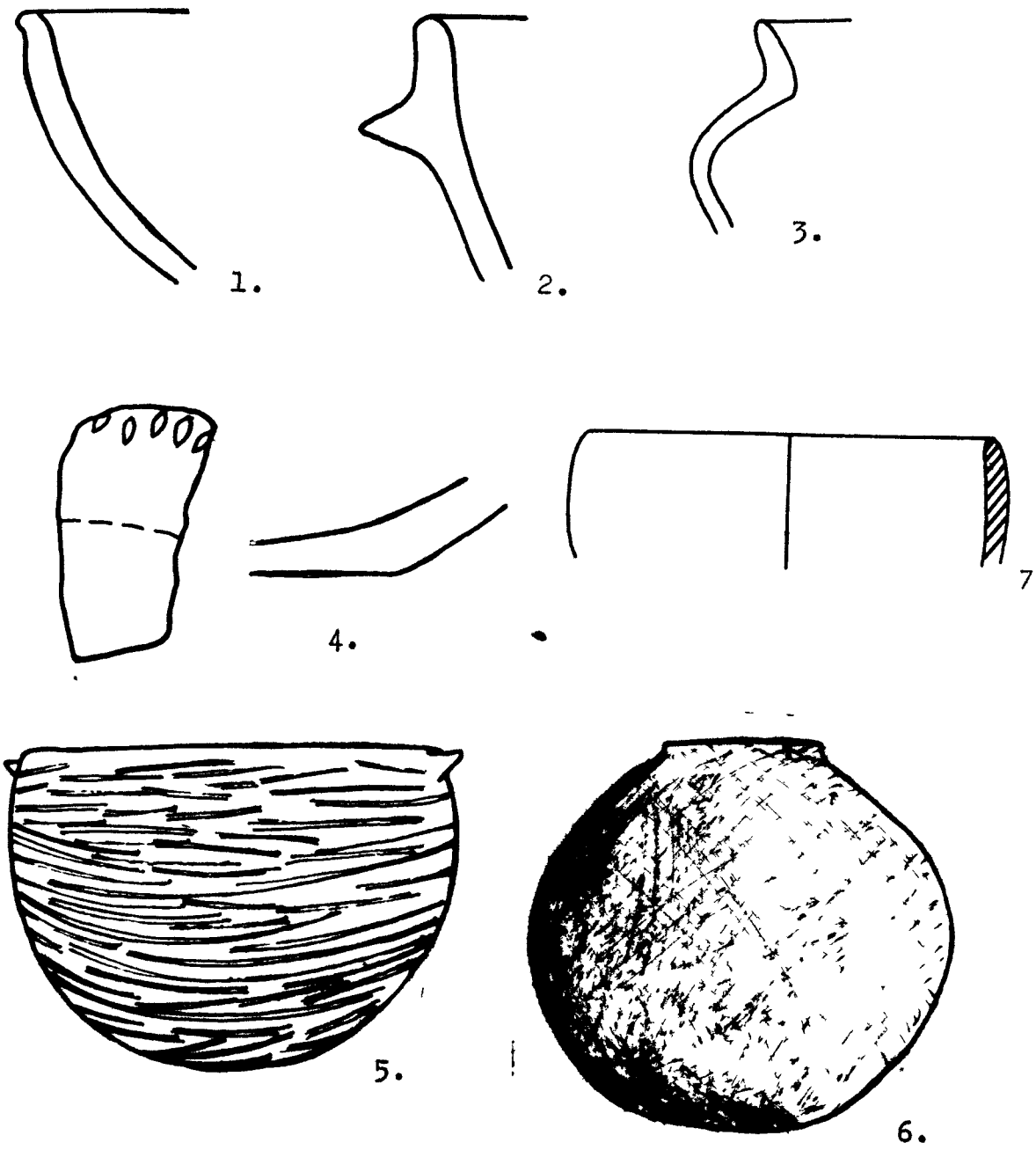

Figure: 19

THE POTTERY OF TELL SOUKAS, BYBLOS AND TELL RAMAD

Figure: 19 THE POTTERY OF TELL SOUKAS, BYBLOS AND TELL RAMAD

1. Bowl Rim,
Scale 11:20
Tell Soukas
Level 84-82
Les Annales Archéologiques de Syrie,
Vol. XI-XII, 1961-62, Fig. 3:D

2. Bowl Rim,
Scale 11:20
Tell Soukas
Level 84-82
Les Annales Archéologiques de Syrie,
Vol. XI-XII, 1961-62, Fig. 3:F

3. Bowl Rim,
Scale 11:20
Tell Soukas
Level 84-82
Les Annales Archéologiques de Syrie,
Vol. XI-XII, 1961-62, Fig. 3:G

4. Incised Bowl Rim,
Scale 11:20
Tell Soukas,
Level 84-82
Les Annales Archéologiques de Syrie,
Vol. XI-XII, 1961-62, Fig. 3:E

5. Bowl, burnished and decorated with cardium shell combing
Byblos
Early Neolithic level
Earliest Civilizations of the Near East, p. 59,
Ills. 35

6. Bowl, burnished and decorated with cardium shell combing
Byblos
Early Neolithic level
Earliest Civilizations of the Near East, p. 59
Ills. 36

7. Globular bowl, brown ware with small mineral temper,
well fired clay, neatly burnished surface
Scale 11:20
Tell Ramad
Pre-Pottery Neolithic layer
Les Annales Archéologique de Syrie, XIII, 1963
Fib. VII:2

CHAPTER III

NEOLITHIC SITES IN IRAQ AND IRAN

Jarmo

Ganj Dareh

JARMO

The site of Qal'at Jarmo is located on the edge of a deep wadi in the plain of Chemchemal in Iraqi Kurdistan between Kirkuk and Sulimaniyah. After an original sounding in 1948, Professor Robert J. Braidwood in collaboration with the American Schools of Oriental Research and the Iraq Directorate-General of Antiquities conducted a series of excavations on the site.

The village at Jarmo originally covered about three acres and was continuously occupied for a period of about 500 years accumulating seven meters of occupational debris in which 15 levels of successive architectural changes or renovations were observed. From a number of Carbon 14 tests, Professor Braidwood has selected a time period centering on 6500 B.C. as the height of the Jarmo culture.[1] This date, however, is not universally accepted and Professor Kathleen Kenyon suggests that a date in the mid-fifth millennium seems more probable.[2]

Portable pottery vessels were not present in Jarmo until the uppermost five levels. The earliest sherds appear in small numbers but are well-made with painted and burnished exteriors. Dr. Braidwood feels that it is unlikely that the earliest pottery was actually produced at Jarmo, but rather, that these vessels were brought into the village from outside and quickly copied by the people, resulting

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[1] Braidwood, R.J. "Near Eastern Prehistory." Science, Vol. 127, No. 3512.

[2] Kenyon, Kathleen M. Archaeology in the Holy Land, p. 59 and "Some Observations on the Beginnings of Settlement in the Near East." Journal of the Royal Anthropological Institute, 89, 1958, passim.

in a coarser, poorly fired ware.[3] However, it is difficult to comment on this theory since no excavation reports and few scaled pottery drawings have as yet been published by Dr. Braidwood. From the available evidence and the extensive pre-pottery use of clay both baked and unbaked, one is tempted to suggest that since the fine ware and the coarse ware are found in the same levels and since Dr. Braidwood admits there are no convincing comparisons with wares already known in the area[4] that a condition existed at Jarmo similar to the one at Jericho Pottery Neolithic A where a fine ware and a coarse ware were produced simultaneously.[5]

Clay figurines of animals and of human beings including the "mother-goddess" occurred throughout the levels of the tell, including the pre-ceramic periods.

Houses were built of clay as bricks were as yet unknown and stone foundations were found only in the upper building levels. Fine mud plaster covered the walls and the floors were plastered reed mats. Houses in the upper levels possessed clay ovens and chimneys.[6] Sunken clay-lined basins were used as hearths. Some had been hardened by building a fire in the bottom. Several were found to contain pot-boilers.

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[3]Braidwood, J. "Discovering the World's Earliest Village Community." The Illustrated London News, Dec. 15, 1951, p. 992.

[4]Braidwood, J. "Discovering the World's Earliest Village Community." The Illustrated London News, Dec. 15, 1951, p. 992.

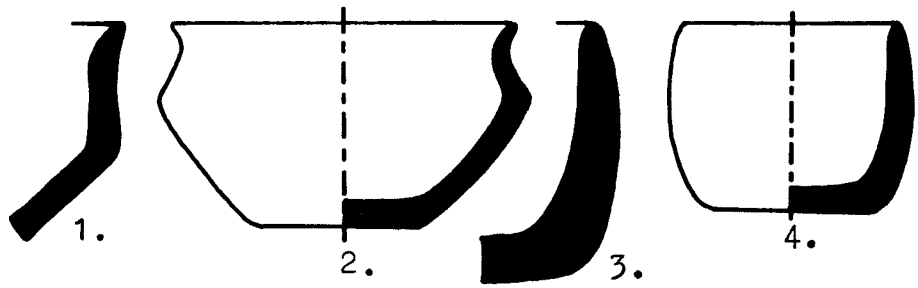
[5]Kenyon, Kathleen M. Archaeology in the Holy Land, p. 62.

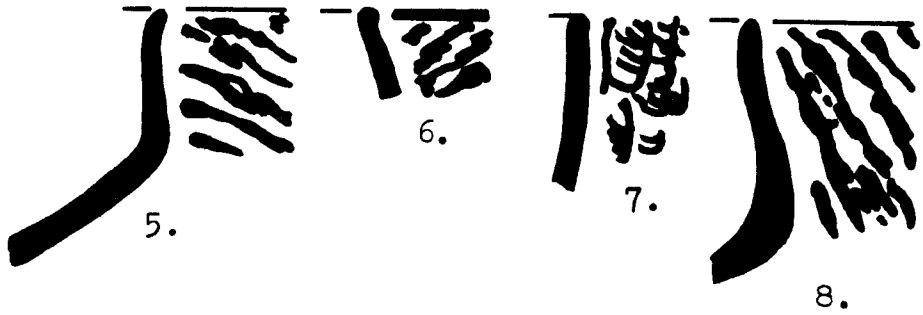
[6]Braidwood, J. "Discovering the World's Earliest Village Community." The Illustrated London News, Dec. 15, 1951, p. 993, Fig.8.

There was an extensive stone assemblage at Jarmo. Stone vessels were common through all levels with a greater variety being noticeable before the use of portable pottery. Unfortunately no scale drawings of the Jarmo stone ware are available but Professor Braidwood has pointed out the similarity to vessels from other sites which are published:

> Bouqras - finely ground marble bowls are typical of the Jarmo culture in Northern Mesopotamia, including the two shapes found at Bouqras: Hemispheric (R. Braidwood & Bruce Howe, Prehistoric Investigations In Iraqi Kurdistan, Chicago, 1960, p. 45, Plate 21:12, 13) and carinated, with a thicker rim.

Larger stone tools for daily use such as celts, querns, mortars and pestles were also common.





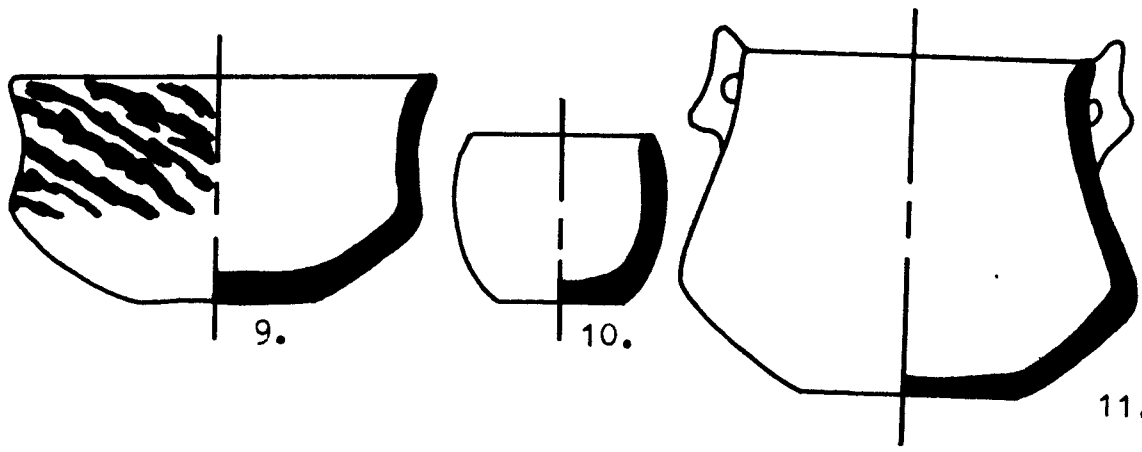


Figure: 20 NEOLITHIC POTTERY OF JARMO

Figure: 20 THE NEOLITHIC POTTERY OF JARMO

1. Bowl rim, simple ware
   Scale 1:3
   Location: From the higher floors (Operation II 1-3)
   Prehistoric Investigations In Iraqi Khurdistan,
   Plate 15:1

2. Bowl, simple ware
   Scale 1:3
   Location: (Operation II 1-3)
   Prehistoric Investigations in Iraqi Khurdistan,
   Plate 15:2

3. Bowl, simple ware
   Scale 1:3
   Location: (Operation II 1-3)
   Prehistoric Investigations in Iraqi Khurdistan,
   Plate 15:3

4. Bowl, simple ware
   Scale 1:3
   Location: (Operation II 1-3)
   Prehistoric Investigations in Iraqi Khurdistan,
   Plate 15:4

5. Bowl rim, painted ware
   Scale 1:3
   Location: From the lower floors (II 4-5)
   Prehistoric Investigations in Iraqi Khurdistan,
   Plate 15:13

6. Bowl rim, painted ware
   Scale 1:3
   Location: From the lower floors (II 4-5)
   Prehistoric Investigations in Iraqi Khurdistan,
   Plate 15:14

7. Jar Rim, painted ware
   Scale 1:3
   Location: From the lower floors (II 4-5)
   Prehistoric Investigations in Iraqi Khurdistan,
   Plate 15:15

8. Bowl Rim, painted ware
   Scale 1:3
   Location: From the lower floors (II 4-5)
   Prehistoric Investigations in Iraqi Khurdistan,
   Plate 15:16

Figure: 20 Con't. THE NEOLITHIC POTTERY OF JARMO

9. Bowl
Scale, Unknown
The Near East and the Foundations for Civilization, P. 25, Fig. 14.

10. Bowl
Scale, Unknown
The Near East and the Foundations for Civilization, P. 25, Fig. 14.

11. Bowl
Diameter = ca. 18 cm. (See Prehistoric Investigations In Iraqi Khurdistan, Plate 15:18) The Near East and the Foundations for Civilization, P. 25, Fig. 14.

GANJ DAREH TEPE

The site of Tepe Ganj Dareh is located in the Kermanshah District of Iran, ca. 500 km. north of the western tip of the Persian Gulf.[1] Three seasons of excavation have been carried out between the years of 1965 and 1971 under the auspices of the University of Montrael, the Archaeological Service of Iran and financed by the Canada Council. The director was Dr. Philip E. L. Smith.

Excavation of the site indicated that apart from a few recent burials only prehistoric material of the earlier phases of the Neolithic Era was present on the mound.[2] Five main occupation or building levels (A, B, C, D, & E) are represented in a depth of eight metres.

At level D a complex of structures made in part of plano-convex bricks was uncovered which apparently represented a small village destroyed by fire. The rectangular structures were made of long plano-convex bricks or had walls constructed with old rubble plastered on both faces or in some cases had large flat stones incorporated into the walls. The structures are tightly clustered with no clear indication of doorways and having "portholes" often sealed off with clay discs or cones.[3] The walls and floors of these cubicles are of mud plaster and an interesting phenomenon was noted in cases where large clay pots of early and simple construction were plastered into

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[1] See Map Fig. 21

[2] For a detailed description of all seasons of excavation on this site see: Iran Vols. V, VI, VIII & X.

[3] Smith Philip. "Survey of Excavations in Iran During 1970-71." Iran, Vol. X, 1972, p. 166.

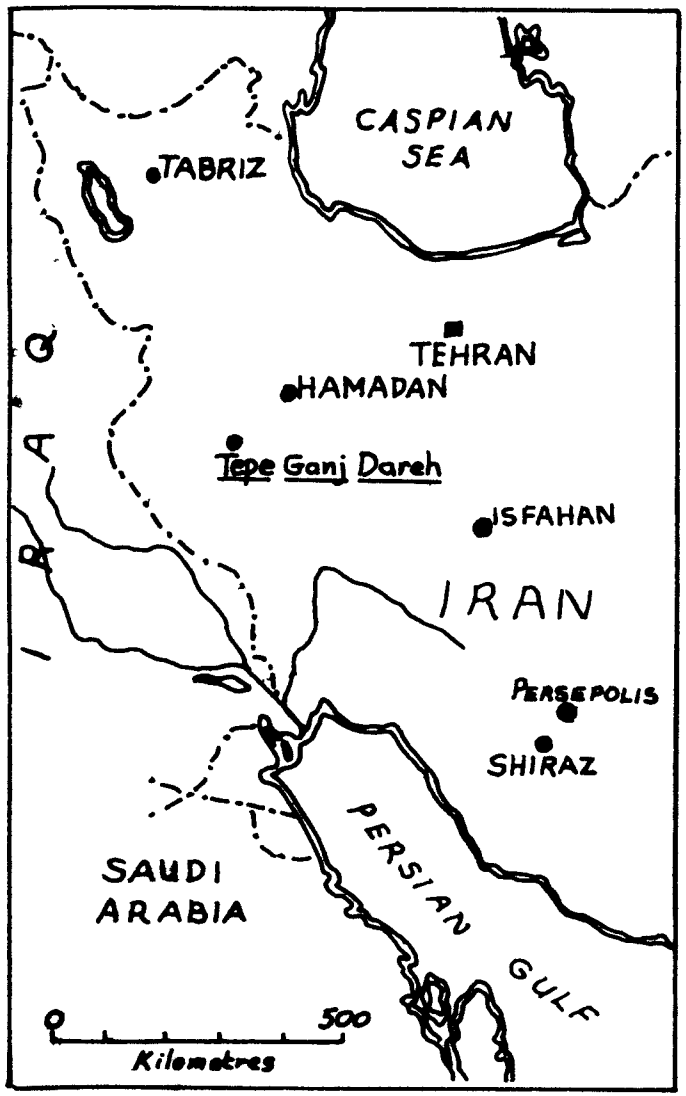

Figure 21

Figure 22

Large clay pot attached to a wall in one of many small cubicles of Level D, Ganj Dareh.

the wall off the floor.[4] Several of these very large clay pots were found built against the walls and floors of cubicles in Level D, while in Level B some smaller but simple clay vessels were in use. Mortars, pestles, clay storage bins and containers gives indirect evidence for the use of plants as a source of food.

In Level D several miniature clay vessels about five centimeters high were recovered. It is thought that they may represent toys or models of larger vessels.

Although Level E contained no pottery, human figurines, or solid architecture, clay was in use in the fabrication of animal figurines. These figures and the flint culture were similar to those of succeeding levels.

In Level D along with a large number of burials found over the mound an unusual "sarcophagus" made of mud brick and covered with a mud roof was uncovered and found to contain three skeletons.

As has already been mentioned, the pottery which was of the earliest type and simple in form was found to be present in all levels above Level E. Clay objects including several human figurines, cones, discs, spheres and animal figurines were common. Fragments of polished stone bowls were found in small quantities.

Dr. Smith reports that it is now considered possible that some of the pottery at Ganj Dareh which he believes to be probably the earliest yet reported in Western Asia, may have been fired at a low temperature at the time of fabrication, and that its preservation on

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[4]See Fig. 22

the site was not entirely due to accidental hardening in later fires.[5]

Radio carbon dating suggests that this site may have been inhabited between the 8th and perhaps the early 7th millennia BC.[6]

On the basis of the limited evidence reported, Level E would appear to be what is commonly called "Pre-Pottery Neolithic." By Level C a primitive ceramic industry is established. Level D would, therefore, appear to be a transitional ceramic phase, in which clay is first being used for storage purposes. It is significant that the earliest vessel type attested is the wide mouthed store jar, probably derived from the clay-lined pit as prototype. The radio carbon date indicates that the transition was taking place in Central Iran the eighth, perhaps the early eighth, millenium.

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[5] Smith, Philip. "Survey of Excavations in Iran During 1970-71." Iran, Vol. X, 1972, p. 168.

[6] Smith, Philip. "Survey of Excavations in Iran During 1970-71." Iran, Vol. X, 1972, p. 168.

CHAPTER IV

NEOLITHIC SITES IN ANATOLIA

Catal Huyuk

Hacilar

CATAL HUYUK

The site of Catal Huyuk which covers 32 acres is the largest Neolithic settlement yet known in the Near East. It is located in the middle of the fertile Konya Plain, fifty two kilometers to the south-east of the city of Konya and about eleven kilometers north of Cumra in Turkey.[1]

The first season of excavation at Catal Huyuk was begun in April 1961 under the direction of Dr. James Mellart. To this date approximately one quarter of the mound has been excavated and twelve successive levels of occupation have been uncovered.[2] Dr. Mellart suggests dates from c.6500 to 5650 BC based on a series of fourteen radiocarbon dates which indicate continuous occupation and cultural development during this period of time.[3]

The buildings of Catal Huyuk are constructed entirely of mud brick with a complete absence of stone. These buildings were single storied with probable use made of roof ladders as in Anatolia today.

The economy of the settlement was heavily based on agriculture with evidence of emmer, einkorn, bread wheat, naked barley, pea, vetch and bitter vetch being widely grown. Faunal analysis indicates the presence of domesticated sheep, goats and cattle. Wall paintings

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[1] See Map Fig. 23

[2] See Chronology Chart Fig. 24

[3] Mellart, James. Earliest Civilizations of the Near East, p. 81.

depicting hunting scenes were not uncommon so it may be assumed that the killing of wild cattle, deer and boar supplimented the economy.[4]

Imported shells, beads and stone for the manufacture of luxury vessels, beads and pendants, polishers, grinding stones, pounders, mortars, querns, and the use of alabaster and marble for the sculpting of small cult statues indicated that trade was carried on with the Levant and the Fertile Crescent, the local obsidian probably being bartered.

During the Pre-Pottery periods at Jericho and Jarmo the use of stone vessels was very common. At Catal Huyuk a much more extensive use was made of alternate materials such as wood, basketry, bone, antler and leather for the manufacture of containers. Professor Mellart suggests that this phenomenon may reflect the local ecology of the various sites.[5] While Catal Huyuk lies in an alluvial plain surrounded by forests, Jarmo and Jericho lie in or near the hills in a region where stones are easily accessible. Under these circumstances the difficulties must have been great in attempting to provide sufficient local stone to manufacture vessels for the population of a city the size of Catal Huyuk which is estimated to have run into the thousands. In Dr. Mellart's opinion this may have contributed considerably to experimentation with locally available material and the subsequent adoption of clay which meets the requirements of both

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[4]See "Excavations at Catal Huyuk, 1961." Anatolian Studies, XII, 1962, p. 56, cf. Anatolian Studies, XVI 1966, "Excavations at Catal Huyuk, 1965." Plates LIII-LXIII.

[5]Anatolian Studies, XIV, 1964, p. 81.

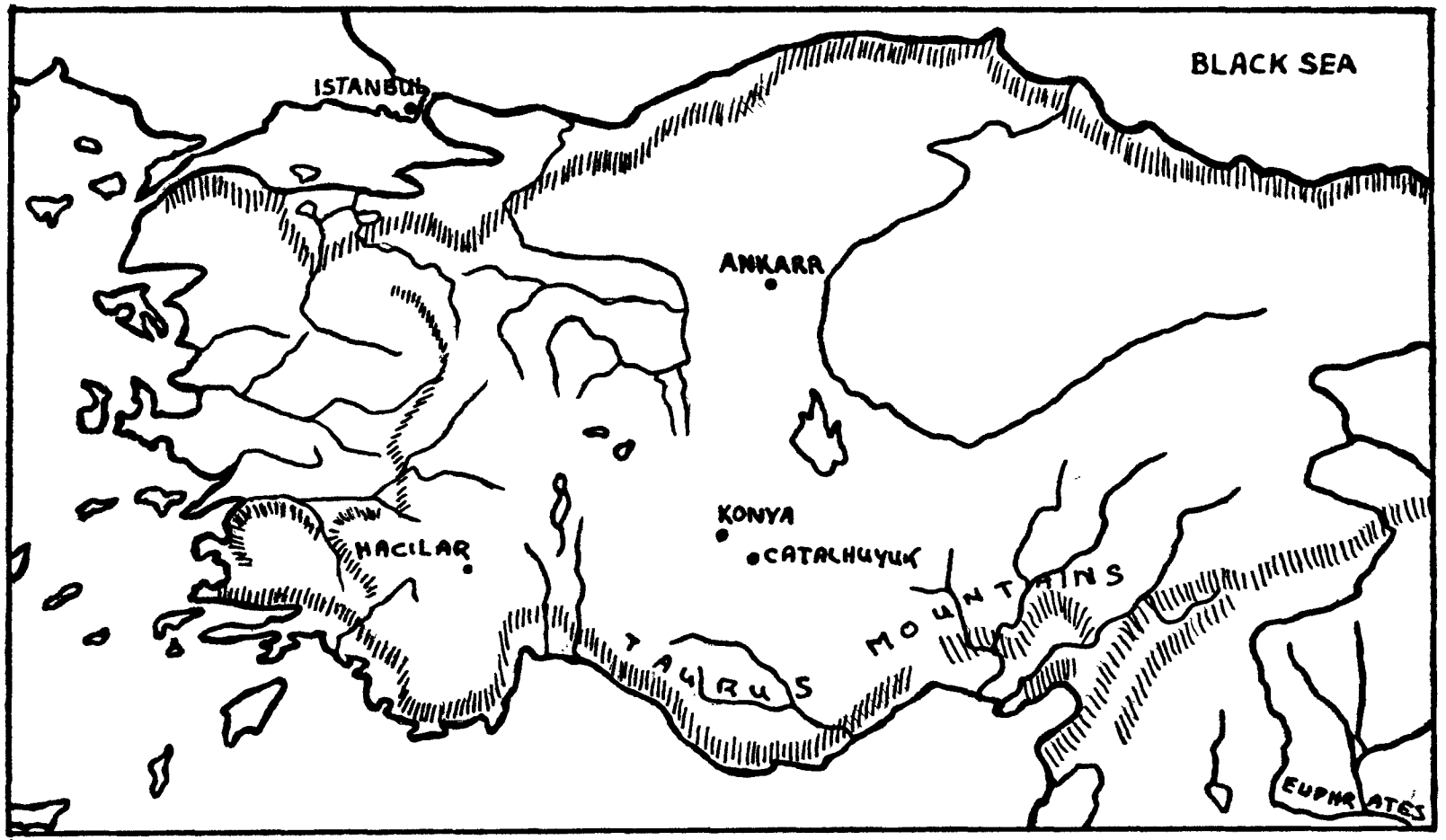
BLACK SEA
ISTANBUL
ANKARA
KONYA
CATALHUYUK
HACILAR
TAURUS MOUNTAINS
EUPHRATES

Figure 23

CATAL HUYUK CHRONOLOGY CHART

Seasons 1961-63

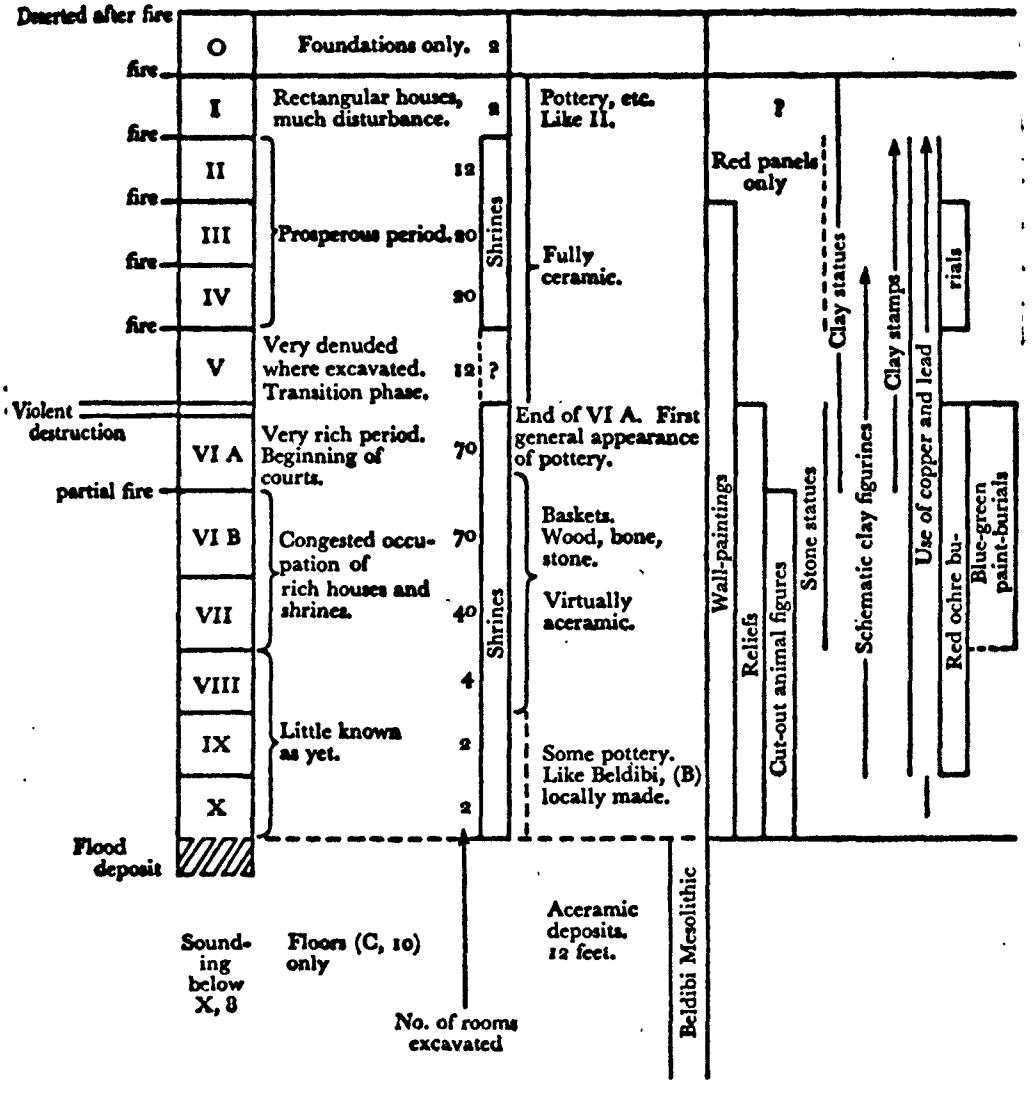

Fig. 24
Reproduced from Anatolian Studies XIV (1964) p.115

local availability and that of being able to provide an adequate substitute for a stone vessel. A further observation which contributes to the fact of Catal Huyuk's position as a basic site in this study is that at Catal Huyuk, the introduction of pottery did not correspond to a change of culture as it did in Greece, Palestine or Syria, but merely marked the arrival of a new material and a new technological advance.

The excavators suggest a date of about 6500 BC for the first pottery at Catal Huyuk which appears in Levels X - IX. However, it is not until some six hundred years later around 5900 BC (at the end of Level VI A) that pottery came into common usage. The earliest vessels were constructed of buff coloured clay with small white grits and no straw. Pots were hand-made on a flat, stationary base and built up with coils of clay. The excavators believe that a paddle and anvil were used to finish the walls to their extreme thinness.[6] These earliest products show a developing technique in construction and are fired to a hard finish which was frequently burnished.

Although it is not clear what is responsible for the time-lag in the acceptance of pottery into common usage it is possible that the new product simply could not compete with the wooden, stone, bone, leather and basket containers which had been in use probably since Palaeolithic times and with which the people felt at ease. The theory of "Technological lag" which was discussed above[7] applies

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[6] Anatolian Studies XII, 1962, p. 54.

[7] See below p. 8.

not only to distorted use of a new medium but to a general reluctance on behalf of the public to accept it at all.

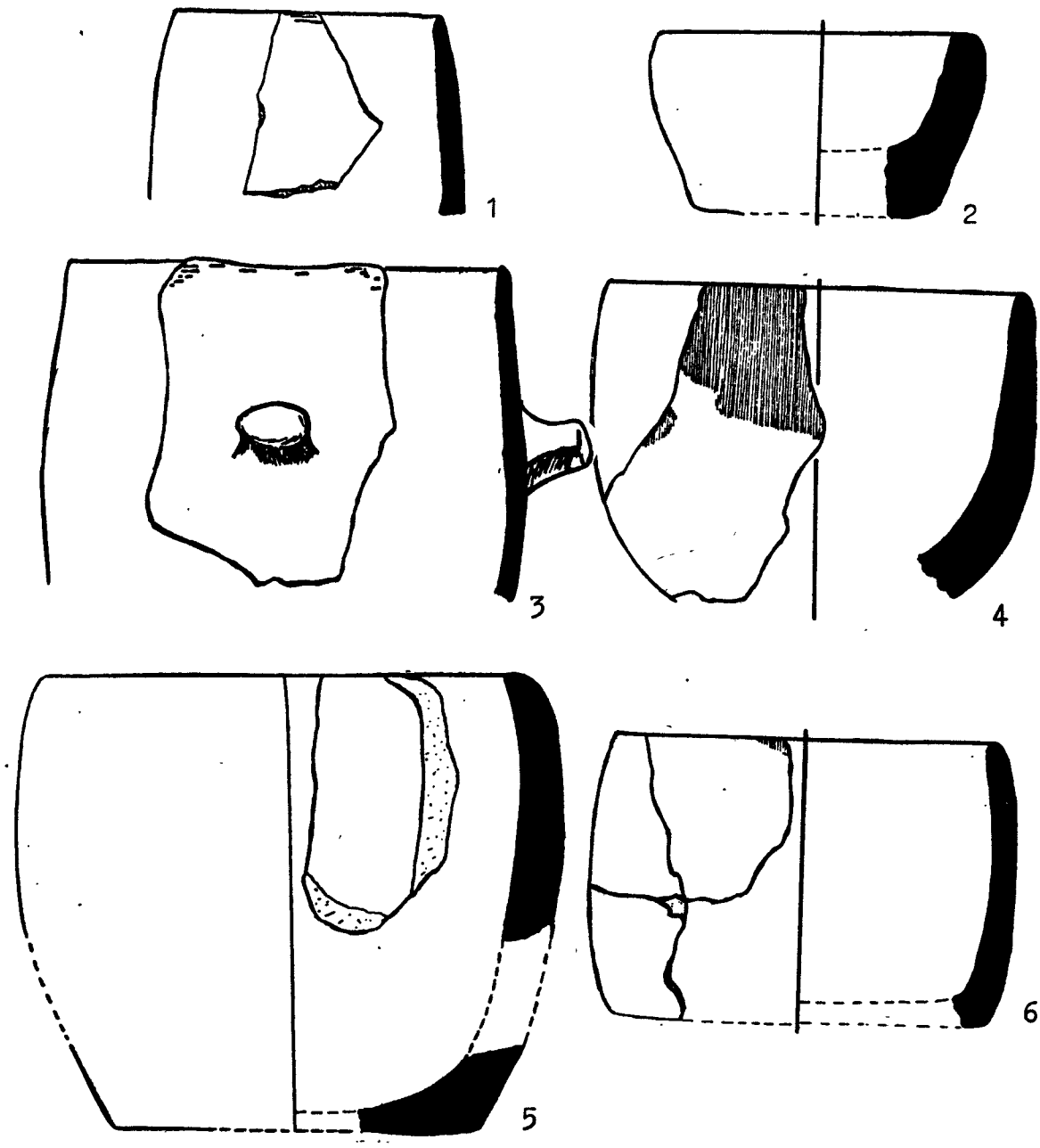


Figure: 25 NEOLITHIC POTTERY OF CATAL HUYUK

NEOLITHIC POTTERY OF CATAL HUYUK Figure: 25

1. Bowl, Grey-brown ware.
   Scale 1:4
   Level E X 1 (Shrine)
   Anatolian Studies XIV, 1964. Fig. 33:7

2. Bowl, Coarse greyish-buff ware.
   Scale 1:4
   Level E. XXII. 29
   Anatolian Studies XVI, 1966. Fig. 4:1

3. Jar with knob handle, brown washed burnished.
   Scale 1:4
   Level E IX, 8 (Shrine)
   Anatolian Studies XIV, 1964. Fig. 33:4

4. Deep bowl, Coarse buff burnished ware.
   Scale 1:4
   Level E XI. 29
   Anatolian Studies XVI, 1966. Fig. 4:6

5. Deep Bowl, Soft grey burnished ware.
   Scale 1:4
   Level E. XII.25.
   Anatolian Studies XVI, 1966. Fig. 4:9

6. Bowl, cream burnished ware with brown paint along rim.
   Scale 1:4
   Level E XII.29
   Anatolian Studies XVI, 1966. Fig. 4:4

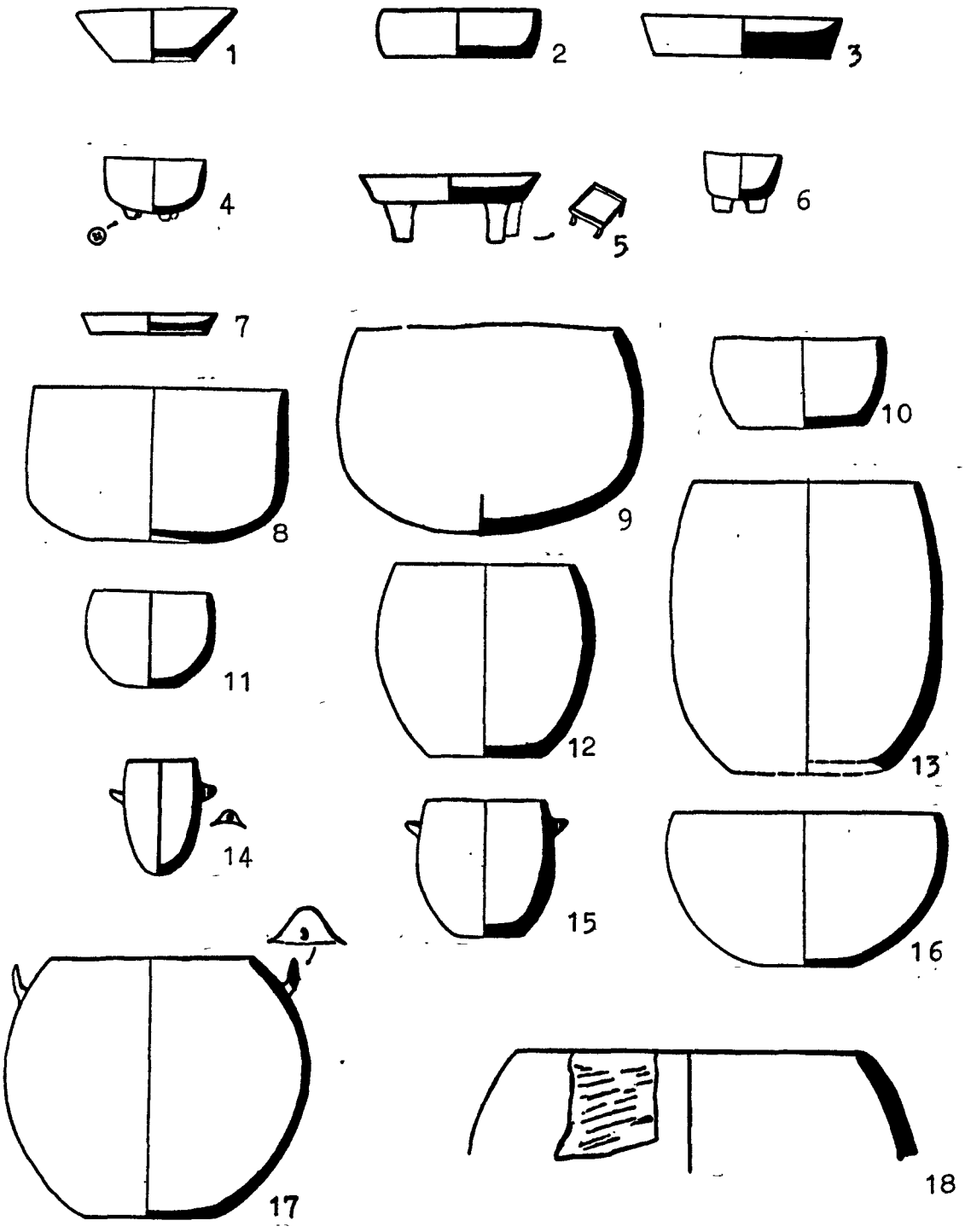


Figure:26 NEOLITHIC POTTERY OF CATAL HUYUK

NEOLITHIC POTTERY OF CATAL HUYUK Figure: 26

1. Bowl, buff, mottled grey burnished.
   Scale 1:4
   Level A III
   Anatolian Studies XII, 1962. Fig. 9:1

2. Bowl, very coarse buff ware.
   Scale 1:4
   Level E V, 3
   Anatolian Studies XII, 1962. Fig. 9:5

3. Bowl, greyish black burnished.
   Scale 1:4
   Level A III, 4
   Anatolian Studies XII, 1962. Fig. 9:7

4. Bowl, smoothed grey ware. Four feet.
   Scale 1:4
   Level E V.
   Anatolian Studies XII, 1962. Fig. 9:9

5. Tray, four footed. Greyish buff coarse burnished.
   Scale 1:4
   Level A III, 4.
   Anatolian Studies XII, 1962. Fig. 9:3

6. Bowl, Coarse buff ware, four feet.
   Scale 1:4
   Level E IV, 1.
   Anatolian Studies XII, 1962. Fig. 9:10

7. Shallow Bowl, Brown burnished.
   Scale 1:4
   Level E VIII
   Anatolian Studies XII, 1962. Fig. 9:6

8. Bowl, Cream, mottled black burnished.
   Scale 1:4
   Level E V, 4
   Anatolian Studies XII, 1962. Fig. 9:15

9. Bowl, Red-brown burnished ware.
   Scale 1:4
   Level E VII, 24
   Anatolian Studies XIV, 1964. Fig. 33:1

10. Bowl, coarse greyish-buff ware
Scale 1:4
Level E IV, 12
Anatolian Studies XII, 1962. Fig. 9:16

11. Bowl, greyish-black burnished
Scale 1:4
Level E IV, 4.
Anatolian Studies XII, 1962. Fig. 9:11

12. Bowl, Red-brown burnished.
Scale 1:4
Level E IV, 1.
Anatolian Studies XII, 1962. Fig. 9:18

13. Bowl, dark buff vertically burnished ware
Scale 1:4
Level E VI. 1.
Anatolian Studies XII, 1962. Fig. 9:19

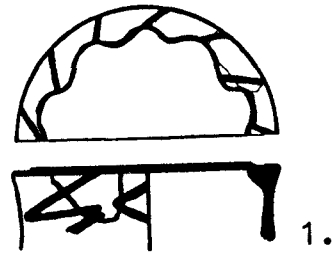
14. Bowl, smooth buff ware with black core.
Scale 1:4
Level E III
Anatolian Studies XII, 1962. Fig. 9:13

15. Bowl, Smoothed coarse buff ware.
Scale 1:4
Level B II, 1.
Anatolian Studies XII, 1962. Fig. 9:14

16. Bowl, brown burnished.
Scale 1:4
Level E VIII.
Anatolian Studies XII, 1962. Fig. 9:20

17. Bowl, Coarse brown mottled grey ware. smoothed.
Scale 1:4
Level E IV, 4.
Anatolian Studies XII, 1962. Fig. 9:17

18. Bowl, Buff ware, hardfired.
Scale 1:4
Level E IX, 1 (Shrine)
Anatolian Studies XIV, 1964. Fig. 33:2



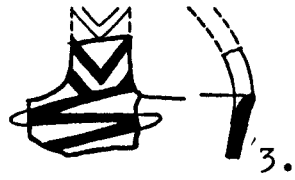


Figure: 27

CHALCOLITHIC PAINTED POTTERY FROM CATAL HUYUK

Figure: 27
CHALCOLITHIC PAINTED POTTERY FROM CATAL HUYUK
Painted to resemble basket-work designs

1. Bowl, Crimson paint on cream, wet burnished.
   Scale 1:4
   Anatolian Studies, XI, 1961. Fig. 13:1

2. Basket-type handle from jar. Crimson on buff, burnished ware, grey core, white grits.
   Scale 1:4
   Anatolian Studies XI, 1961. Fig. 14:1

3. Basket-type handle from jar, Crimson paint on cream, thickly applied.
   Scale 1:4
   Anatolian Studies XI, 1961. Fig. 14:2

4. Basket-type handle from jar, Crimson paint on buff, wet burnished rim.
   Scale 1:4
   Anatolian Studies XI, 1961. Fig. 14:3

HACILAR

The site of Hacilar is located in the Vilayet of Burdur in Southwest Anatolia about twenty five kilometers west of Burdur, some two hundred miles to the west of Catal Huyuk.[1]

Excavation of the site was begun under the direction of Dr. James Mellart in September of 1957. The Chalcolithic is represented by five building levels (I to V) and the late Neolithic by four (VI to IX).

Other than about twelve sherds which represent the beginnings of the painted pottery culture all of the Neolithic pottery at Hacilar is burnished slipped or unslipped monochrome ware. The earliest pottery from levels IX and VIII is cream or light gray and burnished.[2] The author notes that much of this Neolithic Pottery, especially from the lowest two levels, looks remarkably like a deliberate imitation of marble vessels fragments of which were found in the Neolithic and Chalcolithic levels.

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[1] See Map Fig. 23

[2] Mellart, James. "Excavations at Hacilar: First Preliminary Report." See Anatolian Studies, VIII, 1958, p. 143.

CHAPTER V

REPERTORIE OF EARLY NEOLITHIC POTTERY FORMS

REPERTORIE OF NEOLITHIC POTTERY FORMS

The repertorie of Neolithic Pottery forms is small consisting basically of bowls and jars in various sizes. Bowl types range from small cup-like vessels (Fig. 28:3) to the saucer-bowl (Fig. 28:2) which was the most common vessel found at Jericho and for storage purposes large and deep bowls (Fig. 28: 4-6) with rounded or flat bases. For storage of liquids, large narrow-necked jars proved to be more suitable. These ranged in form from globular bag-shaped (Fig. 28:9) to deeper, high necked types (Fig. 28:8) with large carrying handles on the shoulder or body.

Instances of these pottery forms in plates appearing in this thesis may be found in Appendix I.

In attempting to determine the prototypes of these ceramic containers it would seem logical to examine the forms of non-ceramic containers used before the discovery of the pottery-making technique. By comparing these containers with the earliest ceramic forms, it is hoped that potential prototypes may be determined.

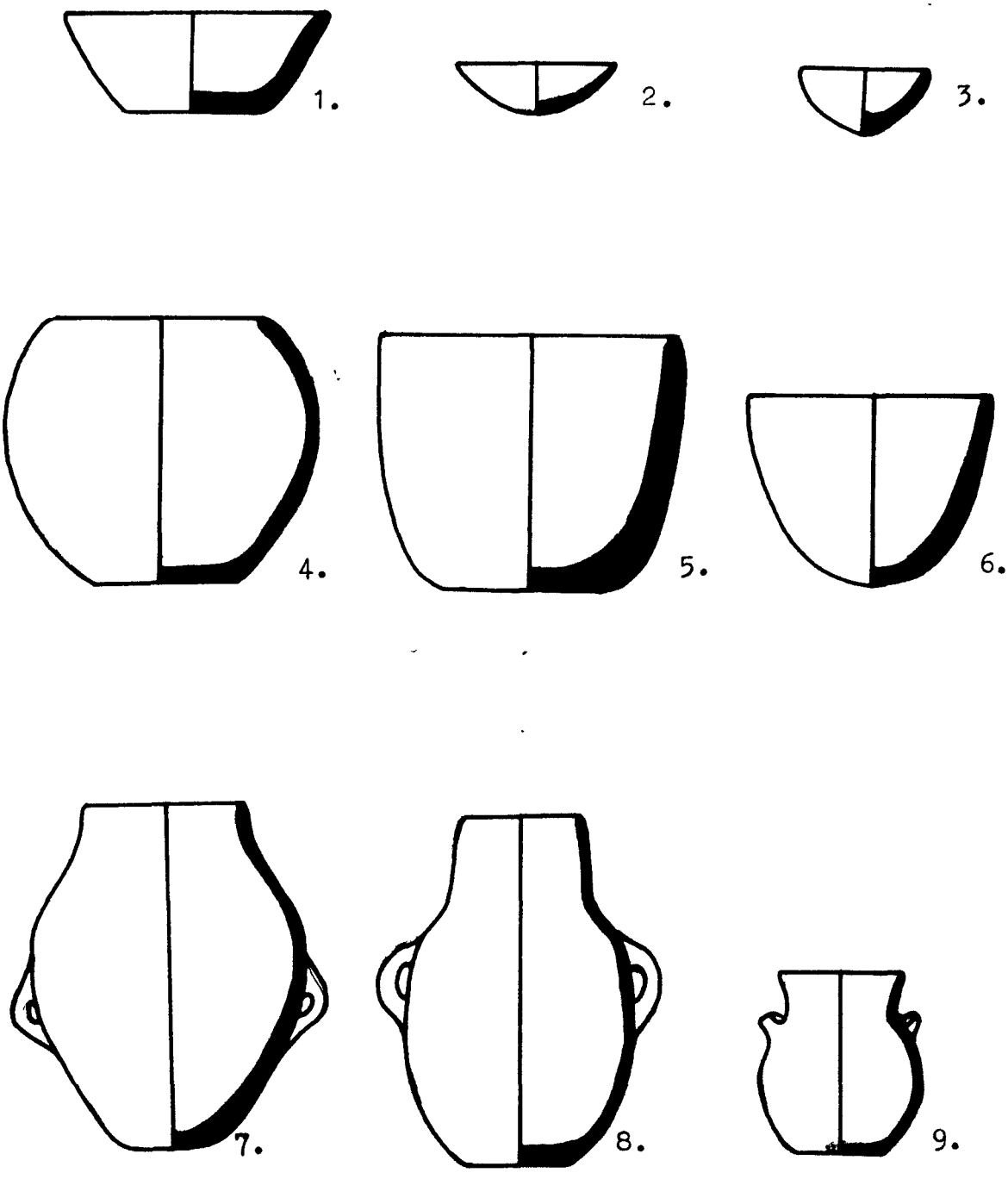

Figure: 2) BASIC NEOLITHIC POTTERY FORMS

CHAPTER VI

ORIGIN OF NEOLITHIC POTTERY FORMS

Pre-Ceramic Containers:

Pits and Clay-lined basins

Stone Vessels

Wooden Vessels

Baskets

Gourds

Skin Containers

PRE-CERAMIC CONTAINERS
Pits and Clay Lined Basins

The most common storage vessel in use in pre-ceramic times appears to have been a pit or bin dug into the ground or cut into the soft limestone.[1] Lining the inside of the pit with clay or limestone plaster provided a clearner, dryer, container. Plaster or clay lined floors with inset basins or pits are found at many sites in the Near East. It is sometimes suggested that a clay lined hearth or fire pit probably gave the first clue to the potential for baked clay. At, at least one site, Jericho, there is evidence of the sides of the pit being built up above floor level[2] and it is a short step from this to the idea of removing the basin from the ground to serve as a type of "portable hole". There can be little doubt that the clay lined pit provided the model for the wide mouthed storage vessel which is the most common of the basis Neolithic Pottery Forms (Figure 28:4, 5, 6). The round-bottomed, rounded or straight sided bowl is illustrated at Teluliot Batashi Fig. 4:2,3,6. Jericho Fig. 5:2,3,7. Munhata Fig. 9:5, 3, 10. Tell Soukas Fig. 18:3. Byblos Fig. 19:5., Tepe Ganj Dareh Fig. 22., and Catal Huyuk Fig. 25:4, and Fig. 26:9, 14. As the shape of the basin was changed to suit the purpose for which it was intended, flattened bottoms on vessels were the next step in the evolution of the form to enable the container to stand by itself out of the ground. These are

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[1] See Figure 29. Plans and sections of rock-cut pits from Megiddo's Neolithic Level XX.

[2] Garstang, John, The Story of Jericho, p. 54, cf. photograph p. 57.

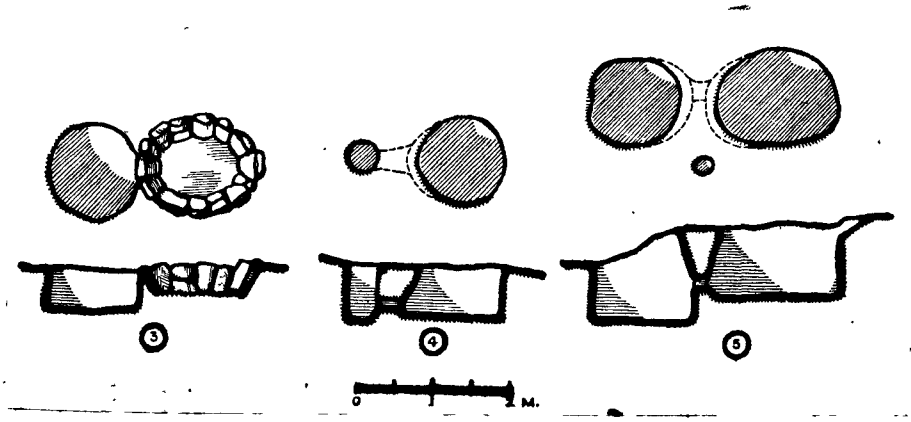

Figure: 29

Plans and Sections of rock-cut pits (Nos. 4-5) and a rock-lined fire pit (No. 3) at Megiddo Stratum XX. See also Fig. 8.
Scale 1:100.

illustrated at Teluliot Batashi Fig. 4:1, 4., Jericho Fig. 5:5, 10., Fig. 6:19, Ghrubba Fig. 7:1., Munhata Fig. 9:1,2,7,9,10,11,12., Sha'ar ha-Golan Fig. 14:2., Jarmo Fig. 20:3,4,9,10,11., and Catal Huyuk Fig. 25:2,5,6., Fig. 26:8,10,11,12,13,15,16 & 17.

STONE VESSELS

The use of stone vessels is universal in the Near East in both the pre-ceramic and ceramic periods. Among the sites considered in this study the earliest stone vessel illustrated is a stone quern from the Palaeolithic or Old Stone Age occupation level at Nahal Oren, Fig. 30:4. A large number of stone vessels of various shapes and sizes were found through the lower, middle and upper Palaeolithic levels. It did not take ancient man long to determine that the same method used to hollow out a pit in the soft limestone rock as illustrated in Fig. 29, could be applied to a loose rock thereby providing a "portable" storage space. The rock-cut pit had, in effect, been lifted out of the ground. It seems logical to assume that when one finds a clay lined basin, with or without the sides being raised above the level of the ground, the development to a free standing clay vessel is not too far off.

The most common shape in stone vessels appears to be the saucer bowl. (Fig. 30:1,2,3,& Fig. 31:2,3). This is probably because its manufacture from a relatively flat rock was not so long and tedious as was that of the larger and deeper bowls (Fig. 30:5,6 & Fig. 31:1, 7,8,9,). Kathleen Kenyon states that "saucer bowls with flat bases and a splaying wall" are the most common vessels found at the beginning

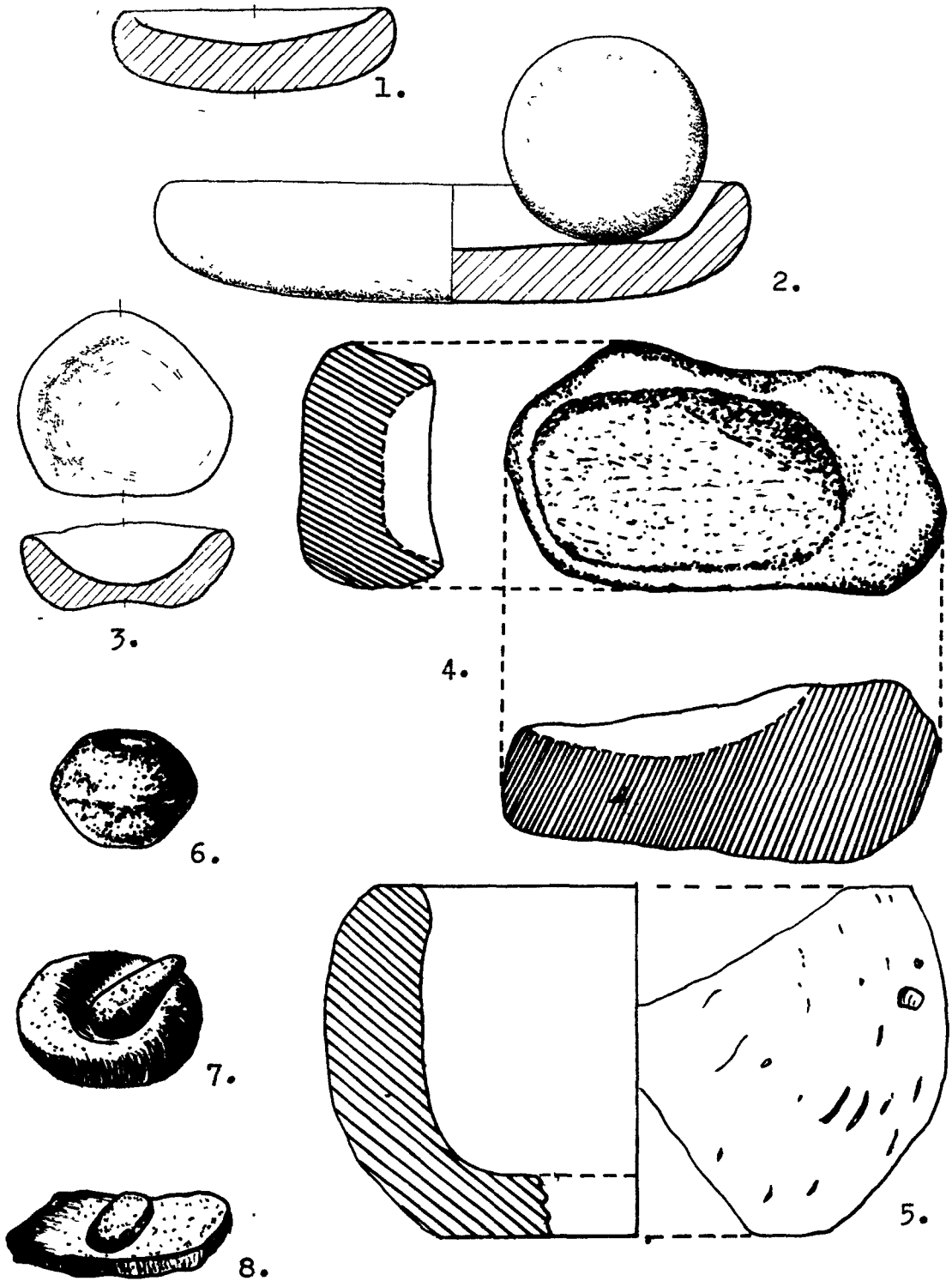

Figure:30 STONE VESSELS

Figure: 30 STONE VESSELS

1. Ground stone bowl
   Scale 1:4
   Preceramic Neolithic
   Munhata
   Syria, No. 43, 1966, Fig. 5:6

2. Ground stone plate
   Scale 1:4
   Preceramic Neolithic
   Munhata
   Syria, No. 43, 1966, Fig. 5:7

3. Ground stone bowl
   Scale 1:4
   Preceramic Neolithic
   Munhata
   Syria, No. 43, 1966, Fig. 5:3

4. Stone Quern
   Scale 1:8
   Palaeolithic
   Nahal Oren
   Israel Exploration Journal, Vol. 13, No. 1, 1963, p.8.

5. Stone Bowl
   Scale 7:10
   El Khiam
   Level V
   Revue Biblique, Vol. 70, 1963, Fig. 6:31

6. Stone bowl
   No scale given in publication
   Jarmo
   The Near East and the Foundations of Civilization,
   p. 25, Fig. 14

7. Stone mortar and pestle
   No scale given in publication
   Jarmo
   The Near East and the Foundations of Civilization,
   p. 25, Fig. 14

8. Stone grinding surface
   No scale given in publication
   Jarmo
   The Near East and the Foundations of Civilization,
   p. 25, Fig. 14

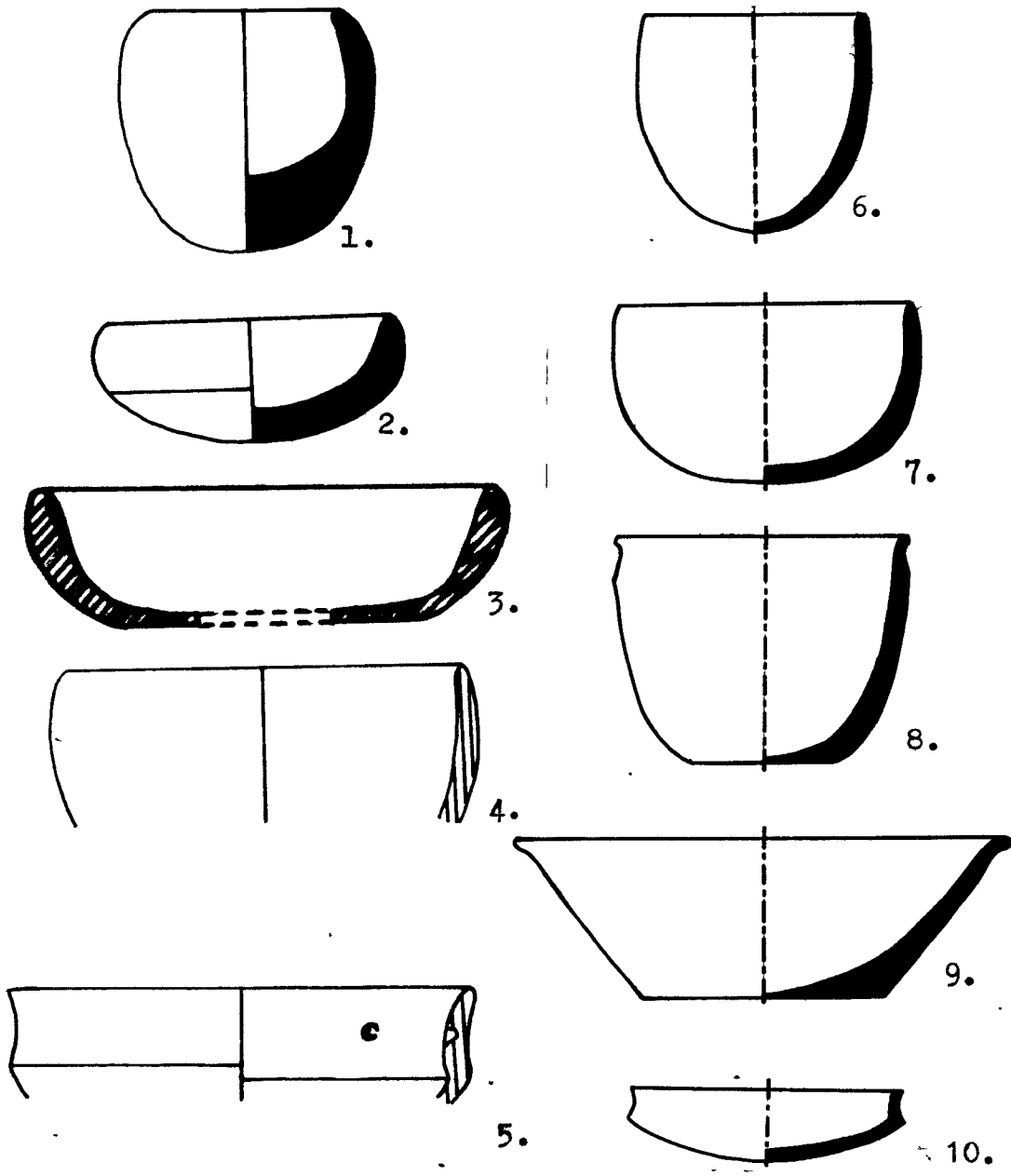

Figure: 31 STONE VESSELS

Figure: 31 STONE VESSELS

1. Cup, Soft ground limestone
Scale 1:2
Tell Ramad
Level IIIa Prepottery Neolithic
Les Annales Archéologiques de Syrie, XIV, 1964,
Pl. IIIB:8 (63.79).

2. Small cup. Polished grey stone
Scale 1:2
Tell Ramad
Level Ic Prepottery Neolithic
Les Annales Archéologiques de Syrie, XIV, 1964,
Pl. IC:6 (63:424).

3. Bowl. Polished marble.
Scale 1:4
Abu Gosh
Pottery Neolithic level
Syria, 29, 1952, Fig. 6:1

4. Globular bowl, polished white ivory-like marble
Scale 11:20
Tell Soukas
Les Annales Archéologiques de Syrie, XIII, 1963,
Fig. XIII:3.

5. Carinated bowl. Polished white, blue-veined marble.
Scale 11:20
Tell Soukas
Les Annales Archéologique de Syrie, XIII, 1963
Fig. XIII:2.

6-10. Finely ground stone bowls
Scale 1:3
Jarmo
Prehistoric Investigations in Iraqi Khurdistan,
Plate 21:13, 12, 16, 14, 15.

of the ceramic levels at Jericho.[3] In the Pre-Pottery Neolithic B level at Jericho there were a variety of mortars and grinding bowls in harder stone, a large number of highly individual querns and all dishes and bowls were made of fine limestone worked to a beautiful finish.[4] It is obvious that with the development of pottery making in Pottery Neolithic A (Fig. 5:2,3,4) it was the form of these familiar stone vessels which provided the prototype for the new material.

The similarity of pottery vessels to stone vessels produced in the pre-ceramic era is most striking. At Tell Ramad the thick walled, mold-made pozzolanic vessels produced in the pre-ceramic era (Fig. 18:4,5) bear a remarkable resemblance to the stone bowls which were their contemporaries (Fig. 30:1,2). The later pozzolanic vessels produced at Tell Soukas in the Pottery Neolithic era (Fig. 18:1,2,3) show the same resemblance to earlier (Fig. 30:1,2,3, & Fig. 31:1,2) Pre-pottery Neolithic stone bowls and to those which were produced at the same time as themselves (Fig. 31:3).

The earliest Jarmo pottery shows a distinctive similarity to the assemblage of stone vessels found contiguously with it. This is particularily obvious with the carinated bowls (Fig. 20:1,2,5,8,9,11) which have a definite prototype in stone (Fig. 31:11).

At Catal Huyuk, the excavators suggest stone prototypes for a number of their pottery forms and point out that certain pottery bowls

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[3]Kenyon, Kathleen M. Archaeology in the Holy Land. p.62.

[4]Kenyon, Kathleen M. "Jericho and Its Setting in Near Eastern History." Antiquity. No. 120, 1956. p.185.

with four feet (Fig. 26:4 & 6) also occur in white or veined marble.[5] It is also suggested that hole-mouthed pottery vessels, the most commom form found at Catal Huyuk (Fig. 26:9,17,18), may have had stone prototypes since such vessels also occur in Pre-ceramic Jericho.[6]

WOODEN VESSELS

Because of the perishable nature of wood, few of the sites in this study yielded tangible evidence of this medium as a prototype of clay. However, considering the skill and patience shown by Neolithic man in his careful production of carved stone vessels, it would seem highly unlikely that he would fail to make use of this lighter and more easily workable material when it was available to him. The abundance of stone and relative lack of wood in the Jordan Valley were Jericho located is reflected in the material culture. Here stone vessels predominate although Dr. Kenyon does report evidence of both wood and skin containers which was found in the pre-pottery layers along with beautifully finished bowls and dishes of fine limestone.[7] However, it is to Catal Huyuk, in Anatolia to which one must turn to find an extensive repertoire of wooden vessels which most certainly provided prototypes for the first pottery forms.

At Catal Huyuk level VI A, was found to have been ended by a massive conflagration. The heat from this fire was so great that it

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[5]Mellaart, J. "Excavations at Catal Huyuk, First Preliminary Report, 1961". Anatolian Studies. Vol. XII, 1962, p. 54-55.

[6]Mellaart, J. "Excavations at Catal Huyuk, First Preliminary Report, 1961". Anatolian Studies. Vol. XII, 1962,pp.54-55. cf.Cole, Sonia, The Neolithic Revolution, British Museum (Natural History)Pl.XIII a.

[7]Kenyon, Kathleen M. "Jericho and Its Setting in Near Eastern History." Antiquity. 120, 1956. p. 185.

it carbonized the material culture of the mound to a depth of about three feet preventing all further bacterial decay. These circumstances served to preserve a wide collection of wooden vessels which the excavators were able to recover virtually intact. The inventory of wooden vessels forms is described as shallow round dishes (Fig. 32:4), deeper bowls of the same shape (Fig. 32:2) with flat, disc or ring bases as well as oval conical bowls, boat-shaped vessels, lided boxes, oval (Fig. 33:2), and rectangular (Fig. 33:1,5,6) and wooden spoons (Fig. 33:3).[8] Dr. Mellart notes that the small, circular, flat-based bowls and an unusual "egg-cup" shaped vessel (Fig. 33:4) have direct imitations in later pottery. In fact, pottery seems to have been reluctantly accepted in place of wood. There is evidence to the effect that the Neolithic People of Catal Huyuk owned "dinner services" of wooden dishes in the pre-pottery era and that their use continued to feature heavily in the lives of the people both in the pre-ceramic and in the later ceramic periods.[9]

The vessels often took on a round or oval shape with straight sides (Fig. 32:1 & Fig. 33:2) conforming to the shape of the block of wood from which they were carved. Pottery vessels oval or round in shape with flat bases and straight sides may betray a wooden prototype. (Munhata, Fig. 9:1, Jericho, Fig. 6:19) The four-footed ceramic tray

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[8]At the Neolithic site of Ghrubba an attempt was made to produce spoons from clay which probably had a wooden or bone prototype. See: "The Neolithic Site of Ghrubba" Annual of the Department of Antiquities of Jordan. III, 1956, p. 28.

[9]Mellaart, James. "Excavations at Catal Huyuk, Third Preliminary Report, 1963." Anatolian Studies, Vol. XIV, 1964, p. 86.

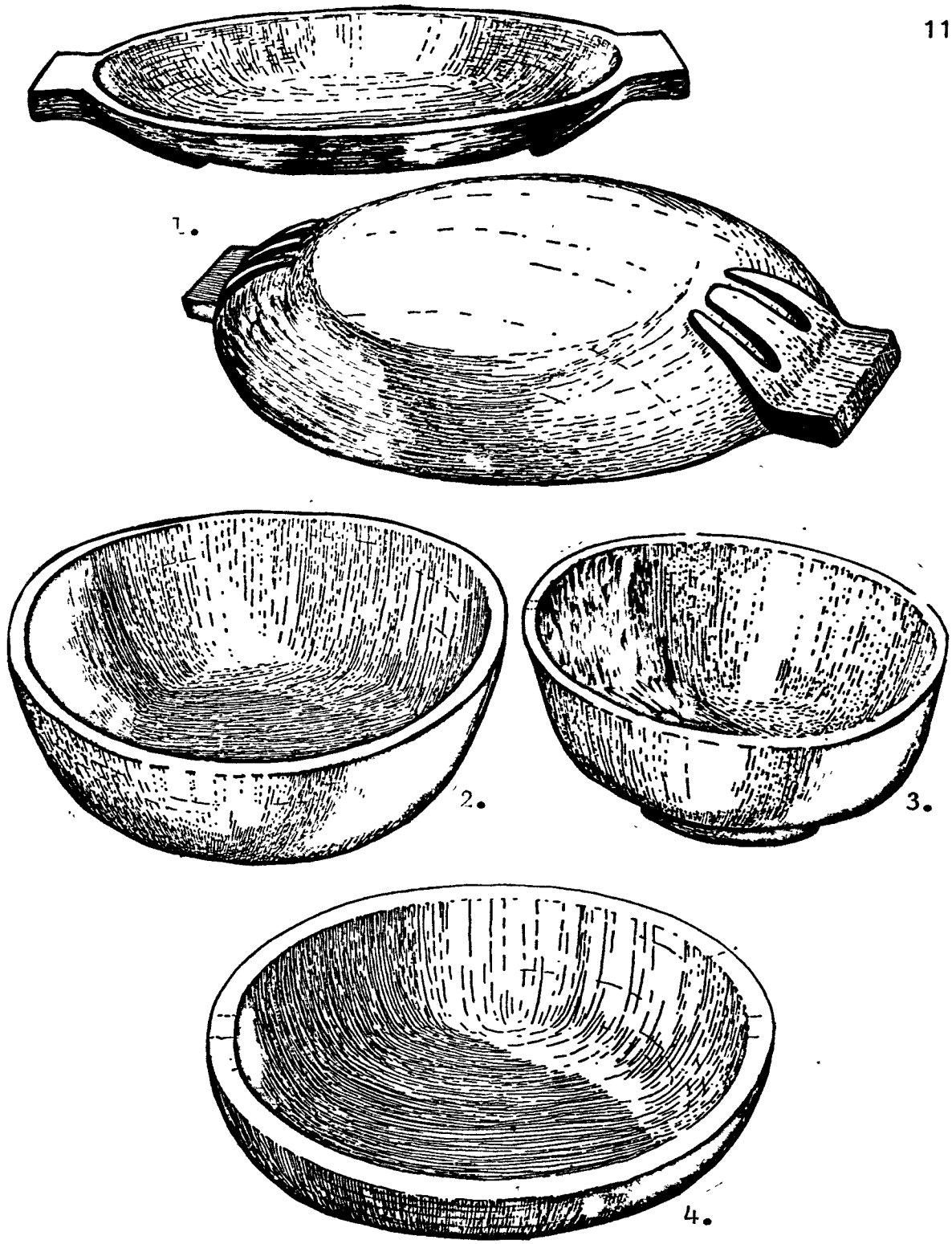

Figure: 32 CHARACTERISTIC WOODEN VESSELS FROM CATAL HUYUK

Figure: 32 CHARACTERISTIC WOODEN VESSELS FROM CATAL HUYUK

1. Wooden bowl (upright and reversed view)
   Level Vl A-B
   Anatolian Studies XIV, 1964, Fig. 39:2&1, p. 91.

2. Wooden bowl
   Level VI A-B (mainly from burials)
   Anatolian Studies XIV, 1964, Fig. 1:35, p. 87

3. Wooden bowl
   Level VI A-B
   Anatolian Studies XIV, 1964, Fig. 36:2

4. Wooden bowl
   Level VI A-B
   Anatolian Studies XIV, 1964, Fig. 35:3

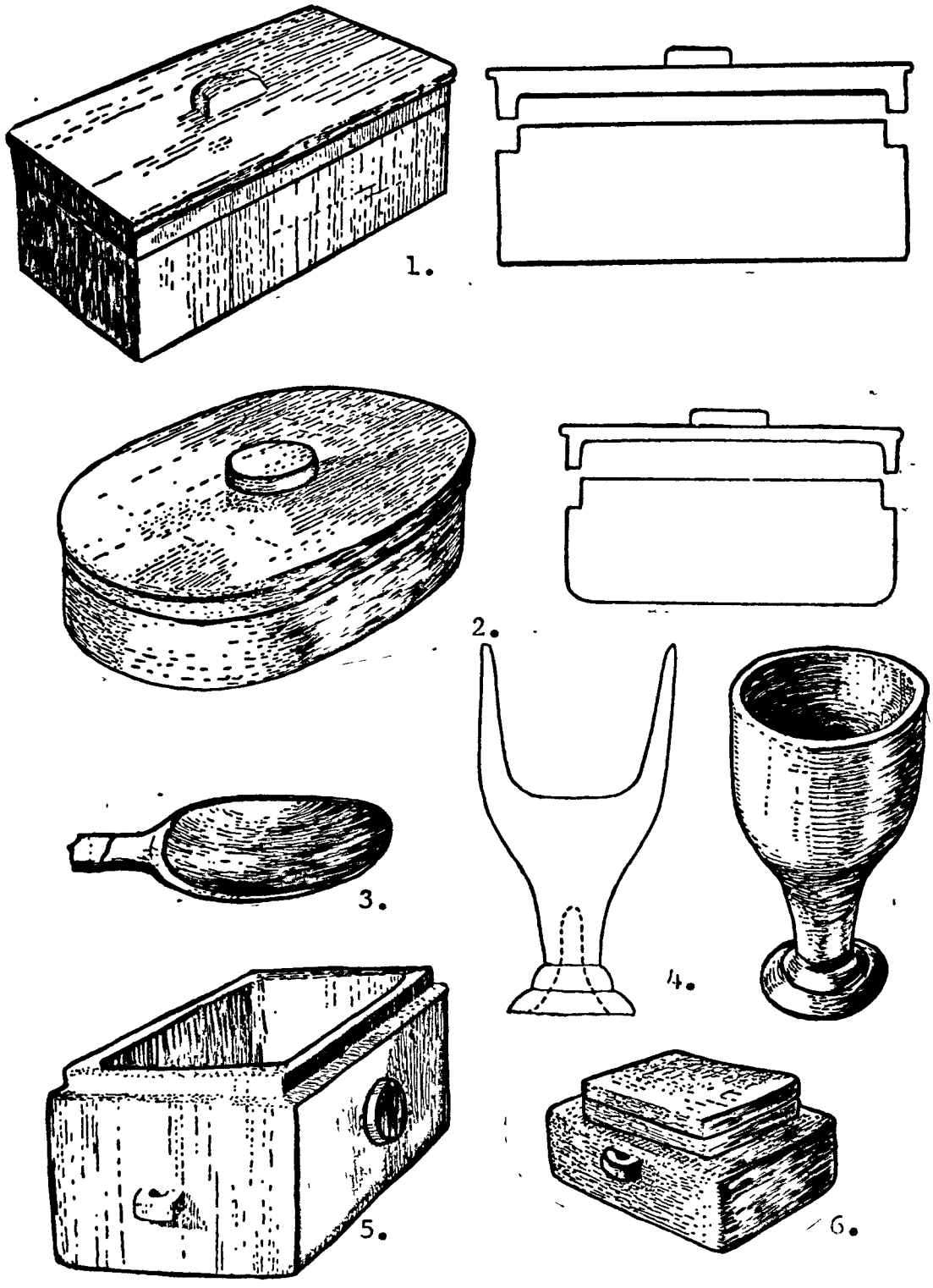

Figure: 33 CHALCOLITHIC WOODEN VESSELS FROM CATAL HUYUK

Figure: 33 CHARACTERISTIC WOODEN VESSELS FROM CATAL HUYUK

1. Wooden box with lid
   Level VI A-B
   Anatolian Studies XIV, 1964, Fig. 37:1&4, p. 89

2. Oval wooden box with lid
   Level VI A-B
   Anatolian Studies XIV, 1964, Fig. 38:4&5, p. 90

3. Wooden spoon
   Level VI A-B
   Anatolian Studies XIV, 1964, Fig. 37:2, p. 89

4. Wooden Chalice "egg-cup"
   Level VI A-B
   Anatolian Studies XIV, 1964, Fig. 39:4&5, p. 91

5. Wooden box
   Level VI A-B
   Anatolian Studies XIV,1964, Fig. 39:3, p. 91

6. Wooden box with lid
   Level VI A-B
   Anatolian Studies XIV, 1964, Fig. 38:3, p. 90

from Catal Huyuk (Fig. 26:5) as well as the angular, straight sided, bowls and platters (Fig. 26:1,2,3,7) almost certainly are copied from wooden prototypes.

BASKETS

The woven basket is a functional container used extensively in the Near East, from earliest times up until present, which must not be overlooked as a probably prototype for the large wide-mouthed vessel forms of the earliest Neolithic pottery. (Fig. 28:4,5,6) At Catal Huyuk baskets containing red ochre, rouge and food were buried with the dead as funeral gifts. The excavators point out that burial in jars which was common in Anatolia in the Late Chalcolithic and Early Bronze Age was preceded by burials in baskets just as the use of baskets preceded that of pottery. To this day, more use is made of baskets as containers in Anatolia than is made of pots.[10] While excavating the site of Ras Shamra, Professor C. Schaeffer noted that large baskets reinforced with stocks and covered with clay with the insides smoothed were still used today for grain storage by the local natives. He speculated that this technique may be so ancient as to be the origin of the fabrication of fired pottery.[11]

The use of reeds for flooring appears to be fairly universal in the Neolithic Near East. While the matting or basket itself deteriorates quickly, the impression can often be seen quite clearly

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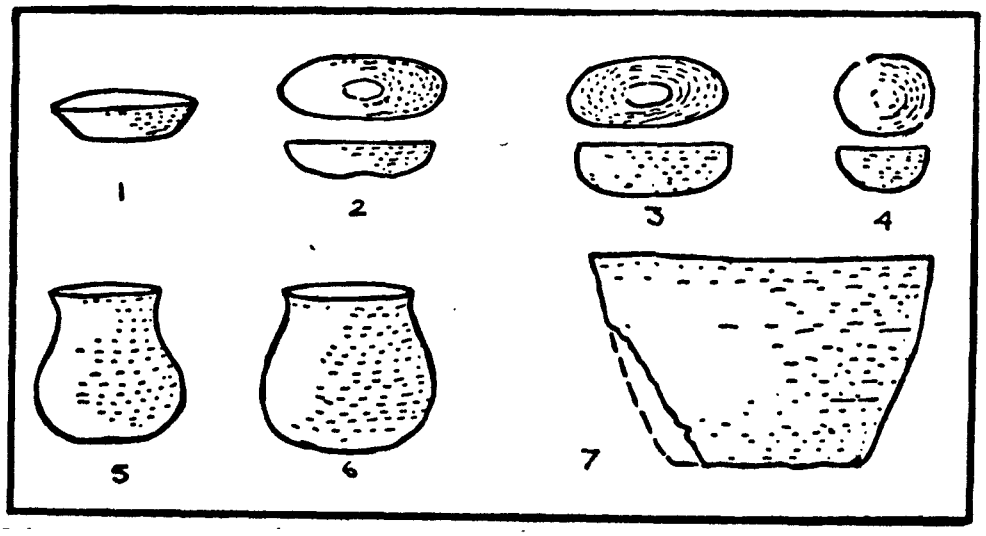
[10] Mellaart, James. "Excavations at Catal Huyuk, Third Preliminary Report, 1963." Anatolian Studies. Vol. XIV, 1964, pp.85-6.

[11] Schaeffer, C. "Neolithic Moyen: Ras Shamra Level VB." Ugaritica IV, Chapter II, p.16..



(1) E VI, 34 : (aceramic) burial 23. Diam. 15 cms.
(2) E VI, 34 : (aceramic) burial 17. Diam. (max.) 10–12 cms.
(3) E VI, 20 : (aceramic) oval. Diam. (max.) 20 cms.
(4) E VI, 20 : (aceramic) round. Diam. *c.* 10 cms.
(5) E VI, 34 : (aceramic) burial 23. Diam. at base *c.* 20 cms.
(6) E VI, 34 : (aceramic) burial 15.
(7) E VI, 20 : (aceramic) burial 11. Diam. rim 50 cms.

Figure: 34 BASKETS FROM CATAL HUYUK

Reproduced from Anatolian Studies, XIV, 1964. Fig. 34. P. 85.

in the ground. At Jarmo floors were constructed of packed mud over reed matting.[12] Since this technique was known,one may presume that the art of basketweaving was also familiar. At Catal Huyuk, the remains of baskets are far more common than those of stone, bone or antler. The impressions of baskets or their silica skeletons which appear as a white powdery substance occur in all building levels from I to X and below.[13]

The influence of basket shapes on pottery forms is unmistakable. The rounded contours of the smaller baskets (Fig. 34:1-4) can be seen reflected in the pottery of Teluliot Batashi (Fig. 4:2,3,6), Jericho (Fig. 5:2,3,4,7,8), Munhata (Fig. 9:1,2,5,6), Tell Soukas (Fig. 19:1), Tell Ramad (Fig. 19:7), and Catal Huyuk (Fig. 25:2, & Fig. 26:2,8,9, 10). The globular bodied baskets with the shoulder sloping gently from the neck (Fig. 34:5-6) are seen reflected in the pottery of Teluliot Batashi (Fig. 4:8), Jericho (Fig. 5:9, & Fig. 6:11), Ghrubba (Fig. 7:2), Munhata (Fig. 9:7) Sha'ar Ha-Golan (Fig. 15:2) and Catal Huyuk (Fig. 25:3). These vessels often have loop handles which could be ceramic imitations of twisted rope or reed handles attached to the original baskets. The narrow-necked, globular bodied jars often have painted decoration of chevrons and triangles reminicent of the basket-weave design. The basket-weave design is continued on pottery into the

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[12]Braidwood, R. "A Preliminary Note on Prehistoric Excavations in Iraqi Kurdistan." Sumer. VII, p. 103.

[13]Mellaart, James. "Excavations at Catal Huyuk, Third Preliminary Report, 1963." Anatolian Studies. Vol. XIV, 1964, p. 85-6.

the Chalcolithic era (Fig. 27:1-4) and appears to be very similar to the desing of the oval, round and bag-shaped baskets with handles from the Neolithic of Çatal Hüyük.

GOURDS

It is virtually impossible to find direct evidence for the use of gourds as non-ceramic containers due to their fast deterioration. However, a high degree of probability is inferred from other sources. In fact, the gourd, as a natural commodity may well have been the prototype for stone and wooden containers both of which require modification before they can be used. The "Original Container" was most probably the hands of man cupped together to dip water from a stream to his mouth. Since it was a natural product, requiring little modification, the gourd stands as a likely candidate to replace the hand since it could be used for storage as well as conducting the contents to the mouth. Evidence from other parts of the world does exist to the effect that gourd prototypes were used for Neolithic Pottery Forms. Schaeffer reports that in the older Neolithic layers in south-eastern Europe, especially in the houses characterized by pottery with a banded decoration from the loess zone which stretches from the lower Danube Valley to the Rhine, the baked earthen vessels still maintained the prototype form of a gourd.[14] Robert Braidwood suggests gourds as a probable preceramic containers along with basketry.[15] Dr. James Mellaart mentions

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[14]Schaeffer, G. "Neolithic Moyen, Ras Shamra Level Vb." Ugaritica IV, Paris, 1962, p. 155.

[15]Braidwood, R. "Jericho and Its Setting in Near Eastern History." Antiquity. 31, 1957, p. 76.

pottery vessels shaped and decorated like gourds from the Northern Iraq Hassuna ware culture.[16] Although it is not certain that gourds were universally available throughout the Near East during the pre-ceramic era, it would seem likely from the evidence presented that they would be used as containers in the locations were they were found.

SKIN VESSELS

Once again, as with gourds, direct evidence for the use of leather containers in pre-ceramic times is lacking and the skin-bag prototype may only be inferred from the pottery forms themselves. The best known examples of leather prototypes come from periods later than the Neolithic. J. Kaplan in his study of the skin bag suggests that it did, in fact provide the model for the bird-vase and some other bag-shaped Chalcolithic vessels.[17]

Kathleen Kenyon apears to believe that skin containers, along with wood were probably used at Jericho during the pre-ceramic era.[18] Sonia Cole suggests that leather bags were probably made in very early times by drawing a skin over a withy ring and then sewing it in place by thongs threaded through holes pierced with an awl.[19] This would give the vessel a bag-shaped appearance with a tightened neck. Sheep-

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[16]Mellaart, James. Earliest Civilizations of the Near East, p.65.

[17]Kaplan, J. "The Skin-Bag and Its Imitations in Pottery." Yediot. Bulletin of the Israeli Society 27, 1963, pp. 260-269.

[18]Kenyon, Kathleen M. "Jericho and Its Setting in Near Eastern History." Antiquity. 120, 1956, p. 185.

[19]Cole, Sonia. The Neolithic Revolution. British Museum of Natural History.

skin vessels of this type can still be purchased in the souks of the Near East today. Vessels in this study which may have had a leather prototype are found at Munhata (Fig. 9:7), Sha'Ar Ha-Golan (Fig. 15:1).

CONCLUSIONS

In this thesis to this point we have stated the problem of the origin of pottery forms from non-ceramic prototypes. The attempt to solve this problem has led to a site-by-site survey of the available data (Chapters I-IV). On the basis of the survey we have isolated a repertoire of Early Neolithic forms (Chapter V) and an assemblage of non-ceramic containers which may have been the ancestors of these forms (Chapter VI). It is now possible to suggest what the earliest Neolithic pottery forms may have been. The contents of this repertoire are, in a measure, speculative. This is inevitable since, as pointed out on page one above, no site directly illustrates the transition from non-ceramic to ceramic forms. In this circumstance, the original pottery forms must be inferred by extrapolating backward in time from known early pottery forms and forward from non-ceramic predecessors.

After an examination of the preceeding data, the following conclusions have been reached.

Man's incipient awareness of the potential uses of clay is shown in modeling of figurines, molding of pozzolanic vessels, plastering of walls and floors and eventually in the lining of his most useful storage container, the pit, with clay. Even as he had earlier learned to progress from a pit cut into solid rock-face to the hollowing out of a loose rock to provide a portable storage container, so he eventually developed the technique of modeling his basin out of the ground. It is the clay lined pit or basin that most probably served as the original prototype for a pottery vessel.

Having allowed the distinctive features of clay to lead him to

his first prototype, the "hole", man most probably then looked about for a method of copying his most useful vessel, the hollowed stone. Stone bowls, although heavy and extremely time-consuming to construct, had been part of his artifactual assemblage since earliest Palaeolithic times. The stone bowl when copied in pottery was lighter and able to be produced and replaced much more quickly. Stone vessels then became the model for a distinctive pottery form.

The stage from the clay lined pit to the clay vessel is not as easily transcended as is the stage between the pit cut in stone and the stone vessel. The rock is hard and will support itself whereas, the unbaked clay will not to any great extent support itself. It is quite possible that an intermediary stage whereby the clay was still reinforced by outside means followed the lined pit before the development of the free-standing clay vessel. This intermediary stage could well have been filled by the clay-lined basket. Pottery forms with distinctive basket shapes and basket-weave type decoration assure the place of the basket in the assemblage of skeuomorphic forms. However, it will be interesting to discover if the basket served this additional purpose in the development of the pottery-making technique when factural archaeological evidence for this development is uncovered.

Next to clay, wood was probably the next most malleable material available to ancient man. Being much softer than stone it was more easily fashioned into the desired shape and, of course, it can be carved to a finer tolerance, enabling lids to be made for vessels. In addition, since it is able to support itself without artificial aids, fine stemmed goblets and delicate wooden spoons of a type that are still in use today

could be made. Wooden vessels have provided the prototype for a number of basic pottery forms which display the characteristics of wood such as the flat base and rim, angular sides and high polish.

As had been noted earlier, gourds and skin vessels, although there is little direct archaeological evidence for their existence as non-ceramic containers, may have been the original containers from which later prototypes of stone and wood and basketry were fashioned. The progression from man's cupped hand to the next most natural container is speculative, but strong evidence exists to indicate that it was containers of gourds and leather that were the original skeuomorphic forms.

From this evidence we must conclude that the origin of Neolithic Pottery forms is to be found in the following skeuomorphs:

Pits and clay lined basins

Stone Vessels

Wooden Vessels

Baskets

Gourds

Leather Containers.

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APPENDIX I

TYPE	SITES OF OCCURANCE IN THIS STUDY	PLATE NO.
1	Batashi	4:1, 4
	Jericho	5:2, 6:19
	Ghrubba	7:1
	Munhata	9:1, 2, 11
	Sha'Ar Ha Golan	16:5, 11
	Catal Huyuk	25:2, 26:1,3,7
2	Jericho	5:4
	Catal Huyuk	26:16
3	Jericho	5:3,7
	Munhata	9:5
	Tell Soukas	18:3
	Byblos	19:5
4	Batashi	4:10,13
	Jericho	5:5
	Munhata	9:12
	Sha'Ar Ha-Golan	15:2
	Byblos	19:6
	Tepe Ganj Dareh	22
	Catal Huyuk	26:9,17,18
5	Jarmo	20:3;4,10
	Catal Huyuk	25:1,2,3,5,6 26:8,10,13,15
6	Batashi	4:2,6
	Jericho	5:10
	Catal Huyuk	26:4,6,14
7	Batashi	4:8
	Jericho	5:9
	Ghrubba	7:2
	Sha'Ar Ha-Golan	16:14
8	Batashi	4:9
	Jericho	5:1, 6:11
	Munhata	9:8
	Sha'Ar Ha-Golan	16:13
9	Munhata	9:7
	Sha'Ar Ha-Golan	15:1