



















# PREHISTORIC MERSIN









VASE OF A LATE HALAFIAN PERIOD: c. 3600 B.C.  
(Figured on p. 151)

*From a painting by Princess Hélène Yourievitch*



# PREHISTORIC MERSIN

YÜMÜK TEPE IN SOUTHERN TURKEY

BY

JOHN GARSTANG

THE NEILSON EXPEDITION

IN CILICIA

OXFORD

AT THE CLARENDON PRESS

1953

*Oxford University Press, Amen House, London E.C.4*

GLASGOW NEW YORK TORONTO MELBOURNE WELLINGTON  
BOMBAY CALCUTTA MADRAS KARACHI CAPE TOWN IBADAN

*Geoffrey Cumberlege, Publisher to the University*

PRINTED IN GREAT BRITAIN  
AT THE UNIVERSITY PRESS, OXFORD  
BY CHARLES BATEY, PRINTER TO THE UNIVERSITY

TO  
FRANCIS NEILSON

**T**HIS volume, which I have the pleasure of dedicating to you, is the direct outcome of the surprise visit with which you honoured me in my workrooms at the University of Liverpool sixteen years ago, when, after hearing my hopes and plans for the future, you spontaneously offered to bear the cost of an expedition to the Near East and exhorted me to 'go right ahead'. That initial act of kindness, unique in my experience, not only gave me a new lease of life at the age of 60, but surrounded me and my wife during the ensuing years with the charm of fascinating and fruitful work, cheered on by your unflagging interest and support. My moral debt to you is immeasurable; but I trust that the description herein of the researches carried out in your name and the light thrown by them upon man's social and cultural development will gratify your expectations.

The long delay in the publication of this volume needs little explanation in these troublous times. Frustrated by civil disturbance in our original design to excavate the impressive mound of Tell Keisan in northern Palestine, the expedition moved with your approval to the more welcoming soil of Turkey, the team at this time (1937) consisting of Miss M. V. Seton-Williams, J. Waechter, my wife, and myself. This first season was spent in exploring the possibilities open to us in the plain of Cilicia.

Work began on the site selected, Yümük Tepe, the subject of this volume, in the following autumn, with Mr. Seton Lloyd and Mr. G. M. FitzGerald, assisted by Miss D. Marshall and Miss A. Dun. In 1939-40 we had the additional help of an artist, the Princess Helène Yourievitch, who painted the subject of our frontispiece, and of an amateur photographer, Mr. L. Grant. Our earlier soundings had disclosed the traces of several different cultural epochs, and we profited greatly by the visits of experts in these special fields of research. Mr. R. D. Barnett of the British Museum studied in particular our East Greek pottery, Mr. G. M. FitzGerald and Dr. O. R. Gurney of Oxford our Hittite and pre-Hittite Levels (as described in Ch. X), while Dr. Miles Burkitt of Cambridge dealt with the neolithic remains. I am happy to make my acknowledgements here to one and all for their invaluable services.

Then came the War. By courtesy of the Oriental Institute in Chicago Mr. Seton Lloyd's plans and drawings and the essential records were sent there for safety: otherwise we were unfortunate. During my absence in Turkey early in 1940 our devoted secretary and artist Miss Mabel Ratcliffe, who had retained a number of unfinished drawings in my workroom at the Institute of Archaeology in Liverpool, was taken seriously ill and did not recover. The drawing-office and its contents were later destroyed in an air-raid.

In these circumstances I have to ask for some indulgence, particularly as regards the text-figures which illustrate features of our different periods. With the original drawings

destroyed, we have had to fall back on the register books and field sketches, which happily were saved. This will explain the differences of scale and handiwork, as well as the fact that many of the figures are shown in outline only.

As soon as conditions permitted, in 1946, my wife and I returned to the site with Mr. W. J. Brice and Miss D. Driffield in order to complete the excavation of the main area and link up its stratification with the lower areas A and B. In this task we were greatly helped by timely visits from Professor Gordon Childe and Dr. O. R. Gurney.

The two following winter seasons, which my wife and I spent at the newly founded Institute of Archaeology in Ankara, were largely devoted to the drafting of this book, her enthusiasm being as always an inspiration. Her death soon after our return in 1949 and the consequent disturbance to my own life inevitably involved delay in completing the outstanding details of publication. It was largely due to the devoted assistance given to me thereafter by my constant friend Canon Phythian-Adams and my nephew Dr. Gurney that this task has been accomplished.

As you will see, I have drawn considerably upon materials from our Annual Reports already published in the *Liverpool Annals of Archaeology*. In this fuller study of our results I have to acknowledge the great help generously given on various technical points by specialists in related studies. All of these I trust will be found duly recognized in the text and footnotes but I cannot refrain from thanking in particular my personal friends Professor M. E. L. Mallowan, Professor Sidney Smith, and Sir Leonard Woolley. Such contributions include important notes on primitive industries, pottery technique, the identification of bones, cereals, shells, obsidian and prase, on foreign relations and the Islamic Remains. These examples by no means complete the list which in itself illustrates the complexity of an archaeologist's task today.

In addition my warm thanks are due to my good friend Dr. Winifred Lamb for her valuable work and notes on the complicated materials of our Early Metal Age deposits, without which Ch. IX would have had but little value. Mr. Seton Lloyd, now Director of the British Institute of Archaeology in Ankara, has with great kindness brought our most recent plans into line with his own work of the earlier seasons, and so ensured continuity of style and draughtsmanship.

The preparation of our pencil drawings for publication has been done by Mrs. de Garis Davies, to whom I personally owe a debt of gratitude for the patience and skill with which she has toiled to fill from our register books the gaps caused by the war. As to the life-history of the site which forms the subject of the volume, no better introduction can be given than the admirable drawing by the Hon. Florence Fremantle which faces the first page. Here in graphic form can be seen the continuous yet ever-changing panorama of cultural development in one small corner of the earth: it will serve at the same time, better perhaps than many words, to explain the fascination of archaeology.

J. G.

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*at end*

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*From a painting by Princess Helène Yourievitch*

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## ABBREVIATIONS

- A.A.A.* = *L.A.A.*, q.v. <sup>1</sup>  
*A.f.O.* = *Archiv für Orientforschung*.  
*A.J.A.* = *American Journal of Archaeology*.  
*A.J.S.L.* = *American Journal of Semitic Languages*.  
*Alishar I, II, III* = Von der Osten, *The Alishar Hüyük*. O.I.P. 28–30.  
*A.Or.* = *Archiv Orientální*.  
*Arabah* = Garstang, *El Arabah. Egyptian Research Account*, vol. vi.  
*A.S.* = *Anatolian Studies*, Journal of B.I.A.A.  
*B.A.S.O.R.* = *Bulletin of the American Schools of Oriental Research*.  
*Belleten* = *Türk Tarih Kurumu, Belleten*.  
*B.I.A.A.* = British Institute of Archaeology at Ankara.  
Bittel, K. S. = K. Bittel, *Kleinasiatische Studien*.  
—, P.F.K. = Id., *Prähistorische Forschung in Kleinasien*.  
*B.M.Q.* = *British Museum Quarterly*.  
*Bo. St.* = *Boghazköi-Studien*.  
*Bo.T.U.* = *Die Boghazköi-Texte in Umschrift*.  
*B.S.A.* = *Annual of the British School at Athens*.  
*D.P.M.* = *Délégation en Perse, Mémoires*.  
Forsdyke, *Preh. Aeg. Pottery* = E. J. Forsdyke, *Prehistoric Aegean Pottery. British Museum Catalogue*, i. 1.  
Frankfort, *Studies* = H. Frankfort, *Studies in Early Pottery of the Near East*.  
*G.J.* = *Geographical Journal* (London).  
*H.E.* = J. Garstang, *The Hittite Empire*.  
*I.L.N.* = *Illustrated London News*.  
*J.A.* = *Journal Asiatique*.  
*J.A.I.* = *Journal of the Anthropological Institute*.  
*J.A.O.S.* = *Journal of the American Oriental Society*.  
*J.E.A.* = *Journal of Egyptian Archaeology*.  
*J.N.E.S.* = *Journal of Near Eastern Studies*.  
*J.R.A.S.* = *Journal of the Royal Asiatic Society*.  
*K.Bo.* = *Keilschrifttexte aus Boghazköi*.  
*K.U.B.* = *Keilschrifturkunden aus Boghazköi*.  
*L.A.A.* = *Annals of Archaeology and Anthropology*, Liverpool.  
Lamb, *Thermi* = Dr. Winifred Lamb, *Excavations at Thermi in Lesbos*.  
*M.D.O.G.* = *Mitteilungen der Deutschen Orientgesellschaft*.  
*M.V.A.G.* = *Mitteilungen der Vorderasiatisch-Aegyptischen Gesellschaft*.  
*O.I.C.* = Oriental Institute, Chicago.  
*O.I.P.* = Oriental Institute (Chicago), Publications.  
*O.L.Z.* = *Orientalistische Literaturzeitung*.  
*P.E.Q.* = Palestine Exploration (Fund) Quarterly (Statement).

## ABBREVIATIONS

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- Petrie, *T.W.* = W. M. Flinders Petrie, *Tools and Weapons*. British School of Archaeology in Egypt, vol. xxii.
- P.F.K.*, see Bittel, *P.F.K.*
- P.M.* = Sir A. Evans, *The Palace of Minos*.
- Präh. Zeits.* = *Prähistorische Zeitschrift*.
- Proc. Preh. Soc.* = *Proceedings of the Prehistoric Society*.
- Q.D.A.P.* = *Quarterly of the Department of Antiquities in Palestine*.
- Rev. Arch.* = *Revue Archéologique*.
- R.H.A.* = *Revue Hittite et Asiatique*.
- R.N. = Registered Number.
- R.T.* = *Recueil de Travaux*.
- Schmidt, *S.S.* = H. Schmidt, *Heinrich Schliemanns Sammlung Trojanischer Altertümer*.
- Strat. Comp.* = C. F. A. Schaeffer, *Stratigraphie Comparée et Chronologie de l'Asie Occidentale*.
- T.T.K.* = *Türk Tarih Kurumu*.
- T.T.Kon.* = *Türk Tarih Kongresi*.

## PRONUNCIATIONS

MERSIN = Merseen      TEPE = Teppy      SIRKELI = Sirkelly      KANES = Ka-nes

NOTE. *All scales attached to drawings of pots indicate centimetres*

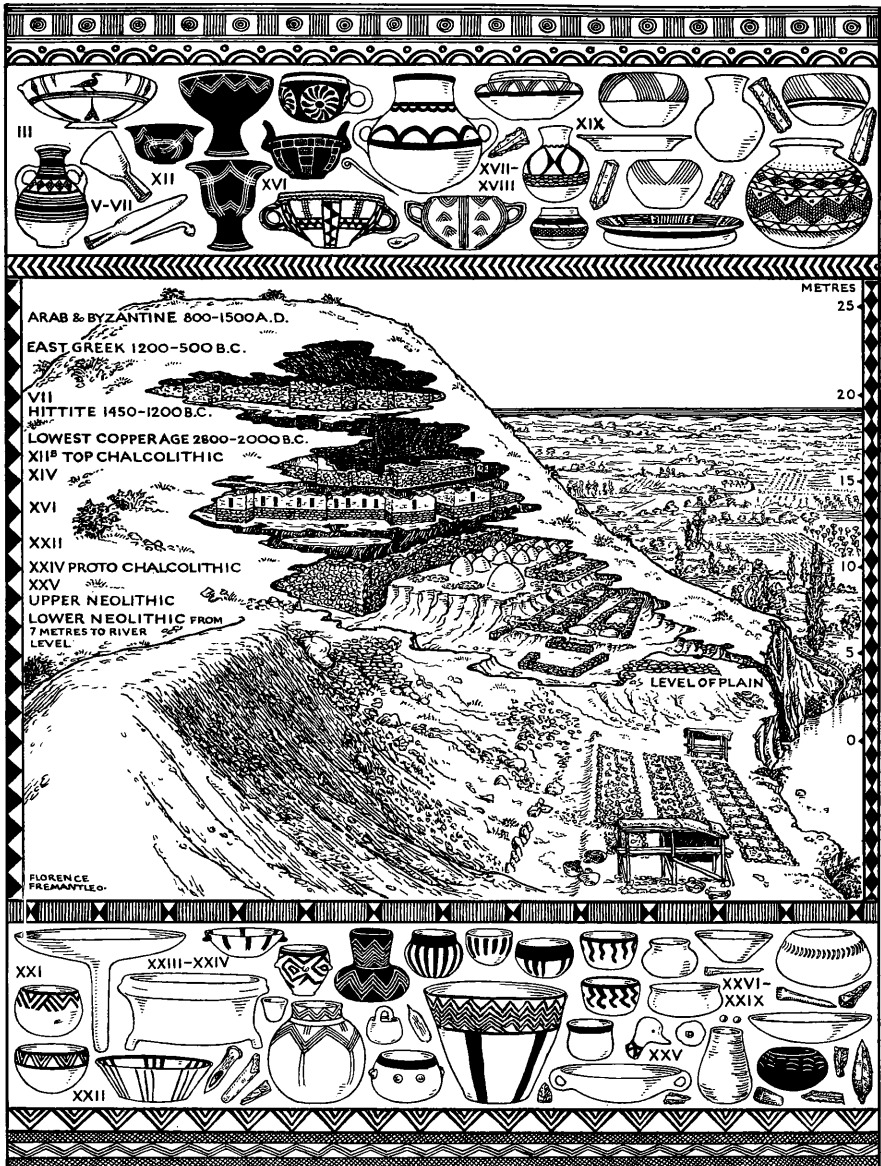


FIG. 1. YÜMÜK TEPE, MERSIN: A CONSPECTUS OF THE EXCAVATED MOUND

*From a drawing by Florence Fremantle*



# I

## INTRODUCTION

**D**URING my early journeys of exploration in Anatolia, dating from 1904, I formed the impression that the fertile plain of Cilicia in southern Turkey, shut off as it was by the great ranges of Taurus from the Anatolian plateau and by bold Amanus from northern Syria while open to the Mediterranean Sea, seemed designed by nature for a history of its own,<sup>1</sup> and I had always wished to investigate its past. The opportunity to do this came to me at last as leader of the Neilson Expedition to the Near East in 1936, when we were privileged by the Turkish authorities to explore the region with a view to selecting a site for excavation.

### CHOOSING THE SITE

In the course of this preliminary campaign we first examined numerous mounds in the wide plain between the Jeihan<sup>2</sup> and Seihan rivers (so named after two of the Rivers of Paradise in Arab legend), and northwards as far as Kozan or Sis, after which we worked gradually westward. On some of these sites we were able to make exploratory soundings, the results of which were published in the *Liverpool Annals of Archaeology*.<sup>3</sup> Hittite and pre-Hittite settlements inviting excavation were located at Sirkeli and at Kazanlı. Deep chalcolithic deposits were noted at Yarım Hüyük which, as its name the 'Half Mound' suggests, has been cut in two by the Jeihan river whereon it stands. Earlier prehistoric remains were observed at Imamoglu and also at Chaüşli.

The latter is in the vicinity of Mersin, which lies some 24 miles to the west of Tarsus. We had left this coastal district to the last because of its all-weather roads, whereas most of the inland sites examined had to be reached along earth tracks hardly passable after rain. It was in December that we finally arrived at the town itself which marked the limit of our preliminary investigations.

The small seaport of Mersin is modern; but some 2 miles to the north-west there rises an ancient mound called Yümük Tepe.<sup>4</sup> This, though of considerable size, is not visible from the town as it stands in a river valley. It is fairly conspicuous, however, from the south-west, particularly from the sea and from the classical site of Pompeiopolis, about 7 miles distant. The river beside which it stands is called 'Cold-Water' (Soğuk Su), being fed from semi-permanent snows and ice in the neighbouring range of the Taurus mountains; and the Tepe is much frequented in summer time by family picnic parties for this very reason. Indeed, it is commonly known as Soğuk Su Hüyük—the Cold-water Mound. It can now be approached by a metalled road from the middle of the town; but in fine weather a footpath up the left bank of the river provides pleasant access through prosperous orange groves.

<sup>1</sup> *Land of the Hittites*, p. 49.

<sup>2</sup> Turkish Ceyhan.

<sup>3</sup> *L.A.A.* xxiv, pp. 52 ff., with pls. xi-xix; and xxv, pp. 12 ff. with pls. v-xvii.

<sup>4</sup> Photographs on Pls. I.

## STRATIGRAPHIC TABLE: YÜMÜK TEPE, MERSIN

<i>Metres</i>	<i>Levels</i>	<i>Period or Age</i>	<i>Relations</i>	<i>Special features</i>
25	I	<i>Historic</i> A.D. 1100-1500	Islamic	Buildings: Persian and Mamluk pottery
24	II	A.D. 700-900	Byzantine	Kufic inscription: coins: glazed pottery
23	III	1200-500 B.C.	Aegean area and Cyprus	Buildings and East Greek pottery
22	V } VI } VII }	c. 1500-1200 B.C.	Hittite area and Cyprus	Fortifications on Hittite model
20	VIII	A Pre-Hittite Level		Foundations of fortifications
	IX } X }	c. 1800-1500 B.C.	Syrian and early Hittite	Painted pottery, mostly Syrian
19	XIa, b } 18 XIc }	c. 1950-1800 B.C.	Kültepe, Tarsus, and Syria: Troy V	Pedestalled goblets: 'eye' jugs: 'red-cross' bowl
..	..	<i>Prehistoric</i> Late COPPER AGE c. 2500-1950 B.C.	Troy II-IV	Levels mostly denuded
17	XIIA	Early COPPER AGE c. 2900-2500	Anatolian (Troy I)	White-on-black pottery
16	XIIB } 15 XIII } XIV } XV }	Late CHALCOLITHIC (Before 2900 B.C.)	Uruk and Uqair: Ubaidian influence dominant	Uruk grey and scratched pottery, above typical N. Ubaidian styles
13	XVI	CHALCOLITHIC CLIMAX	Transitional	Elaborate fortification
12	XVII } XIX }	Middle CHALCOLITHIC	Halafian	Copper tools and weapons: Halafian pottery
11	XX to } 10 XXIII }	Early CHALCOLITHIC	Hassuna and earliest Ninevah	Decline of lithic industry: painted and incised chevrons
9	XXIV	Proto-CHALCOLITHIC	Hassuna	Silos, spinning: painted pottery
8	XXV } XXVI }	Upper NEOLITHIC	Local culture	Stone-walled rooms: sheepfolds
7	XXVII	Lower NEOLITHIC remains	..	Finest weapons of obsidian from the Anatolian plateau
6	Approx. } 5 } 4 } 3 } 2 } 1 } 0	Lower NEOLITHIC remains	..	Numerous floors of occupation and burnt strata: low stone walls: red and black burnished pottery: obsidian and flint industry
0		Water-table: deposits continuing beneath: bottom not reached		

It is not until one reaches the foot of the Tepe and walks round it that its imposing size can be appreciated: it covers a ground space of fully 12 acres. Rising steeply on the north and west, but more gradually on the side of approach, it attains a height of 25 metres (rather more than 80 feet) above the plain. The little plateau on top, which is not quite level, covers about 2 acres. The most noticeable feature of the Tepe at first sight is the erosion taking place on its western side,<sup>1</sup> where the river is steadily eating into its lowest levels, so causing a gradual landslide. It was this process, combined with technical considerations, that led me ultimately to select this mound for systematic excavation: for in the river bank there were to be seen fragments of obsidian tools and of black burnished pottery which glistened alluringly after rain and tempted us to make some exploratory soundings at once though winter was already upon us.

The advantageous position and potential importance of the site were already obvious. It stood at a point on the main highway of antiquity between East and West where the foothills of Taurus approach within a few miles of the coast. It thus rose like a sentinel at the western gateway to the Cilician plain, keeping watch over the traffic between Syria and western Anatolia by way of the Calycadnos valley<sup>2</sup>—the easiest of the few passes through the Taurus mountains.

Our first cuttings, made on the north-western slopes and at the foot of the mound beside the river,<sup>3</sup> disclosed traces of successive settlements where stone tools and painted pottery were in use, and below these the immeasurably early remains of neolithic village life. Higher up were signs of the occupation and fortification of the mound throughout the period of Hittite domination in Anatolia; while glazed pottery nearer the top belonged obviously to the later Byzantine and Islamic eras. Clearly this was a key position in which were represented not only the origins and development of its civilization in a sheltered region of the Near East, but also its trade relations and political contacts from its remote beginnings until the Middle Ages. The prospect of excavation was thrilling and left no room for hesitation.

The Turkish Department of Antiquities courteously granted our request for a permit to excavate the site under their laws and regulations, which insist very properly on organized scientific work under expert supervision with adequate equipment, the maintenance of a register of finds, and subsequently a full publication of results. Such regulations are needed in the interests of science and as a deterrent to treasure hunters.

Conditions for excavation in the Near East have differed in the past somewhat radically from those prevailing in the West in that the cost of labour has hitherto been relatively small, while the overhead expense of taking out and maintaining a trained staff in camp has been great. These two factors have resulted in a tendency to employ a large number of work-people for a limited period of weeks or months, under the supervision of a small staff working overtime. This system involves the risks of both damage and error, which can, however, be reduced by constant watchfulness and rigid methods of recording. Official regulations contribute to this end, if only by keeping the excavator conscious of his responsibilities.

At Mersin we were fortunate in several ways. We managed to secure for our headquarters a spacious stone-built house on the Soğuk Su itself, and therein we 'camped' for the winter seasons of 1937/8/9. Our staff on each occasion included as architect and technical

<sup>1</sup> Well seen in Fig. 1 and the photographs on Pl. I.

<sup>2</sup> Turkish Göğ Su.

<sup>3</sup> Cf. Figs. 3 and 4.

adviser Mr. Seton Lloyd, whose professional skill in surveying and drawing as well as his experience in excavation and his archaeological knowledge contributed greatly to the smooth and successful working of those two fruitful years. As on other occasions, Mr. G. M. FitzGerald accompanied the expedition in the role of 'Director's Friend', and in addition to the constant help he gave in that capacity he supervised the excavation of the Hittite Levels, and subsequently made an exhaustive study of the pottery and other objects which form the basis of a special section in the last chapter of this volume. During the second season we also had the pleasure of a prearranged visit from Mr. and Mrs. Miles Burkitt to study on the spot the neolithic remains in our lowest Levels. Their records are embodied in Chapters II and III.

The Second World War then intervened and it was not until 1946-7 that I was able to complete the undertaking by linking stratigraphically the Levels already excavated (I-XVI) with the neolithic Levels known from our preliminary soundings to exist at the foot of the mound. This we managed to do on a modest but effective scale with a staff of five, supplemented by the welcome presence for six weeks of Professor Gordon Childe, who supervised work in a critical sector linking our chalcolithic and neolithic Levels and took valuable notes which have been largely incorporated in Chapter IV.

#### BEGINNING THE EXCAVATION

It is relatively easy to carry on an excavation when once the foundation has been laid and the survey points established; but it may be of interest to explain in a few lines the initial steps, especially as local conditions nearly always present special problems. In the first place a contoured plan of the site was prepared (here reproduced as our Fig. 2); and an area of about an acre was selected for systematic excavation. This crowned the summit of the mound towards the north, overlooking the river where the slope was steepest. A 'zero-point' for purposes of surveys and registration was established on a rock in the bed of the stream, and the level of every floor and find-spot above that datum was recorded in metres and centimetres. On the summit of the mound, by the south side of our main area, a squared stone set in concrete marked a permanently fixed point at exactly 25 metres above zero.

Light rails were laid at once, so that the debris could be carried right away. One track led round the brink of the mound downstream, and was moved occasionally lower down the slope as the main excavation deepened. Another led to the north, across the level ground at the foot of the mound, which had been previously tested with negative results, towards a point where flood waters were making inroads into the left bank of the river. The head of this track was fed by a chute of corrugated iron, pegged into a channel down the steep slope of the mound—a simple arrangement which worked well and had the advantage of being mobile and inexpensive. Local labourers had to be trained to this class of work as to each other branch, and local forges provided the necessary ironwork and fittings. Unskilled labour was plentiful: we began with a small gang of thirty or forty men, gradually increasing the number as these learnt their tasks. Presently we were joined by others from as far afield as Yozgat, Sivas, Malatya, and elsewhere on the plateau, who soon developed an aptitude for this unfamiliar work while giving proof of intelligence and stamina.

Meanwhile, in order to gain an insight into the stratification of the mound as a whole,

and of the problems to be anticipated, I decided to dig a large-scale sounding in addition to the main excavation. For this purpose a space of about 8 metres by 15 metres (which we

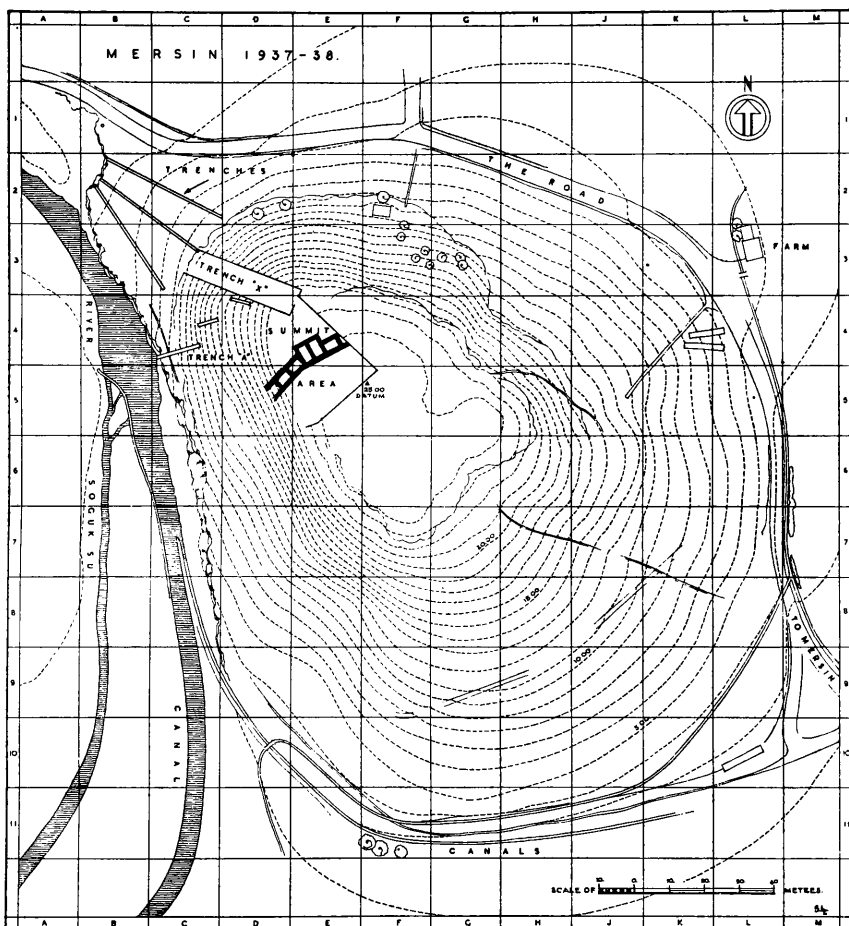


FIG. 2. CONTOURED PLAN OF YÜMÜK TEPE, MERSIN, SHOWING AREA OF EXCAVATION

called Trench X) was selected within the main area on its north-eastern border. Its position is marked on the contoured plans (Figs. 2 and 4). The work was done stratigraphically, and had reached the level of 9 metres by the end of the first season—13 metres, some 43 feet, below the point of attack. As the cutting deepened its width narrowed somewhat, but the area under excavation remained fairly constant as it was continually extended by

the slope of the mound. Nineteen different strata were disclosed. The three uppermost proved to be occupation floors continuous with the main area with which they were eventually merged;<sup>1</sup> but, as may be seen in Fig. 3, the middle and lowest deposits of this cutting were extra-mural, in that they were found either in pits outside the area of contemporary occupation or at the foot of the revetment of the fortified enclosure of Level

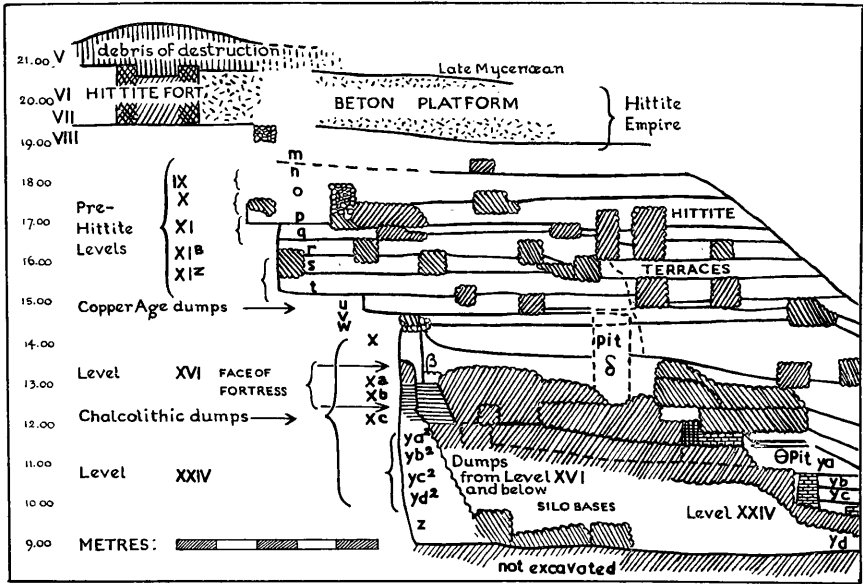


FIG. 3. SECTION THROUGH THE NORTH-WESTERN FACE OF THE MOUND IN TRENCH X

XVI. In the latter cases the process of gradual accumulation had resulted in a series of successive strata, much as one might find in a tip-heap.

The pottery from all these deposits, which was plentiful, revealed the presence in our Tepe of three different but not altogether unrelated prehistoric cultures with foreign affinities. The first, at the top, while representing the middle Bronze Age or pre-Hittite period of Cilicia, was permeated with Syrian motifs of the second millennium B.C. The second was evidently contemporary with the great Anatolian period of the early Metal or Copper Age, having clear contact with the earliest cities of Troy and Thermi, as well as a possible relation at the same epoch with Syria. The third was definitely chalcolithic, locally developed under the stimulus of Mesopotamian contacts, as seen in the painted copies and imported examples of the now familiar Ubaidian and Halafian wares.<sup>2</sup>

<sup>1</sup> The strata lettered m/n, o, and p/q were continuous with main Levels IX, X, and XI. See the plans on Figs. 117 and 128 and the discussion in Chap. IX. The lowest stratum z also was continuous with Level

XXIV, but was not linked by our excavation. Low-lying masonry in this trench is shown on Pl. II.

<sup>2</sup> Cf. the frontispiece and Fig. 1 of this volume. For explanation of the terms see p. 101.

## METHODS AND RESULTS

The information obtained in this sounding served as a guide to further work, and proved to be particularly helpful as the excavations in the main area descended into prehistoric Levels, where the finds became more and more unfamiliar. It also enabled us to secure in good time the appropriate staff and equipment for the following season. In general I have always found it technically advantageous to cut preliminary sections, whether large or small, proportioned to the problem to be solved; and in this case we were confronted with the unknown archaeology of a new area. Experience gained here and in the low Levels at Jericho has convinced me of the practical value of this method.<sup>1</sup>

The stratigraphic method of excavation relies on a normal succession of superposed floors and debris of occupation representing a sequence of buildings standing upon the ruins of earlier ages. This method could be regarded as infallible if we could be certain that the successive Levels were self-contained and intact, but unhappily this is the exception rather than the rule. The deposits inside a ruined building may be overlaid by the ashes of destruction, by fallen timber from the burnt roof for instance, or by charred bricks from the walls, and the whole may be covered by an accumulated debris representing the flight of time or the rakings of a new generation to provide a foundation for a fresh Level. The excavator has thus to envisage the possibility of encountering three phases in each Level, namely the layer of occupation with such traces of walls and floors as remain, the layer of destruction or demolition, covered possibly by a layer of attrition or preparation. Moreover, the area may have been disturbed by contemporary stone seekers or treasure hunters, or by refuse pits descending from higher Levels of occupation (as, for instance, in our upper chalcolithic series described in Ch. VIII), or from other causes. In such circumstances, the thinner striations usually visible in the debris assume a primary value, and if unbroken may separate phases of occupation as surely as a laid floor. In the ordinary process of excavation, such striations may only appear as a transient change of colour in the soil, but when seen in section they stand out with the clarity and significance of an historical chart. For these reasons I have always regarded the two methods as complementary, and have adopted the formula 'when in doubt cut a section' as a working maxim. It was on these lines that we obtained the results described in this volume. The succession of Levels and their principal features are shown at the beginning of this chapter by a schedule to which the drawing by Florence Fremantle placed opposite page 1 forms a graphic index.

Before concluding these introductory notes I should explain that the word Level is spelt in this volume with a capital L to distinguish it from the numerical levels above zero. It connotes a floor of occupation with its buildings and all the accumulated debris of whatever character lying upon it up to the next one. Usually the foundations of the buildings are included in the Level, as they are mostly shallow and coterminous with the floors; but in the case of exceptionally massive structure, such as the fortifications on Levels XVI and VII, which had deep and solid foundations, separate Level numbers are assigned to them—to wit, XVII and VIII respectively.

The buildings which distinguish the successive Levels, though illustrating the general

<sup>1</sup> At the latter site I frequently observed our foreman (Sadiq El Bedawi), after the work closed down, going over the area with a tool, testing the ground and walls

to be cleared next day, so that he was able to guide the pick-men and avoid damage with a certitude and confidence that astonished them.

character and continuity of local occupation, will be seen from the plans placed at the beginning of each chapter to represent mostly modest dwelling-houses devoid of any special architectural interest. So far as we know, the village was at first unfortified, and so remained throughout the twenty or more centuries during which its civilization appears to have been developing in isolation. During this period the sheepfolds of Levels XXV and XXIV with their shaped corner-stones mark interesting stages in the progress of the mason's craft.

The earlier neolithic houses of Level XXVI, stoutly built of large stones on a dry-wall system, are among the most impressive features of the site, and present a unique field for further work; while the first fortress at Level XVI, which was constructed about the middle of the chalcolithic period at a date estimated to be not later than 3600 B.C., also appears at present, with its barrack-rooms and slit windows, to be without parallel in other places.

The later fortification at Level VII, with solid stone foundations, is of Hittite character and belongs to the historical period. The evidence of its contents and other considerations, discussed in Chapter X, indicate a date for its construction about 1500 B.C., i.e. between the reigns of Mursil I and Subbiluliuma, two warrior kings of the Hittites who led their armies into Syria.

The relative positions of these exceptional architectural features on our site are shown in Fig. 4; and their heights above water-level are indicated in a general way by the 10-metre contour lines. To many archaeologists the principal interest of our Levels will be found probably in the continuous panorama of the chalcolithic period, which embodies contacts at successive stages with the several phases of that culture revealed separately by the researches of living scholars at such centres as Hassuna, Nineveh, Arpachiyah, Tell Ubaid, and Uruk, and so provides from afar a useful and fascinating conspectus of that remarkable cultural era.

Others may see in our earlier Levels an equally interesting view of the gradual emergence of civilization among neolithic settlers, with the development of architecture, cereal cultivation, stock farming, weaving and spinning, painting on pottery, and so forth, under primitive and peaceful conditions. This era culminated in the obvious prosperity disclosed by art and industries and the advent of metal tools at our Level XVI, even while the fortifications herald an age of rivalries and warfare, of which there is material evidence on the site itself.

Usually, when recording the results of current excavations one necessarily proceeds downwards, in the sense opposed to historical sequence; but in this way it is difficult to describe the cultural developments without much complex cross-reference. Happily, we are able to view this mound almost from the beginning of its occupation till the end, and in the ensuing chapters I propose to make full use of this opportunity in reviewing our results.

In so doing I have tried throughout to bear in mind that it is the essential duty of an excavator to give an objective account of everything he has uncovered, including descriptions of all material finds and of the circumstances of their discovery. But an archaeologist has the wider opportunity of reconstructing the conditions of life and the activities which created the objects he recovers from the soil. Each day, amid the dust and routine of the work, he will perceive, subconsciously maybe, some significant contribution to-



wards a picture of the past already taking shape gradually in his mind. To him the stratifications represent chronology and the sequences spell evolution: for archaeology is the handmaid of history. If he fails to describe this impressionist picture it will be lost inevitably, for no one could record on paper the myriad details out of which it has emerged.

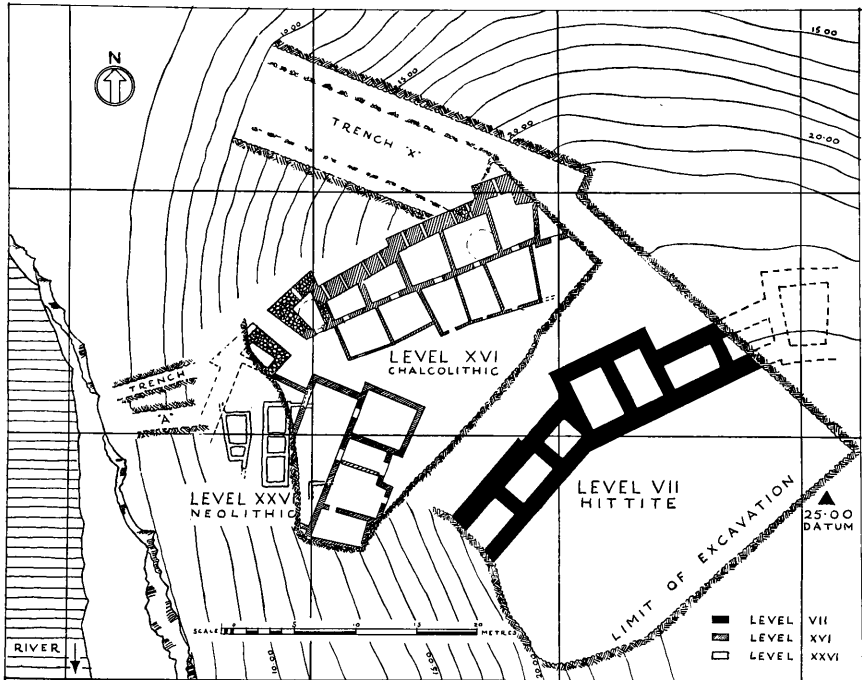


FIG. 4. SUPERPOSED PLANS OF SOME NEOLITHIC, CHALCOLITHIC, AND HITTITE BUILDINGS

Consequently, if in these pages I dwell more on the implications of the finds than on their material and technical qualities, I would ask the reader's indulgence if not his sympathy, in that I do not regard archaeology as an end in itself, but as an index to human endeavour with its failures and its general progress. So while aiming at presenting a faithful account of discoveries, I do so briefly and without superfluous comment. The trained archaeologist will find, I trust, all that he requires in the schedules and illustrations; while the patient reader of these pages may be rewarded by finding much that is of human interest in the life-history of this very ancient settlement of which the schedule on p. 2, outlining its growth, gives some indication.

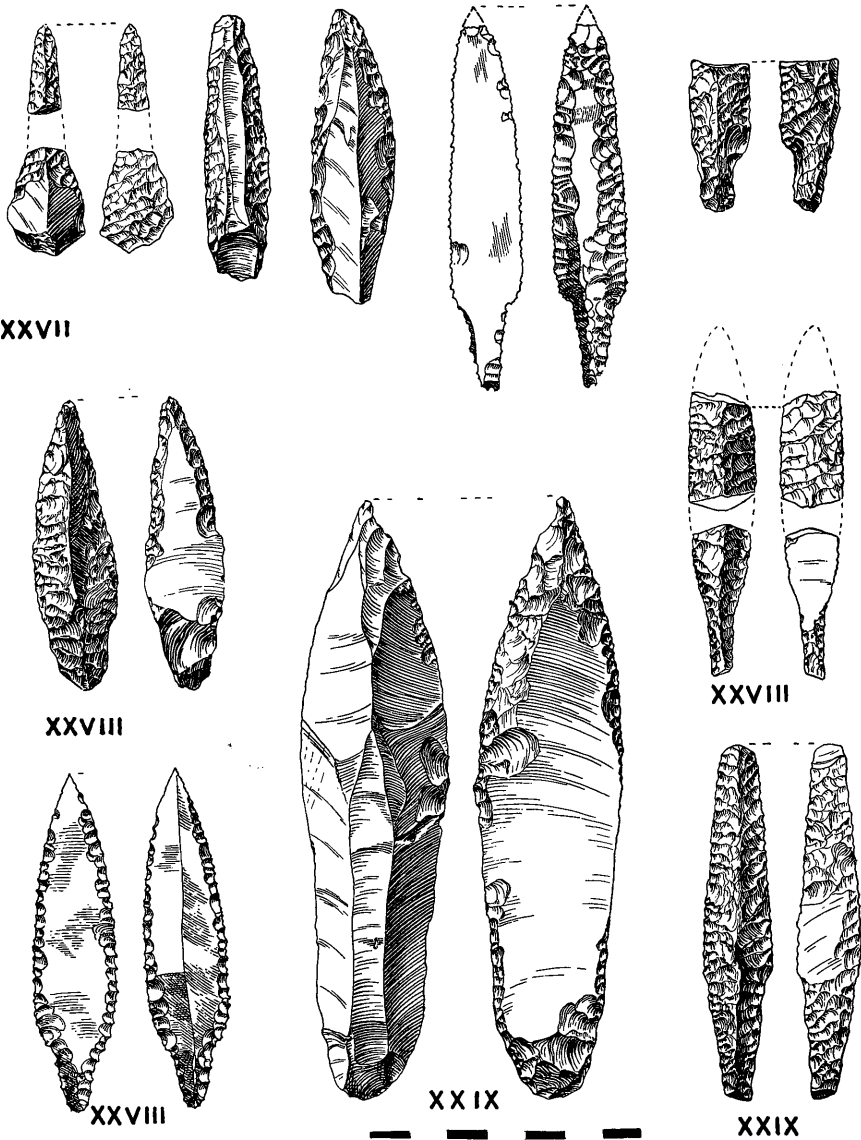


FIG. 5. WEAPONS OF OBSIDIAN FROM THE MIDDLE NEOLITHIC LEVELS XXIX-XXVII  
 From 4.90 to 7.80 metres above zero at water level

## II

### EARLIEST TRACES OF SETTLEMENT

*Lowest Neolithic Remains (0-7.80 m.)*

**A**LTHOUGH the main excavation closed down with Level XXVI, at 7.80 metres above zero, neolithic remains have been traced down to the very bottom of the mound. Clear indications of these low-level deposits were found in our preliminary soundings made in 1936 near the foot of the mound on the river side.<sup>1</sup> Their stratification was investigated in 1937, when the original cutting was widened and carried down to a depth of half a metre below the present water-table, without finding virgin soil. The position of this section, called Trench A, is indicated on the Contour Plan (Fig. 4) and on the plans of successive Levels on Figs. 12 and 24. Next, in 1938-9, a terrace was cut down from the edge of the main excavation, which had then reached Level XVI, and here further investigations were made under the supervision of Mr. Burkitt from the 12-metre level downwards. Below deposits now recognized as chalcolithic at Level XXIV (in the area marked B on Fig. 24) some neolithic walls were then uncovered at level 8.60 which were later found to form part of our main Level XXV and are shown as No. 288 on Fig. 12. Thereafter his investigations were carried down in a narrower trench parallel with A to the 4-metre level with notable results. Extracts from his reports and observations are incorporated below in this record.<sup>2</sup>

Though the origins of Yümük Tepe remain somewhat nebulous, it was ascertained by these investigations that the lowest accessible deposits in the mound, from 9.20 metres above zero down to and below water-level, are neolithic in character. They comprise eight or nine building Levels with about twice that number of floors of occupation. Only the two uppermost Levels, XXV and XXVI, have been excavated over a sufficient area to disclose their characteristics, and these will be described in the next chapter. The lowest deposits of all, from 4.00 metres downwards, are known only from the deep soundings in Trench A which descended half a metre below the water-level without reaching the bottom. From a geological standpoint it seems possible that they may descend a further metre and a half, as far as the old miocene bed in which the river originally flowed though now working its way through more recent alluvium.

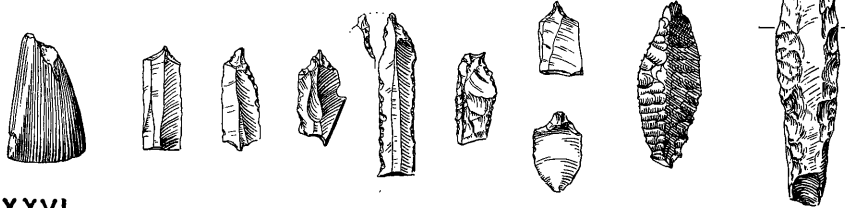
In any case the deposits representing neolithic occupation on this site attained the astonishing height of nearly 10 metres; and though they illustrate definite stages of cultural progress as they rise, their main characteristics are relatively homogeneous. Monochrome pottery, for instance, appears throughout, even below the water-level, and characteristic worked pieces of obsidian and chert were found among the remains of floors and walls from the middle Levels upwards. It seems probable therefore that the very lowest deposits, whatever their depth in origin, would be of a similar general character.

<sup>1</sup> Cf. *L.A.A.* xxiv with pl. xiii.

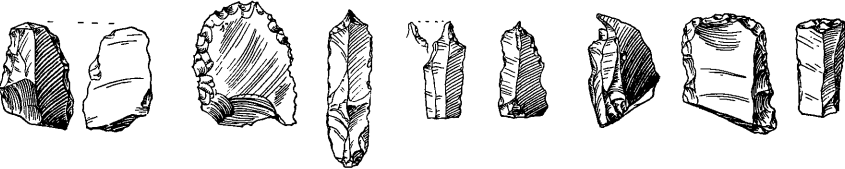
<sup>2</sup> Cf. *ibid.* xxv, p. 106, and xxvi, p. 65 with pls. xxxv-xxxix.



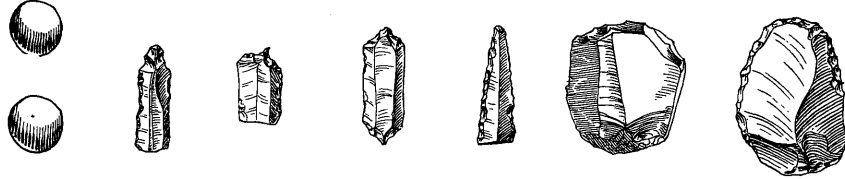
XXV



XXVI

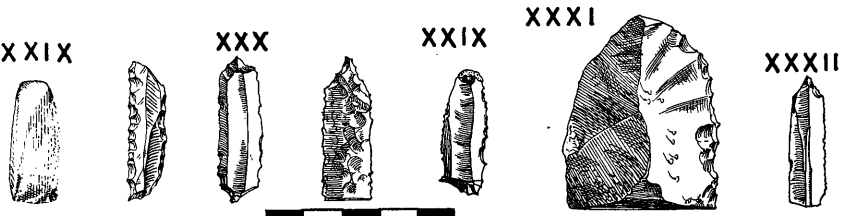


XXVII



XXVIII

XXIX



XXIX

XXX

XXIX

XXXI

XXXII

FIG. 6. TYPICAL TOOLS OF OBSIDIAN AND CHERT  
 From successive neolithic Levels XXXII-XXV

In the lowest part of Trench A we found sections of rough stone walls,<sup>1</sup> implements and weapons of obsidian (a natural volcanic glass) and some of chert, monochrome pottery mostly in fragments but exhibiting variety in shape and colour, tools made from bone, and other miscellaneous products. The culture thus defined may be classed with confidence as neolithic, being obviously post-palaeolithic in technique, and coming as it does in our Tepe directly under an equally deep deposit of chalcolithic character with Mesopotamian affinities.

From the 4-metre level upwards the finds of Trench A are supplemented by those made under Mr. Burkitt's supervision in the parallel sounding B, and the correspondence of results can be seen from the table reproduced below. It shows sufficient agreement in the position of walls and floors to justify the inference that they formed part of continuous

RELATION OF NEOLITHIC AND PROTO-CHALCOLITHIC  
STRATA IN AREAS A, B, AND C

<i>Metre levels</i>	<i>A</i>	<i>B</i>	<i>C</i>
9.20	Main Level XXIV (Fig. 24) (Silo bases in Trench X)	Houses and silo bases extending into Area C	Silos and house walls extending into Area B (Fig. 24) and Trench X
8.60	Main Level XXV (Fig. 12)	Stone-walled rooms under Level XXIV, and extending into Area C	
7.80	Main Level XXVI (Fig. 12)	Series of rooms (Nos. 300, &c.) under Level XXV and extending into Area C	
6.80	Paved floor with walls (XXVII)	Floors and deposits underneath system 300 of Level XXVI	<i>Bottom of excavations in the main area</i>
6.65	Secondary floor with ash and lime		
6.60	Floor with traces of wall (XXVIII)	Sections of rough walling	
6.26	(R) Fallen wall 5.30 to 5.90 m.	Wall 65 cm. high to 6.91 m.	
5.50	Deep ash over wall		
5.10	Wall top under deep ash (XXIX)	5.40 Post-hole	
4.30	Rising wall (5-6 courses)	5.00 Deep ash deposit	
4.00	Traces of floor on ash		
3.80	Floor (approx. XXXI)	<i>Bottom of sounding B</i>	
3.10-	Ash deposit		
2.90			
2.35-	Wall and ash (approx. XXXII)		
2.15			
2.00	Wall 2-3 courses below ash (approx. XXXIII)		
1.55	Deposits of ash		
0.85	Layer of white ash		
0.50	Water (bottom not reached)		

<sup>1</sup> Shown in Pl. II and Fig. 7.

Levels of occupation; but as the soundings were not actually contiguous we must still regard the numbers assigned to them as tentative.<sup>1</sup>

#### WALLS AND FLOORS

Though our deep sounding (A) was not of sufficient extent to justify any general conclusions, it did disclose some local features of interest and possible significance. The sectors of wall exposed<sup>2</sup> were made of water-worn stones taken probably from the river bed, or even from the sea-shore, which may have been then much nearer. There was no

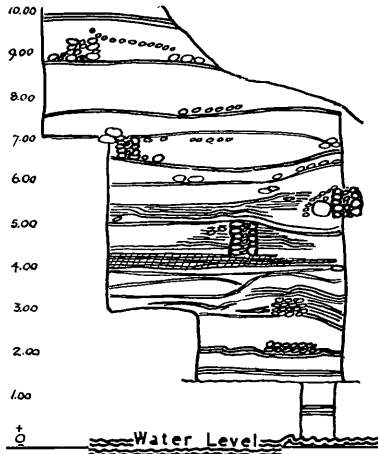


FIG. 7. Neolithic strata in Trench A

trace of mortar in the setting of the stones: 'dry-walling' seems to have been the method of building throughout all these low Levels, a fact which is surprising at first sight, as the use of local clay for pottery-making was already understood. Consideration suggests, however, that in a climate subject to heavy winter rainstorms, a wall built 'dry' with stones solidly placed in equilibrium and then packed superficially would probably prove more durable than one built with thin rounded stones set in mud which, however tenacious, would inevitably melt away when exposed to driving rain for any length of time. The preservation of these neolithic walls in contrast to the shallower remains in higher Levels supports this explanation.

The lowest wall at the 2-metre level was only two stones thick, giving a width of about 50 cm.; and this system endured throughout the lower Levels as our diagram shows (Fig. 7): only in the middle Levels at about 4.50 metres were larger stones used, and the

thickness of the wall was correspondingly increased to about 65 cm. Higher still, the use of large boulders seems to have been introduced, presumably to buttress weak spots in the walls which, being built as two facings of water-worn stones without any obvious bond, must have been liable to fall apart. Nevertheless, the house wall at 4.30 metres was found still standing six courses (some 75 cm.) in height, thus demonstrating a certain solidity of construction; but it is not until we reach Level XXVI that we find evidence of a radical improvement in technique.

Floors in the lowest Levels were not 'laid' or strengthened in any way; they were formed apparently by smoothing the ground, and hardened by the trampling of feet during occupation. From the 6.00-metre level, however, small water-smoothed pebbles appear to have been used as a surface dressing.

Though no general inferences can be based on these few local examples, one conclusion seems to be obvious—that house walls so constructed cannot have been carried up safely more than a metre. The piles of burnt reeds against the best-preserved walls in the fifth metre above zero (Fig. 7) look like fallen roofing; and their position, coupled with the absence of fallen stones at the base, seems to indicate that in this case the whole height of

<sup>1</sup> Area C, mentioned in the table on p. 2, was adjacent to area B, as shown on Fig. 24, p. 44.

<sup>2</sup> See Pl. II.

the wall was preserved. This would imply a roof level of not more than 70 cm. Such rooms would thus be merely low shelters, and any industries of the settlement, such as pottery making or the working of obsidian, if not conducted in the open, would have to be done in a sitting or squatting position. As a matter of fact, no trace of either industry was found in association with these rooms, though pottery vessels or their fragments were found in plenty, and stone implements also were relatively frequent.

#### THE LITHIC INDUSTRY

The lithic industry, best illustrated by finds in our middle Levels (i.e. from 4 metres above zero up to and including Level XXVII at 6.80 metres) is probably the most striking feature of these early neolithic deposits. The tools, implements, and weapons were fashioned for the most part from black obsidian. An extensive deposit of this natural volcanic glass is found upon the Anatolian plateau between Tyana and the Halys river, more precisely between Topada and Nevshehr. Here one may find cores of this dark but translucent material already worked, and even flakes of varying size which fit them. This source would be readily accessible from our site by a track through the pass which later became known as the Cilician Gates; and a clear affinity with the specimens from Yümük Tepe has been demonstrated by an optical analysis conducted at the University of Cambridge by Dr. F. C. Phillips.

The finished products from our site, though on the whole of fairly simple types, show surprising skill in technique, and comprise (from the middle Levels in particular) some beautifully finished specimens,<sup>1</sup> as may be seen from the selections illustrated in Fig. 5. The types include awls, daggers, lance-heads, scrapers, 'slugs', and 'blunt-backs', together with some varieties of experimental character and a few sickle blades. Such blades, however, are mostly made of chert: presumably, though not so sharp as obsidian, they were found to be less brittle and to stand up better to the protracted work of the sickle and threshing sledge. The selection of tools represented in Fig. 6 illustrates the types and varieties found in the successive Levels; but many other examples of each kind were found at all levels from 4 to 9 metres above zero. Too few specimens were found in the narrowing section A below the 4-metre level for us to regard them as types; that shown on Fig. 6 from approximate Level XXXII (at 2.20 metres) is, however, a characteristic example of a single-end awl. They show at least that the industry, if technically less advanced, was by no means in its infancy. Indeed, a rapid glance at the sequence of types represented on this Figure conveys the impression of astonishing continuity, noticeable also in higher Levels. Most attractive, and perhaps exceptional, are the beautifully finished lance-heads and daggers from the middle Levels shown on Fig. 5.

On the technical aspect of these implements, Mr. Burkitt wrote:<sup>2</sup>

It must be stressed that among the obsidian tools the lance-heads and daggers were of exceptional quality. The former were generally tanged. Sometimes the main flake surface below would be left untrimmed, but more often it was flatly retouched all over with fine pressure flaking in contradistinction to the upper surface, where the pressure flaking rising from each side diagonally towards the centre of the implement produced a sort of central keel and gave the weapon a triangular cross-section. Of the

<sup>1</sup> The equally beautiful drawings from which these plates are composed are the work of Mrs. Burkitt: they were first published in *L.A.A.*, vol. xxv, pl. xxxiii, and

vol. xxvi, pls. xxxiii-xxxix, to illustrate her husband's expert contributions to our Interim Reports.

<sup>2</sup> *L.A.A.* xxvi, p. 71.

daggers, one particularly lovely specimen (shown on Fig. 5: Level XXIX) must be mentioned specially. It had considerable pressure flaking on the under surface towards the point, which in consequence was sharp and thin. The butt end, on the contrary, was rounded or blunted by the flaking to provide a safe hand-grip.

*Stone celts.* A number of miniature polished celts was recovered in our deep-level investigations. Three came from the fifth metre in section B, approximate Level XXIX: one of them, of green stone and somewhat elongated shape, is illustrated in Fig. 6: the others were rather larger but of the same material and of the familiar shape. The tip of a fourth was found in A at 4.95, and a fifth at 5.80 metres approximate Level XXVIII, both being of the same green stone.<sup>1</sup> A typical specimen from Level XXVI (to be described in the next chapter) is illustrated also in Fig. 6, but in this case the stone is grey. The corners of these small celts were in all cases smoothed or rounded. As the range of this type of miniature celts is a matter of archaeological interest, it may be convenient for reference to give a list of other specimens from our register in their stratigraphic sequence:

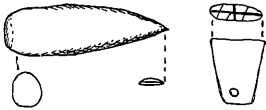


FIG. 8. Type of round stone tool with sharp end. Levels XXVII, XXVI, XXV, and XXIV. Also a stamp seal found at Level XXVII.

R.Nos. 1338-41	(four)	all from Level XVI
1695	Length 2.6 cm.	Level XXII
1745	" 3.5 "	" XXIII
1833	" 3.2 "	" XXIV
1744	" 3.3 "	" XXV
1629	" 4.5 "	" XXVI

There is thus an unbroken sequence of these unexplained objects through the upper neolithic and the early chalcolithic Levels as far up indeed as Level XVI, which we shall find to be marked by the appearance of metal tools. It is noticeable that, up to a point, celts in this list tend to get smaller; but the numbers are too few to warrant a general conclusion.

Another type of stone tool, somewhat larger, is sufficiently close to the celt to be mentioned here. It has a round or oval section and draws to a narrow chisel-like end, as shown in Fig. 8. Two specimens (R.Nos. 1931-2) were found in the neolithic strata; the earliest, from Level XXVII, measured 6.2 cm. in length and 2.1 cm. in maximum breadth, its sharpened end being 1 cm. wide. The second came from Level XXV (in B at about level 8.75 metres); it was 5.6 cm. long, with a breadth of 1.9 cm. and the finer end again 1 cm. wide. The third (which is that represented in the figure) is larger, being 11.2 cm. in length, 3.7 cm. in breadth, with its sharp end 1.7 cm. in width. The type is, however, the same, though evidently the last specimen could be held more securely in the hand. It came from the proto-chalcolithic Level XXIV. I imagine these objects might be used for splitting or dressing small pieces of wood or bone.

*Other stone objects* include a number of roughly shaped but smoothly hollowed stones, some of which may have served as dishes. One of particularly large size, 38.6 × 24.1 × 11.8 cm., R.N. 1942, is shown by photograph on Pl. XI; it came from Room 310 at Level XXVII.

<sup>1</sup> Mr. Burkitt, in a private letter, stresses the remarkable similarity between these miniature green stone celts and the well-known neolithic types of the Swiss Lake Dwellings.



Of special interest are the portion of a stone lamp (Fig. 9) and a seal of green stone with primitive linear pattern (Fig. 8), mentioned below in the list of objects found in preliminary soundings at low levels, and already published.<sup>1</sup> The provenance recorded in both cases seems sound; but I have omitted a small seal of pink stone shaped rather like a swastika<sup>2</sup> with incised handle, as the record states that it was found near the edge of the mound, and its style seems far too advanced for this period.

## BONE AND STONE OBJECTS

*Bone objects* such as are figured in Fig. 23 were rare in these early neolithic deposits, indeed only two were found below Level XXVI. The one was an exceptionally fine 'point' from 7.15 metres in A. The other, a flat bone with upturned edges, like half a marrow bone, was found at Level XXVII; it is figured at the top of Fig. 23, where it is seen to resemble a similar but smaller specimen from a relatively high chalcolithic level.

*Other finds.* Fragmentary traces of a human burial (including some disintegrating bones) were met with (in B) between 7.00 and 6.50 metres (at approximate Level XXVIII) but no useful data had survived. Nearby were four stones which might have formed a small hearth as they were covered by a thick layer of cinders, as well as some burnt bones of small animals. Rubbing-stones, a schist knife, and palettes occurred (also in B), as well as what seemed to be the lip portion of the stone lamp already mentioned (Fig. 9). There was also a considerable number of relatively large stone objects, among which were several holed stones and one incompletely pierced, a shallow stone dish, at 8.00 metres, which had a diameter of 14 cm. and a height at its edges of 4 cm., a couple of saddle querns, a river-pebble 'rubber' with one end flattened by use, and a thin, flat, subcircular grindstone artificially roughened by pocking. (Photographs are shown on Pl. XI.)



FIG. 9. Portion of a stone lamp.  
Scale 1:3.

*Objects found below the 7.30-metre level.* The following inventory completes the record of objects other than pottery found in the sectional excavations A and B below the 7.30-metre level, i.e. approximately up to and including the lower deposits of main Level XXVII. The 'Register Numbers' (hereafter abbreviated as R.N.) are those of the official inventory. A classified object Index will be found at the end of this volume.

## BONE IMPLEMENTS AND VARIOUS STONE OBJECTS, FOUND BELOW

## THE 7.80-METRE LEVEL

(R.N.=Registered Number)

- |   |           |
|---|-----------|
| A. 7.15 m. Polished bone handle, hollowed.  | R.N. 575  |
| Fine bone point.  | R.N. 576  |
| B. 6.50-7.00 m. Traces of a human burial.   |           |
| B. 6.00-7.00 m. Two slate 'marbles' ( <i>L.A.A.</i> xxvi, pl. xxxviii).   | R.N. 1962 |
| Also: rubbers, schist knife, palettes, and various bone implements; 6 flint blades and blade fragments; 1 flint javelin or javelin fragment; 59 obsidian blades and blade fragments; 5 obsidian awls; 2 obsidian notched scrapers; 6 obsidian javelins and javelin fragments. |           |
| B. 6.20 m. Dark green stone stamp (Fig. 8).   | R.N. 1834 |

<sup>1</sup> *L.A.A.* xxvi, pl. xxxvii, no. 23.

<sup>2</sup> *Ibid.*, pl. lxxv, no. 13.

B. 6.00 m. Light brown shaped stone.	R.N. 1936
A. 5.80 m. Polished green stone celt.	R.N. 596
B. 5.00-5.50 m. Half mace-head and stone spoon.	R.N. —
A. 5.00 m. Polished bone tool (broken).	R.N. 624
A. 4.95 m. Tip of green stone celt.	R.N. 629
A. 4.60 m. Polished stone handle, hollowed.	R.N. 628
B. 4.50-5.00 m. Green stone celt ( <i>L.A.A.</i> xxvi, pl. xxxix).	R.N. —
B. 4.00-5.00 m. Two polished celts and portion of a mace-head.	R.N. —
A. 3.65 m. Curved stone tool.	R.N. 630
A. 3.60 m. Portion of stone bowl.	R.N. 631
A. 3.40 m. Polished bone implement (broken).	R.N. 632
A. 2.50 m. Polished bone tool with broad flat end.	R.N. 633
A. 2.50 m. Polished bone tool (broken).	R.N. 652

#### POTTERY OF THE LOWER NEOLITHIC LEVELS (Fig. 11)

Below the 7-metre level, the neolithic pottery of Yümük Tepe is essentially monochrome and simple in design. It displays, however, from water-level upwards, certain qualities which confirm the suggestion of a long period of development already indicated by the obsidian industry. Improvements in technique and finish are noticeable as the Levels rise, particularly in the finer fabrics; while the varied shades of colour, from black, grey, and chocolate to warmer tones, relieve any tendency to monotony. Some of these effects may be due to inequality of firing, as is made obvious from the appearance of two or three shades on one and the same vessel, usually of the coarser kind of ware. On the other hand, the surface colour of some of the finer fabrics, noticeably the burnished black, chocolate, and red, was attained uniformly in numerous examples.<sup>1</sup>

*Black faced burnished pottery* was found at all Levels and indeed it continued to be a feature of the local potter's craft throughout all the ages.<sup>2</sup> The ware was generally fine. In what may be called the standard fabric of this class, the core was usually grey to grey-brown, being derived from a local potters' clay dark grey in colour (and still used today). The burnished surface, which as often as not extended partly inside the vessel, tended towards a grey shade of black.

The same colour of core sometimes appears beneath a warm chocolate-coloured surface; and in the middle Levels, between 5.6 and 7 metres, (approximately Levels XXVIII-XXVI), real chocolate-coloured wares appear, that is to say, fabrics showing a chocolate-coloured core with a polished surface of the same. How this uniformity was obtained is not at all certain, but I imagine it might result from a cleaner firing of the same local grey clay, if this contained some ferrous impurities, as frequently is the case; and the other brown shades might be produced in similar fashion at slightly lower temperatures. These wares are usually thicker than the black. Still warmer tones of reddish-brown also appear on this pottery, the inside of the vessels being usually black (presumably from the way they were stacked for baking); while a thicker variety of this ware had frequently a grey core and a dark-grey inner surface. Such fortuitous variations may have perplexed the

<sup>1</sup> For a provisional analysis of the types from Trench A (made after our early soundings) by Miss V. Seton-Williams, see *L.A.A.* xxv, pp. 102-3.

<sup>2</sup> Cf. our Fig. 11, no. 34 from Level XXIX, no. 24

from XXXVII, and no. 9 from Rm. 300 in the upper Level XXVI; also further examples in Fig. 93 from Level XVI, and in Fig. 118 from Level XII.

potters for centuries, but in the end served them as useful experiments. It was not, however, till the upper neolithic Levels were reached that the several lessons had been learnt which resulted in the fine-finished fabrics described in the next chapter.

*Coarser wares* were more abundant; but in the very lowest Levels where the ground was permanently damp they had largely disintegrated. Shades of brown were the deepest colours that could be recognized, followed in the middle Levels by warm brown and grey surfaces. From first to last, there were found traces of fibre or straw 'binder'<sup>1</sup> in these fabrics, but not commonly enough to be described as characteristic. Gritty cores of a grey colour predominated. Such pottery might be wet-smoothed, and sometimes showed signs

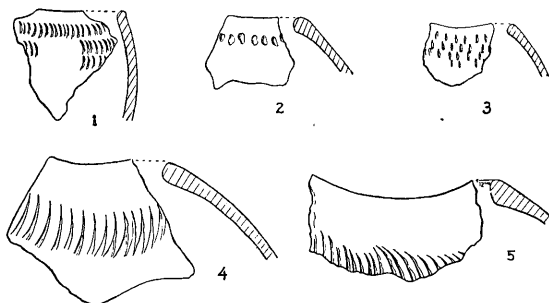


FIG. 10. Incised decoration of early neolithic pottery

of scraping round the base and mouth; or it might be touched up by the potter's fingers stroked lightly and diagonally across the surface. The inside of these coarser wares was not infrequently left rough; and (as with the finer fabrics) the colour of the vessel after firing might remain dull brown or might become warm in tone, tending in the upper Levels to red. It is fairly clear that the even firing of pottery remained a problem long after other processes had been mastered.

*Decoration* on these early neolithic wares is almost confined to specimens found in the sixth and seventh metres, i.e. in approximate Levels XXVIII and XXVII, and it is effected by short incised lines, whether curved or straight, and dots arranged more or less symmetrically with a sense of pattern.<sup>2</sup> In this respect it differs only in detail from familiar designs on primitive pottery the world over. Some of the curved marks may have been executed with the thumb-nail, but one would expect to find in this case the occasional impress of the thumb itself. Moreover, most are too large, and the impress of a shell would seem more likely. The mollusc *Murex* found in considerable quantities at these levels would serve the purpose well. Some ingenuity must have been required to produce a continuous pattern like that in no. 17 on Fig. 11, shown on a larger scale in Fig. 10, no. 4. The rows of dots, neatly executed in no. 20, might be made with a bone point, such as is illustrated in the lowest register of Fig. 23. Other and bolder notches are made either by incision, sometimes with a triangular sort of gouge probably of bone (e.g. Fig. 11, no. 12), or a round-ended scraper which does not remove the clay but pushes it on one side, where it

<sup>1</sup> For an explanation of this term see p. 24.

<sup>2</sup> Bowls are mostly hole-mouthed in shape.

## EARLIEST POTTERY TYPES: FROM NEOLITHIC LEVELS XXXII-XXVI

From 3.10 to 8.60 metres above zero Figure 11

- |  |                      |
|--|----------------------|
| 1. Bowl. Grey core, burnished black surface inside and outside.  | Rm. 299 <sup>b</sup> |
| 2. Bowl. Yellow core, slightly pink surface.   | C. 8.20              |
| 3. Bowl. Grey core, shiny black burnished surface.   | C. 8.20              |
| 4. Bowl. Brown core, wet-smoothed, darkened inside and outside.  | C. 8.20              |
| 5. Bases, flat. (i) Grey core, cream slip daubed horizontally with red. (ii) Brown core, gritty, wet-smoothed outside. | C. 8.10              |
| 6. Basin. Grey core, light brown surface, wet-smoothed, blackened inside.  | Rm. 300              |
| 7. Jar. Grey core, cream slip, lightly burnished inside and outside.   | C. 8.30              |
| 8. Basin. Light brown core, dull chocolate-coloured surface, rim tending to black.                                     | C. 8.50              |
| 9. Bowl. Brown core, burnished black surface inside and outside.   | Floor of Rm. 300     |
| 10. Bowl fragment. Brown core, wet-smoothed outside, baked pinkish-red.  | Area 304             |
| 11. Dish, large. Brown core, burnished surface.  | B. 8.00              |
| 12. Fragment. Grey gritty ware, jagged excisions (XXXII).  | A. 3.10              |
| 13. Fragment. Grey core, dark surface, wet-smoothed, jagged excisions.   | B. 7.75              |
| 14. Fragment. Light brown core, linear excised pattern.  | B. 8.20              |
| 15. Fragment. Brown core, decorated irregular linear incisions.  | C. 8.00              |
| 16. Fragment. Pinkish-grey core, finished surface fine burnished dark red.   | C. 8.45              |
| 17. Fragment. Brown core, warm brown finish, hole-mouth shape, incised decoration.                                     | B. 7.80              |
| 18. Bowl. Dark brown core, wet-smoothed surface.   | Rm. 300              |
| 19. Bowl. Grey core, burnished black surface.  | Rm. 300              |
| 20. Fragment. Buff core, burnished surface, jagged impressed pattern.  | A. 7.50              |
| 21. Fragment. Brown core, burnished black on both sides. Incised decoration (XXVI)                                     | B. 8.40              |
| 22. Fragment. Grey core, black burnished inside and outside, jagged excisions (approx. Level XXXI).                    | A. 4.00              |
| <i>Level XXVII and below</i>   |                      |
| 23. Fragment. Burnished brown, decorated punctulations in parallel rows.   | A. 7.55              |
| 24. Bowl. Grey core, burnished black outside, decorated shell impressions, red inside.                                 | B. 7.75              |
| 25. Fragment. Decorated jagged impressions (XXXII).  | B. 7.00              |
| 26. Fragment. Dull brown surface, jagged decoration.   | A. 3.60              |
| 27. Fragment. Light brown core, wet-smoothed, decorated excised linear pattern.  | B. 7.80              |
| 28. Bowl. Brown core, black burnished surface outside and inside around rim, rest lightly burnished.                   | A. 7.30              |
| 29. Fragment of dark ware, hole-mouth shape, 20 cm. diameter, incised decoration.                                      | A. 7.10              |
| 30. Bowl. Brown core and surface, black towards base, incised after baking   | B. 7.10              |
| <i>Level XXIX (Approx.)</i>  |                      |
| 31. Fragment. Dark brown ware, burnished surface, incised decoration.  | A. 6.15              |
| 32. Fragment. Brown ware, incised (? leaf) pattern.  | A. 5.00              |
| 33. Fragment of hole-mouthed vessel, dark ware, excised pattern.   | A. 5.50              |
| 34. Bowl. Grey core, black burnished surface.  | A. 5.00              |

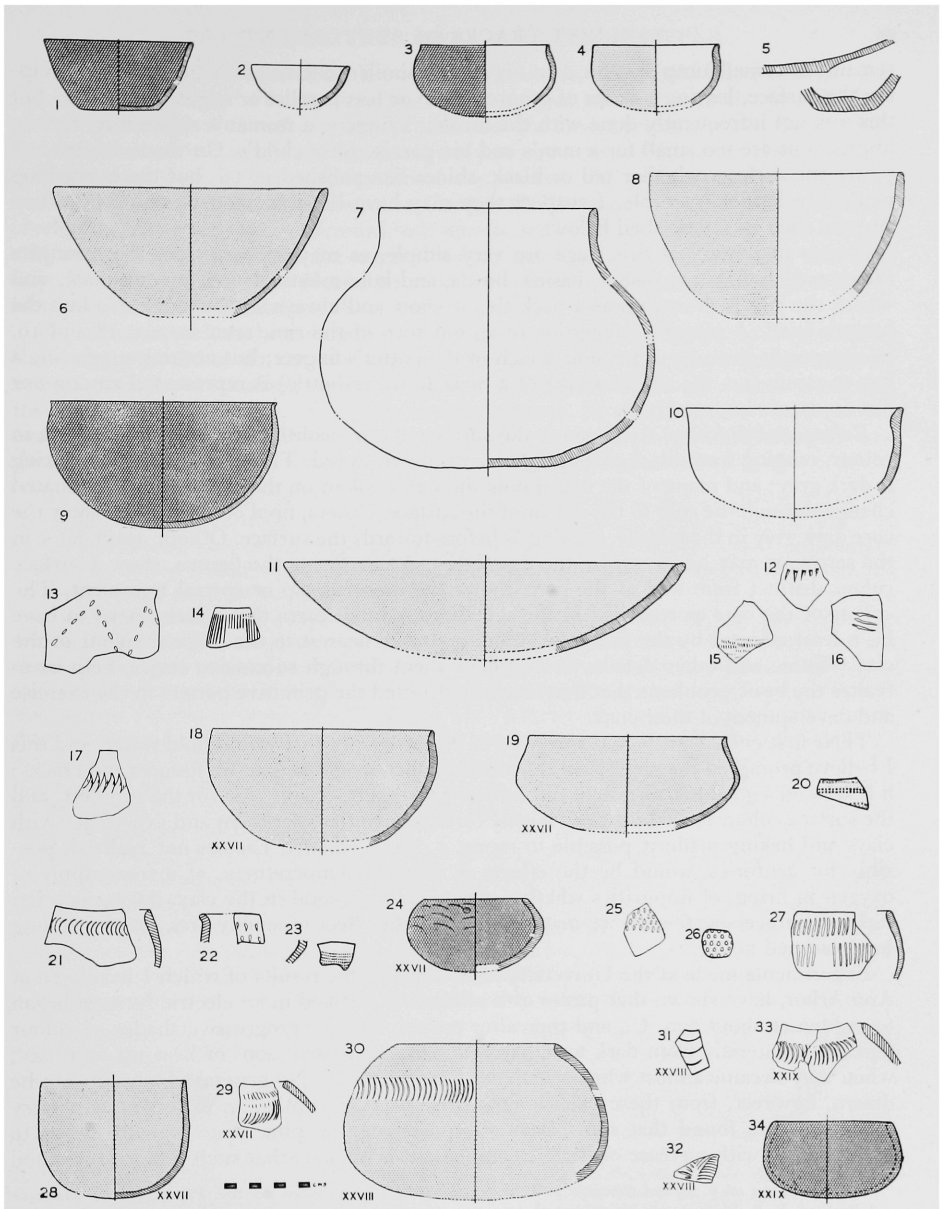


FIG. 11. EARLIEST POTTERY TYPES: FROM NEOLITHIC LEVELS XXXII-XXVI  
 From 3.10 to 8.60 metres above zero

remains as a small lump (e.g. no. 2 on Fig. 10). A similar tool may have been used in scraping the surface, leaving a series of grooves more or less parallel or slightly radiating; but this was not infrequently done with the finisher's fingers, a woman's apparently, for the impressions are too small for a man's and too precise for a child's. On the most finished pieces the surface, whether red or black, shines like polished metal, but the burnishing marks are hardly traceable. I suspect they may have been finished by some primitive process such as is described below.

Shapes in pottery at this stage are very simple, as may be seen from the examples illustrated on Fig. 11: dishes, basins, bowls, and hole-mouthed pots predominate, and where the rim is drawn up as a neck this is short and always wide enough to admit the potter's hand. A pleasing suggestion of an out-turn of the rim, seen in nos. 18 and 19, is apparently given by a finishing touch of the potter's fingers; but nothing suggesting a jug or carafe (i.e. the simple shape of a bedside water-bottle) is represented among our hundreds of rim fragments.

*Baking and finishing.* As is usual, the surface of our neolithic wares is mostly dark in colour, ranging from black through grey and brown to red. The local clay before baking is dark grey; and many of the baked pots show this colour on the inside with a graduated change through the core to the colour of the surface. Others, fired on both sides, show the core dark grey in the middle, shading as before towards the surface. Others, again, later in the series, as may be seen from the descriptive details facing the figures, show a surface colour distinct from that of the core, indicating use of a slip or special treatment. The colour of the core as recorded in the schedules is in all cases that which seems to have been least affected by the firing and therefore to be nearest to the original colour of the clay.<sup>1</sup> These and other details, as we follow them through successive stages, help us to realize the basic problems that must have confronted the primitive potters in the exercise and development of their craft.

Their first endeavour would surely be to produce a pot that would hold water, and this I believe prompted the superficial burnishing which would help to fill fissures and cracks: it is seen on a good proportion of the earliest specimens. Shapes were of the simplest; and the surface colour must have been largely fortuitous until experiment and experience with clays and baking made it possible to repeat a desired model. Factors not realized, possibly for centuries, would be the effects of different temperatures, of a free supply of oxygen in firing, of impurities whether vegetable or mineral in the clay, not to mention technical processes, though we may believe that the effect of smoky fires could not long have escaped notice.

Experiments made at the University of Michigan,<sup>2</sup> the results of which I have seen at Ann Arbor, have shown that pieces of a selected clay baked in an electric furnace began to redden at about 600° C., and thereafter passed through progressive shades of colour (speaking generally from dark to light) with each successive 200° of heat up to 1,200°, when they became almost white but the clay began to frit. No general conclusion can be drawn, however, from these experiments. Mr. G. C. Griffiths, an experienced pottery instructor, has found that some clays after reaching the pink stage actually begin to darken again with increase of heat. In any case it is obvious that such temperatures and

<sup>1</sup> Cf. footnote 2 on p. 23 and schedule p. 25.

<sup>2</sup> By Prof. F. R. Matson: see his studies of Ancient

Pottery contributed to the *Papers of the Michigan Academy of Science, Arts and Letters*, xxvi, pp. 469-73.

conditions were utterly unobtainable by primitive potters, who would begin with an open fire of wood or dung.<sup>1</sup> For us, the significance of these results lies in the fact that our earliest colours (black to red) are those produced at the lowest scales of heat.<sup>2</sup> Even within this range some clays would redden more freely or more richly than others, but might on occasion turn black, to the mystification of the potters. The problem is not only one of heat or impurities in the clay. Professor Gordon Childe has shown that it is possible to change the colour of a carboniferous black ware to red or orange by heating with oxygen, and subsequently to restore the original colour or an even darker shade by reheating it in hydrogen or coal-gas.<sup>3</sup> Hence he concludes, 'inspection cannot reveal how a pre-historic potter actually blackened her vessel'.

Experiments such as these demonstrate to us the complexity of the problems that beset the early potters, but do not tell us how they solved them. For this we must seek for examples of pottery-making on primitive lines in modern times. There are numerous instances, but one or two will suffice for our purpose. In the Nuba mountains of the eastern Sudan Mr. and Mrs. J. W. Crowfoot have made careful notes describing how the blackening of pots was effected there.<sup>4</sup> The burnishing was done before the firing.

The pots are now of a greyish colour, and ready to be burnt as soon as they are quite dry. The kiln was made in a depression close to the hut; some straw and broken pieces of cattle dung had first been spread below them; more broken fragments of dung were laid between the pots, and yet more, mixed with straw, thrown over the top of them. Considerable care was taken in arranging the fuel and a free air space was left all round the kiln.

The firing was completed in about an hour, and only the blackening remained. As soon as the firing is over, the potter with a long stick skewers the pots still hot and red-coloured from the kiln, and lays them, one by one, in prepared nests of fine chaff and powdered sheep's dung, heaping more of the same stuff round and over them; in a few minutes she brushes the pile away and the pot appears beneath black all over and shining on the polished surfaces. The black colour is due to the charring of the organic matter in the chaff and dung, and it penetrates some way into the wall of the pot from both outside and inside, so that a Lifofa potsherd generally shows on the fractured section a central line of reddish colour of varying breadth between zones of black, whereas on most other Sudanese potsherds the centre is greyish and the outer sides reddish. On some Lifofa sherds, especially on thin ones, the central reddish zone may disappear completely.

Instead of dung and husks some of the people at Eliri use leaves of the *habil* tree, a *Combretum*, probably *C. hartmannianum*, to blacken their pots, and I heard that both methods, which are essentially the same in principle, are known at the neighbouring hill of Miri. . . . A similar method also is adopted on the Gold Coast, and a short account of it has been published by W. Burton.<sup>5</sup> 'The pots are taken from the fire after forty minutes' burning, while they are red hot, and are plunged into a bed of leaves, where they are constantly moved about for twenty minutes. The leaves, of course, become carbonized, and a dense smoke is given off in the process. Care is taken to keep the leaves from firing by damping

<sup>1</sup> See the instructive paper by Mrs. Crowfoot in *L.A.A.* xxv (1938), especially the account of archaic pottery making at Yabed in Palestine on p. 5, and an illustration of an open kiln on pl. ii, no. 4.

<sup>2</sup> Mr. Griffiths, who has kindly examined a number of our neolithic sherds, finds no evidence of firing above 700°, and thinks that 600° would account for most of the visible effects. In some cases the baking was superficial. The core of one specimen with a dull red slip was so unbaked that he was able to soften some of it, and to

show under the microscope some particles of iron oxide (more numerous in the slip), as well as white particles of tempering matter.

<sup>3</sup> *B.S.A.*, 1937 (The Myres volume), p. 27.

<sup>4</sup> See 'Further Notes on Pottery', by J. W. Crowfoot, C.B.E., in *Sudan Notes and Records*, viii, 2, 1925, pp. 131-2.

<sup>5</sup> *Memoirs and Proceedings of the Manchester Literary and Philosophical Society*, lvii, part 2.

them if they are too dry. The finely divided carbon or tarry matter produced in this way penetrates into the heated clayware and leaves a deposit of carbon throughout it.' Any kind of leaves or dry grass, the writer points out, would act in the same way. And in Perak some groups of Malayan potters, described by L. Wray, are said to bury the hot jars in 'a mass of padi husk, which quickly blackens them'.<sup>1</sup>

Clearly these variations in a common scheme arise from local experience, and they exhibit no knowledge of theoretical considerations. In another case, however, communicated by Mrs. Crowfoot, there is evidence of a considerable knowledge of methods and results. This takes us to Gaza in Palestine, where 'the clay fires brown rather than red, and the native potters prefer black. They have proper kilns, which are shut down; chaff (*tibn*) is thrown in to ensure blackening, and no polishing is done.'

These simple methods of ensuring a rich black surface to hand-made pottery (in obvious ignorance of chemical effects) give us a glimpse of similar possibilities among the neolithic potters of Yümük Tepe. Clearly such methods are not general nor standardized; but they suggest that experiment and experience, coupled with a desire to produce better and more varied wares, can find ways of doing so. The realization of a light surface suitable for painting was a much longer process; it began on our site in the late neolithic period and culminated in the middle chalcolithic period at Level XVI, by which time the technical side of baking pottery must have been better understood.

Meanwhile the development of a fire-resisting ware for cooking purposes had claimed a measure of priority, and this aspect calls for a few lines of comment. Discussing this matter with local potters I have come to believe that the coarse grits and crushed fragments found commonly in the fabric of cooking-pots, and called by some the 'binder', were designed to prevent cracking, both in the preliminary drying and in the process of baking; and the fact that this method was practised in antiquity for several thousand years (and still persists) indicates that it was, at least in a measure, successful. The best results at Mersin were seemingly obtained with small flat fragments, frequently as much as 3 or 4 mm. in length, to serve as 'binder'; sherds of this kind certainly seem to break less easily than those containing only irregular pieces or coarse grit.

A word may be added also about the sand, ground flint, quartz, or gypsum found commonly in primitive pottery, certainly on our site. This I believe was not necessarily the residue of imperfect washing, but was left or mixed in deliberately as a temper, much as now fine sand is used to reduce plasticity in a 'rich' or 'long' clay. Such tempering matter, I am told, has usually a high fusing-point; but its presence raises considerably that of the clay. Our Mersin potters would know nothing of such considerations, but evidently were guided by results. These observations are, of course, not conclusive, and they are placed on record only as presenting a field of inquiry for specialists with laboratory equipment.

*Supplementary technical notes.* Professor Matson has examined three of our neolithic sherds, on which he kindly provides the following report. They fall into two groups: (A), two sherds having a dark-brown exterior surface and black interior, and (B) an orange-coloured fragment that was not burnished.

#### A. Dark-brown burnished exterior and black interior (2 sherds)

These were of a sandy-textured ware, 6 mm. thick, that contained angular mineral and rock fragments of a maximum diameter of 2 mm., in addition to fine sand. . . . There was no reaction when a drop of

<sup>1</sup> *J.A.I.*, 1903, p. 28.



HCl was placed on a freshly fractured edge, so little limestone or calcite was present. A dark gray core appeared in the center of each sherd indicating that the pottery had not been fired at a very high temperature and that the duration of the maximum temperature attained was brief. The organic material which is present in all clays had therefore not been completely burned out of the pottery. On either side of this gray core was a slightly oxidized zone, dark reddish-brown in color, that was brighter than the brown exterior surface. The dark color of this band is a further indication of a low firing temperature and possibly of a smoky atmosphere. The color distribution through a cross section of a sherd may be indicated as follows:

0	Burnished exterior film
1-2 mm.	Slightly oxidized band
1-2	Dark gray core
2-3	Slightly oxidized band
0-1	Dull black interior surface.

The oxidized band was broader in the inner part of the wall because the interior surface is more porous than the burnished exterior, so the gases formed by the oxidation of carbon can escape more readily and the rate of oxidation is accelerated. The black interior surface was probably produced in use when foods were contained in the vessel. Organic materials, if not already carbonized on this surface when the pot was destroyed, would gradually have turned black due to the action of the humic acids in the soil. There may have been an intentional blackening of the exterior burnished film, judging by similar materials at other sites. . . . There were randomly oriented burnishing marks on the exterior surface, most of which were about 0.1 mm. thick, the maximum width being 0.3 mm. Some rock fragments were exposed on the surface, as might be expected in such a sandy clay. . . .

The gradation of grain-size of the inclusions and the position of this ware in ceramic development make it likely that it was a naturally occurring sandy clay.

A chip from each of the sherds studied was fired to a temperature of 900° C. for one hour in order to compare the color and general appearance of the clays used in the sherds after they had been subjected to a uniform firing. The neolithic *A* chip developed a brick-red color which was flecked with white inclusions of flint. No slip had been applied to the surface of this sherd, for the color of the face and the core are about the same.

### *B. Orange sherd*

This piece, which was 5 mm. in thickness, was well fired. It had a light gray core 1-2 mm. in width, the remainder of the vessel wall being oxidized to an orange-tan color. The exterior surface had been worked, for when examined under a binocular microscope it could be seen that it was covered with fine parallel striations. However, there were no smooth burnished areas between these marks as there were in group A. This may be a characteristic of the clay, but probably also indicates a different finishing technique. Rough spots caused by the rock and mineral grains marred the surface. The interior surface showed no striations, but grains protruded from the clay face.

Study of a freshly fractured edge showed that a fine-textured clay was used; in it there occurred a moderate number of rounded to subrounded mineral and rock fragments that were 0.3-0.5 mm. in diameter. The uniformity of size of these granules and the lack of size gradation, at least when viewed under a binocular microscope, would suggest that a fine-textured clay, probably water deposited, had been tempered with sand that had been rounded through water or wind action. Limestone or calcite was present in the clay, for some effervescence occurred when a drop of HCl was placed on a fresh edge.

A chip from this sherd when refired changed very little in color. The gray core disappeared and the orange color of the body lost its dull appearance and became brighter. The white inclusions of flint and limestone showed up clearly.

*The technical properties of obsidian* from different sources are not easy to differentiate without chemical analysis of a special kind. Both my collaborators, Dr. Phillips and Dr. Burkitt, stress the need of caution in arriving at conclusions based only on optical examination. The latter writes: 'Obsidian is a volcanic glass and it has yet to be proved that, in a natural obsidian spread, the composition at the centre is exactly the same as at the periphery. Research is required to determine this matter. If it can be shown that the chemical composition is fairly uniform in a single spread, but varies slightly from spread to spread, all will be well: but this has not yet been proved.' Dr. Phillips, who kindly examined specimens not only from Yümük Tepe and from the Topada deposits, but also from Sakje-Geuzi and Killiz in northern Syria and from Jericho, reported: 'I find them all practically identical in properties, which are those of a typical rhyolite-obsidian. They resemble closely the other two specimens [from Yümük Tepe and from Topada]. The fragment from Melos, though essentially the same kind of rock, exhibits trivial differences which would enable me to pick out this fragment from the others. How far these differences may persist could, of course, only be determined by systematic examination of larger amounts of material. The Melos specimen shows much more incipient crystallization than I have seen in any of the others.' Pending further scientific research it would appear then that the obsidian supplied to Cilicia and Syria in the neolithic and early chalcolithic periods probably came from the Anatolian plateau. Cf. p. 15; also what is said on p. 107 about the possible contact in the middle chalcolithic period with Cyprus.

*Shells* fairly frequent in the upper neolithic and early chalcolithic Levels have been identified by the Mollusca Section of the British Museum of Natural History as: (a) *Ostrea edulis* (Linn.), the common oyster; (b) *Murex trunculus* (Linn.), a common but rather variable Mediterranean species; and (c) *Tonna galea* (Linn.), or, as it is more frequently called, *Dolium galea*—a species still fairly common in the Mediterranean. I am indebted to Mr. W. J. Rees and Mr. G. I. Crawford for these identifications. There is no trace of the *Spondylus* among our specimens.

### III

## CULTURAL ORIGINS

*Upper Neolithic Levels, XXVI-XXV (7.80-9.20 metres)*

IN the lower deposits of the Tepe we found that while the fine working of obsidian and the decoration of pottery by incision or impression attained their peak periods in the sixth and seventh metres above zero, the builders' craft showed little change and relatively no material improvement.

It is true that the walls exposed in our sections through the lower Levels were relatively few; but, even so, the repetition of the same technique with its restrictions through a long period of time does suggest a lack of originality and of outside stimulus. A marked improvement observed on Level XXVI (at 7.80 metres above zero) thus becomes noteworthy. It does not amount to a radical change either in materials or construction: dry-walling and the twin-face were still in vogue, but the foundations now became long, shapely blocks of exceptional proportions<sup>1</sup> laid transversely; while the stones used in the upper courses were also bigger and stabilized by pebble packing. The walls were correspondingly more compact and massive, with a thickness of approximately 80 cm., and might in consequence have been carried up higher than would have been safe with the earlier methods of construction.

#### ARCHITECTURE

The plans of these excavated Levels, reproduced in Fig. 12, give further indication of change in the architectural features of the time; and though the area uncovered was relatively small, the remains disclosed therein are highly instructive.

At Level XXVI we uncovered a system of small rooms<sup>2</sup> separated by a corridor closed by a mass of marine conglomerate which must have weighed 2 tons or more—it measured about 134 × 94 × 20 cm. Rooms numbered 300-2 seem from their contents and small size to have been store-rooms; that numbered 306 alone was large enough for domestic occupation. The area numbered 309 seems like a courtyard and is linked by a cross wall with the larger room-system of 294. The corner of another large building, with walls a metre thick, just makes its appearance in the south-east and is numbered 303. Clearly some interesting big buildings extend eastward, where they await investigation.

Overlying the room-system of Level XXVI there ran on a somewhat different alignment at level 8.60 the longer side of a large building of Level XXV.<sup>3</sup> This will be seen by comparison with a later Plan (Fig. 24) to have been partly used in turn as the foundation of a main wall of Level XXIV. The inner face of this was exposed by Professor Childe (in C) and its southern end by Mr. Burkitt (in B), while the end wall (numbered 288) formed

<sup>1</sup> Averaging about 80 × 30 × 25 cm.

<sup>2</sup> The position of these buildings on the site is shown in Fig. 4: and their relation to areas B and C is indicated

in the plan of Level XXIV in Fig. 24.

<sup>3</sup> The masonry of Levels XXV and XXVI is illustrated by photographs on Pl. III.

the headpiece of our Section A. This building thus not only formed a link between the previously disconnected areas A, B, and C, but provided convincing evidence of the stratification of the neolithic buildings of XXVI and XXV below Level XXIV which

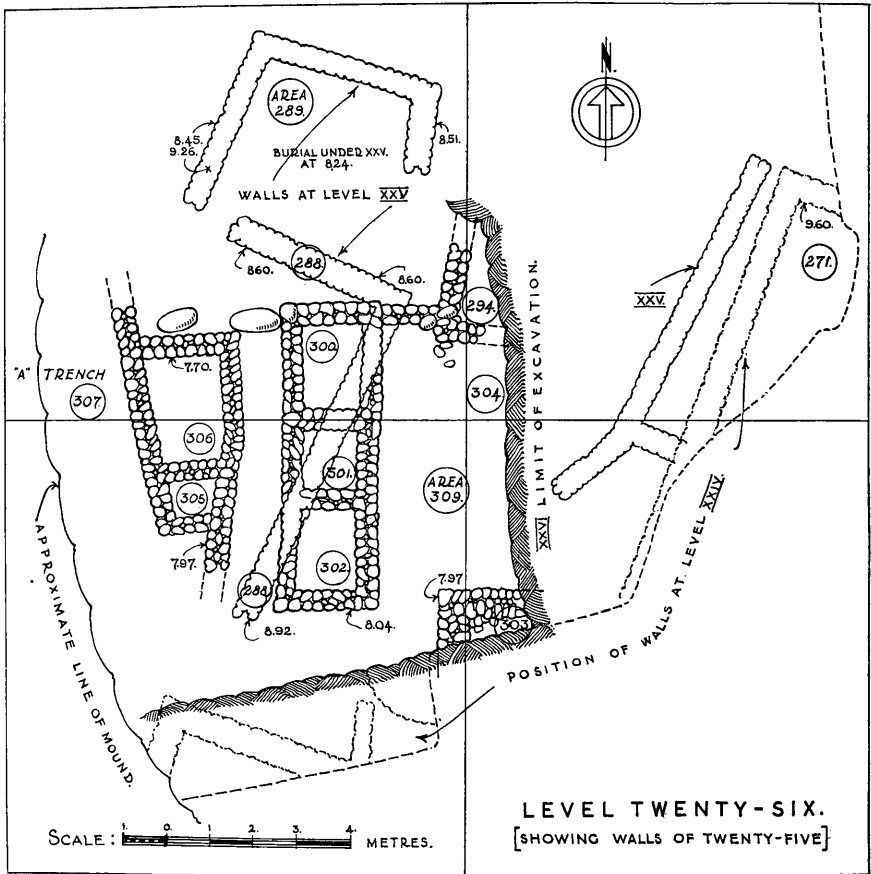


FIG. 12. PLAN OF NEOLITHIC BUILDINGS EXCAVATED ON LEVELS XXVI-XXV

extended over the main area, to be covered in turn by the whole series of chalcolithic Levels (cf. Fig. 24). With this gratifying demonstration, the excavation of the main area was closed down, leaving the development of Level XXVI and the underlying strata for further investigation. The season was already far advanced, and I deemed it prudent not to expose these unique neolithic remains to the ravages of stone-seekers.

The larger building (288) of Level XXV presents several points of interest. In the first place, though closely overlying the room system 300 of the Level below, it is quite different in orientation as well as in design. A radical modification in the layout of this part of the growing village is thereby indicated; and the great size of the building suggests the reason. It is obviously too large to have been permanently roofed, and I conclude that it must represent a sheepfold. Similar enclosures, the walls of which are not carried up as a rule more than about a metre, may be seen in many parts of Turkey today.<sup>1</sup> Unfortunately the ground in which lay our building 288 proved to be disturbed and partly denuded by subsidence in the river bank; but it is noteworthy that no domestic objects figure in our register as having been found within the area of its preserved walls—a result seemingly in complete accord with our interpretation of the nature of this enclosure.

In any case, the innovation represented by this new type of building, its parallelism with the long wall of an obviously similar structure seen on the same Plan in the main area to the east, its extension northwards into area 289 where the corners of a large house seem to have been destroyed to make room for it, and the further development of similar structures in the Level above, all combine to indicate a growing need for large enclosures of the kind on the outskirts of the village. This suggests an increase in the flocks and the beginning of an era of relative prosperity. In the Level above were found bones of oxen as well as sheep and pig.

The area 309 to the east of this main feature of Level XXV was found to be partly covered with a lime-dressed floor upon which was the base of a small fire-place shaped like a horse-shoe and other traces of a domestic character. But below the floor (therefore in Level XXVI) the whole space as far as the 300 system to the west and the house corner 303 to the south, was filled with a deposit of wood-ash nearly half a metre deep. This looked like rakings from a kiln: they could be traced along an ancient channel down the slope from an opening in the southern face of our excavation at about Level XXIV, and continued in an open gully towards the river, where they had been noticed also in our cutting B.<sup>2</sup> This accounts for the infiltration of some small objects and painted sherds which as a precaution I have excluded from consideration in this chapter.

Passing now to the north end of the area represented on Fig. 12, we come to the building numbered 289 which, as already noted, seems to have been partly demolished to make room for the larger enclosure in the south. Its walls were strongly built after the fashion of the room-system at Level XXVI. So similar were they, in fact, especially as regards their foundations of huge stones, that I was at first disposed to assign them to that building Level; but when the bottoms of the walls were exposed and the levels taken, it was found that they conformed more nearly with those of the enclosure 288 at Level XXV. From the figures given on the Plan, it will be seen that the ground sloped steadily at this stage from 8·92 metres in the south to 8·60 metres at the north end of the larger building, and thence to 8·51 in the north-east corner of the house-room in question. In construction, also, it was found by dissecting the north wall of 289 that though the foundation stones were huge, one shaped like a giant celt being 80 cm. in length, they were not selected or arranged after the uniform transverse pattern of Level XXVI already described. This building must therefore be regarded as pertaining to Level XXV, though already standing

<sup>1</sup> e.g. in places as far apart as Ulukishla (where one line to Konya) and the main road to Sivrihisar after may be seen from the train near the bifurcation of the crossing the Sakarya river. <sup>2</sup> *L.A.A.* xxv, p. 66.

when the long walls typical of that period were erected. It represents in fact an intermediate stage of the upper neolithic Levels, and its contents are fully consistent with this conclusion. It had, moreover, two floors, the one contemporary with its construction, at about 8.50 metres, which again falls into line with the large building of Level XXV, the secondary one being some 20 cm. higher. The upper floor and its contents were numbered 289, the lower one—in accordance with our system of notation—299. Within these walls there were found two burials with unusual features, the one practically on the upper floor and so ascribed to Level XXIV, the other below the main floor and attributed accordingly to Level XXV.

Most of the pottery fragments selected for illustration on Fig. 20 as typical of this Level came from between these floors, where the stratification was less open to infiltration than in some other parts of the area. Their number<sup>1</sup> and variety show that the painting of pottery had already begun before Level XXV was abandoned; and the further examination of deposits sealed below the silos of Level XXIV in the next chapter will be found to confirm this conclusion.

#### NEOLITHIC INDUSTRIES

The selected types of obsidian and chert implements from each Level illustrated in Fig. 6 show little or no change in technique. The fine lance-heads are represented by only one specimen but it is true to type, as are also the smaller tools, the blades, the awls (both central and asymmetrical kinds), the scrapers, and the sickle blades (now much more numerous than in the lower Levels). Miniature celts of green stone continue to appear (e.g. R.Nos. 1902, 1883, and 1830), and will be found to do so until the middle of the chalcolithic period,<sup>2</sup> a fact to be borne in mind when considering the possible continuity of the culture.

*Bone tools* also make their appearance in these Levels, and examples are illustrated on the bottom register of Fig. 23. The 'spatulas' resemble the later types of Level XXIV; but the needles of Level XXV are apparently distinctive and represent three different uses, among which that with the hole near the point may have been for threading reeds or rushes. The last specimen shown in this figure suggests a tool for making continuous or repetitive designs on pottery, but I find no actual examples of the kind of impression it would make. All these bone tools must have been shaped and smoothed with sharp obsidian knives or flakes.

*Stone tools and utensils.* Objects in stone of varying character are described below, but there is one tool found in the three uppermost neolithic Levels which merits special mention. The type specimen has already been illustrated in the previous chapter (Fig. 8), and examples from each Level are shown in profile in Fig. 13. This tool, which can be appropriately called a hand-chisel, is of standardized character. It is made in each case from a water-worn pebble of roundish section and appropriate shape giving a smooth comfortable grip to the hand, and tapering naturally towards one end: this has been worked upon and

<sup>1</sup> The proportion of these early painted fragments of Level XXV was 1.24 per cent. of the whole contents of sixteen baskets (containing about 2,000 sherds) from Areas 299 and C. 291-4. I am personally dubious, however, about the value of such sherd-counts, as the common cooking-pots were much more fragmentary

than those prepared for painting. In this case I estimated the proportion of painted vessels to be twice or three times that of the sherds.

<sup>2</sup> See the schedule on p. 177 for the full range, and cf. *L.A.A.* xxvi, p. 68.

gradually flattened and finished with a narrow cutting-edge varying from 7 to 12 mm. wide (as shown in the type specimen Fig. 8 on p. 16).

The design is not fortuitous, as the same type occurs twice in the proto-chalcolithic Level XXIV (R.Nos. 1830 and 1844 from Area 274), a very handy tool suitable for dressing wood or finishing clay objects before baking. The specimens figured, from L. to R., are: R.N. 1931, length 5.6 cm., Level XXV; R.N. 1832, length 6.2 cm., Level XXVII; R.N. 1836, length 5.0 cm., Level XXVI. In addition to the foregoing objects, mention must be made of a number of stone objects which complete the repertory of this closing

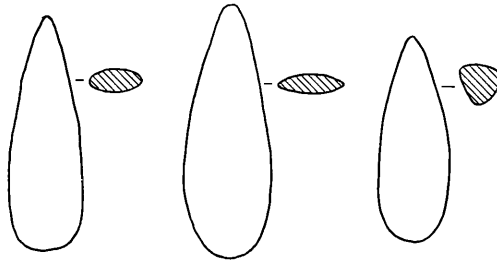


FIG. 13. Profile of three hand chisels in stone. Scale 3:4  
XXV XXVII XXVI

phase of a long period of neolithic culture. Among these are a series of *notched stones* such as are illustrated in Figs. 14 and 32. This type is not peculiar to the Levels under discussion (cf. pp. 64-6), but its range is relatively short. Specimens at this stage are R.Nos. 1891-3 and 1937.<sup>1</sup> The use to which such stones were put is not known, but various possibilities suggest themselves: the notches clearly indicate that they were tied to a string, and they may have been used as sinkers for a circular throw-net, so familiar now to Near-Eastern fishermen. The stones are, however, thin and rather light, and the notches are not deep; so that a suggestion by Sir Leonard Woolley that they might have been the weights of small tangle lassoes for catching birds presents an interesting alternative which becomes plausible when we realize that these objects were found in the inhabited area where fishing-nets would be rarely seen. They are too light to be classed as 'Bolas stones' in the usual connotation of this term.<sup>2</sup>



FIG. 14.  
Notched stone.  
Scale 1:3

*Large hollowed stones* are not common at these Levels; indeed only four are recorded (R.Nos. 1897-9 and 1905, cf. Pl. XI): evidently swivelled doors had not been invented. The scarcity of stone dishes suggests very primitive methods of preparing food, notwithstanding the relatively high standard of the contemporary cooking-pots. One stone rounded hollow, with a top stone to match, thus attracts our special attention; and it seems indeed to be the earliest grindstone for crushing grain (Fig. 15). It gives us a first glimpse



FIG. 15.  
Lower grindstone.  
Scale 1:7.  
XXVI

<sup>1</sup> Specimen R.N. 1937, from Level XXVI at 8.10 in B, is that of Fig. 14. Other examples are shown in Fig. 32 of Chapter IV.

<sup>2</sup> Cf. Darwin, *Voyage of the Beagle* (edn. 1888), ch. 3, pp. 44-5 and ch. 6, p. 111. For these refs. I am indebted to Dr. Julian Huxley.

of a momentous development—the cultivation of cereals, which at the next Level became a primary consideration. Doubtless wild grain had been known and used for some time; but it is hardly possible to single out any particular form of dish or tool that might have been used to prepare flour, or indeed any other kind of food, before this. The upper stone fitted neatly into the lower one, into which it had ground its way by use; but in so doing it had chipped the edges of the lower member, which was not quite large enough.<sup>1</sup>

Other stone objects include a small scoop, narrowing at one end (Fig. 16), found at approximate Level XXV, also a hollowed circular spoon (Fig. 17), the handle of which

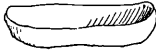


FIG. 16.  
Stone scoop.  
R.N. 1929.  
Scale 1:2. XXVI



FIG. 17  
Stone spoon. Handle missing. R.N. 1916. Rm. 300.  
Scale 1:2. XXVI

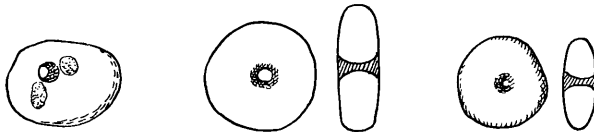


FIG. 18. Holed stones: possibly the earliest spindle whorls. Scale 1:3  
1847. XXV                      1896. XXIV                      1845. XXIII

had been broken away at its root, so that our restoration is conjectural. A flat, small horizontal handle to be pinched between thumb and forefinger is perhaps more likely. This object also was found at Level XXVI.

*Holed stones*, very rare in these Levels, are of two different types. In the first, the stones are smooth and water-worn, roughly circular in shape but oval in section in both directions. They are pierced by drilling from both sides, so that the openings splay towards the edges (Fig. 18). Two such were found: both show signs of usage, presumably as hammers. Possibly they were held by thongs of leather, since with holes of this shape they would be difficult to haft securely. The second class includes specimens of technical interest. The stones, though again natural in shape and water-worn, were apparently selected as being flat on both sides: the specimen R.N. 1847 from Level XXV (Fig. 18) shows two abortive attempts to drill a cylindrical hole and a third which has succeeded. This object, though worn, so closely resembles a pottery spindle whorl found by Mr. Burkitt between the 8.50- and 9-metre levels<sup>2</sup> (i.e. in the last phase of Level XXV or in Level XXIV), that there seems no reason to doubt that it represents indeed the earliest attempt to make a stone

<sup>1</sup> Our sketch of the lower stone (Fig. 15) is taken from the register book, as the drawing was spoiled. The dimensions are 14.50 × 4.50 cm.

<sup>2</sup> *L.A.A.* xxvi, pl. xxxv, no. 31. I have discarded another stone specimen (R.N. 556) found at 7.65 m. in the outer part of Trench A, as of unreliable provenance.

Corrected for the slope, however, its level would be 8.85 m., so bringing it into line with R.N. 533. The object itself is therefore admissible, though its context was unsatisfactory owing to the effects of subsidence in the river bank.



spindle whorl yet found upon the site. Other specimens in stone figured with it appeared in Levels XXIV and XXIII, and there is one example as late as Level XVI of the mid-chalcolithic period. Meanwhile from Level XXIV upwards, as will be seen, this type of spindle whorl was replaced by the familiar home-made whorls of clay. The reason for this is fairly obvious: the drilling of a straight-sided hole through stone of any thickness proved too difficult; and, indeed, we must recognize that considerable pains and ingenuity must have been required to adapt a pointed tool of flint or obsidian to this purpose. Indeed we found several stones which suggest failure to pierce a hole; such as R.N. 1897, which was attacked from one side only, and R.Nos. 1899 and 1905, which were partly drilled from opposite sides but seem to have proved too difficult to finish. In the earliest example that eventually succeeded (R.N. 1847, Fig. 18), the stone was thin and flat-sided; but the increased thickness of heavier stones, as seen in the examples from Levels XXIV and XXIII, necessitated drilling from both sides, the result being splayed holes in which it would be difficult to secure the spindle. With a whorl of clay no such problem would exist, since the hole could be bored neatly before the clay was dry. It is not surprising therefore that the earliest clay whorl appeared soon afterwards.

#### BURIAL PRACTICES

A neolithic burial, found intact below the floor of Room 299 (at approximate level 9.23 metres), exhibited features of great interest. As our photograph shows (on Pl. VII) the skeleton lay almost on its back with its skull turned to the right, so facing south-east. The left arm lay across the body with the hand resting on the upper bone (*humerus*) of the right arm, while the right hand and arm lay almost straight down from the shoulder. The legs were drawn up in the contracted position. The neck and both wrists had been encircled by stone bracelets and disk-shaped beads of shell, mostly white in colour mixed with some black; and near the head, in the position seen in the photograph, were the vases shown in outline on Fig. 20, nos. 18 and 19, the dish being of black ware and the coil-built tubular vase—a unique specimen—of dusky drab ware smeared with traces of red paint. An unusual feature was a horn-shaped emblem<sup>1</sup> made of partly baked yellow clay with straw binding (photograph, Pl. VII). Nearly all the bones and the earth below them were stained red; and under some of the bones was found adhering to the earth a curious sort of film bearing the impress of a woven material. The strands in this pattern were seen to be arranged by threes with a total of nine strands to the centimetre (22 to the inch)—a very fine texture for ancient weaving.<sup>2</sup>

Any generalization from an isolated instance like this might prove misleading: it can, however, be said that occasional burial under the house floor is shown in the next chapter to have been established as a local practice by discoveries in the Level above, and it was common in early Anatolia. There is no reason to ascribe any special significance to this example. A large hole in the original house floor shows clearly that this interment had been

<sup>1</sup> Similar emblems have been found in Iraq, though later in date (cf. *Sumer*, IV. ii (1948), pl. vii). In Anatolia the nearest reflection seems to be a horn-shaped cup, like a libation vessel of the Copper Age, found at Babaköy cf. Bittel, *A.f.O.* viii, p. 7; also Özgüç, *Bestattungsbräuche* (Publications of Ankara University,

no. 14, 1948), p. 103: references due to the kindness of Dr. Winifred Lamb.

<sup>2</sup> Professor Childe tells me that the film may have been a fungus or the product of some insect. This I also think possible; but the impress of a woven garment was quite clear, both in warp and woof.

made after the construction of the building, and thus excludes the possibility of a foundation sacrifice. The staining of the bones, which might suggest a ritual sacrifice, could not have been effected after inhumation without leaving trace of disturbance if not actual dismemberment. The same question arose from discoveries at Sialk in Persia where bones of bodies buried beneath the floors of rooms were also found to be freely stained with red ochre. The excavator surmised that the bodies themselves had been coated or sprinkled with the colouring matter.<sup>1</sup> It seems to me to be possible that in this case the tint was derived from a non-vegetable red dye colouring a garment with which the deceased may have been enshrouded. This alternative explanation seems plausible in view of the fact that the earth was stained also. In other respects we may thus conclude that the burial in question was merely the earliest instance found by us on this site of a normal practice.

The further suggestion of a knowledge of weaving at this time remains unconfirmed by any other contemporary traces but is clearly indicated by the discovery of the spindle whorls already described, and those found in greater number at the Level above, the lowest to which this burial can be assigned. It may also be noted that a relatively fine bone needle (illustrated at the bottom of Fig. 23) also makes its appearance at this stage in marked contrast to the thicker varieties which seem mostly suitable for sewing skins and leather. That the weaving or plaiting of rush mats was already practised is evident from the traces visible on the bases of several pots of this period.<sup>2</sup> Mats and wrappings, possibly shrouds, were found in one of the late chalcolithic Levels at Alishar. Thus 'the burial under the floor, wrapped apparently in a shroud, appears to be the forerunner of burial practices which survived throughout the third millennium B.C.'<sup>3</sup>

#### POTTERY OF THE UPPER NEOLITHIC LEVELS

*Shapes and technique.* Pottery types of Level XXVI are illustrated on Fig. 11. The descriptions of them facing the figure show their general conformity with the pottery of the lower Levels. Some details as to the circumstances of their discovery may prove of interest. The basin and bowl, nos. 6 and 9, were found together with a very large flat-bottomed but fragmentary dish, in room 300, thus giving the suggestion of a storeroom. Below the floor was found an oval-shaped dish of stone (Pl. XI. c). The pottery vase, no. 18, Fig. 11, much the same in shape as no. 9, was also found below the floor of the same room and is ascribed accordingly to the lower Level. The bowl no. 10 which again is of much the same shape and appearance but of coarser fabric, came from the space numbered 304. The other specimens assembled on this Figure, including the fragmentary flat bases (no. 5), were found in varying spots between the levels 7.80 and 8.60 metres above datum, and seem unquestionably to belong to the same architectural Level. They represent selections from among hundreds of specimens; and their provenance has been checked.

As may be seen from the lower registers on Fig. 11 there is no radical change observable

<sup>1</sup> Cf. Ghirshman, *Fouilles de Sialk*, i, pp. 10, 76. The burials belong to Period I which seems to correspond with our transitional or proto-chalcolithic Level XXIV.

<sup>2</sup> A comprehensive study of this primitive technique, as still practised in Palestine, by Mrs. J. W. Crowfoot, with illustrations from the early Levels of Jericho and Teleilat Ghassul, appears in *L.A.A.* xxv (1938), pp. 3 f. and pls. i-iv. A modern open kiln is pictured on

pl. ii, no. 4.

<sup>3</sup> For remains of woven fabric in chalcolithic Alishar see *O.I.P.* xxviii, pp. 50-1, and fig. 60 on p. 50; also *O.I.P.* xxx, pp. 334-5. For a good example of remains of cloth from a third millennium burial at Tekeköy, see *Bulleten*, ix, no. 35, p. 386, pl. lxxvi, nos. 7, 8. For these references and the note quoted I am indebted to Dr. Winifred Lamb.

in shapes as between the lower neolithic and Level XXVI, with the exception of the short-necked jar of type No. 7 which now makes its first appearance and so becomes the precursor of the jug and carafe shapes of higher Levels. The most noticeable change in technique is the increase and improvement in the finer fabrics, particularly those finished with a black-burnished surface (such as are seen in nos. 1 and 9). This ware is the best product of the whole neolithic series: finely levigated, well baked, clinking like metal, jet-black and highly polished all over so that it shines like a mirror, it is an admirable example of the potter's craft, astonishing when we contemplate its age. The finest products in black mostly belonged to relatively small bowls and dishes with bases slightly rounded, like no. 24 on Fig. 20 which is almost characteristic, though the lower part was sometimes relatively thinner than our reconstruction.

Excellent also were specimens finished with a red slip, somewhat dark in shade, some of which remain black inside the lower half where the firing partly failed. In this respect, with a bright burnished red surface associated with black patches, they remind one of the 'plum pots' of prehistoric Egypt. Unfortunately no restorable examples have been found; the fragments may be judged from their contours and greater thickness to have belonged to larger bowls and basins than the finest black wares, and this may account for their broken condition. They appear to have been made of the local grey clay from which the black wares also are invariably built. This clay has been tested by Mr. G. C. Griffiths and found by him to contain a small proportion of iron oxide, as well as other mineral impurities, all of which show clearly under the microscope. His experiment was made on a sample taken from an imperfectly baked core from level 7-60 metres. The surface of dull red was derived from a slip which contained a larger proportion of iron.<sup>1</sup>

Looking now at the other monochrome shapes from Level XXV represented on Fig. 20 we find a general resemblance to those we have been considering from Level XXVI with, however, some interesting developments in shape. The rim of no. 20 is more everted than any previously seen, while in no. 30 it is drawn up as a short neck. The flower-pot shape is not present, but the straight-sided dish no. 18 (from Room 299) and the bowl no. 1, on Fig. 11 already seen (found in the same room area but below the floor), approach it fairly closely; and the correspondence is all the more interesting because at this Level (XXV) we have the rare instance of an incised linear decoration (shown in no. 31) which is identical in design with one from Sakje Geuzi (Tk. Sakce Gözü) east of the Amanus, here shown below it and marked S.G.<sup>2</sup> This resemblance does not necessarily imply contemporaneity, for the deposits on the latter site, though demonstrably pre-Halafian, seem not to include any comparable neolithic implements or pottery.<sup>3</sup> It is, however, an interesting parallel. Decoration by punctuation, though relatively rare in the upper neolithic Levels, is well illustrated by the specimen in Fig. 19, which was found in Area B, at 8-25 metres, approximately Level XXVI.

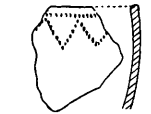


FIG. 19.  
Pointillé decoration.  
XXVI

The coil-built vessel no. 19 has no local parallel: it suggests to me a first attempt, unconscious maybe, to produce a carafe shape with an expanding neck. It is clear, however,

<sup>1</sup> Cf. Prof. Matson's notes on p. 25.

<sup>2</sup> Taken from a complete flat-sided bowl of thin black burnished ware illustrated in *L.A.A.* 1 (1908),

pl. xlv, no. 4; also vol. xxiv, pl. xxiii, no. 4.

<sup>3</sup> Cf. J. de Plat Taylor and V. Seton Williams in *Iraq*, xii, pp. 83 ff.

## POTTERY FROM THE UPPERMOST NEOLITHIC LEVEL, XXV

Nos. 1-10. *Beginnings of painting*

- |  |            |
|--|------------|
| 1. Fragment. Brown gritty core; yellow-brown surface, wet smoothed, decorated warm brown paint.      | A. 880     |
| 2. Fragment. Brown gritty core, brown surface, wet smoothed, decorated red paint.                    | A. 880     |
| 3. Fragment. Dark grey core, fired red, thin cream slip, light brown paint.                          | Rm. 289    |
| 4. Fragment. Drab cream core, thin cream slip, brown paint.  | Rm. 289    |
| 5. Fragment. Brown core, light brown slip, reddish-brown paint.                                      | Rm. 289    |
| 6. Fragment. Buff core, medium grits, cream wash with light brown paint outside, yellow wash inside. | C. 8·20 m. |
| 7. Fragment. Creamy-yellow core and surface, light red paint.  | C. 8·50 m. |
| 8. Fragment. Reddish-brown core, light brown slip, pink paint.                                       | Rm. 289    |
| 9. Fragment. Grey core, light brown slip.  | Rm. 289    |
| 10. Fragment. Reddish-buff core, smoothed externally, matt plum-red                                  | Rm. 289    |

Nos. 11-14. *Incised and jagged or gouged*

- |  |            |
|--|------------|
| 11. Fragment of black burnished ware on grey core, decorated series of round impressions.  | 9·00 m.    |
| 12. Fragment of drab gritty ware, decorated with incised dashes in curves and lines.       | C. 8·80 m. |
| 13. Fragment. Brown core, black-grey outside, brown-grey inside, decorated irregular jags. | C. 9·00 m. |
| 14. Fragment. Drab core, creamy-red slip. Mat impressions on base.                         | Rm. 289    |

Nos. 15-17. *Handles*

- |   |                       |
|---|-----------------------|
| 15. Knob of a hole-mouthed jar, grey core with black surface lightly burnished.   | A. 7·55 m.            |
| 16. Handle. Grey gritty core, thin pink slip. <i>Note</i> : holes to fix handle not filled in.                                  | C. 8·20 m.            |
| 17. Handle. Grey gritty core, cream slip, flushed pink in places.   | A. 7·55 m.            |
| 18. Dish. Grey-brown core, light brown surface blackened by fire inside and outside.  | Burial in<br>Rm. 299b |
| 19. Jar. Coil built with ribs showing and irregular. Drab brown core with faint traces of red paint.                            | Burial in<br>Rm. 299b |
| 20. Bowl, small, restored. Dark grey core, black surface, polished.   | C. 8·20 m.            |
| 21. Bowl or cup, small. Cream core, hand-smoothed inside and outside.   | Rm. 299               |
| 22. Bowl or cup, small. Dark grey core, surface near rim black burnished; dull yellow-red irregularly below: Dull black inside. | Level<br>XXV-XXVI     |
| 23. Cup. Yellow core, wet-smoothed inside and outside.  | C. 8·60 m.            |
| 24. Bowl, small, restored. Grey core, black polished inside and outside.  | C. 8·30 m.            |
| 25. Bowl, small.  |                       |
| 26. Bowl. Grey core, dark brown surface, burnished outside and inside rim. Outer surface partly flushed red. Complete.          |                       |
| 27. Bowl. Restored fragment. Brown core, polished black inside and outside.   | C. 8·60 m.            |
| 28. Bowl fragments (3), restored.   | 8·40 m.               |
| 29. Bowl, large, restored. Brown core, surface chocolate burnished.   | B. 8·50-<br>9·00      |
| 30. Bowl, small, deep, restored. Yellow core, cream slip.   | C. 8·50               |
| 31. Fragment of black burnished ware decorated with incised linear triangular pattern.  |                       |
| SG Fragment similar to no. 31 in colour and pattern [from Sakje Geuzi].   |                       |

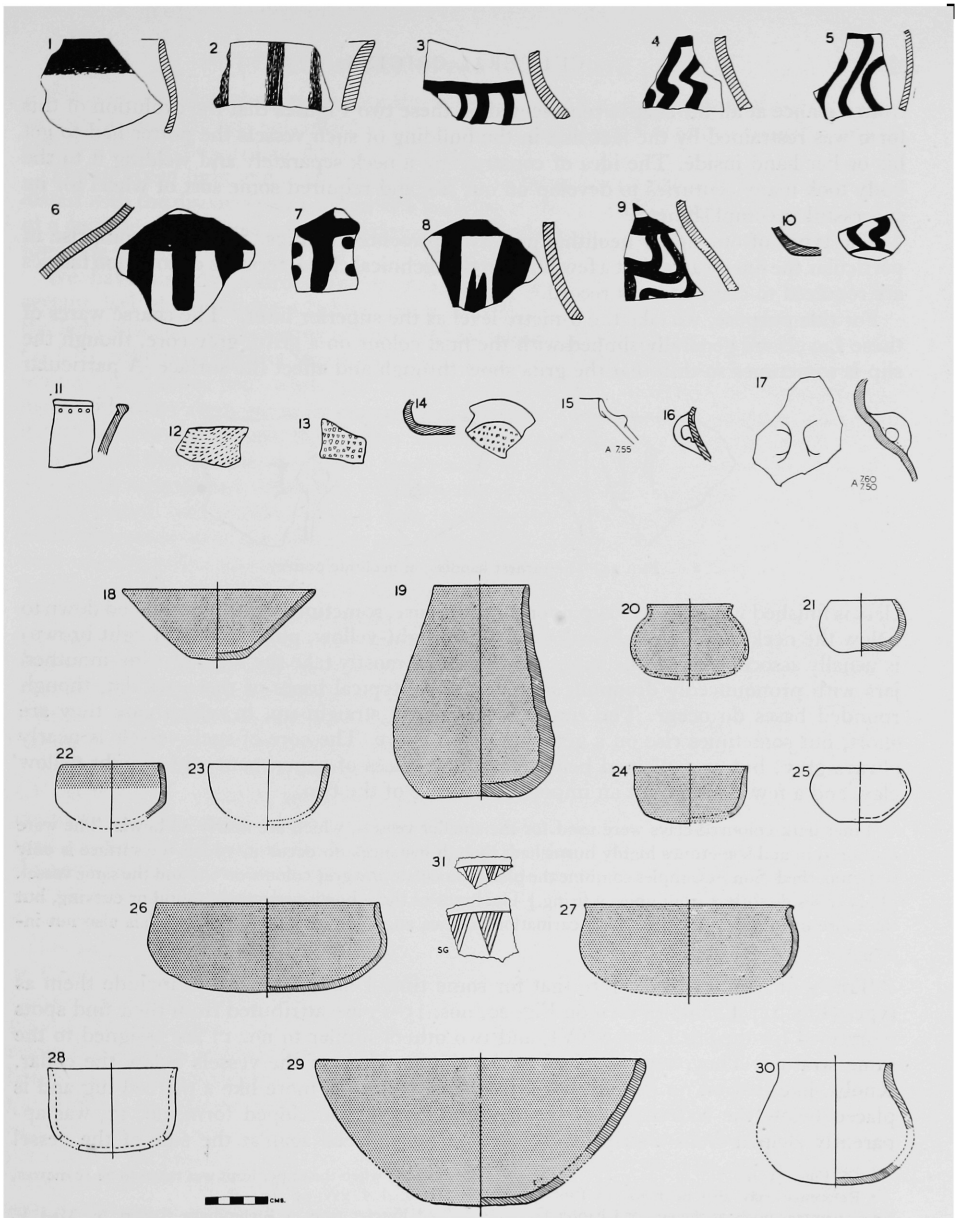


FIG. 20. POTTERY TYPES FROM THE UPPERMOST NEOLITHIC LEVEL, XXV  
 Nos. 1-10 illustrate the beginnings of painting on pottery

from a glance at all the shapes represented on these two Figures that the evolution of this form was restrained by the fact that in the building of such vessels the potter had to get his or her hand inside. The idea of constructing a neck separately and welding it to the body took many centuries to develop on our site and required some sort of wheel for its successful accomplishment.<sup>1</sup>

The types of our upper neolithic pottery represented in Figs. 11 and 20 comprise in particular the finer wares; but a few lines on the technical characteristics of common fabrics are required to complete this record.<sup>2</sup>

For this purpose, we take the 9-metre level as the superior limit.<sup>3</sup> The coarse wares of these Levels are generally slipped with the final colour on a gritty grey core, though the slip is sometimes so thin that the grits show through and affect the surface. A particular

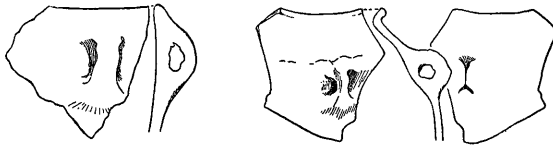


FIG. 21. The earliest handles on neolithic pottery

class is finished with a brown slip upon a brown core, sometimes lightly burnished down to below the neck. A rough light-coloured finish (light-yellow, pinky-red, and light brown) is usually associated with the larger vessels which mostly take the form of wide-mouthed jars with pronouncedly drooping shoulders. The typical bases of these are flat, though rounded bases do occur. The rims are frequently straight-up, in which case they are short, but sometimes rise on a gentle outward curve. The core of such vessels is nearly always grey; but as explained below, there are traces of experiment with a light yellow clay, and a few examples of an imperfect mixture of the two.

Finer dark-coloured clays were used for the smaller vessels, which are nearly all bowls. The ware is often thin and sometimes highly burnished, though instances do occur in which the surface is only wet-smoothed. Some examples combine the black, chocolate and grey colours on one and the same vessel. [This arises doubtless from uneven firing.] The bases of these bowls are mostly round or curving, but the more open types are flat. Semi-carination [i.e. an angular break in the contour] is also not infrequent.<sup>4</sup>

Traces of handles are so rare that for some time I have hesitated to include them as types (Fig. 21). Examples seen on Fig. 20, nos. 15-17 are attributed from their find spots (corrected for dip) to Level XXVI, and two others similar to no. 17 are assigned to the same stratum. They were attached to the sloping sides of the vessels below the collar. Knobs, like that on no. 15, are fairly frequent. No. 16 is more like a pierced lug and is placed below the widest part of the vessel. The fully developed form, no. 17, was apparently shaped from a strip of clay over a twig placed against the side of the vessel

<sup>1</sup> Cf. Figs. 35, no. 7.

<sup>2</sup> Reference may also be made to Prof. Matson's supplementary notes at the end of Chapter II.

<sup>3</sup> This involves some modification of the notes made

in 1937 when the upper limit was taken to be 10 metres. Cf. *L.A.A.* xxv, pp. 103-4.

<sup>4</sup> Extract from a Preliminary Report by Miss V. Seton-Williams in *L.A.A.*, loc. cit., p. 104.

which was dented in the process; but the welding of this handle into the body of the vessel though superficial was successful. The ware was that described above as rather coarse and of a light yellow colour flushed with pink.

The influx of light and vari-coloured fabrics in these Levels seems to be directly associated with the discovery in a corner of a building at the head of Trench A at Level XXVII of a considerable deposit of yellow clay, obviously brought from outside and stored there for some purpose.

We have already recorded (on p. 22) the result of experiments which showed that certain dark clays become a lighter colour with increasing heat; but this cannot explain the light shades now appearing in our neolithic series, because expert examination by Mr. G. C. Griffiths of various sherds from our upper neolithic wares finds no evidence of temperatures above 700°, while 600° would meet most cases. As there is no trace of experiment with other clays, we must assume that this yellow clay had been introduced because it had been found to bake to a lighter shade than the local grey. It can hardly be mere coincidence that almost at once we find traces of trial and experiment in this material. These are represented, I believe, in the lighter cores and the variegated surface colours already noted, which seem to result from the imperfect blending of the rarer new clay in small quantities with the common grey clay of the locality. Though such first mixings were not altogether successful, the results do not seem to have discouraged the potters, as further experiments with the new material are traceable through several higher Levels, not only in pottery but even in bricks. They culminated at Level XVI in the fine cream slip wares with drab yellow cores which rank among the best fabrics of the chalcolithic series. It is noticeable that in the neolithic and early chalcolithic Levels the successful pots of this material were usually of the smaller sizes. It was not until the middle chalcolithic series, notably Level XVI, that a much improved technique led to the successful baking of large pitchers and other vessels with a light surface suitable for painting.

*Painting and design.* Contemporary with the introduction of light clay we find the earliest traces of colour on pottery, limited at first to swabs of light red spread rather at random over the tops of vessels. It should be explained for the benefit of those who have read our interim reports in the *Liverpool Annals* that most of the painted wares found in the tenth metre, and formerly classed as late neolithic, are now ascribed (for reasons which will become apparent) to the proto-chalcolithic category of Level XXIV; but they do not illustrate the origins of painting in this village.

The beginnings of this art have since been traced through the excavated Levels as deeply as Level XXVII. In some of the earliest examples, the paint, a mixture of red ochre, came off when the pots were being washed and other methods of cleaning had to be employed. The 'brushes' used in these attempts at painting were not sufficiently spongy to retain the mixture so that blots and spots were frequent. From various points around the bands, probably when the brush had been freshly applied, blobs of the paint ran down the surface, sometimes in vertical streaks but more often turned into 'wiggles' or zig-zags by the artist's attempts to arrest their progress (Fig. 22). Out of these fascinating experiences there developed the next phase, a definite style of decoration by vertical zig-zags. This, the earliest recognizable motif, was traced through the later neolithic Levels as seen in the upper registers of Fig. 20 into the proto-chalcolithic period of Level XXIV (represented on Fig. 36, nos. 44-48), gradually developing into more sophisticated designs

and culminating at Level XXIII in the remarkable examples illustrated on Fig. 52, nos. 2 and 3. We called this pattern 'Yildirim', the Turkish word for forked lightning which it suggests. It was frequently accompanied by spots or blobs which may have been

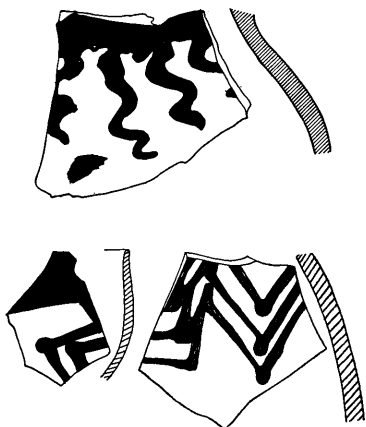


FIG. 22. Early decoration on pottery and evolution of the chevron

made deliberately to represent rain if they were not simply a refinement of the older blots. The pottery on which these earliest attempts at decoration appear (at Levels XXVI and XXV) had usually a gritty grey core thinly coated with a pink-yellow slip. Frequently, however, a pattern in broad bands of dull red, more or less vertical (e.g. Fig. 20, no. 6), is found on a yellow brown ware, wet-smoothed and freely mixed with pounded fragments of quartz or calcite which have turned white by firing and show conspicuously on the surface even through the paint. On such surfaces the obviously inexperienced hands of the local potter made little progress with this theme, though quite frequently the Yildirim pattern was arranged in groups of three around the vessel. Beyond this and other simple variations the results obtained on these rough fabrics continued to be unimaginative and rather crude.

Meanwhile, however, on the approximate floor level in Room 289, small bowls of yellow clay begin to appear which were decorated more successfully with broad bands of the same dull red. These appear in some cases upon the smoother surface which this material afforded (e.g. no. 1 on Fig. 20), and in others upon a burnished cream-slip surface which offered still better opportunities (e.g. Nos. 11-13 on Fig. 35).

Two interesting points may appropriately be noted at this stage. Firstly, these technically different means of expressing the same simple decorative motif will be found to run side by side well into the chalcolithic period, the one as an archaic ware which disappears, the other destined to become a standard ware of the chalcolithic period—both derived from neolithic origins. This is all the more interesting in that Mr. Seton Lloyd has found a similar parallelism at Hassuna.<sup>1</sup> Secondly, the Yildirim pattern contains several elements which lend themselves to ready development: grouped and turned sideways, with the zigzags horizontal, there is a ready-made prototype of the chevron which becomes the distinctive motif in the decoration of pottery throughout the early chalcolithic period. We shall find, however, that though experiments on primitive lines visible at Level XXV tend in that direction (e.g. Fig. 36, no. 18) they hardly seem to have reached it (*ibid.*, nos. 2-6) before a perfect model appeared (Fig. 35, no. 20) in which the finely drawn geometric lines far surpassed the still hesitant and rather aimless local efforts. The local potters evidently needed the stimulus of better artists if their own experiments were to make any marked advance.

<sup>1</sup> *J.N.E.S.* iv, p. 278.



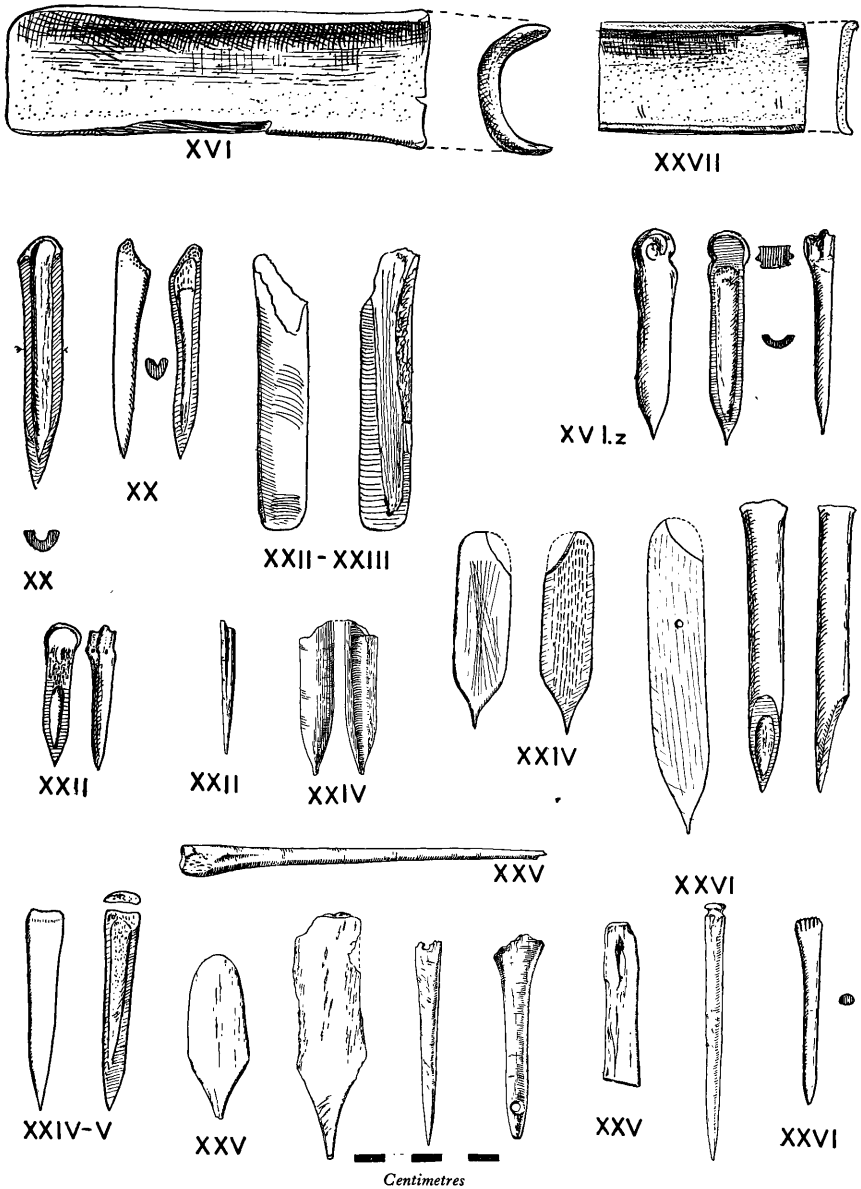


FIG. 23. BONE TOOLS, ETC., FROM NEOLITHIC AND CHALCOLITHIC LEVELS

At the outset of this survey of the finds in the upper neolithic Levels we noted that, to judge by the specimens recovered, the art of fashioning obsidian tools and the details of decorating pottery by incision had both apparently passed their zenith. We find none the less that these Levels illustrate not only improved methods in building but also the development of great walled enclosures suitable for sheep-folds, both of which indicate progress if not the dawn of an era of prosperity. In this connexion the evidence of leisure and taste expressed in the painting of pottery, and an improved technique in pottery-making, are equally significant. The absence of the better class of obsidian tools from the levels examined may prove to be illusory: that industry may at this time have been removed elsewhere inside the village, owing to growing need of space on the outskirts of the settlement, for knowledge of the technique is evident from the specimens illustrated in our Figures. In short, the excavation of these upper neolithic Levels attests conclusively a marked improvement in the cultural and industrial aspect of the villagers' daily life, however primitive this may still appear. In the next chapters we shall find that they were in fact on the eve of a further great development.

## LEVELS XXVI-XXV. INVENTORY OF MISCELLANEOUS REGISTERED OBJECTS

### LEVEL XXVI

(7·80-8·60 m. above zero)

- 535 Flat holed disk of black and white stone, D. 3·5 cm. from 8·90 m. in Trench A.
- 543 Bone tool with broad flat end, L. 8·90 cm.: from 8·90 m. in Trench A.
- 555 Rough stone bowl, 8×3·5 cm.: from 8·20 m. in Trench A.
- 1241 Polished bone rod, L. 8·8 cms.: B. 8·50-8·00 m.
- 1365 Round grindstone (upper), D. 10·00 cm.: H. 4·00 cm., sandstone B. 8·50-8·00 m.
- 1366 Hollowed grindstone, D. 14·50 cm., H. 4·50 cm., sandstone B. 8·50-8·00 m.
- 1653 Notched and grooved pebble, 4·0 × 3·3 × 1·1 cm.: Area B.
- 1662 Clay? stamp 4·6 × 4·4 × 1·4 cm.: from Area B-C.
- 1731 Bronze open-work ornament (broken), L. 5·5 cm.: from Area B.
- 1778 Bone awl, L. 9·1 cm., B. 1·5 cm.: from outside Rm. 264 at c. 8·00 m.
- 1779 Bone awl, L. 7·0 cm., B. 1·2: from Area C at 8·10 m.
- 1781 Broken bone awl, L. 4·9 cm., B. 1·3 cm.: from outer side of Area B.
- 1786 Flat bone tool, in two pieces, L. 11·7 cm., B. 2·0 cm.: from Area B, at c. 8·50 m.
- 1829 Green stone celt, 4·5 × 3·0 × 0·9 cm.: from Area C at 8·20 m.
- 1833 Green stone celt, 3·2 × 2·5 × 1·7 cm.: from outside Rm. 289 at 8·50 m.
- 1836 Shaped stone, 5·0 × 1·9 × 1·8 cm.: from Area B at 8·50 m.
- 1846 White stone, partly hollowed on each side, 8·5 × 3·2 cm.: from Area B at 8·50 m.
- 1849 Spherical stone, use unknown, D. 4·7 cm.: from Area B at 8·50 m.
- 1850 Broken stone weight or mace, D. 4·0 cm., T. 3·4 cm.: from Area B at 8·00 m.
- 1897 Hollowed stone, 9·3 × 8·8 × 6·1 cm.: from Area B at 8·50 m.
- 1899 Unfinished weight or sinker (stone) D. 12·1 cm., T. 4·3 cm.: Area B at 8·50 m.
- 1916 Shaped stone (? spoon), 3·4 × 2·4 × 1·2 cm.: from Rm. 300.
- 1941 Shell or marble white bead, D. 0·5 cm., T. 0·2 cm.: from Rm. 300.
- 1943 Shaped stone, 4·2 × 1·9 × 1·2 cm.: from Rm. 300.
- 1944 Bone awl, 9·5 × 2·2 × 0·6 cm. Level XXVI.
- 1945 Bone awl, 5·8 × 1·1 × 0·3 cm. Level XXVI.
- 1947 Stone weight, H. 3·6 cm., B. 3·9 cm., T. 2·1 cm.: from Area C at 8·50 m.

- 1948 Broken stone palette, slightly hollowed, 8.1 × 9.3 × 1.4 from Area C at 8.00 m.  
 1960 10 flint blades and blade fragments; 6 flint sickle blades; 30 obsidian blades and blade fragments;  
 1 awl; 4 obsidian scrapers; 2 obsidian javelin or javelin fragments.

For classification see under 'Objects' in the Index.

## LEVEL XXV

(8.60-9.15 m. above zero)

- 1623 Green pebble burnisher, Trench 1.6 × 0.9 × 1.1 cm.: from the railway at 9.00 m.  
 1698 Broken bone awl, L. 3.2 cm.: from under a silo in Area C at 9.15 m.  
 1702 Green stone cylindrical bead, L. 0.35 cm.: D. 0.4: found in Area C at 9.00 m.  
 1704 Broken bone awl, L. 5.2 cm.: found in Area C at 9.00 m.  
 1734 Dentalium shell bead, L. 0.8 cm.: found in Area C at 8.80 m.  
 1744 Green stone celt, L. 3.3 cm., B. 2.4 cm.: found in Area C at 8.65 m.  
 1805 Bone awl, L. 7.0 cm., B. 1.3 cm.: from Rm. 289 at Level XXV.  
 1835 Pierced and notched stone, broken, 3.4 × 2.7 × 0.5 cm.: from Rm. 284 at Level XXV.  
 1843 Yellow stone ? stamp for gouging pottery, L. 2.2 cm., W. 1.4 cm.: found Rm. 289 at Level XXV.  
 1847 Pierced stone, 7.5 × 6.4 × 4.0 cm.: (Fig. 18) from Rm. 284 at Level XXV.  
 1852 Part of alabaster bracelet, D. 7 cm., W. 0.8 cm., T. 0.9 cm.: from Rm. 289.  
 1854 Fragment of alabaster bracelet, W. 0.8 cm., T. 0.9 cm.: from Rm. 289.  
 1857 Pointed stone, 2.8 × 1.3 × 1.0 cm.: from Rm. 284.  
 1881 Shaped stone, 2.2 × 1.2 × 0.6 cm.: from 284.  
 1883 Green stone celt, 1.6 × 1.2 × 0.7 cm.: Level XXV.  
 1885 Dentalium shell bead, D. 0.4, T. 0.2 cm.: from Rm. 289.  
 1891 Notched stone, 5.3 × 5.1 × 1.9 cm.: from Rm. 289.  
 1893 " " 8.6 × 7.1 × 2.5 cm.: Level XXV.  
 1901 Pink baked clay whorl (half only), D. 6.7 cm.: T. 1.0 cm.: from Rm. 289.  
 1902 Dark blue mottled stone celt (broken), W. 3.0 cm., T. 2.0 cm.: from Rm. 289.  
 1903 Half stone weight or sinker, D. 8.6 cm., T. 3.0 cm.: from Rm. 289.  
 1904 Stone weight or sinker, 11.5 × 8.3 × 4.1 cm.: from Rm. 289.  
 1905 Hollowed stone, 5.1 × 4.4 × 2.4 cm.: from Rm. 289.  
 1912 Necklace of approx. 620 shell and marble beads, D. 0.5 cm., T. 0.2: from Rm. 299.  
 1913 Bracelet of approx. 140 black and white shell beads, D. 0.3-0.5 cm., T. 0.15-0.2 cm.: from Rm. 299.  
 1914 Bracelet of approx. 230 beads (shell or stone) D. 0.5, T. 0.2 cm.: from Rm. 299.  
 1915 Baked clay cult object (? Horn) L. 21.5 cm. (approx.), W. 5.6 cm.: from Rm. 299.  
 1959 24 flint blades and blade fragments; 1 flint awl; 2 flint sickle blades; 71 obsidian blades and blade fragments; 10 obsidian awls; 1 obsidian scraper; 3 obsidian javelins and javelin fragments.  
 Various spots, Level XXV.

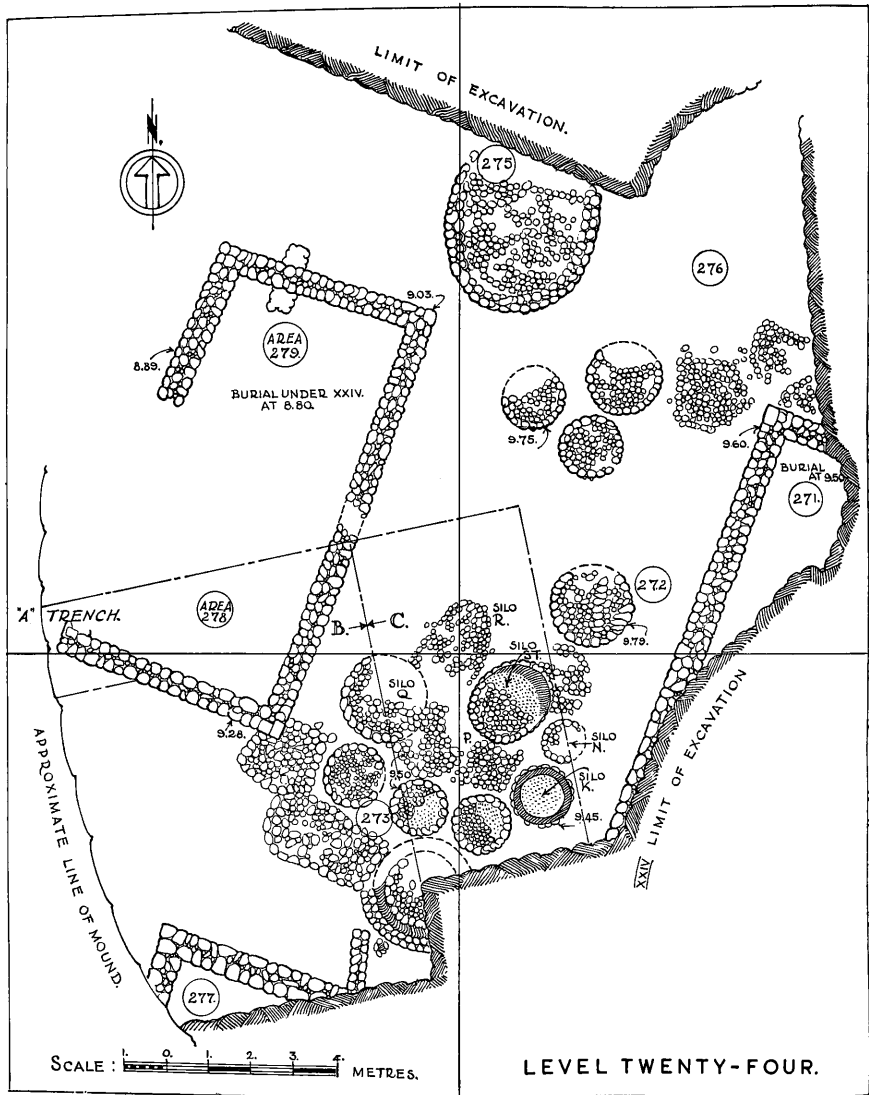


FIG. 24. PLAN OF CONSTRUCTIONS IN LEVEL XXIV AT c. 9:50 - c. 9:75 m.

## IV

### DEVELOPMENT OF INDUSTRIES

*Proto-chalcolithic Level XXIV (9.20-10.20 metres)*

**I**N Level XXIV the signs of a changing culture indicated by the architectural features and other aspects of our topmost neolithic Level, XXV, receive striking confirmation when we consider the Ground Plan of the main area in Fig. 24.

Here we see parts of large buildings or enclosures, two of which are similar to those uncovered at the previous Level and have the same orientation, but between them the ground is now crowded with rounded foundations which are with little doubt the remains of silos. The space filled with this kind of structure was more extensive than that shown on the Plan, for a similar series<sup>1</sup> was found at the corresponding level in our first season's work at the bottom of the big Trench X, which abuts upon this area to the north-east; and others doubtless filled the intervening ground which remains unexcavated. That preliminary investigation now assumes a fresh significance, in that a further deepening of Trench X (in 1946) failed to disclose any stratified traces of neolithic remains such as were found to underlie the silos in sectors B and C<sup>2</sup> (cf. Figs. 12 and 24).

The conclusion is obvious, that the silos are not connected with the neolithic remains under Level XXIV, but represent a significant change in the development of the village at this stage, when such an extensive provision for the storage of grain suggests sudden achievement in the cultivation of cereals. This is one of the radical innovations which have led me to class the culture of this Level as 'protochalcolithic'. In the under-lying neolithic Levels the making of obsidian and stone tools was a prime industry, and there was no indication of any knowledge or use of metal. It is true that actual tools of metal were not found in Level XXIV, and the same observation holds good for a number of higher Levels (as far up as XXI at 11.25 metres above zero); and on that basis alone all these Levels might be regarded as belonging to a second neolithic phase which saw the development of painted pottery and other features. Such, indeed, was our first impression, which must, however, now be discarded, as a further study of the discoveries will show that the cultural developments at Level XXIV are in fact the foundations of a long chalcolithic period. It will also be observed that there is no evidence in the areas investigated of any violent change: on the contrary, continuity will be apparent in various aspects of this new phase of culture.

This is particularly noticeable in the architecture of the period; indeed, one wall running alongside the enclosing wall of area 271 had its foundations at 8.91 metres in Level

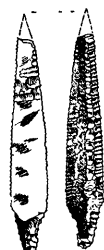


FIG. 25.  
Small javelin head  
found at Level XXIV  
in Trench X. Scale  
1:2

<sup>1</sup> Cf. the photographs on Pl. V.

<sup>2</sup> A fine but small javelin head found near the bottom

of Trench X in 1937, shown in Fig. 25, if not intrusive would belong to this Level XXIV.

XXV (Fig. 12), and so does not appear on Fig. 24, but it was maintained for a considerable time although its purpose is not readily obvious, unless it served to keep sheep and oxen from straying among the silos. These two walls stood together through a period represented by 57 cm. of deposit, as the later one with its foundations in Level XXIV, at 9.61 metres, rose through Level XXIII and was still in use with the buildings of XXII.

#### ARCHITECTURE

Large walled enclosures, already mentioned, show considerable development when compared with those which made their appearance in Level XXV. The stones used in their construction are much smaller than formerly, a change visible in the photograph on Pl. IV and the twin-face method of building is replaced by a padded three-stone system, in which the inside of the wall is apparently packed with mud as well as pebbles.

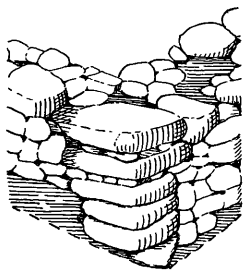


FIG. 26.  
Dressed corner-stones. Level  
XXIV

The walls are substantial and durable: that in Area 271 is 70 cm. thick, and was found preserved at its southern end to a height of nearly 2 metres, so that, as may be inferred from Fig. 12, it must have remained a standing feature throughout three successive building Levels during which the layout of the area was completely modified.

A human burial was found inside the northern corner and will be described later. The most conspicuous and suggestive innovation in the construction of this building was, however, the use of well-dressed corner-stones which are illustrated by a sketch in Fig. 26 and by photographs on Pl. IV. The stones were of good size, the uppermost of five measuring  $47 \times 35 \times 7$  cm. The angle of each was squared, the edges rounded, and the exposed surface smoothed. This (I suppose) may have been accomplished in the rough with stone hammers, such as appear at this level for the first time, and are illustrated in Fig. 33; and the finishing may have been effected with scrapers or flakes of obsidian or chert.

A similar but less complete feature was observed by Mr. Burkitt in the southern corner of the building that surrounds Area 278; and this also is to be seen in a photograph on Pl. IV. The oldest example was found at Level XXV in the north-east corner of Room 288. It figures on the same plate and, though less developed in finish and appearance, it again illustrates a measure of continuity in the details of construction through this period of transition.

Though the wall enclosing the Area 271 seems to have been built of stone, I doubt whether this ancient method was still generally practised. It is more likely that the walls of most houses were carried up in mud slabs or *terre-pressée* upon the stone foundations which alone survive. There is in fact evidence that experiments with slab-bricks were already being made with the yellow clay previously mentioned. This appeared in a section of brick wall, built possibly to repair a break in the west side of Room 279, at 9.22 metres above zero, rising to 9.65. The stone foundations of the house stood at 9.19 on that side, rising elsewhere to 9.25, but were replaced at one point by two courses of yellow slabs about 70 cm. in length, apparently laid before drying, or possibly made and shaped like

bricks *in situ*. This seems to have been a purely local experiment; for yellow clay for building, though found again in Level XXIII when long 'bricks' were laid transversely across the thickness of a wall, was not freely used until Level XVII.

#### THE SILOS

The small circular silo bases which were a distinctive feature of this Level were found in the main area (shown on Fig. 24) including the sectors B and C, and extended as already stated over the bottom of Trench X. Photographs on Pls. V and VI illustrate some of these constructions, the foundations of which were well laid in stone. They were crowded together and occurred in four irregular layers, of which the selections shown in the Plan represent one of the lowest and most complete; but it cannot properly be called a Level of occupation.

In the small area C, which measured only 4 metres by 12, there were found no fewer than twenty-three such bases, some of which overlapped one another, while others had been reconstructed on and over their original foundations. In some the floor was covered by a layer of clay or clayey earth which in several cases had also been treated with lime; but usually it was made of pebbles smoothed off with the tenacious mud of the locality over a foundation of selected cobbles, which in turn were sometimes laid in a layer of smoothed clay. All such bases slope down slightly towards the north, doubtless in order to secure drainage down the natural fall of the ground, which averaged 6 in 100. Nearly all were found denuded down to their flooring and foundations, but in one or two cases the traces of mud walls remained; both the round type and an earlier square one are illustrated by photographs on Plates V-VI, the former in section in Fig. 27. No grain was recovered in this area: some seeds found among the foundations of silo M have been pronounced recent by several experts, and their presence may be explained by the activities of ants or field mice following with their store the hollow tracks of decayed roots which penetrated deeply at this point.<sup>1</sup>

In the course of our last campaign Professor Childe made a thorough investigation of the foundations in sector C, where, *inter alia*, he cut a section of that marked K. Fig. 27, drawn from his field sketch, illustrates his observations. The result is typical of most of the silos seen on our plan. A layer of selected river stones had been arranged by working outwards from the centre to form a circular foundation inside a complete ring of larger stones uniform in size and laid with care—one of them measured 40 × 25 × 13 cm. This foundation which, doubtless for drainage, conformed with the natural slope of the ground had been then packed with pebbles and covered with a clay flooring (6 cm. thick) stained

<sup>1</sup> The seeds have been examined by Dr. G. D. H. Bell of the School of Agriculture at Cambridge, whose report on the grain of the early chalcolithic period appears in Chapter V (p. 73). Of the three types of seed from the silos he was able to get two to germinate. One could not be identified; on the other he writes: 'This plant is *Onobrychis caput galli* Lam. We were extremely interested in this plant because it is related to the sainfoin that grows in this country, and which is commonly referred to as *Onobrychis sativa*. The plant from your silo is apparently a native of the Mediterranean area and it is a diploid species with 14 chromosomes, whereas the *Onobrychis sativa* of this country

has 28 chromosomes. I am enclosing a photograph of this plant which we grew to maturity, and were able to harvest seed from it. You will see that it has a very prickly fruit, and that there is a single seed inside; the interesting thing was that the seed was without this very resistant fruit when the material was sent to us, otherwise we should probably have recognized it. As it was we thought that it probably belonged to this genus from the seed shape. How the very tough fruit wall was removed I do not know, because I should have thought it would have persisted for a long time in the silo; it almost appears that the seed was removed artificially beforehand.'

brown and black, while the sides were carried up cone-wise upon the outer circle in local dark-coloured clay, as shown in Fig. 27. Unfortunately no intact example could be found, and in this case a partial reconstruction of the upper part from the height of half a metre is suggested by a double ring of small stones found upon the mud walls at that height. The alternative possibility that this ring of stones supported a flat roofing of some kind seems improbable, for the span was still 90 cm. Presumably, the upper part was originally carried upwards and inwards on a curve built gradually as the fresh-laid clay began to dry, until the hole in the roof could be closed. This may have been done in the present case by a large dish, the pieces of which were found just below the upper circle of stones; but

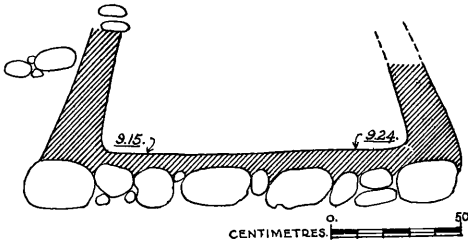


FIG. 27. Section of Silo K in Level XXIV

usually we must suppose by a stretched skin or a suitable flat stone. A further alternative is suggested by a method employed by villagers near Mersin today who close the central roof-hole of similar structures used for cooking with a conical thatch of reeds which encloses the upper half of the oven and is bound together at the top. No bricks could be detected in the walling of the structure: the clay was apparently laid on in slabs while wet, and the face then dressed to the curve and smoothed over, so that no trace of any join remained. Whether there was any vent at the bottom for withdrawing the grain remains problematical, though in one or two cases there was a suggestion of this kind in the absence of one stone from the lower ring.

The size of these silos was fairly constant, averaging, like this one, a metre and a half across the base. Some were considerably larger as the plans show, but the design was the same. Some few are more or less rectangular in plan, and were at first thought to be merely dry pavements; but the mud sides of one of the deepest were uncovered by Mr. Burkitt in 1939 (as shown in the photographs on Pl. V). The fact that its foundations descended to the 9-metre level suggests that these rectangular structures were the earliest in the series of local attempts to provide special storage for grain. It is true that the small stone rooms of Level XXVI may have been used for the purpose, as the very large flat base of a bin in Room 301 suggests. The roofing in either case must have presented a serious problem: the climate of the district now is normally mild and fine, but in the winter and early spring heavy rainstorms are frequent, and wet weather may last for several days. Under such conditions a domed roof would be the only satisfactory covering: but this, over the square foundation, would be beyond the technical skill of builders working without shaped bricks.

Square burial chambers in the Habur region of Mesopotamia are found to have been covered with corbelled vaults,<sup>1</sup> but these belong to a much later epoch; while the earlier primitive arches of Upper Egypt, though ingenious, show no real understanding of the principles involved.<sup>2</sup> In either case a covering so constructed would require the use of

<sup>1</sup> Mallowan: 'Second Campaign of the Habur Region' <sup>2</sup> *Third Egyptian Dynasty*, pl. 14 and p. 29. in *Iraq*, iv, p. 127 and fig. 13.



good, shaped, pressed bricks of which there is here as yet no definite trace. Under these circumstances, the roofing of the square-shaped or rectangular silos would probably be of reeds and mud, which would not resist prolonged rain. Indeed, the probability that this design was early abandoned is suggested by the intrusion in Area 278 of the corner of a house into a foundation of this kind and by the fact that another was found under silo K to which it served as a secondary foundation.

Even the round type of silo, constructed as it was of non-durable material, seems to have proved unsatisfactory: numerous rebuildings, or reconstructions with raised floors, became obvious in the course of the excavation; and at higher levels this kind of silo is rarely found. How long this method had been persevered with is not easy to guess, for all these remains were found within a single building Level which ordinarily might represent an average of perhaps seventy-five years; and though the deposits in this case are a full metre high (approximately from a floor-level at 9.20 metres to 10.20 metres above our zero datum) this exceptional accumulation can be explained by the frequent collapse and rebuilding of the silos, so that the whole experiment may not have lasted longer than a normal Level.

The much larger structure on the same model in the north of this area (no. 275) is the only one which in any way resembled a *tholos* such as Professor Mallowan found at Arpachiyah,<sup>1</sup> in that under an overhanging bank<sup>2</sup> there were indications of a narrower pavement which suggested the entrance. On the other hand, our structure, with a maximum length of 3 metres, was much smaller, and there were no signs of any interments such as were found at Arpachiyah and at Khirokitia. Other silo foundations uncovered at the bottom of Trench X were of the smaller type, as may be seen from a photograph on Pl. V. All seem to have been erected on the outskirts of the village. How far they extended inwards or around the settlement remains an unsolved problem.

About the middle of the main area there were found the traces of something like a large oven or kiln, which, to judge from the level of the foundations (at 9.22 m.), would seem to have been contemporary with the earlier silos, and may have been used by the builders themselves. Very little of it remained, though the traces were unmistakable, including a clay floor in which were bricks reddened by fire, with an opening that looked like a flue, covered by ashes among which were some fragments of burnt pottery. With it also were the hardened burnt fragments of rather thin clay walls and thicker roofing which bore the clear impressions of timber and reeds on which the soft clay had originally been laid. Possibly it was a cookhouse used by the workmen; but it is of interest to note that, with this experience of baking clay in front of them, or littering the ground, the builders of the silos still did not apply it to hardening and water-proofing the roofs of their structures. Their failure to do so rather suggests that they worked to a fixed design. Still, one should not overlook the long centuries that elapsed in most areas of the Near East between the invention of baked pottery and the making of baked bricks. In Egypt, the land of mud, the sun-dried mud brick was in use as early at least as the First Dynasty and still endures as the natural building material of the country.

<sup>1</sup> *Iraq*, ii, pp. 21 ff. Mallowan at Arpachiyah and Dikaos at Khirokitia: *ibid.* vi, pp. 74 f.

<sup>2</sup> This bank, which greatly hampered our work, was not removed because a section showed it to consist

largely of unstratified debris below the ramparts of a higher level, the clearing of which might have contaminated our results.

The results of Professor Childe's investigations show the following approximate relation to one another in section of some of the silos he examined (lettered A to W in his notebooks). There were others that could not be fitted into the scheme, and two partial floors intervened at 9.20 and 9.60 metres respectively. The conclusion is inevitable that after the first series had been constructed the repairs and reconstruction of these silos were effected independently as occasion required. Local floors gave access at the time to those in being, only to be disturbed or removed when fresh foundations were laid. Under these circumstances, the whole of this confused deposit grew almost haphazard to the height of a full metre without any general stratification that might have helped to assign objects found in it to a particular phase of this process. We can, however, regard them in general as representing the same period as the silos. In any case the continuing existence of the high wall of Level XXIV through the period of XXIII into that of XXII, as already mentioned, links these three building Levels together in a common cultural epoch, though the ground plans changed completely during this period. We shall find this inference to be sustained in our comparison of the finds.

#### THE LITHIC INDUSTRY

At Level XXIV the lithic industry, as represented by two rows of typical tools figured at the bottom of Fig. 29, shows no radical change in technique: on the contrary, as Mr. Burkitt has pointed out, it is derived directly from its neolithic precursors on this site.<sup>1</sup> The materials used were the same, and the tool types already described mostly reappear, including blades, 'blunted backs', central and asymmetrical awls, sickle blades (mostly of chert), and scrapers. The grand offensive weapons of the middle neolithic levels, however, were apparently no longer made, though the fine work of some of the specimens illustrated shows that the necessary technical skill persisted. An innovation of considerable interest is represented by three finely pointed tips (shown on the top register of this Level on Fig. 29, third row). These 'can only be classed as small transverse edge arrow heads',<sup>2</sup> though there is no evidence that they were actually used as such. A more obvious but cruder type, discovered later at this Level, is shown on Fig. 28.



FIG. 28.  
Crude arrow-  
head. XXIV

Taking the specimens as a whole, including those from Levels XXIII-XXI, shown on Fig. 29, Mr. Burkitt writes 'the obsidian industries of these upper levels were very simple. A surprising number of long, narrow, untrimmed blades occurred, and these were doubtless used for some cutting purpose. Similar blades were frequently trimmed down one side, even indeed blunted. Occasionally, specially towards the base of these chalcolithic levels, the blades were finished off at one end with little awl-points which were sometimes made centrally on the blades, sometimes asymmetrically. There were a few small scrapers. . . .

'Many details of technical interest though possibly not of the first importance can be added about these obsidian industries. For example, the central awls on the ends of blades generally showed that both sides of the little point had been chipped out from the upper surface of the blade, but occasionally this was not so, one side of the point having been retouched from the upper surface, the other from the flake surface underneath. In another instance, while the trimming was from the upper surface of the

<sup>1</sup> *L.A.A.* xxvi, p. 68.

<sup>2</sup> *Ibid.*, p. 63.

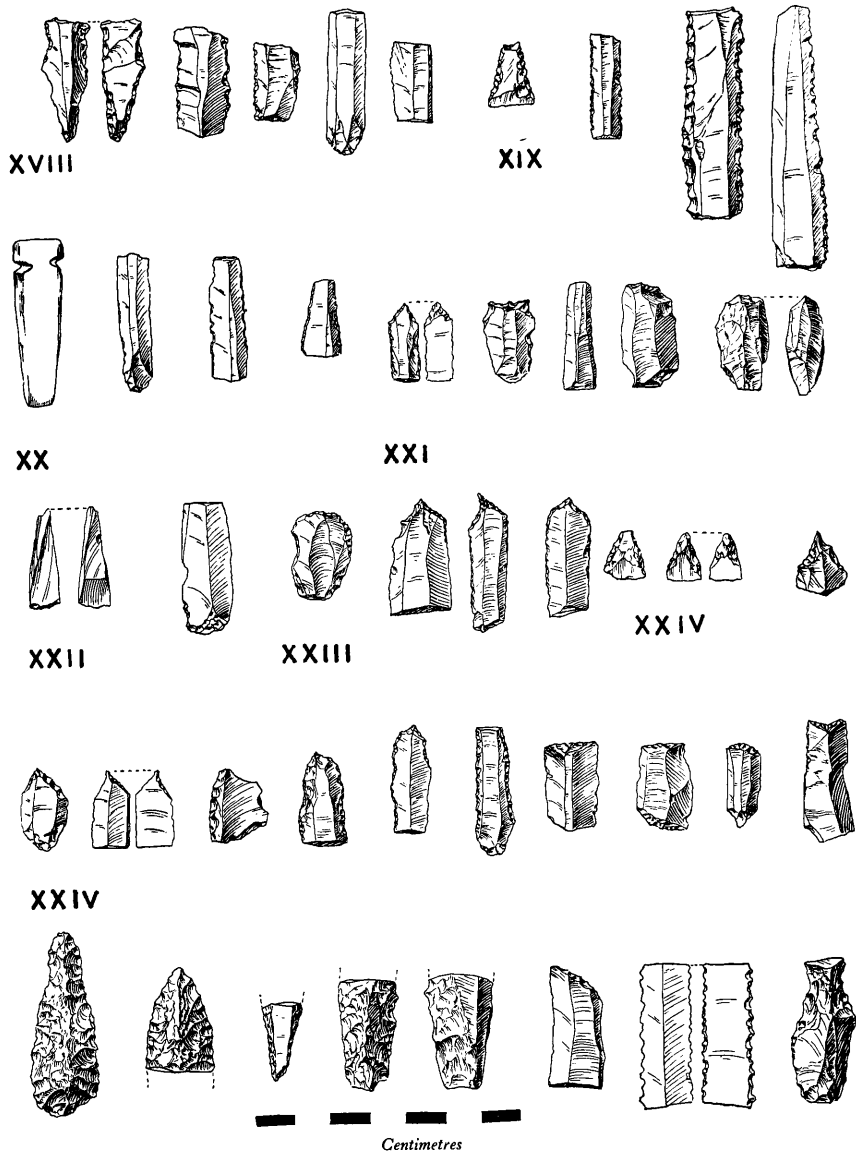


FIG. 29. FLINT AND OBSIDIAN TOOLS FROM EARLY CHALCOLITHIC LEVELS

blade the under surface showed thinning which had been done by pressure flaking, and indeed a great deal of the workmanship throughout the industry showed this technique. A portion of a flake trimmed all over on one side might here be instanced. Besides these obvious tools, there were a number of tiny objects which may well have been of intentional design and used in a composite tool. Several little wedged-shaped chisel-like objects were like this. Indeed, a typologist letting himself go could isolate a considerable number of such different types, but I have an impression that this kind of analysis begins to get away from reality.'

A further glance at Fig. 29 will show that the finished obsidian products become less varied, less numerous, and less finely worked as the Levels rise, while flakes of chert for sickle and threshing blades become more and more prominent. Cores of obsidian from which flakes had been detached begin to be found occasionally in the higher Levels; and in Chapter VI will be found a special study of the flaking processes.

#### OTHER INDUSTRIES

*Bone Tools* from this Level, of which types are shown on Fig. 23 (Chapter III), continue to be made along the traditional lines already established in the upper neolithic series, but, perhaps fortuitously, show a preponderance of the flat spatula type. The complete bone brought to a point is apparently new, though specimens are too few to form any general conclusion. The holed 'needle' for sewing leather, for example, does not reappear at this Level, but does so higher up in Level XXII, and it may be inferred from the specimens assembled that the shaping of bones for special purposes continued until the use of metal became firmly established at Level XVI. One such, the purpose of which is not obvious, though it may have been a handle, is represented in Fig. 30.

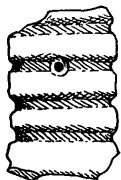


FIG. 30. Bone object. XXIV. R.N. 1253

*Spindle whorls* of clay, which now appear in number among our finds for the first time,<sup>1</sup> betoken another momentous innovation—the art of weaving; but the decorated specimens representing this industry from Level XXIV, shown in Fig. 31 and Pl. X, seem

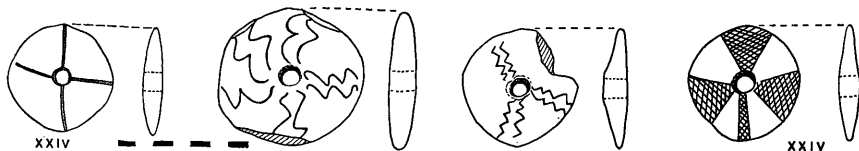


FIG. 31. Some of the earliest clay spindle whorls from Level XXIV

already sophisticated. An earlier attempt to make one of stone is shown in Fig. 18, and the impress of a woven material has also been noted in the previous chapter in connexion with the burial under Level XXV (in Room no. 299). The scarcity of whorls from the relatively small areas uncovered in the upper neolithic Levels may be only fortuitous, especially as these lay near the outskirts of the settlement where buildings connected with farming and agriculture were developing and claiming space. On the other hand, the last specimen figured, with its somewhat elaborate incised decoration of criss-cross lines and

<sup>1</sup> The provenance of those published in *L.A.A.* xxvi, pl. xxxii, nos. 20-22, is too wide to determine their stratification, but they correspond in type with the present series.

triangle, seems to have been made with some amount of care, as might be the case at the inception of a new idea. These examples testify nevertheless that weaving was now known and practised; and the probability is that its development was collateral with the increase of the flocks indicated by the building of the large folds at Levels XXV and XXIV. The patterns on the whorls may have had a symbolical significance as in other primitive communities, but may equally well have indicated ownership, as all are different.

*Other objects* found in the excavation of this Level, of which a more complete list with references is appended to this chapter, comprise a clay animal head; shell fish-hooks and pendants; stone bracelets, fetishes, and notched (?lasso) stones (Fig. 32),<sup>1</sup> hammer-stones, clubs (or large whorls), palettes, querns or mortars, rubbing-stones, spatulas, and weights or sinkers; in addition to pottery and beads of shell and stone associated with burials presently to be described.

Specially noteworthy are a number of smoothed stone tools, which include the pestle (R.N. 1908) and chisel (R.N. 1830) illustrated in Fig. 33, nos. 3 and 4 respectively. The pestle measures 6.0 × 4.6 cm. It was found in Area 274, whence came also the two round hand chisels found at this Level. One of the latter (R.N. 1844), already figured as the type



FIG. 32. Smooth notched stones from Level XXIV

Scale 1:6. R.Nos. 1850:1869:1868

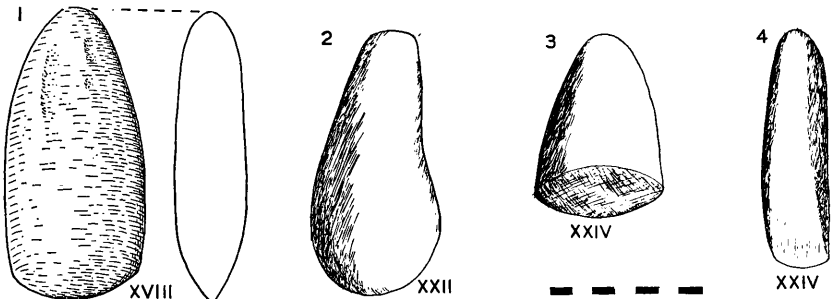


FIG. 33. Smooth stone tools. Levels XXIV-XVIII

specimen of these tools (Fig. 8), is much larger than the other, being 11.2 cm. long with a cutting edge of 3.1 cm. The length of the other specimen (R.N. 1830) is 5.8 cm. with a cutting edge of 1.2 cm. Further specimens have been shown in Fig. 13, the series being thus continuous from Levels XXVII to XXIV inclusive.

#### BURIAL OF THE DEAD

Two burials of exceptional interest are attributed to this Level. The first was found in the north corner of Room 271, just below the foundations, in the position indicated on the Plan. The bottom of the corner-stone was found to be at 9.60 metres above zero and the interment reached down a further 10 cm. A photograph on Pl. VIII shows the contracted position of the skeleton, which was that of a male of good stature. His body had been placed with the face towards the east in clear relation to the corner of the building, the foundation of which must therefore be earlier. Associated with this interment were two

<sup>1</sup> See also Pl. X.

pottery vessels, both near the head: they are indicated by their fragments in the photograph and their repaired shapes are figured in Fig. 35 as nos. 1 and 2. The fabrics are described in detail with others of this series on the schedule facing the figure. Suffice it to say here that the large two-handled bowl (no. 2) was finished with a black burnished slip and is a fine example of the local craft in the tradition already established in the upper neolithic Levels. The other bowl (no. 1) is quite small and normal for the period. A third object found with these pots and apparently associated with the burial, was a small obsidian blade, not figured on our diagram of types; and a fourth was a bone awl (R.N. 1882).

The second burial is abnormal and baffles ready explanation. It was found at level 8·80 metres under the secondary floor of Room 279 which was fixed at 9·26 metres, and practically upon the original floor at the 9 metre level. We recall that a burial at Level XXV was also found between two floors in the room immediately below. The description of this one is, however, exceptional.

It was clearly the burial of a female, and it showed no signs of intrusion or disturbance; but, as our photograph on Pl. VII shows, the head was entirely missing,<sup>1</sup> as also was the right hand, severed at the wrist. Otherwise all the customary adornments were in place: on the right wrist was an 8-string bracelet of miniature white disk beads, some discoloured and with the threading-holes blocked by dark matter. Almost in contact with the right shin bone were two pots, shown also on Fig. 34,—the one (no. 7) a black vase of carafe shape (which now makes its definite appearance); the other a small drab-coloured bowl partially flushed with red—it is no. 8 in the figure.

Other burials and human remains found in this Level seem by contrast rather insignificant. As stated in footnote 1, a detached human skull was found in the main area (spot 275) at 9·88 metres, in association with fragments of hard mud and odd stones, the whole covered with ash; but there was nothing to explain its presence in this context.

*Child burials* beneath the floors of houses are usually explained as the outcome of primitive instinct and human affection. Examples have been found in several of the higher Levels, and will be described. Being below the floors, they belong in nearly all cases to the Level above that wherein they are found; and they are sometimes accompanied by pottery and other objects of a special or selected kind, not always typical of their period. There is no evidence that this practice had a neolithic origin; indeed, there is only one example from the Level under consideration, XXIV. This was found in the north-west corner of Area C (Pl. VIII) at the 9·20 metre level, where Professor Childe uncovered the remains of a small enclosure, 75 × 90 cm., formed in the angle of the stone foundations of a room by the addition of two small secondary walls of brick. In this, below the floor of the room, were the bones of a very young child lying on its right side, so facing west, in the fully contracted or embryonic position, but owing to damp and their fragile nature only a few of the bones could be recognized.

#### POTTERY OF LEVEL XXIV (Figs. 34 and 36)

Except in the case of the vessels found with the burials already described, and a few selected specimens shown together with them on Fig. 34, nos. 1–12, we have had some

<sup>1</sup> The detached skull was found in the adjoining Area 275 at level 9·88 m., i.e. more than a metre above this interment, and 5 to 6 metres distant outside the wall of the surrounding building. Though the frontal

bone was broken away Prof. Şenyürek thinks that it was probably that of a female: it is possible therefore that it had belonged to this burial in Room 279.

difficulty in selecting types for illustration. This arises from the special character of the buildings in the area excavated, in particular the silos. The ground must have been cleared for their initial construction, so removing many of the surviving traces of Level XXV which their foundations penetrated. The deposits of Level XXIV, as stated, were a metre thick, and included the ruins of silos that had been separately repaired or restored several times; while the topmost layer was found in turn to be greatly disturbed by the different foundations of Level XXIII. Normally, building periods follow one another in successive 'Levels', and their ruins are covered in turn by debris, leaving the foundations and parts of the walls intact, so that the floors and open spaces retain the trampled-in potsherds of their respective periods. In this case, however, the traces of three or four periods of rebuilding visible in the stratum are not separated as 'Levels' by any continuous feature. It follows, therefore, that the pottery and other objects representing the period during which the silos lasted must be regarded as a group; and also that owing to original disturbance, intrusive sherds cannot always be distinguished from those of the earlier and later Levels. The later intrusions are not of radical importance, for we have already begun to realize that three or four higher Levels all belong to a common and continuous phase of the early chalcolithic culture. The intrusion of earlier specimens is, however, of moment, because it might obscure a possible landmark between the products of the neolithic and chalcolithic periods. Happily, the evidences from Room Area 279-89 and investigations below the silos supply reliable criteria upon which the selection of the types illustrated in Figs. 34 and 36 has been made; but I have thought it advisable to discard as evidence bearing on this period of transition a number of specimens which further excavation of the main silo area may place in their proper setting.

Though relatively few in number, the superposed silos (A to W series p. 50) afforded a reliable insight into the nature and stratifications of this Level from the deposits sealed beneath their floors, which thus controlled discoveries in other parts of the area.

The results of this special investigation, though rather meagre, were highly instructive, and some of them quoted here may be useful for reference.

*Below Silo S* at 9 metres. (i) Fragment with yellow clay core, cream slip outside, and wet-smoothed inside, decorated with a broad vertical swathe from the collar downwards. (ii) A similar fragment decorated with a 'Yildirim' pattern in dull red on cream. (iii) A coarse yellow clay base, flat with shallow rise. (iv) A fragment in yellow clay with three parallel lines of dots, one white filled. (v) Fragment of a coarse hole-mouthed pot with short but pronounced turned-out rim. (vi) Part of a slightly everted curving rim of thick and coarse pottery with pinkish surface inside and outside.

*Below Silo T* at 9.15 metres under the lime floor and cobbles were found some seeds; and in the earth immediately below were a few fragments of coarse buff pottery showing only rudimentary red blobs of paint.

*Below Silo K* at 9.26 metres were found the fragments restored as type 10 in Fig. 34, having a pink core, cream slip, and purplish paint. Inside the silo, as stated, were pieces of the base of a large bin with round bottom, 60 cm. diameter, of coarse brown pottery with a reddish flush outside, rather grey and discoloured inside. With this was a large piece of a rim, flushed all round for 2.5 cm. with red, almost vertical or perhaps slightly everted and 26 cm. across, indicating with the bowl a wide-mouthed grain bin of the Hassuna style.

*Below Silo A* at 9.75-10.10 metres. (i) Fragment of rim, grey-brown core, pink slip outside, red rim. (ii) Another similar, thinner, with red blotches. (iii) Several similar with vertical red swathes.

## POTTERY SHAPES AND DECORATIVE DESIGNS FROM LEVEL XXIV

- |  |                   |
|--|-------------------|
| 1. Bowl, small. Brown core, black burnished outside.   | Rm. 271           |
| 2. Dish, large, with two handles. Dark grey core, fine grits. Surface varies from black to dark reddish-grey. Burnished inside and outside.                    | Burial in Rm. 271 |
| 3. Bowl, small. Plain drab pottery, wet-smoothed.  | Rm. 276z          |
| 4. Cup. Pinkish core, yellow slip with signs of pink wash outside. Inside grey with pink wash over lower part and base. Irregular band of red paint round rim. | Rm. 272           |
| 5. Cup. Pink core, wet-smoothed, purplish-red paint. Another similar with brown paint.   | Rm. 272           |
| 6. Bowl. Dull cream core, wet-smoothed, drab surface.  | Rm. 276           |
| 7. Jar. Grey-black core, black outside, dull and rough inside. (289) from burial below floor of  | Rm. 279z          |
| 8. Basin. Dull cream surface, flushed pinky-red irregularly on outside. (8-8o m.; 289) from burial below floor of  | Rm. 279z          |
| 9. Bowl. Very smooth cream surface, red paint, pale inside.  | Rm. 275           |
| 10. Bowl. Pink core, cream slip, wet-smoothed inside and outside. Dark purplish-red paint inside and outside.  | c. 9-6o m.        |
| 11. Bowl. Grey core, pinky-cream slip, red paint.  | Rm. 279           |
| 12. Bowl. Grey core, pink slip, red paint.   | Rm. 279z          |
| 13. Bowl. Fine brown core, wet-smoothed, brown paint.  | XXIV              |
| 14. Fragment. Light buff core, coarse sand temper, rough surface, matt red paint round rim inside and outside.   | XXIV              |
| 15. Fragment. Buff core, wet-smoothed, deep red matt paint.  | XXIV              |
| 16. Fragment. Smoothed buff surface, dark red paint.   | XXIV              |
| 17. Fragment. Fine cream core and slip, purple paint, burnished.   | XXIV              |
| 18. Fragment. Light brown core, wet-smoothed, medium brown paint.  | XXIV              |
| 19. Fragment. Grey core, buff slip, red paint, burnished.  | Rm. 275z          |
| 20. Fragment. Red core and burnished red slip, matt red paint.   | Rm. 271           |
| 21. Fragment. Grey core, light brown slip, brown paint.  | Rm. 276           |
| 22. Fragment. Cream core and slip, brown paint.  | Rm. 275           |
| 23. Fragment. Grey core, brown slip, brown paint.  | Rm. 276           |
| 24. Fragment. Brown core, buff slip, dull pink wash outside, reddish-brown paint, incised line. Marks of vertical scraping.                                    | XXIV              |
| 25. Fragment. Fine grey core, very smooth buff slip, reddish-brown paint.  | Rm. 274           |
| 26. Rim fragment. Grey core, creamy-buff slip, roughly smoothed.   | XXIV              |
| 27. Fragment. ? Handle. Grey core, pink slip, lustrous red paint.  | XXIV              |
| 28. Handle, moulded and pierced. Dark-red clay.  | XXIV              |
| 29. Fragments. Grey core, light brown slip, light brown paint.   | Rm. 275           |
| 30. Handle. Grey core, reddish-buff slip, welded to the pot by slip.   | Rm. 276           |
| 31. Handle, pierced lug. Grey core, smoothed reddish-buff surface.   | XXIV              |
| 32. Rim, with pierced ledge handle. Grey core, fired pink.   | XXIV              |
| 33. Fragment. Grey core, fired red, wet-smoothed, red paint.   | XXIV              |
| 34. Base. Pinkish-brown core, wet-smoothed, brown paint.   | XXIV              |
| 35. Base. Light grey core, yellowish slip, brown paint.  | XXIV              |
| 36. Vessel, square. Grey core, fired red, buff slip outside, dull pink wash inside, red paint.   | Rm. 271-5         |
| 37. Base. Grey core, fired brown, wet-smoothed, lustrous brown paint.  | XXIV              |
| 38. Base. Pink core and slip, brown paint.   | Rm. 276           |
| 39. Base. Coarse grey core, baked reddish-buff, wet-smoothed, matt red paint.  | Rm. 272           |
| 40. Base. Grey core, buff slip, red paint.   | Rm. 278           |
| 41. Base fragment. Fine grey core, burnished buff slip, matt reddish-brown paint.  | XXIV              |



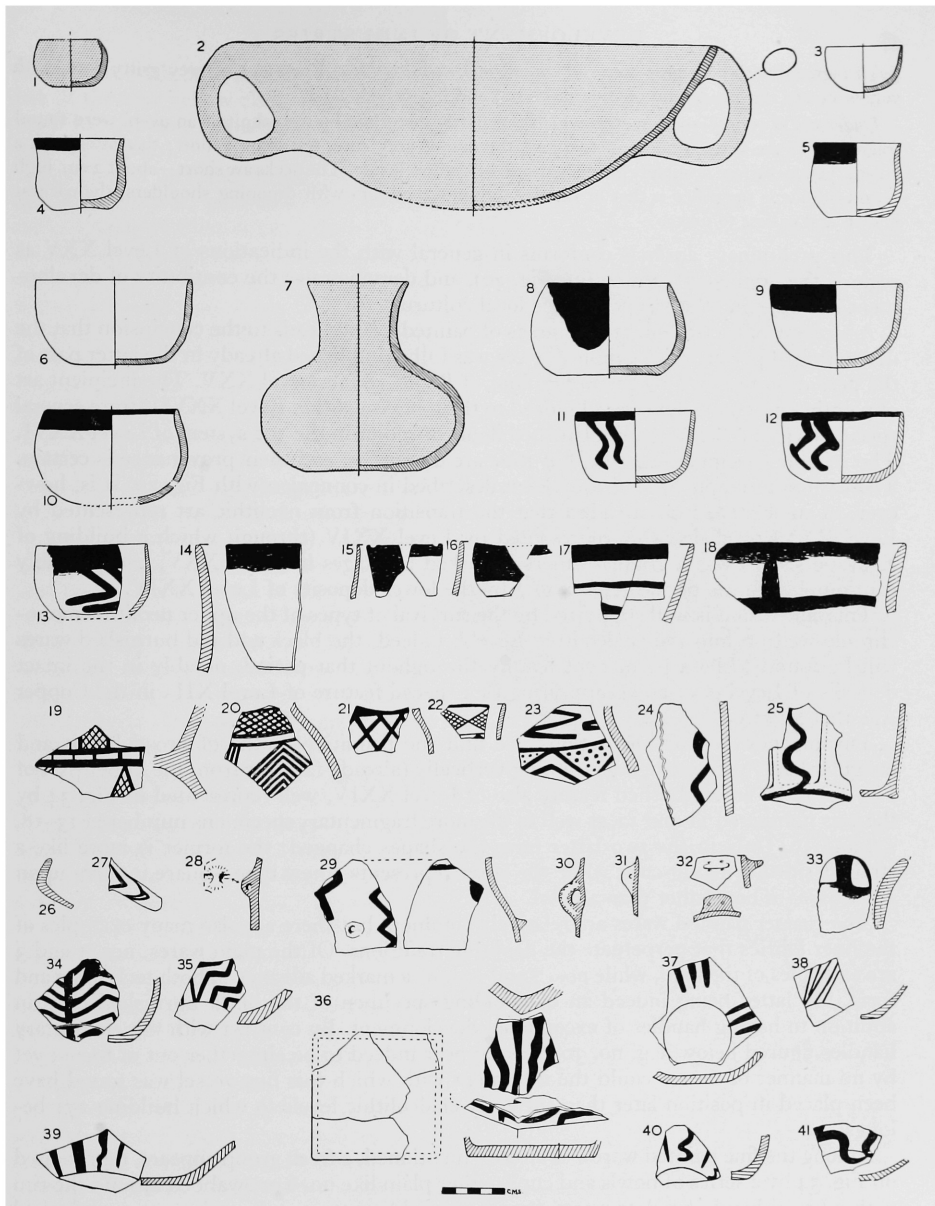


FIG. 34. POTTERY SHAPES AND DECORATIVE DESIGNS FROM LEVEL XXIV

(iv) Fragment with light grey core and slip of yellowish-grey. (v) Fragment of grey gritty core, with yellow cream slip inside and outside, neck red and burnished.

*Under silo B* at 9·85–10·10 metres which was partly disturbed by the ashpit of an oven, were found fragments of the vertical necks of two jars, the one of grey core, the other yellow: the latter with a creamy yellow surface originally burnished and dull yellow inside. The necks are short—about 2 cm. high—and the shape suggested is that of rather large-mouthed jars with drooping shoulders, the earliest known and easiest to make.

This preliminary analysis conforms in general with the indications of Level XXV as regards the origins of painting (cf. Fig. 20), and demonstrates the continuity of development in this as in other aspects of the local culture.

A scrutiny of the abundant specimens of painted fabrics leads to the conclusion that the decorating of pottery with simple devices was fully established already in the latter part of the period represented by the upper floor of Room 289 in Level XXV. The incipient art of painting pottery can be traced indeed to the top of neolithic Level XXVII, from several specimens found below the undisturbed floors of rooms in the 300 system of Level XXVI. The reliable specimens are few, but they are distinctive and their provenance is certain. The earliest attempts have already been described in connexion with Fig. 20. It is, however, of interest to bear in mind that the transition from neolithic art represented by Level XXVI to chalcolithic represented by Level XXIV (through which a building of XXV persisted) was a gradual process, marked by stages in Level XXV, and probably continuing into the period represented by the lower deposits of Level XXIV.

This conclusion is well supported by the survival of types of the upper neolithic monochrome well up into the chalcolithic Levels; indeed, the black and red burnished wares will be found to be a permanent feature throughout that period, notably in the intact deposits of Level XVI and reappearing as a special feature of Level XIIIa in the Copper Age that followed.

Turning now to our illustrations, we find the primitive motifs of broad bands and irregular badly painted zigzags running vertically (already familiar from the upper part of Fig. 20) to be an established feature also of Level XXIV, well represented in Fig. 34 by the pots numbered 11 and 12, as well as the more fragmentary specimens numbered 13–18, 25, and 36. Only in the two latter have the shapes changed; the former is more like a straight-sided drinking-cup; while the latter represents a new type, square in form upon a flat base—a box rather than a bowl.

The coarser painted wares are relatively common, but there are also many examples of the finer fabrics that perpetuate the neolithic traditions. Of the plain wares, nos. 1 and 3 are examples of the kind, while nos. 7 and 2 show a marked advance in both technique and form, the latter being indeed an outstanding specimen of the black burnished class in addition to having handles of exceptional development. By contrast with the elementary handles figured below, e.g. no. 30, these appear indeed to be altogether out of focus; yet by no manner of means could the interment with which this fine vessel was found have been placed in position later than the early chalcolithic levels to which building 271 belongs.

Among the fine painted wares, as already mentioned, a fresh group appears, represented on Fig. 34 by a series of bowls and cups, either plain like no. 6 or swabbed around the rim with a broad band of red or warm purple paint, like nos. 4, 5, 8, and 10, or just flushed

irregularly with light red like no. 8. These specimens illustrate the more fully developed use of the new yellow clay, which as we have seen appeared for the first time in an upper neolithic deposit. Experiments with it seem now to have succeeded (as, for example, in nos. 22 and 40).

Specimens pictured in Fig. 36 show more examples of the elementary designs, interspersed, however, with fresh and distinctive motifs. These in turn merit close attention; indeed, some of them suggest the incipience of Halafian styles and a direct parallelism with the earliest patterns from Hassuna. Rims of cups are sometimes decorated with hanging triangles or loops. The chevron makes its appearance on the upper sloping sides of bowls. The lattice motif also begins to appear, but as yet only on the coarser pottery. The chess-board pattern of alternating solid squares, seen in no. 32, recalls designs from the lowest levels at Nineveh.<sup>1</sup> Our no. 40 belongs to the same cycle. Paint in this case is usually matt red on a warm cream or yellow unslipped surface. Slipped wares are also present; and there are a few cases of lustrous paint on a dull surface indicating better and cleaner firing. Coarse decorated wares are relatively common; and there are also a fair number of examples of the finer wares, both decorated and plain, that perpetuate the neolithic tradition.

Decoration by incision or impression, already in evidence in the middle neolithic levels now reappears; its rarity in the upper neolithic was probably fortuitous. Typical examples of both kinds are illustrated at the bottom of Fig. 36: they show both styles to be fully developed and apparently familiar. On the fragments numbered 49 and 50 the 'pointillé' dots are enclosed by border lines which seem to conform with the contours of the vessels, the former of these being a black burnished fabric of local tradition and hole-mouthed in shape. The four fragments 53-56 attest the development of the chevron at this early date, but whether sooner or later than the painted example of this motif in no. 6 is not certain owing to the disturbance of the strata within this Level by the building operations already described. White filling is preserved on most of these specimens and may be presumed to have been an original feature of them all, except the impressed specimens of which no. 52 is a fine and unusual example.

The white-filled chevron is displayed to great advantage in the decoration of a carafe-shaped vessel of black burnished ware shown on this page as Fig. 35. It is reconstructed from fragments found in the upper layers of this Level together with some from the bottom of Level XXIII which appear to have formed part of the lower member (cf.



FIG. 35. Restoration of a black burnished jug decorated with white-filled chevrons. Scale 1:3

<sup>1</sup> Mallowan in *A.A.A.* xx, pl. xxxvi.

## DECORATIVE DESIGNS ON POTSDHERDS OF LEVEL XXIV

Nos. 1-34. All rim fragments.

- |   |                |
|---|----------------|
| 1. Cream core and slip, brown paint.  | XXIV           |
| 2. Grey core, fired buff, buff slip, red paint.   | Rm. 274        |
| 3. Cream core and slip, light red paint. Same design inside.  | XXIV           |
| 4. Brown core, fired buff, buff slip, red paint.  | Rm. 275        |
| 5. Cream core, wet-smoothed, lustrous red paint.  | Rm. 278        |
| 6. Grey core, buff slip, red paint.   | Rm. 276        |
| 7. Cream core and slip, brown paint.  | Rm. 279        |
| 8. Grey core, thick buff, slip red paint.   | XXIV           |
| 9. Cream core and slip, black paint.  | Rm. 276        |
| 10. Cream core, wet-smoothed, red paint.  | Rm. 274        |
| 11. Buff core, cream slip, black paint.   | Rm. 274        |
| 12. Drab core, burnished drab slip, matt brown paint.   | Rm. 276        |
| 13. Grey core, dull cream slip, burnished brown paint.  | XXIV           |
| 14. Fine buff core, cream slip, grey-black paint.   | Rm. 276        |
| 15. Cream core, wet-smoothed, light brown paint.  | Rm. 275        |
| 16. Cream core, wet-smoothed, yellow-brown paint. Band of paint inside rim.   | XXIV           |
| 17. Grey core, fired pink, yellowish-brown paint. Band of paint inside rim.   | XXIV           |
| 18. Grey core, burnished light brown slip, matt dark-brown paint.   | XXIV           |
| 19. Grey core, burnished yellowish-brown slip, matt brown paint.  | XXIV           |
| 20. Fine grey core, buff slip, reddish-brown burnished paint.   | XXIV           |
| 21. Grey core, fired pink, wet-smoothed, reddish-brown paint. May be the side of a square vessel.                             | XXIV           |
| 22. Gritty brown core, wet-smoothed, brown paint.   | XXIV           |
| 23. Grey core, dark cream slip, light brown paint.  | XXIV           |
| 24. Grey core, reddish-buff smoothed surface inside and outside. Red paint highly burnished on rim. Pendants thickly applied. | XXIV           |
| 25. Brownish-yellow core, fired red, cream slip, brown paint.   | XXIV           |
| 26. Grey core, reddish-buff surface; red paint, all burnished.  | XXIV, Rm. 275b |
| 27. Coarse brown core, thin light brown slip, yellowish-brown paint. Band of paint inside rim.                                | XXIV           |
| 28. Fine buff core, cream slip, reddish-brown paint, burnished.   | Rm. 276        |
| 29. Reddish core and slip, red paint.   | XXIV           |
| 30. Grey core, fired pink, pink slip, red paint.  | XXIV           |
| 31. Gritty grey core, thin cream slip, brown paint.   | Rm. 275b       |
| 32. Cream core and slip, light brown paint.   | XXIV           |
| 33. Grey core, fired pink, cream slip rather rough, brown paint.  | Rm. 279z       |
| 34. Grey core, discoloured slip, lustrous brown paint.  | XXIV           |
| 35. Fragment. Light-brown core and slip, brown paint burnished.   | XXIV           |
| 36. Rim fragment. Grey core, cream slip, brown paint.   | Rm. 276        |
| 37. Fragment. Brown core, cream slip, lustrous brown paint.   | Rm. 276        |
| 38. Fragments. Grey core, fired bluish-white inside, yellow-cream slip, yellow-brown paint.                                   | XXIV           |
| 39. Rim fragment. Fine buff core, cream slip, grey-black paint.   | Rm. 286        |
| 40. Fragment. Pinkish core, buff slip, reddish-brown paint.   | XXIV           |
| 41. Fragment. Very hard grey core, buff slip, red paint wearing off. May have been burnished.                                 | XXIV           |
| 42. Fragment. Grey core, fired pink, yellow slip, light brown paint.  | Rm. 276        |
| 43. Rim fragment. Cream core, fired white, white slip, dark-brown paint. Band of paint round inside of rim                    | Rm. 274z       |
| 44. Fragments. Grey core, cream slip, reddish-brown paint.  | XXIV           |
| 45. Rim fragment. Coarse drab core, white slip, purple paint.   | XXIV           |
| 46. Fragment. Grey core, fired brown, wet-smoothed, brown paint.  | XXIV           |
| 47. Fragment. Gritty light greyish-buff core, surface roughly smoothed, matt dark red paint.                                  | XXIV           |
| 48. Fragment. Grey core, cream slip, brown paint, burnished.  | XXIV           |
| 49. Rim fragment. Black burnished, incised decoration, ? white filled.  | Rm. 276        |
| 50. Fragment. Grey core, burnished brown surface, white filled incised decoration.  | Rm. 279        |
| 51. Fragment. Brown core, grey burnished, white filled incised decoration.  | Rm. 276        |
| 52. Fragment. Grey core, black surface burnt brown, incised decoration, ? white filled.                                       | Rm. 275        |
| 53. Fragment. Grey burnished, white filled incised decoration.  | Rm. 272        |
| 54. Fragment. Micaceous grit, matt black surface, incised decoration.   | Rm. 275        |
| 55. Rim fragment. Grey burnished, incised decoration.   | Rm. 276        |
| 56. Rim fragment. Grey burnished, incised decoration.   | Rm. 276        |

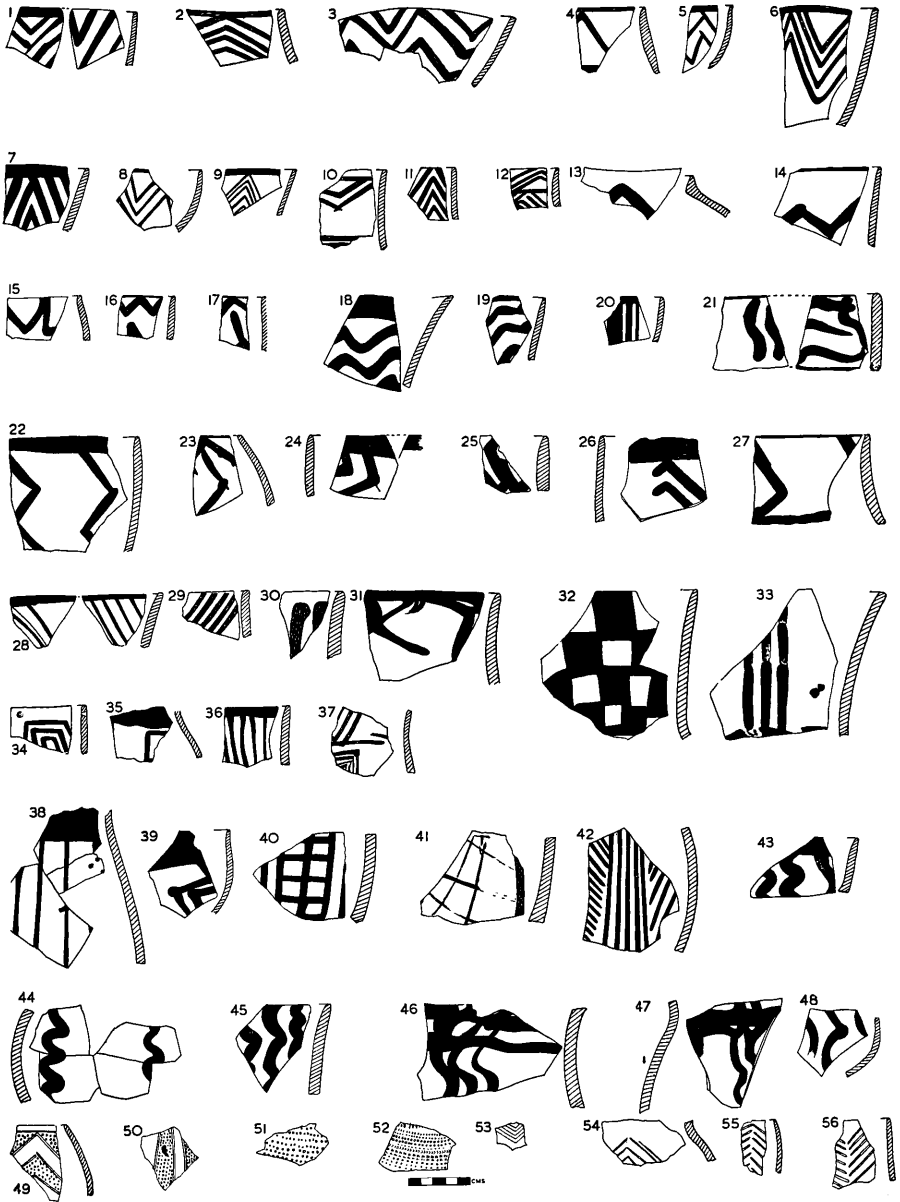


FIG. 36. DECORATIVE DESIGNS ON POTSDHERDS FROM LEVEL XXIV

photograph on Pl. XI). Certainly, though the neck of this vessel is fashioned in somewhat thicker clay than the bowl, both have the same grey sandy core, and the spacing of the chevrons is identical. The shape is much the same as that of the contemporary vessel pictured in Fig. 34, no. 7, and is comparable with one from the kilns near Carchemish as restored by Sir Leonard Woolley.<sup>1</sup> Though some doubt remains as to the reconstruction owing to the lack of a continuous join between neck and bowl, I believe it to be correct, not only on the general grounds of similarity in shape and fabric as well as pattern, but because on the bench when sorting the fragments before the form developed, I found two small pieces which, though rubbed and somewhat worn, seemed to indicate a juncture at the collar between neck and bowl. In any case the upper and lower portions, even separately, are notable examples of white-incised technique.

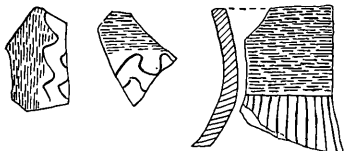


FIG. 37. Painted and incised pottery from Level XXIV. Scale 1:4

Decoration by both paint and incision, though not common, is definitely represented in these, our lowest chalcolithic strata. No complete vessels were found, but the fragments indicate a certain variety of early shapes, from the hole-mouthed jar and bowl to the simple dish. The specimens reproduced on this page (Fig. 37)<sup>2</sup> represent the earliest examples from our site. The colour is usually a derivative of red ochre and the incisions are generally irregular, and may well have been made with a twig or a piece of obsidian. The special interest of their presence in this level arises from the fact that a parallel series, represented by a richer repertory, was found at Hassuna<sup>3</sup> by Mr. Seton Lloyd and his colleague in 1944 who classed them as 'Archaic', a term which equates with our 'Proto-chalcolithic'. In their series large jars with short or long vertical necks are conspicuous, and fragments of these types also were freely found among our unclassified potsherds of Level XXIV. This correspondence extends also to the painted fabrics, noticeably to the decoration of fragments shown in the upper registers of Fig. 36, in particular nos. 1, 2, 5, 7, 8; and it will be found to extend to higher Levels of our earliest chalcolithic series. Higher still, in Levels XX, XXI, we shall find jagged or gouged designs tending to replace the simple line incisions; while 'combed' patterns, such as were found by Professor Malloyan in his lowest strata at Nineveh, occur at Mersin both in this Level (XXIV) and also in the uppermost neolithic strata (no. 295, &c.) One specimen from the latter is so exceptional that I hesitate to group it with the types. It is the side of a vessel of flower-pot shape, painted in bands averaging about 1 cm. in width, alternately red and yellow, and all nicked laterally with irregular incised lines. It is an attractive piece, bright in colour, and with a smooth surface on a pinkish clay.

Handles are still rare, and are usually of the knob or pinched variety, or an elementary small loop; but some more perfected examples also make their appearance, and in higher levels will be found to be established. Bases are usually flat, but sometimes rounded: and occasionally still show the impressions of a straw or rush mat on which presumably they were turned. A similar feature was present in the early chalcolithic pottery of Level VIII at Jericho<sup>4</sup> and mats of reeds have been found both at Hassuna<sup>5</sup> and at Nineveh.<sup>6</sup> Shapes

<sup>1</sup> *Iraq*, i, opp. p. 149, fig. 3.

<sup>2</sup> See also Pl. X.

<sup>3</sup> *J.N.E.S.* iv, 1945, fig. 38; p. 259, figs. 3, 9.

<sup>4</sup> *J.N.E.S.* iv, 1945, figs. 9, 14.

<sup>5</sup> Cf. *L.A.A.* xx, pl. iv.

<sup>6</sup> *L.A.A.* xx, pl. lxxi, no. 6.

on the whole continue to be simple bowls and cups, or shallow dishes, as illustrated in the restored designs on Fig. 35; but, as we have seen, the carafe-shape has now emerged, though the common type is a jar with a short vertical neck or everted rim. Comparison with the types found in higher levels will indicate a gradual development of form and decoration, while demonstrating also the survival of the early painted motifs.

#### GENERAL CONCLUSIONS

From the foregoing detailed account of the industries and products which tell of the local culture at this time, together with the facts and figures which explain the circumstances of their discovery, we turn to an examination of the broader aspects of these finds as bearing on the development of civilization in this hitherto isolated village.

No sign was found in the excavated levels, from XXVII upwards, of violent destruction. There is not even a trace in the limited areas excavated of any outer rampart or other defences such as would indicate a constant fear of man: the stone walls of the folds at Levels XXIV and XXV and the store-rooms at XXVI were clearly designed to protect the village properties against wild beasts and pilfering. Indeed, except for nearby Chaüşli, which may have been an offshoot of our settlement, the nearest known neighbours of Yümük Tepe lay 100 miles away at Topada on the plateau and at Yarim Hüyük upon the Jeihan (Ceyhan) river in eastern Cilicia. It is possible, however, that some sherds found in the deepest soundings at Tarsus may correspond with our middle neolithic series, and further excavation might disclose a parallel development there, only 25 miles away.

Having already traced in some detail the cultural elements of our site through successive stages of the neolithic period up to Level XXV, and examined the typical features of Level XXIV which heralds the chalcolithic period, we are now in a position to examine the points of contact and of divergence as between Levels XXV and XXIV. This can be done most easily by means of a chart from which superfluous detail is omitted, while the chief elements of culture are given due prominence and arranged in a way to meet the eye.

	<i>Higher</i>	<i>XXIV</i>	<i>XXV</i>	<i>XXVI</i>	<i>XXVII</i>	<i>XXVIII</i>	<i>Lower</i>
Celts (small stone) . . . .	×	×	×	×			
Silos (round) . . . . .	—	×	—				
Spindle whorls . . . . .	×	×					
Smoothed hammer-stones . . . .	×	×					
Painted chevrons . . . . .	×	×					
Painted 'yildirims' . . . . .	×	×	×	—			
Stockfolds . . . . .	—	×	×				
Cut corner stones . . . . .	×	×	×				
Bone tools . . . . .	×	×	×	×			
Stone chisels . . . . .	○	×	×	×	×		
Obsidian tools . . . . .	×	×	×	×	×	×	
Obsidian: fine technique . . . .	—	×	×	×	×	×	—
Obsidian weapons . . . . .	○	×		×	×	×	—
Monochrome pottery . . . . .	—	×	×	×	×	×	×
Burnished black and red pottery	×	×	×	×	×	×	×
Painted pottery . . . . .	×	×	×	×	×	×	
Incised pottery . . . . .	×	×	×	—	×	×	

× *present* — *traces* ○ *not continuing* Blank *not present*

Generally speaking it will be seen from this chart that there is no evidence of discontinuity between these Levels, while four new features do appear. Of these the painted chevrons and smoothed hammer-stones suggest some cultural influence from abroad, being in fact characteristic of the early chalcolithic period in Mesopotamia and Iraq.

The appearance of silos in Level XXIV marks a third development. As we have seen, the quantities of polished chert blades found in the upper neolithic levels (forty-five in one deposit) show that the sickle or the threshing sledge was by then already in use. This is not surprising, since the valleys to the east of the Amanus in the Kurd Dagh were once rich in wild grain and may indeed have been an original home of cereal cultivation. The news of this discovery may well have reached Mersin at an early date. But the presence of these silos is another matter. These interesting, if ultimately abortive, experiments in storing grain are a decided innovation. Is it possible that they were made by specialists from that region who were unfamiliar with the local climate? Be this as it may, what is certain is that the cultivation of cereals had begun to prosper and so required ever-increasing and better store places. Further experiments with built silos are not found in the area until relatively high up (on Level XVII) when the method of storage was quite different, and the walls were built of yellow clay. Meanwhile we must suppose that some other system or a more favourable spot in another quarter of the village had been utilized to meet the need.

The clay spindle whorls are a fourth new feature in Level XXIV. These primary accessories to the art of weaving were probably carried about by the women while spinning, much as today, and so may be found in any part of the village or its outskirts. Had they been known at any earlier date, we could hardly have failed to find them in the lower levels. It was noted in the previous chapter that some of the roughly circular holed stones commonly called net-sinkers or loom weights may in reality have been a primitive type of spindle whorl. If this is so we must conclude that the art of weaving slightly antedates the present Level, but there is no doubt that it now received a considerable impulse.

#### INVENTORY OF VARIOUS REGISTERED OBJECTS FROM LEVEL XXIV

<i>Room or Area</i>	<i>R.N.</i>	
B	1233	Bowl, dark buff clay, dark brown red matt paint; 10 × 7 cm.: at 10·00 m. level.
"	1234	Bowl, buff clay burnished buff slip and burnished red paint, four pierced lug handles; 11·4 × 7·5 × 7·8 cm.; burial at 10·00 m.
"	1235	Bowl, gritty buff clay, wet-smoothed, traces of pink matt paint in vertical lines; 10 × 6·7 cm.; burial at 10·00 m.
"	1236	Bowl, buff clay, wet-smoothed; 5·7 × 4·4 cm.; burial at 10·00 m.
"	1237	Beads, flat disk-shaped, white, green, and red stone, with some smaller black ones, three strings 38·9 cm., 36 cm., 15·5 cm.; from burial at 10·00 m.
"	1248	Bangle, fragment, grey marble, diam. 6·8 cm., thickness 9 mm.; from 9·90 m. level.
"	1249	Tool, polished bone, L. 7 cm.; from level 9·65 m.
"	1250	" " " L. 8·5 × 2·3 cm.; from level 9·65 m.
"	1251	" " " L. 5·6 × 2 cm.; from level 9·65 m.
"	1252	" " " pierced; L. 7 cm.; from level 9·65 m.
"	1253	" " " L. 4 × 2·8 cm.; from level 9·65 m.



<i>Room or Area</i>	<i>R.N.</i>	
B	1262	Vase, buff ware, burnished slip, traces of red paint burnished; L. 11.3 × 7.5 cm.; from level 10.00 m.
„	1283	Vase, large, buff ware, burnished slip, red paint; H. 29 × 43 cm. from level 10.00 m.
C	1573	Bone ? handle plate (broken), 5.6 × 1.6 cm.; at level 10.5 m.
„	1616	Bone awl, L. 7.2 cm.; from the railway cutting at c. 10.00 m.
„	1633	Whorl, pottery; diam. 5.4 × 2.0 cm.; from 9.50 m. level.
„	1647	Stone sinker or weight; diam. 8.5 × 5.4 cm.; at 9.25 m.
„	1650	Hollowed stone, 7.5 × 4.8 × 2.5 cm.; from 9.50 m. level.
„	1651	Broken stone mace head; diam. 8.2 × 1.9 cm.: floor at 9.60 m.
„	1666	Blunt-edged bone tool (broken), L. 2.5 cm.; under silo H.
„	1667	Chert tanged point (broken), L. 3.4 cm.; in silo T.
„	1669	Broken bone awl, L. 4.0 cm.; at 9.45 m. level.
„	1673	Whorl, pottery, diam. 6.5 × 1.5 cm.
„	1683	Unfinished stone mace head (broken); L. 7.2 × 2.8 cm. at 9.50 m.
„	1689	Antler or bone implement (broken); L. 7.2 × 2.8 cm. at 9.25 m.
„	1690	Fragment of bone ? awl, L. 5.4 cm.; found at 9.25 m. level.
„	1922	Dentalium shell bead, L. 1.5 × 0.3 cm.; at 9.60 m. level.
„	1934	Stone 'fetish', 4.9 × 3.3 × 2.2 cm.; at 10.00 m. level.
„	1949	Carved stone, with ribbed end; 6.7 × 3.5 × 2.6 cm. at 9.50 m.
271	1792	Bone awl, 7.5 × 1.2 cm.
„	1796	Flat bone awl, 5.4 × 1.8 cm.
„	1798	„ „ „ 7.7 × 2.3 cm.
„	1800	„ „ „ (point broken), 6.0 × 1.5 cm.
„	1801	Broken bone awl, 4.9 × 1.5 cm.
„	1802	Bone awl, 5.9 × 1.6 cm.
„	1803	Bone awl or bodkin, 5.1 × 0.6 cm.
„	1812	Whorl, incised, baked clay drab-coloured; diam. 7.0 cm.
„	1817	Whorl, baked clay grey, diam. 4.5 cm.
„	1818	Whorl, baked clay grey; diam. 5.0 cm.
„	1842	Bracelet, fragment of alabaster; 1.4 × 0.8 cm.
„	1855	Green stone celt, 1.5 × 0.8 × 0.5 cm.
„	1858	Notched stone, 7.2 × 6.6 × 0.9 cm.
271/2	1872	Bracelet, fragment, dark-blue stone; 1.0 × 1.0 cm.
271	1882	Bone awl, point missing, 9.7 × 1.7 × 1.3 cm.
„	1888	Notched stone, 8.0 × 6.7 × 2.4 cm.
„	1889	„ „ „ 5.1 × 4.0 × 1.3 cm.
272	1813	Whorl, incised baked clay buff; diam. 6.5 cm.
„	1815	„ „ „ „ „ diam. 5.8 cm.
„	1858	Notched stone, 7.9 × 6.8 × 2.4 cm.
„	1859	„ „ „ 9.0 × 7.8 × 2.6 cm.
274	1790	Bone awl, 4.0 × 1.7 cm.
„	1794	„ „ 6.2 × 1.0 cm.
„	1797	Flat bone awl, 5.4 × 2.5 cm.
„	1809	Handle of implement (bone), 3.6 × 1.1 cm.
„	1830	White shaped stone, 5.8 × 2.0 × 1.2 cm.
„	1837	Yellow stone stamp, 4.3 × 2.4 × 1.7 cm.

<i>Room or Area</i>	<i>R.N.</i>	
274	1844	Shaped green stone ? hammer, 11·2 × 3·1 × 3·7 cm.
"	1860	Notched stone, 8·7 × 6·5 × 1·6 cm.
"	1873	Bracelet, fragment dark-blue stone, 1·0 × 0·9 cm.
"	1884	Light-green stone-bead, 1·0 × 0·8 × 0·5 cm.
"	1887	Obsidian arrow-head, 3·6 × 0·9 × 0·4 cm.
"	1908	Broken dark-blue stone rubber, 6·0 × 4·6 cm.
275	1787	Flat bone tool (broken), 8·8 × 1·5 cm.
"	1788	Blunt bone tool, 12·2 × 2·1 cm.
"	1808	Bone spoon (broken), 5·1 × 1·7 cm.
"	1814	Whorl, flat baked clay drab; diam. 7·1 cm.
"	1820	Whorl, baked clay incised (half only); diam. 6·5 cm.
"	1822	Whorl, half granite; diam. 5·8 cm.
"	1840	Bracelet, fragment alabaster; 1·9 × 1·1 cm.
"	1853	" " " 0·7 × 1·2 cm.
"	1856	Grey stone implement (top broken off), 2·8 × 0·5 × 0·5 cm.
"	1861	Notched stone, 8·3 × 7·4 × 2·3 cm.
"	1862	" " 7·4 × 7·7 × 2·2 cm.
"	1863	" " 8·8 × 7·7 × 2·2 cm.
"	1864	" " 7·2 × 7·4 × 1·9 cm.
"	1865	" " 7·5 × 6·1 × 1·9 cm.
"	1866	" " 9·4 × 7·7 × 2·3 cm.
"	1867	" " 6·7 × 6·1 × 1·6 cm.
"	1874	Bracelet, fragment dark-blue stone, 0·6 × 1·0 cm.
"	1875	" " " " 0·7 × 1·0 cm.
"	1877	" " " " 0·7 × 0·8 cm.
275	1900	Stone weight or sinker, 14·2 × 11·6 × 3·7 cm.
"	1906	" " 17·6 × 14·6 × 10·5 cm.
276	1821	Whorl, baked yellow clay (incised, half only); diam. 6·6 cm.
"	1841	Bracelet, fragment alabaster, 0·8 × 0·8 cm.
"	1851	Grey polished tusk, L. 2·6 cm.
"	1868	Notched stone, 7·2 × 5·9 × 2·4 cm.
"	1869	Bracelet, fragment alabaster, 1·0 × 0·8 cm.
279	1791	Bone awl, 7·7 × 1·2 cm.
"	1795	Flat bone awl, 7·7 × 2·0 cm.
"	1799	" " " 5·4 × 2·2 cm.
"	1804	Bone awl, 5·9 × 2·6 cm.
"	1807	Bone spoon-handle, 7·6 × 1·8 cm.
"	1816	Whorl, incised, baked clay drab, 5·9 cm.
"	1828	Stone fetish, diam. 3·0, L. 4·0 cm.
"	1831	Notched stone weight (broken), 2·8 × 2·1 cm.
"	1832	Stone palette, 5·2 × 4·3 × 1·7 cm.
"	1838	Pinkish flat stone, 3·6 × 2·3 × 0·9 cm.
"	1870	Bracelet, fragment dark-blue stone, 0·8 × 0·7 cm.
"	1871	" " " " 0·8 × 1·2 cm.
"	1878	" " " " 8·3 × 0·8 × 0·8 cm.
"	1879	" " " " 0·8 × 0·8 cm.

## INVENTORY: LEVEL XXIV

67

*Room**or**Area* R.N.

279 1880 Bracelet, fragment dark-blue stone, 0.8 × 0.7 cm.

1958 34 flint blades and blade fragments

1 flint sickle blade

175 obsidian blades and blade fragments

26 obsidian awls

6 obsidian scrapers

3 obsidian notched scrapers

3 javelins and javelin fragments.

} from Level XXIV.

For classification see 'Objects' in the Index.

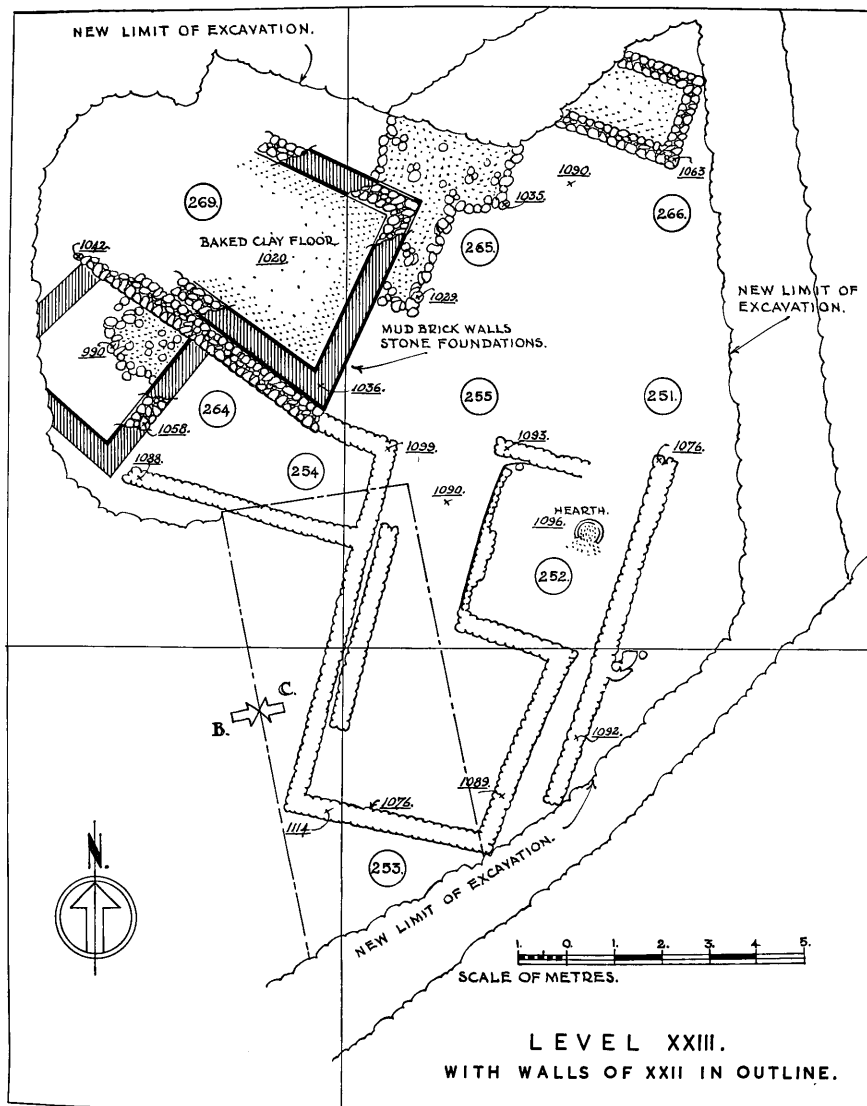


FIG. 38. PLAN OF BUILDINGS IN THE MAIN AREA AT LEVELS XXIII-XXII  
Buildings in Area B at Level XXIII are shown on Plate XIIb.

## V

### PEACEFUL VILLAGE LIFE

*Early Chalcolithic Levels, XXIII-XX. (10-20-12-00 metres)*

THE period of development described in the preceding chapter was followed, so far as can be discerned, by one of quiet village life, during which the new elements of industry implanted in the lower Levels became adapted to the needs of the community, while the older arts no longer useful faded gradually from view. It is a fascinating glimpse of the remote past—this growth of civilization in an isolated community, under the stimulus derived from the occasional visits of traders passing east or west along the trade route which the village overlooked. It is impossible to estimate the date with which this era commences, and I make no attempt to do so; but the whole chalcolithic panorama which lies before us must have taken at least a thousand years to unroll, and it ended before the Early Dynastic Period of Lower Mesopotamia began. Therefore the beginnings of our chalcolithic period, with which this chapter deals, cannot be put later than 4000 B.C.; and though I have an instinctive disbelief in the very long dates sometimes suggested, I must agree that it may have been several centuries earlier.

In the Levels of this early phase there was found no trace of violent interference with the established order or local customs. It is certain, however, that the development of agriculture, of stock-breeding—now including cattle—of spinning and weaving, and other associated industries, would involve modifications in the organization of the village and daily life, but there was little trace of these in the area excavated. Indeed, reflection tells us that agrarian pursuits leave few tangible signs behind, while weaving would probably be done in the houses and perhaps concentrated in a special quarter of the village not yet explored. It is also to be supposed that the new ideas would require time for assimilation, and many experiments would be made that were not entirely successful; so that, though the finds which illustrate this first phase of the new era give relatively little indication of great developments, this does not gainsay the essential fact that the new industries had taken root.

#### STRATIFICATION

Four Levels, XXIII-XX, represent this phase: they are grouped in this record because they are linked to some extent by the survival of certain buildings from one stage to another, and more definitely by the obvious elements of a common culture. Conspicuous among the latter are the introduction and adoption of mud bricks and plastered walls which become now established as a permanent architectural feature. These Levels were on the whole well defined and free from abnormal disturbance, but they proved to be relatively shallow in the area excavated; and in such cases a certain amount of infiltration of objects from one Level to another would inevitably arise at a time of rebuilding, from the digging of foundations and the search for building stone, or the dumping of refuse and the filling up

of damp places. The resultant overlapping is traceable in some of the designs upon the painted pottery of the successive Levels illustrated in our Figs. 52-58. These four building Levels, though linked by common characteristics, have each special features which will be described in turn.

Level XXIII, with its foundations at an average height of 10.20 metres above zero and a secondary series of floors at 10.50 metres, shows a few surviving stone-built walls, but introduces also house-rooms built of mud or clay brick upon stone foundations. The material used in their construction was chiefly the ordinary mud of the locality, which is of a tenacious character almost indistinguishable to the touch from clay.

The composite plan of this Level (Fig. 38), with the main walls of XXII superimposed shows a group of such rooms to the north of Area C; but we have not been able to fit into this plan the houses of certain Levels uncovered in Area B in 1939, owing to the attrition of the face of the excavation and consequent loss of our local survey points during the war period while work was suspended. Some house-rooms of Level XXIII are shown by photograph on Pl. XII. We have also omitted for clarity some of the remnants of silo bases and traces of floors which should probably be assigned to the same building period, though in truth their traces were few and discontinuous, and hardly constituted a 'Building Level' as already defined. Still, it is probable that when the houses in Area 269 and to the south, including Area B, were in being, the area to the east would be occupied by silos or other small features, most of which would be raked away by the builders of Level XXII, since the last surviving traces of silos, at 10.30 metres and 10.40 metres respectively, fall within the limits of Level XXIII. It is noteworthy also that the long wall of a sheep-fold of Level XXIV, which bounded this original silo area on the east<sup>1</sup> and had its foundations at 9.60 metres, is seen still to survive; but it seems to have been now adapted to domestic uses, as a cross wall was bonded into it at level 10.02, a figure which agrees with the foundation and floor-level of the western houses after making allowance for the slope.

From the foregoing scrutiny of the plans and levels it is obvious that the silo-area continued to develop by irregular stages independent of the surrounding buildings. The general picture of its changes is, however, clear: the silos at Level XXIV seen in Fig. 24 to be partly enclosed by large sheep-folds became at Level XXIII considerably reduced in number and surrounded by small houses, and practically disappeared with the building of Level XXII. It can now be readily understood how small objects found among the silos may have filtered through from one layer to another. These Levels are in fact not only linked by structural details, but permeated by the elements of a common culture. The successive phases of this are, moreover, defined by certain sealed deposits, including burials, and the stratified contents of the houses in the western group.

#### FEATURES OF LEVEL XXIII

*Constructions.* As already stated, the house walls in the western group at Level XXIII present new and well-defined features of peculiar interest. The old style of stone walling has given place to constructions of slab bricks, i.e. oblong slabs of clay-like mud, laid as a rule transversely over foundations of river stones one or two courses deep, with a flooring

<sup>1</sup> Similar enclosing walls have been observed by M. Dikaios at Khirokitia in Cyprus: cf. *Iraq*, vi, p. 72. In our case this wall would help to keep cattle from straying among the silos.

of the same. The whole of the interior, both walls and floors, was then coated with mud plaster in which lime seemed to have been mixed. This process was carried out with care and thoroughness, even to the detail of rounding the angles of the walls and floors. The durability of the result is proof of its success. In one such wall (in the house to the west of no. 264) plainly seen in a section cut by us to deepen a railway cutting, the clay of the wall was found to be yellow, like that first found at Level XXVII, of which a further small load had been found also in the silo area. Evidently experiments with this material were not confined to pottery-making; but these levels were too denuded for us to trace their development. Certainly the bricks of clay seemed successful though not baked, and the walls constructed with them did not look like the work of novices: but their evolution escapes us. It seems, however, probable, that lumps of mud would be used for various purposes from an early date, and in the course of time would take a shape convenient for building, as already seen at Level XXIV in silo K. But all traces of such initial stages would naturally disappear, becoming indistinguishable in the damp mud of the same colour which forms the core of these lower Levels. It is an elementary fact of observation that all city mounds in the Near East are largely created by the crumbling of mud walls age after age; so that the mere presence of the earth or mud which diggers must remove in order to uncover tangible remains predicates the former existence of standing walls of mud. At the level of 10.58 metres, at which the walls we are discussing were constructed, the mound had already risen about 11 metres in height, of which the buried stone-work would not account for more than a quarter, the rest being earth. Obviously the inhabitants did not carry this earth up just for fun or to make gardens, but in the form of building materials: consequently we must conclude that the process of brick-making had been developing for generations, to appear in a visible and tangible shape for the first time at this Level when yellow clay came into common use.

*Industries.* The fashioning of tools and other objects in stone and bone was still practised throughout the period represented by these Levels (cf. Pl. X). The lithic industry preserved the technique established in the neolithic period, as the types illustrated in Fig. 29 show; only now and progressively the variety of types and their number become fewer and are restricted to the smaller tools such as awls and knife blades. Exceptions are the chert blades used for reaping and threshing which now begin to preponderate and are found in increasing quantity.<sup>1</sup> It is much the same story with the bone tools, which include awls, needles, and spatulas of the types illustrated in Fig. 23, but are found in diminishing numbers and varieties.

Small objects fashioned in other materials were plentiful, and a list of distinctive types found at this Level will be found embodied in the comparative table on p. 81, where they may be seen to include, in common with the Levels above and below, holed stones, possibly sinkers or whorls, notched stones, miniature celts, bracelets and beads (made also in shell), a possible cult object (Fig. 39 and Pl. X) and clay spindle whorls (types of which are shown in Fig. 40 and Pl. X). Exclusively found at this level are a stone chisel or spatula (R.N. 1740, Fig. 41) and some stone pendants; but clearly a common culture pervades the series.

Two objects of special significance should, however, be noted. One was a stone with a



FIG. 39  
(1907). Cult object. Scale 1:5.  
XXIII

<sup>1</sup> See Table A, p. 127.

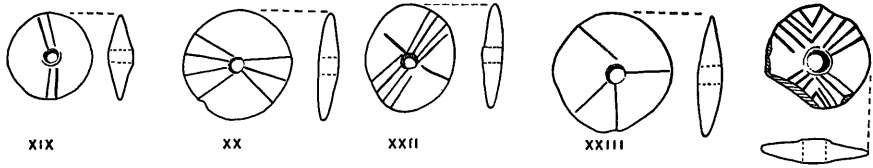


FIG. 40. Types of spindle whorls from Levels XXIII-XIX. Early chalcolithic period

socket-like hole such as might have been a hammer-head used in dressing stones for building. It was found when clearing a child burial at 10.25 metres, just above the first silo, together with the three miniature pots represented in Fig. 42. The other special

object was an amulet of a rare stone, sea-green in colour, called 'prase', found at level 10.50 metres in a reliable context. Our specimen had a faint creamy sheen, a quality ascribed to it by early writers.<sup>1</sup> This small object has great significance, in that the nearest sources of this stone known as yet seem to be in the vicinity of the Bosphorus and in Sinai, both of which are more than 400 miles away. As the contacts traceable in the cultural influences and art-products of this period all point towards Mesopotamia or Syria, except the trade in obsidian cores with the neighbouring part of the plateau, it may be regarded as probable that this interesting specimen came from Sinai. Prase was one of the precious stones of antiquity, akin to Plasma, much valued in the Roman world into which it was introduced apparently from Saxony. It is so rare now

that its name has almost fallen out of use by mineralogists.<sup>2</sup> Dr. L. J. Spencer kindly supplies the following note about its nature and distribution:

PRASE (a massive microcrystalline form of quartz of dark green colour) is widely distributed in small amounts in association with chalcedony, agate, and jasper (also massive forms of quartz). No large

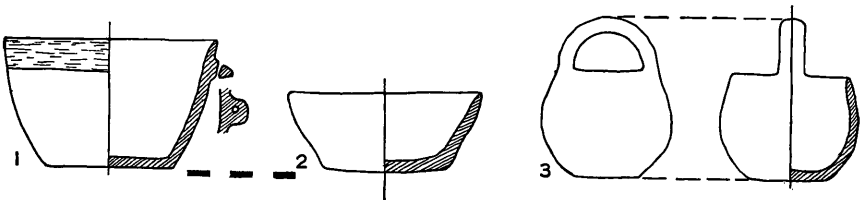


FIG. 42. Three small vessels from a child's burial at 10.25 m. (Level XXIII)

deposit is to be expected, and few localities are specially mentioned in the text books. In the mineral collection of the British Museum of Natural History at South Kensington ten localities are represented by specimens of prase. Plasma (a green variety of chalcedony) is represented by ten localities, including

<sup>1</sup> Cf. C. W. King, *Natural History of Gems or Decorative Stones*, 867, p. 287.

<sup>2</sup> Information kindly supplied by Dr. C. L. Bromehead, who adds: 'If it is legitimate to give an exact

meaning to the word Prase, it should, I consider, be a silica mineral coloured green by nickel; leaving quartz or chalcedony tinted by copper for the rest.'



Bonda, India, and Kadach, Palestine. There is also a dark green jasper (worked as an archer's thumb-ring) labelled 'Turkey', which came to the museum in 1753 with Sir Hans Sloane's collections.<sup>1</sup>

#### FEATURES OF LEVEL XXII

*Construction.* Though only 20 cm. high (from 10.90 metres to 11.10 metres above zero), this Level exhibited peculiar architectural features, one of which was the survival and adaptation to a fresh plan of the long stone wall to the east of our area which had been a conspicuous feature through the two lower Levels. With the demolition of this Level, it became partly submerged at 11.14 metres by the one above. At the same time there disappeared the old-time stone-walled buildings; this style was reserved thereafter for special structures. One of these has been already mentioned: with its foundations at 9.60 metres in Area 271 (Fig. 24) it seems at its inception in Level XXIV to have formed part of a sheep-fold. Surviving at Level XXIII it had apparently been retained in use until its north-eastern end was remodelled as a house (at 10.02 metres) by the building of a cross wall, and perhaps at the same time repaired, so that when first uncovered (at 11.14 metres) it was still 1.54 metres high, with a mass of fallen stones alongside. Outside (at Level XXII) was the three-sided enclosure No. 252 in Fig. 38, which also showed signs of domestic occupation, notably a hearth, a stone dish, and broken pottery. The walls had been coated with clay plaster; and under the floor at 10.97 metres was found a gravel foundation 15 cm. thick. Beyond this room may be seen an enclosure rather like a courtyard which had a mud floor (at 10.90 metres) and walls coated, as now usual, with a clay plaster.

A unique feature of Level XXII, at 10.90 metres, was a threshing-floor which filled the open space to the north-east formerly occupied by buildings.<sup>2</sup> It had been carefully prepared with beaten earth and appeared to have been coated originally with lime. Grain was found plentifully around its edges and generally throughout the area at 10.90 metres. Specialists are agreed that it was mostly barley of the two-row type.<sup>3</sup> Samples found upon the floor were distinguished from those dug out by the label XXIz (i.e. the lowest deposits of Level XXI), and about these Dr. G. H. Bell has kindly supplied the following interesting observations:

Considering the 'XXIz' sample first, this is predominantly barley, and I think probably a mixture of a two-row and six-row type. Most of it is two-row, and is so well preserved that in some few grains the cachilla is still attached and the husk easily discernible. There are a few smaller rather twisted grains which are characteristic of a six-row type, but if the sample consisted of only six-row, two-thirds of the grain would be of this twisted kind. I think, therefore, unless the carbonization has distorted the grain shape more than I should have expected, that the barley is predominantly of a two-row, lax eared type (*Hordeum distichum nutans*).

<sup>1</sup> In Dr. Spencer's translation of Max Bauer's *Edelsteinkunde* only a few European localities are mentioned for prase (p. 488); but more for plasma (p. 510), including several in India and one in Upper Egypt. Cf. also under Prase in his *Key to Precious Stones* (1936 and 1946), in which, however, no localities are mentioned; and Dr. W. J. McCallien's *Scottish Gem Stones* (1937), in which mention is made both of plasma and prase. I am indebted to both these specialists for their assistance in this matter.

<sup>2</sup> See Pl. XII, and the modern threshing-floor shown

for comparison on Pl. XIII. The floor was intact over Areas 251-3-4-5, and would accordingly seal the underlying deposits in Areas 261-3-4-5 at Level XXIII. Another sealed area at Level XXIII was no. 266, which came under a lime floor of Level XXII.

<sup>3</sup> In letters to Professor V. G. Childe dated March 1947 from Dr. G. H. Bell and from Dr. John Percival, Professor of Agriculture at Reading. Also a memorandum from Bay Mirza Gökgöl, Director of Seed Improvement at Yeşilköy Institute, Istanbul.

The few wheat grains are very interesting because while the shape suggests Emmer (*Triticum dicoccum*) in that it is elongated, hump backed, narrow and with a concave ventral surface, there are no signs of any whole spikelets, and no chaff. This latter suggests a wheat that is easily threshed, of course, unless the grain was specially prepared before being stored.

The '255' sample [from Level XXII] is more difficult to assess, but I think it is very similar to the 'XXIz'. It is predominantly barley, and I was only able to find one rather doubtful wheat grain.

The samples submitted to Dr. Percival did not contain wheat; on the other hand, those examined by Dr. Gökgöl in Turkey did so. It seems probable then, from these reports, that the earliest grain discovered by us was barley (mostly of the two-row type), and that wheat only made its appearance (so far as our results are conclusive) with the threshing-floor on Level XXII.

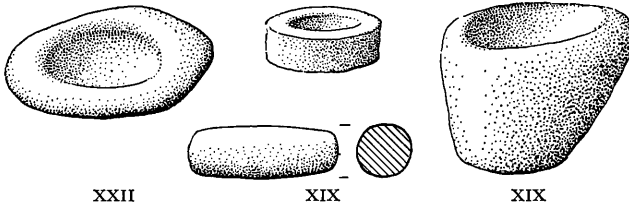


FIG. 43. Stone utensils from Levels XXII, XIX, and XVII. Scale 1:8

Dr. Gökgöl also reports that he found both wheat and barley intermingled with uncultivated seeds, mostly of leguminous plants, which defied identification.<sup>1</sup> Lastly it may be noted that a silo base of the old style was found to the extreme north of the area at 10·70 metres, the last or latest of this kind.

*Industries.* The lithic industry is represented at this Level (XXII) by a flint sickle blade with fluted surface, and a special obsidian specimen technically called 'cleared check', figured in Fig. 29 and Pl. XVI. In addition were some light and flat notched pebbles like miniature 'bolas stones' used for fowling, a small celt, part of a palette, and the base of a stone bowl, in addition to holed stone weights or sinkers, primitive mace-heads or hammers, a stone mortar (Fig. 43) and a burnishing stone. Some of these are shown on Pl. X.



FIG. 44. Fragments of bangles. Level XXII

Bone objects include a handle made for a cutter, as well as some awls and needles. One of these, pictured in Fig. 23, is short and strong, with a long eye towards the point: it seems to be appropriately designed for basket- or mat-weaving, enabling the end of a broad strand of cane or other material to be pushed through tight places in the process.

Trinkets include fragments of bangles in polished limestone (Fig. 44) and some beads of cowrie shells and green stone.

#### FEATURES OF LEVEL XXI

*Constructions.* Level XXI, between the average depths of 11·10 and 11·50 metres, is distinguished chiefly by two architectural features. One of them was a narrow plastered

<sup>1</sup> Cf. p. 47, footnote 1.

wall of mud brick standing on stone foundations. Presumably it had been a party-wall of a house, for it was coated on both sides with a very hard and brittle plaster about 2 cm. thick, rounded as usual at the bottom where it met the floor. It had also been swabbed with red. These details remind one of the neolithic houses below the megaron-like structure at Jericho.<sup>1</sup> More exceptional and more solid were the long and narrow stone foundations and limed floor of a building in the middle of the Area 241 which later served in turn as foundations to structures No. 231 at Level XX (shown on Fig. 59). Being on a slope, they rose from 11.06 in the north to 11.26 in the south. Other walls of mud brick on stone were traced throughout the area, but were mostly discontinuous. Considerable

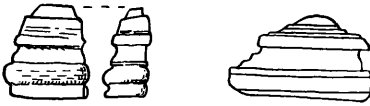


FIG. 45. Fetish stones from Level XXI.  
Scale 1:4

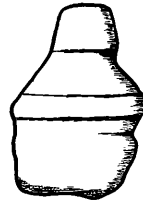


FIG. 46. Stone cult object  
1581. XXIII. Scale 1:2

disturbance seems to have been caused by efforts to redress the slope at the next higher level.

*Cult objects* (?). Of special interest was the uncovering (in Area 246) of a monolith 85 cm. high, in which were rough 'cupholes'.<sup>2</sup> It stood in the north-east of the area and was found to have been set in puddled clay, while underneath it were several layers of ash and broken pottery. There was no obvious indication of its purpose, nor were any small objects found around it such as might have been expected had it been an object of veneration.

In the absence of recognizable cult objects in these levels, with the possible exception of one from Level XXIII already mentioned (Fig. 39), it is perhaps significant that three curious laminated stones (two of which are illustrated in Fig. 45) should have been found at the same Level as the monolith just described, though not in close proximity; and a fourth (Fig. 46) in the adjoining Area C at Level XXIII. Outlines of all four are purely natural, being the result of weathering of stone composed of hard and soft materials. There is a suggestion of 'eyes' on no. 1581 (not reproduced in our sketch) which may be artificial, and this object has some resemblance to a human form. It may even have been accepted as an idol. The others, from Level XXI, are merely curious, but evidently attracted attention, presumably as charms or fetish stones of some kind. Associated with the cup-holed monolith they are in any case of interest, and may have been tokens of some primitive form of cult or magic. For photographs of these objects see Pl. X.

*Industries.* Spindle whorls continue to indicate weaving at all Levels. Three of the flat variety decorated with linear incisions have been already seen in Fig. 40 to represent

<sup>1</sup> L.A.A. xxii, pl. lii.

<sup>2</sup> Photograph on Pl. XIIa.

Levels XXIII to XIX, and undecorated specimens shown in Fig. 47 come from Levels XXII and XXI respectively. There is a marked contrast between their bulbous shapes and that of the flat kind from Level XVIII, which we have seen also in the decorated specimens of Fig. 40. Possibly they served a different purpose, the flat used for wool, the other

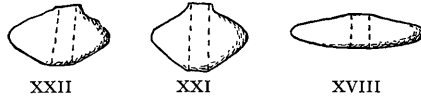


FIG. 47. Undecorated spindle whorls from three levels



FIG. 48. Whorl with unusual incised decoration (1677). XXI. Scale 1:2



FIG. 49. Dish of grey stone. Rm. 246. Scale 1:2

for flax. Another specimen, of rarer type, from Level XXI (no. 1677, Fig. 48) though bulbous in shape shows an incised scheme of decoration. Under the circumstances it is clearly impossible to establish a sequence of types from these examples, and we shall find much the same difficulty in the higher Levels (cf. Fig. 116).

The obsidian industry was represented by the now familiar awls and blades and an obsidian scraper. Other objects of stone included portions of bracelets or bangles in alabaster and marble, a broken palette, and a stone dish (Fig. 55, no. 30 and Fig. 49).

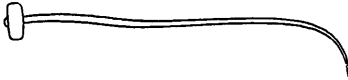


FIG. 50. Copper pins from base of rampart



FIG. 51. Fish-hook (1656) and jar stopper (1125). XXI. Scale 2:3

At the same approximate level (11·20 metres and 11·10 metres respectively) and in close association were found the nail-headed and scroll-headed copper pins shown in Fig. 50. The use and the provenance of the former are discussed below. If the view there taken is correct, it makes these pins the earliest metal-objects yet found on the site.

Other small objects found at this level include a bone chisel-like tool represented on Fig. 23, no. 5, and two fish-hooks made of shell, one of which is shown in Fig. 51, the other (no. 1657) being similar. There were other incomplete and broken samples as well as a pendant of the same material.

The burial of an adult, found just to the east of the building 241 and partly below it, is

remarkable for the fact that it seemed, from the skeletal remains, to have been deliberately dismembered; but it was very crushed and no measurements were possible. Some small potsherds and an obsidian flake were found among the bones.

#### FEATURES OF LEVEL XX

*Constructions.* The long walled structure (no. 231) which passed through the middle of the excavated area was based on foundations of the Level below and appears to have been still intact in that above. It has some curious features, and its purpose was not obvious. As shown in Fig. 59, it is connected with the two long walls which look in the plan like an avenue of approach; and the main structure is also enclosed by stone walls two courses deep, rising up the slope from 11.56 metres to 11.73 metres at their foundation level. The central structure of oblong shape was preserved only to a height of 27 cm. but three of its outer faces were clearly constructed with recesses, distantly recalling the 'false doors' or offering-places in the early Egyptian tomb-chapels or mastabas. Apart from a mass of debris, the only remains of the structure itself consisted of irregular slabs of lime, some of which were L-shaped corner-pieces. A number of holes right through many of the slabs suggests that they were parts of a thick lining of lime fastened by nails to brick walls which have disappeared. No nails were actually found on the spot, but the nail-headed copper 'pin' shown in Fig. 50 may well have been one of them. This was found on the outskirts of the area at 11.20 metres. We may surmise that it was raked out when the walls were demolished, and thrown over the edge with the debris which served later as the foundations of the great rampart at Level XVI. As to the original height and purpose of the building itself no clue could be found. Its unique features, and the fact that it was preserved throughout two levels, point to some quite special character such as a shrine. The other buildings at this level were too denuded for comment to be useful; but several hearths, a clay bin, and an open fire-place (cf. Fig. 62, p. 105) built of straw-tempered clay, as well as a number of grindstones, give evidence of continuous and active domestic occupation.

*Industries.* Obsidian and chert tools found at this Level are few and for the most part of simple standard types, as may be seen by referring back to Figs. 6 and 29; but some were of unusual character. Among these were a sickle blade of flint dressed with a fluted surface. At the same approximate level in sector B were found a number of obsidian blades and a scraper of yellow jasper; but the diminishing number of stone tools now attracts attention. The use of metal which becomes evident at the next Level had probably been growing for some time previously; only, being precious, tools of this new material would be treasured and not likely to be lost. This is to be inferred from the increased dearth of the older materials, while new methods and new industries were doubtless requiring more and more tools of various kinds.

The small objects found at this Level comprise several categories. Among personal ornaments are a barrel-shaped bead of shell, a cowrie-shell bead or pendant, and part of an alabaster bracelet. Industries are represented, as we have seen, by spindle whorls of pottery and of stone, bone awls and a needle with eyelet and spatulate head, another needle of the usual type and a spatula of bone (Fig. 23), an unfinished small stone celt and a broken one, a broken stone palette (cf. Fig. 99), stone mace or club heads, a stamp, a stone burnisher, and fragments of stone bowls. Straw 'binder' used in a bin of clay 2 cm.

thick, and also in the fabric of an open fire-place, indicates that the building of large clay vessels, &c., had at last been mastered.

#### POTTERY OF LEVELS XXIII-XX

*Shape and design.* The shapes of pottery vessels found in these Levels and the designs with which they were decorated in paint are illustrated in Figs. 52-58. The shapes will be seen to be relatively few, while the designs are numerous and varied. A glance at the first and last of these plates may suggest that we are dealing with two different phases of artistic expression, and that is indeed the case; but a further look at the dominant features of each figure in succession will show that in reality the two strains overlap. Thus, in Fig. 52 are found in nos. 2 and 3 the culmination of the 'yildirim' motif, which dates its origins to the late neolithic period: this design, the product of local experiment, now attains its fullest expression in the exceptional examples shown in Fig. 53, notably nos. 5 and 10. At the same level as the foregoing, however, we find in Fig. 54 the incoming of the pattern in which the chevron is associated with bands of lattice work, as in nos. 8 and 16, while the latter appears as a chief motif in no. 12. With these decorated jar shapes appears also the dish no. 15 adorned exceptionally with a multiple 'W' design, repeated like an interrupted chevron; while an incised multiple chevron, finished off with white lime filling, appears on a globular bowl shape in no. 4.

Passing on to Level XXII, we still find, in Fig. 55, traces of the primitive 'yildirim' design (e.g. nos. 18 and 19), and the rare multiple 'W' design (no. 22); but the chevron, whether as the main theme as in the great rebuilt jar no. 4, or in other combinations on vessels of various shapes (e.g. nos. 1, 2, 5, 7, and 12) seems now to be firmly established. In Fig. 56 it is found again in almost geometrical combinations with latticed bands, well preserved in the fragments nos. 8 and 15. The lattice-work pattern now vies with the chevron in popularity and assumes new form, e.g. the quadruple and treble bands around the necks of jars (nos. 1 and 9), and the uniquely interesting representation of a lattice with windows, unmistakable though fragmentary, in no. 16. This example indeed suggests an architectural model, and with that the development of a dominant feature in oriental architecture. The brazier no. 5 is noteworthy as the earliest example of its kind. The stout dish no. 2 is restored from fragments, on which the deep incrustation suggested a form of crucible, but unfortunately the base which might have retained a decisive deposit could not be found.

In Level XXI the two leading themes reappear (e.g. nos. 3 and 16 in Fig. 57) and many other examples might be cited; but prominence in this figure is given to a special object, no. 9, to which we shall return. Finally, at Level XX we find in Fig. 58 further illustrations of both chevron and lattice designs, singly or in combinations, which are thus seen to be established as standard decorative motifs throughout this period. The pot-painters played upon these themes, as may be seen from the variations, among which is a chevron actually composed of latticed bands, decorating the small fragment no. 16.<sup>1</sup> At the same time other shapes and patterns begin to attract attention.

*Comparisons.* In this rapid turn-over of the Plates, I have concentrated on the leading motifs for two reasons: firstly because they show a definite overlap of old and new styles, and secondly because the chevron and its complementary devices are found on the earliest

<sup>1</sup> So also at Arpachiyah; cf. Mallowan in *Iraq*, ii, fig. 77, no. 35.

pottery of the chalcolithic period in northern Iraq, notably at Hassuna<sup>1</sup> and probably in the deepest levels of Nineveh<sup>2</sup> as well as on a number of sites in Mesopotamia and Syria, the finds from which are not yet published. The wide dispersal of such distinctive motifs while not necessarily indicating direct trade relations between places so widely distant, betokens at least a gradual spreading of culture from one community to another. Pending further information about Tarsus, the nearest place known at present to have been occupied at this epoch would be the site beside the Ceyhan Irmak called now Yarim Hüyük, some 90 miles eastward from Mersin; and beyond that there is reason to believe a number of places in the marshy plain of the Amuq<sup>3</sup> as well as near Atchana<sup>4</sup> may have shared in the same cultural stimulus to which these innovations testify.

Such interrelationship does not necessarily imply a powerful political centre where arts were cultivated and disseminated: had that been the case our village would not have remained so long unfortified. I rather picture this early age as one in which the villagers would welcome the occasional visit of distant neighbours or migrants with whom they could exchange experiences and the simple products of their handiwork. By such interrelations, I think, are to be explained the presence in the lowest Level of this period of the bead or amulet of prase from Sinai or the more distant Bosphorus, and at an earlier date the close resemblance in shape and design of some of the finer neolithic pottery to the 'Badarian' types of Egypt.

Such intercourse provided not only new models which the local artisans might imitate, but the stimulus of novelty and comparison which led to experiment in design. These considerations are abundantly illustrated in the Plates which accompany this section: in these repetition is seen to be a leading feature, while reflecting the effort of the designer to give effect to an impulse towards a free and wider expression. The chevron carried around the pot is in itself a direct illustration of this tendency, further developed by the multiplication of the lines of which it is composed: examples are to be seen in no. 4 on Fig. 54 and no. 25 on Fig. 58. Another example appears in the individualistic decoration of the jar represented as no. 5 in Fig. 57. The repetition of latticed bands and the combination of lattice and chevron complete the picture. The absence of any departure from familiar patterns is a noticeable feature: no curving lines, except those which are accidental; no naturalistic designs of trees, birds, and so on, no trace in fact of originality except in one or two examples behind which lurked a special idea, such as the painting on the oval bowl no. 7 in Fig. 53, and the 'yildirim', well seen in nos. 2 and 3 in Fig. 52.

*Particular specimens.* A few words may be said in conclusion on some specially interesting specimens of early chalcolithic designs illustrated on our Plates:

(i) The tub-like bowl (no. 10 in Fig. 53), though betrayed by the hesitant painting of the chevrons around its rim, is one of the best examples of the indigenous potters' craft. Made of a relatively fine and well-baked yellow clay, tempered as usual with quartzite, it is lightly slipped to a slightly warmer tone and burnished. It is also decorated with broad vertical swathes of dark red paint, which is matt, as are the chevrons. There is nothing mechanical about the latter, which are worked out painfully in single strokes, with lines of varying thickness irregularly spaced, besides being occasionally discontinuous or

<sup>1</sup> Seton Lloyd in *J.N.E.S.* iv, p. 4, fig. 2.

<sup>2</sup> Cf. Mallowan in *L.A.A.* xx (1933), pl. xxxvi, 11, and xxxvii, 2, 22.

<sup>3</sup> Cf. Braidwood, *Mounds in the Plain of Antioch*, O.I.P. xlviii.

<sup>4</sup> Cf. Hood in *Anatolian Studies* (1951), i, pp. 114 ff.

crowded and not always properly joined, though the topmost ones are done with obvious care and good intention—altogether a pleasing example of primitive artistic effort. We cannot fail to recognize the beginner's hand.

(ii) In the same Figure (53), the four vases nos. 4, 7, 8, and 9 were found with a child burial in the XXIVth Level and so are ascribed, as belonging to an interment, to Level XXIII. Though simple in design the decoration of nos. 8 and 9, with vertical bands of paint, descending sometimes from a broad collar, is noteworthy, as these examples rank among the earliest of the kind. Their attribution to Level XXIII is upheld by comparison with no. 2, which came from just above the middle of the silo area. It is the oval-shaped vase no. 7, however, which arrests attention, both from its unique shape at this period and for the possible symbolism of the design with which it is decorated. This recalls to me the familiar pair of eyes often elaborately rendered on ancient Egyptian coffins.<sup>1</sup> This suggestion may, however, be misleading, as a similar motif is found in a continuous design on very early pottery from Carchemish.<sup>2</sup> One further question must be given consideration. It has been pointed out to me that the pottery from burial groups represented in Figs. 34 and 53 seems to be out of focus, so to speak, in the contexts in which they are placed; and I admit the force of this contention. As these Levels were shallow it is possible that in these cases the graves penetrated two or three Levels below the contemporary floors of occupation. In the former case, however, the position of the body in relation to the walls makes this unlikely.

(iii) Fig. 57, no. 9 illustrates a ceremonial offering vessel with a central handle for carrying. The pottery, which is of relatively fine clay, grey in colour, is extremely thin, having been squeezed out progressively in the process of building the dish between the thumb and fingers of the potter. It is a unique example; and Mrs. Garstang, who, in the course of our long collaboration had handled many thousands of pots and sherds, told me that she had never previously seen anything like it either in design or in fabric. The handle by contrast is substantial, having a core of wood embedded in clay, with one end welded into the bottom of the vessel. Notwithstanding its fragile character, the skilled *formatori* of the Department of Antiquities in Ankara reconstructed the object from its delicate fragments, and so enabled us to reproduce an accurate outline of its crushed condition as well as a photograph (Pl. XI). A point of interest about its provenance is that it was found in the north-western area almost over the rooms in which were the two remarkable burials that have been described (pp. 53, 54).

At Level XX, the uppermost of this series, there was found a potsherd decorated with the design of a bucranium in the Halafian style; and at the same time other designs appeared which though less definite and distinctive point also to the incoming of new ideas from the same source. The fact that the lime building described previously survived into the new Level makes it possible that these few suggestive specimens had filtered through also from above, for Level XIX is marked by the definite introduction of Halafian wares which clearly provided the local potters with fresh stimulus and new motifs.

Such foreign intrusions throw into relief the homogeneity of culture pervading the underlying levels considered in this chapter, and seen in the bald form of a comparative

<sup>1</sup> Cf. *Burial Customs of Ancient Egypt*, p. 82 and fig. 169.

<sup>2</sup> Cf. Woolley in *Iraq*, i, pl. xix (no. 15); but see also

a specimen from Nineveh. Mallowan in *L.A.A.* xx (1933), pl. xlv. 23.



table below. In this the signs of change are already apparent at Level XXI; but at the lower end the roots of the culture are seen to be embedded in Level XXIV.

	XXIV	XXIII	XXII	XXI
Antler handles . . . . .			×	
Bone awls . . . . .	×	×	×	×
" chisels . . . . .				×
" needles . . . . .		×		
" spatulas . . . . .		×		
Clay animal head . . . . .			×	
" spinning whorls . . . . .	×	×	×	×
Shell beads . . . . .	×	×	×	
" fish-hooks . . . . .				×
" pendants . . . . .				×
Stone beads . . . . .	×	×	×	
" bowls . . . . .				×
" bracelets . . . . .	×	×	×	×
" celts (small) . . . . .	×	×	×	
" fetishes . . . . .	×	×	×	×
" hammers . . . . .			×	
" mace heads or whorls . . . . .	×	×	×	
Stones, notched . . . . .	×	×	×	
Stone palettes . . . . .	×		×	×
" pendants . . . . .		×		
" querns or mortars . . . . .	×		×	
" rubbers . . . . .	×		×	
" spatulas . . . . .		×		
" weights or sinkers . . . . .	×	×	×	

INVENTORY OF REGISTERED OBJECTS  
LEVEL XXIII

Rooms  
and

Areas R.N.

- B 1238 Bangle and part of another bangle, white marble, 8.5 × 0.9 cm. and 8.0 × 0.7 cm. at 10.80 m.
- " 1247 Bone point, 5.3 cm. at 10.50-10.00 m.
- C 1570 Pottery jar handle with seal imprints, 11 × 0.9 cm.
- " 1672 Broken notched pebble, 6.6 × 6.1 × 1.4 cm.
- " 1574 Flat bone awl, 6.8 × 1.9 cm.
- " 1575 Broken flat bone needle, 11.2 × 2.0 cm.
- " 1576 Broken stout bone awl, 10.2 × 1.3 × 0.9 cm.
- " 1577 Fragment of black stone bracelet, 2.1 × 0.85 cm.
- " 1578 " " " " 2.0 × 0.85 cm.
- " 1579 " " " " 2.7 × 1.05 cm.
- " 1581 Stone figurine, 7.4 × 5.0 × 3.3 cm. (Fig. 46).
- " 1582 Miniature pottery dish, 4.0 × 9.0 cm.
- " 1583 Miniature pottery lugged bowl, 6 × 9.7 cm.
- " 1584 Basket-shaped pottery bowl, 7.6 × 3.9 × 5.6 cm.
- " 1585 Pottery whorl, 6.2 × 0.8 cm.

*Rooms  
and*

<i>Areas</i>	<i>R.N.</i>	
	C	1586 Necklace of 172 shell or marble beads, 0.45 × 0.2 cm.
	"	1587 Anklet of about 300 beads (dentalium shells).
	"	1588 Worked stone, 10.6 × 6.9 × 4.9 cm.
	"	1591 Stone whorl or mace head, 3.8 × 2.0 cm.
	"	1592 Stone bracelet segment, 3.5 × 0.9 cm.
	"	1593 Bone awl, 10.0 cm.
	"	1596 Point of bone awl, 6.2 cm.
	"	1604 Bone awl, 10.3 cm.
	"	1605 Greenish-blue stone bead, 0.5 × 0.45 cm.
	"	1607 Bone awl, 4.9 cm.
	"	1628 Rough pottery jug, 8.0 × 9.5 cm.
	"	1632 Stone weight or sinker, 12.5 × 4.1 cm.
	"	1664 Fragment of marble bracelet, 5.0 cm.
	"	1665 Fragment of green stone bracelet, arc 2.7 cm.
	"	1668 Bone awl point, 3.9 cm.
	"	1708 Broken bone awl, 5.0 cm.
	"	1740 Stone spatula, 4.6 cm.
	"	1773 Bone awl, 7.2 × 1.5 cm.
	"	1789 Flat bone awl, 5.2 × 2.2 cm.
	"	1909 Dark blue smoothing stone, radius 7 cm., thickness 2.5 cm.
261	1717	Clay whorl, 5.8 × 1.0 cm.
	"	1757 " " 6.8 cm.
262	1750	Bone spatula, 6.2 × 1.8 cm.
	"	1775 Bone awl, 6.4 × 1.9 cm.
	"	1776 " " 6.5 × 1.7 cm.
	"	1777 " " 10.4 × 1.2 cm.
	"	1784 Part of baked clay pointed tool, 6.3 × 2.1 cm.
	"	1785 Small stone tool shaped by rubbing, 4.4 × 1.5 cm.
	"	1811 Stone grey spindle whorl, 6.2 × 5.2 cm.
	"	1876 Fragment of dark blue mottled stone bracelet, 0.6 × 0.8 cm.
264	1716	Incised clay whorl, 5.5 × 1.3 cm.
	"	1743 Stone pendant, 1.8 cm.
	"	1839 Fragment of alabaster bracelet, 2.9 × 1.3 cm.
	"	1845 White stone weight or sinker, 8.6 × 3.6 cm.
	"	1886 Disk-shaped shell or marble bead, 0.4 × 0.2 cm.
265	1755	Incised clay whorl, 5.1 cm.
	"	1759 Potsherd painted whorl, 5.4 cm.
	"	1782 Bone awl, 6.0 × 0.9 cm.
	"	1810 Incised buff spindle whorl, 6.0 cm.
266	1745	Brown stone celt, 3.5 × 2.2 × 1.6 cm.
	"	1747 Broken stone palette, 6.7 × 4.9 × 1.6 cm.
	"	1749 Grey stone celt, broken, 3.7 × 3.5 × 1.0 cm.
	"	1753 Stone fetish, 5.5 × 4.02 × 2.5 cm.
	"	1756 Incised clay whorl, 4.9 cm.
	"	1780 Bone awl, 6.7 × 2.5 cm.
	"	1894 Notched and grooved stone; (? a plummet) 8.6 × 7.8 × 2.2 cm.

Rooms  
and  
Areas

	R.N.	
266	1895	Notched stone, 9.4 × 9.2 × 2.0 cm.
"	1907	Shaped stone ? fetish, 10.7 × 9.5 × 3.2 cm.
—	1957	24 flint blades and blade fragments; 2 flint awls; 2 flint scrapers; 11 flint sickle blades; 94 obsidian blades and blade fragments; 12 obsidian awls; 6 obsidian scrapers; 4 obsidian notched scrapers; 1 obsidian javelin or javelin fragment.

## LEVEL XXII

251	1672	Pottery whorl, 4.2 × 1.4 cm.
"	1680	" " 4.0 × 2.5 cm.
252	1671	Fragment of alabaster bracelet, arc 2.6 cm.
"	1705	Broken bone awl, 5.4 cm.
"	1709	" " " "
"	1728	Dubious bone tool, 6.0 cm.
"	1824	Stone mortar, 29 × 23 × 11.5 cm.
"	1918	Black pottery bowl, 19.4 × 10.2 cm.
254	1694	Clay animal head, 2.0 × 1.5 cm.
"	1695	Miniature green stone celt (axe), 2.6 × 1.65 × 1.2 cm.
"	1730	Notched pebble, 8.2 × 7.5 cm.
255	1686	Green stone disk bead, 0.45, 0.1 cm.
"	1693	Broken bone awl, 5.5 cm.
"	1700	Fragment of stone base or palette, 11.5 cm.
"	1706	Bone awl, 11.2 cm.
"	1712	Cowrie shell bead, 3.2 cm.
"	1723	Clay whorl, 2.54 × 1.7 cm.
256	1688	Handle (antler), 7.5 × 3.1 cm.
"	1691	Bone awl, 8.5 cm.
"	1699	Bone handle with rivet hole, 10.4 × 2.5 cm.
"	1707	Bone awl, 6.1 cm.
"	1718	Clay whorl, 6.6 × 1.0 cm.
"	1720	Half stone (? alabaster) ? whorl, 7.5 × 1.0 cm.
"	1722	Stone weight or sinker, 8.9 × 2.0 cm.
"	1726	Stone weight or mace, 8.4 × 8.0 × 2.8 cm.
"	1729	Dubious pebble tool, 5.9 cm.
"	1771	Large painted pottery jar, 25 cm.
"	1925	Baked clay whorl, 4.6 × 1.5 cm.
257	1692	Bone awl, 5.5 cm.
"	1590	Pottery whorl, 5.6 × 1.8 cm.
"	1648	Half stone notched pebble, 6.8 × 4.5 × 1.5 cm.
"	1678	Pottery whorl, 4.2 × 1.2 cm.
"	1679	" " 4.9 × 0.7 cm.
"	1681	Cowrie shell bead, 1.2 cm.
"	1697	Incised pottery whorl, 5.0 cm.
"	1701	Worked cowrie shell, 2.1 × 1 cm.
"	1703	Scroll head copper pin (broken), 6.0 cm.
"	1714	Bone awl, 8.8 cm.
"	1715	Natural boulder hammer-stone, 13.0 cm.

*Rooms  
and  
Areas*

	<i>R.N.</i>	
257	1719	Clay whorl, 5·2 × 1·5 cm.
"	1721	Pebble burnisher, 2·4 × 2·2 cm.
"	1724	Clay whorl, 4·6 × 1·5 cm.
"	1726	" " 4·3 × 1·2 cm.
"	1727	" " 4·7 × 1·5 cm.
"	1732	Broken bone awl, 3·1 cm.
"	1737	Clay whorl, 4·8 cm.
—	1898	Stone weight or sinker, 13·3 × 13·1 × 3·4 cm.
—	1926	Baked clay whorl, 4·7 × 1·3 cm.
—	1956	21 flint blades and blade fragments; 5 flint sickle blades; 76 obsidian blades and blade fragments; 2 obsidian awls; 6 obsidian scrapers; 2 obsidian notched scrapers.

LEVEL XXI

241	1638	Pottery whorl, 4·7 × 1·6 cm.
242	1644	Fragment of marble bangle, 6·0 cm.
"	1646	Pottery whorl, 3·7 × 1·6 cm.
"	1658	Broken bone awl, 3·7 cm.
"	1659	" " " 4·4 cm.
"	1660	" " " 4·9 cm.
"	1661	Fragment of alabaster bracelet, 8·0 cm.
"	1674	Pottery whorl, 5·2 × 1·1 cm.
"	1748	Broken slate palette, 10·5 × 10·0 cm.
244	1764	Painted pottery bowl, 26 × 11·6 cm.
"	1765	Dish or cover with two lugs (pottery), 22·6 cm.
"	1766	Pottery dish, 32 cm.
"	1917	Black pottery vase, 5·7 × 8·3 cm.
245	1713	Shell pendant (unworked but pierced), 5·5 cm.
246	1634	Stone fetish, 7·0 × 6·3 × 3·3 cm. (Fig. 45).
"	1675	Pottery whorl, 3·8 × 0·75 cm.
"	1738	Clay whorl, 4·6 cm.
"	1783	Bone awl, 6·3 × 1·3 cm.
"	1946	Stone dish, 6·5 cms. (Fig. 49).
248	1637	Flat pottery whorl, 4·9 × 1·1 cm.
"	1954	Chisel-like bone tool, 10 × 1·8 × 0·85 cm.
"	1656	Shell fish-hook, 3·4 cm.
"	1657	Broken shell fish-hook, 2·6 cm.
"	1676	Pottery whorl, 4·5 × 1·95 cm.
"	1677	" " 4·9 × 2·9 cm.
XXI	1760	Stone fetish, 8·6 × 4·5 × 5·3 cm. (Fig. 45 and Ph. Pl. X).
"	1955	9 flint blades and blade fragments; 1 flint sickle blade; 1 flint javelin or javelin fragment; 30 obsidian blades and blade fragments; 4 obsidian awls; 3 obsidian scrapers.
"	1589	Nail-head pin, L. 8·0 cm, head diam. 0·9 cm. (Fig. 50).

LEVEL XX

231	1547	Shell barrel-shaped bead, 2·4 × 0·9 cm.
"	1645	Rim and vertical handle (pottery), 14·0 cm.

*Rooms  
and  
Areas*

	<i>R.N.</i>	
231	1762	Pottery core handle, 5.6 cm.
232	1557	Flat stone whorl, 6.0 × 5.0, 2.0 cm.
"	1559	Incised pottery whorl, 5.7 × 1.0 cm.
"	1563	Heavy bone awl, 12.1, 1.9 × 1.2 cm.
234	1564	Bone awl, 5.3 cm.
235	1556	Flat pottery whorl, 5.0 × 0.7 cm.
"	1608	Bone awl, 7.4 cm.
"	1617	Broken bone awl, 7.0 cm.
"	1619	Bone awl, 7.6 cm.
"	1620	Pottery whorl, 4.6 × 1.3 cm.
"	1622	Stone stamp, 3.5 × 2.7 × 1.6 cm.
"	1639	Pottery whorl, 4.0 × 1.6 cm.
"	1640	" " 4.4 × 1.6 cm.
"	1643	Fragment of stone bowl, arc 8.0, depth 2.1 cm.
"	1752	Stone burnishing stone, 2.7 × 2.0 cm.
236	1561	Pottery whorl, 4.9 × 1.8 cm.
"	1594	Unfinished miniature stone celt, 4.3 × 2.2 × 1.0 cm.
"	1597	Point of bone awl, 6.4 cm.
"	1598	Broken miniature stone celt, 2.0 × 1.6 × 1.0 cm.
"	1599	Broken bone pin with eyelet and spatulate head, 6.0 × 3.0 cm.
"	1600	Clay whorl, 4.4 × 2.0 cm.
"	1601	" " 4.2 × 1.5 cm.
"	1606	Bone needle, 4.2 cm.
"	1609	Shell, ? cut for making beads.
"	1610	Broken stone palette, 8.7 × 7.4 × 1.0 cm.
"	1612	Pottery whorl, 4.5 × 1.2 cm.
"	1613	" " 6.6 × 1.3 cm.
"	1615	Bead made from cowrie shell, 1.2 cm.
"	1618	Bone awl, 8.7 cm.
"	1621	Small stone mace head or weight, 6.1 × 4.8 × 2.8 cm.
"	1625	Unbaked clay jar stopper, 10.2 × 11.2 × 6.6 cm.
"	1630	Bone awl, 8.5 cm.
"	1631	" " 7.3 cm.
"	1641	Pottery whorl, 4.3, 1.7 cm.
"	1642	Fragment of stone bowl, 10.0 cm.
"	1649	Clay whorl, 4.2 × 1.9 cm.
237	1602	Six points of bone awls, 6.0 × 2.6 cm.
238	1595	Point of bone awl, 5.0 cm.
"	1558	Fragment of alabaster bracelet, 5.25 cm.
"	1565	Stone loom weight or sinker, 9.5 × 7.3 × 3.3 cm.
"	1635	Broken bone awl, 6.1 cm.
—	1751	Bone spatula, 3.6 cm.
—	1954	22 flint blades and blade fragments; 6 flint sickle blades; 54 obsidian blades and blade fragments; 4 obsidian awls; 4 obsidian scrapers; 6 obsidian notched scrapers; 1 obsidian core; 1 javelin or javelin fragment.

DEVELOPMENT OF PRIMITIVE DESIGNS AND INCIDENCE OF  
CHEVRONS, LEVEL XXIII

- |   |            |
|---|------------|
| 1. Rim fragment. Drab core, creamy-yellow slip, brown paint (round rim) and dark-red paint.   | Rm. 265    |
| 2. Fragments. Creamy-yellow core and slip, half rough inside, black paint.  | Rm. 266    |
| 3. Jar, large (reconstructed). Drab clay, wet-smoothed, half rough inside, brown paint.   | Rm. 264    |
| 4. Rim fragment. Cream core, wet-smoothed, brown paint very roughly applied.  | XXIII      |
| 5. Fragment. Grey core, fired dull pink, greenish-cream slip, black paint wearing off.  | XXIII      |
| 6. Bowl fragment. Grey core, buff slip, red paint.  | Rm. 264    |
| 7. Fragment. Reddish core, buff slip, brown paint, burnished.   | XXIII      |
| 8. Rim fragment. Fine cream core and slip, brown paint, band of paint inside rim.   | Rm. 261    |
| 9. Fragment. Grey core, buff slip, red paint. (Might be neck of no. 6 of the figure.)   | Rm. 264    |
| 10. Rim fragment. Rough drab core, wet-smoothed, light brown paint.   | XXIII      |
| 11. Fragments. Buff core, cream slip, black paint.  | Rm. 264    |
| 12. Bowl fragments. Fine cream core, wet-smoothed, light brown paint.   | Rm. 264    |
| 13. Bowl fragments. Fine cream core and slip, black paint.  | Rm. 264a   |
| 14. Bowl fragments. Drab cream core, wet-smoothed, black paint.   | XXIII      |
| 15. Rim fragment. Pinkish core and slip, red paint, burnished.  | XXIII      |
| 16. Rim fragment. Fine cream core and slip, black paint.  | Rm. 264    |
| 17. Rim fragment. Fine buff core and slip, red paint, burnished.  | Rm. 266    |
| 18. Rim fragment. Grey core, fired buff, buff slip, red paint.  | Rm. 266    |
| 19. Rim fragment. Pinkish cream core, cream slip, brown paint.  | Rm. 264    |
| 20. Rim fragment. Fine cream core and slip, black paint.  | Rm. 262    |
| 21. Rim fragment. Cream core, wet-smoothed, brown paint.  | Rm. 266    |
| 22. Rim fragment. Grey core, burnished cream slip, matt red paint.  | XXIII      |
| 23. Rim fragment. Fine buff core and slip, light red burnished paint.   | Rm. 262    |
| 24. Rim fragment. Grey core, fired brown, burnished cream slip, matt brown paint.   | XXIII      |
| 25. Rim fragment. Reddish core, cream slip, yellow paint.   | Rm. 262    |
| 26. Rim fragment. Coarse pink core, thick cream slip, red and brown paint.  | Rm. 265    |
| 27. Fragment. Buff core, red paint, burnished.  | XXIII      |
| 28. Rim fragment. Drab core, white slip, brown paint.   | Rm. 262    |
| 29. Handle supported by knobs on either side of junction with pot. Grey core, burnished buff slip, matt dark red paint wearing off. | Rm. 264    |
| 30. Fragment. Grey core, fired buff, cream slip, black paint.   | XXIII      |
| 31. Fragment. Grey core, fired brown, discoloured cream slip, burnished black paint.  | Rm. 265    |
| 32. Fragment. Drab cream core, cream slip, black paint.   | Rm. 264    |
| 33. Fragment. Buff core, cream slip, brown paint.   | Rm. 264    |
| 34. Fragment. Buff core and slip, black paint.  | XXIII      |
| 35. Fragment. Coarse drab core, cream slip, light red paint.  | Rm. 262    |
| 36. Rim fragment. Grey core, highly burnished cream slip, red paint also highly burnished.  | XXIII      |
| 37. Rim fragment. Red core, buff slip, red paint, band of paint inside rim.   | XXIII      |
| 38. Rim fragment. Drab core, wet-smoothed, light brown paint.   | Rm. 266    |
| 39. Rim fragment. Grey core, buff slip, light brown paint.  | XXIII      |
| 40. Base fragment. Part of pedestal base. Grey core, fired buff, buff slip, red paint.  | XXIII      |
| 41. Base fragment. Drab core, cream slip, red paint.  | XXIV-XXIII |
| 42. Base fragment. Fine cream core and slip, black paint (probably base of no. 15 of this figure).                                  | Rm. 264    |

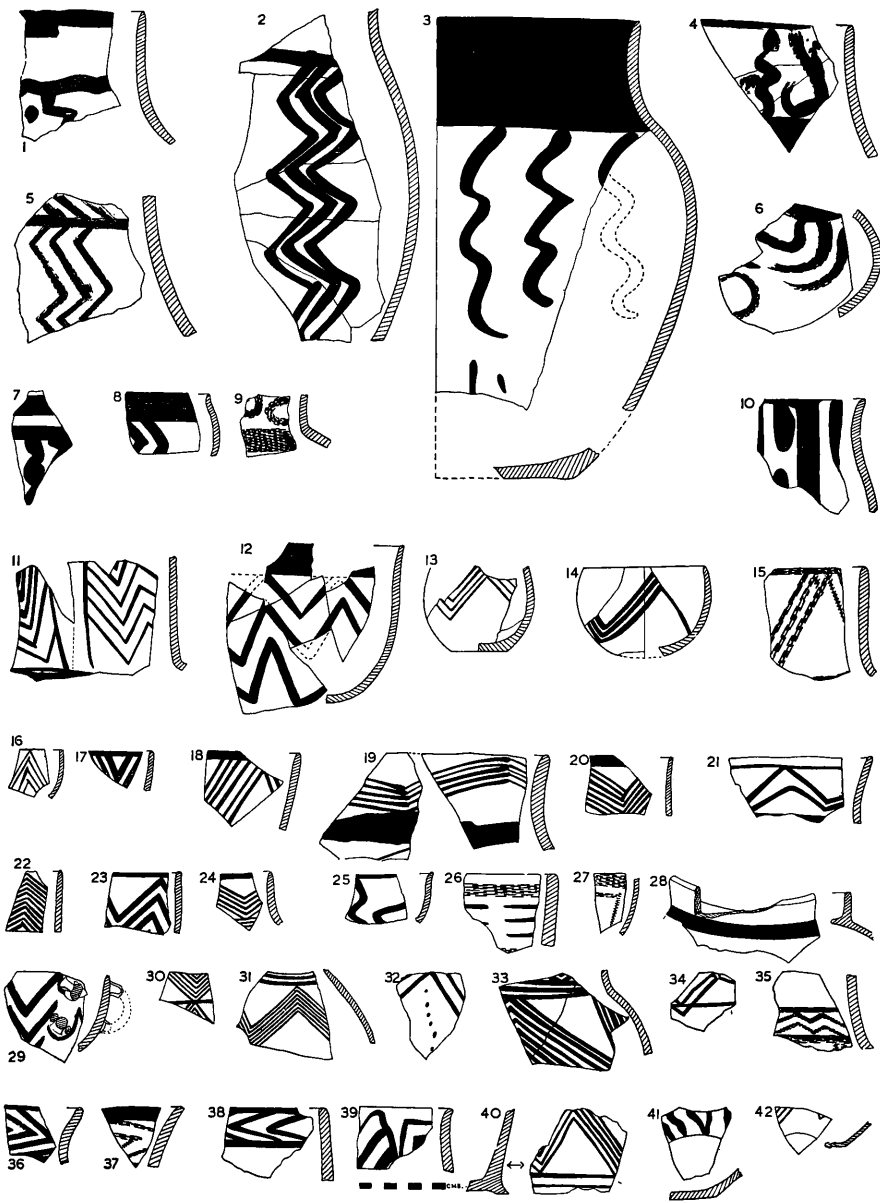


FIG. 52. DEVELOPMENT OF PRIMITIVE DESIGNS AND INCIDENCE OF CHEVRONS.  
LEVEL XXIII

DECORATED POTTERY FROM AREAS X AND N ASCRIBED TO  
LEVEL XXIII

- |   |                           |
|---|---------------------------|
| 1. Bowl (restored). Grey gritty core, thick yellow-brown slip, red paint in two shades.<br>(Cf. <i>L.A.A.</i> xxv, p. 101 and pl. xxx. 11.)                               | A. 9.00 m.<br>C. 9.15 m.  |
| 2. Bowl. Decorated red paint.   |                           |
| 3. Dish with lug handles. Warm buff core and slip, matt dark red paint. (Cf. <i>L.A.A.</i> xxv, p. 95 and pl. xxix. 11.)  | X.y. <sup>1</sup> 9.70 m. |
| 4. Cup, small. Buff core, wet-smoothed. (Cf. <i>L.A.A.</i> xxvi, pl. xxx. 4.) R.N. 1236.<br>From child burial.  | B. 10.00 m.               |
| 5. Beaker. Buff core with lightly burnished slip, black paint shading into red. (Cf. <i>L.A.A.</i> xxvi, pl. xxx. 1.) Hand-made. R.N. 1262.                               | B. 10.30 m.               |
| 6. Jar fragments. Buff core, yellow cream slip, matt red paint. (Cf. <i>L.A.A.</i> xxv, p. 101 and pl. xxx. 10.)  | A. 10.00 m.               |
| 7. Bowl, oval. Buff core, yellow-cream slip, decorated red paint, burnished all over.<br>(Cf. <i>L.A.A.</i> xxvi, pl. xxx. 5 and pl. xlii.) R.N. 1234. From burial.       | B. 10.00 m.               |
| 8. Bowl. Gritty buff core, wet-smoothed, traces of vertical swathes in matt pink paint.<br>(Cf. <i>L.A.A.</i> xxvi, loc. cit., no. 3.) R.N. 1235. From Burial.            | B. 10.00 m.               |
| 9. Bowl. Dark-buff core, buff surface, matt reddish brown paint. (Cf. <i>L.A.A.</i> loc. cit., no. 2.) R.N. 1233. From burial.  | B. 10.00 m.               |
| 10. Bowl, large. Warm buff core and burnished surface, decorated with chevrons and broad vertical swathes in matt red paint. (Cf. <i>L.A.A.</i> xxvi, p. 62 with fig. 1.) | B. 9.90 m.                |

<sup>1</sup> i.e. From Trench X, layer y at 9.70 m. Cf. Fig. 3.



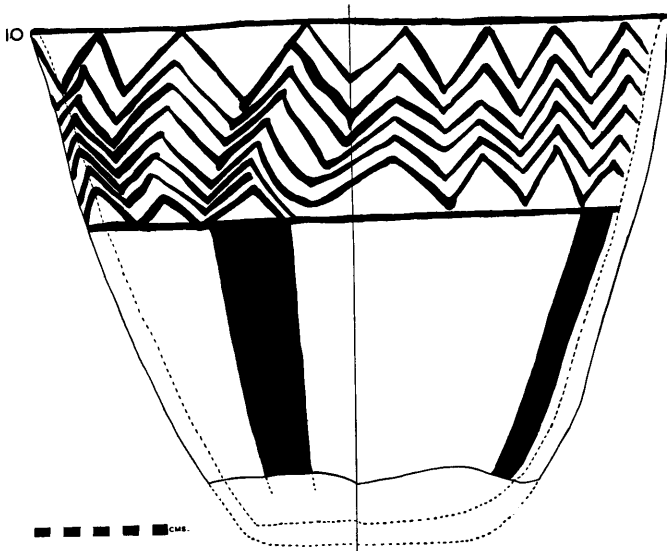
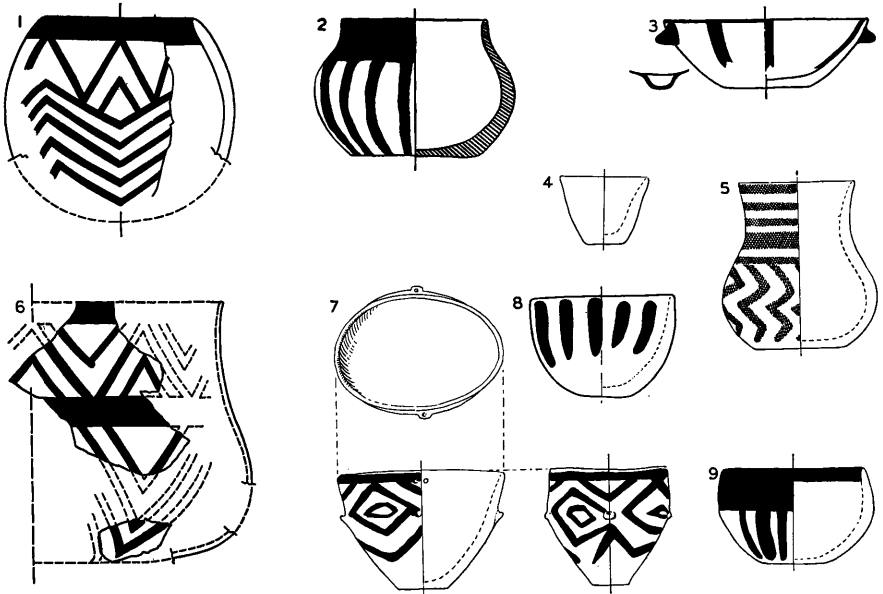


FIG. 53. DECORATED POTTERY FROM AREAS X AND N ASCRIBED TO LEVEL XXIII  
 (Nos. 4, 7, 8, 9 form a group from a child burial)

## PLAIN AND DECORATED POTTERY FOUND AT LEVEL XXIII

- |  |             |
|--|-------------|
| 1. Jar. Yellow core flushed pinky-brown, some pink inside.                                     | C. 10-20 m. |
| 2. Dish. Brown core, burnished black slip inside and outside.                                  | XXIII       |
| 3. Bowl. Grey core, fired pink, cream slip, purplish-red paint.                                | Rm. 262     |
| 4. Fragment. Black burnished, incised decoration.  | Rm. 265     |
| 5. Dish, small. Plain brick red (cf. Fig. 42). From a child's burial.                          | C. 10-25 m. |
| 6. Cup with basket handle. Plain brick red. From burial.                                       | C. 10-25 m. |
| 7. Bowl with lugs. Brick red, matt dark red paint.   | C. 10-25 m. |
| 8. Jar fragment. Drab cream core, wet-smoothed, black paint.                                   | Rm. 266     |
| 9. Fragment. Brown surface, white-filled incised decoration.                                   | Rm. 265     |
| 10. Spout fragment. Drab core, wet-smoothed, possibly part of a water pipe.                    | XXIII       |
| 11. Handle. Grey core, medium grits, matt pink slip inside and outside. Stamp impressions.     | C. 10-50 m. |
| 12. Rim fragment. Drab core, thin cream slip, black paint.                                     | Rm. 266     |
| 13. Rim fragment with handle. Black burnished, white-filled incised decoration.                | Rm. 265     |
| 14. Fragment. Grey core, fired brown, wet-smoothed, brown paint.                               | Rm. 266     |
| 15. Rim fragment. Grey core, fired buff, perhaps burnished, matt dull-red paint.               | Rm. 265     |
| 16. Rim fragment. Pink core, buff slip, matt red paint.  | Rm. 264a    |
| 17. Fragment. Grey core, burnished buff slip, matt red paint.                                  | XXIII       |
| 18. Rim fragment. Dull cream core and slip, brown paint.                                       | Rm. 262     |
| 19. Fragment. Fine cream core and slip, black paint.   | Rm. 266     |
| 20. Fragment. Fine cream core and slip, black paint.   | Rm. 266     |
| 21. Rim fragment. Grey core, fired pink, cream slip, black paint.                              | XXIII       |
| 22. Fragment. Buff core and slip, brown paint, burnished.                                      | Rm. 264     |
| 23. Fragment. Pink core and slip, light brown paint, pinched lug handle.                       | Rm. 265     |
| 24. Rim fragment. Buff core and slip, purple paint. Narrow band of paint around inside of rim. | XXIII       |
| 25. Rim fragment. Yellow core, fired red, buff slip, red paint.                                | Rm. 264     |
| 26. Rim fragment. Buff core, cream slip, brown paint.  | XXIII       |
| 27. Rim fragment. Cream core and slip, brown paint.  | XXIII       |
| 28. Rim fragment. Grey core, fired buff, cream slip, brown and black paint.                    | XXIII       |

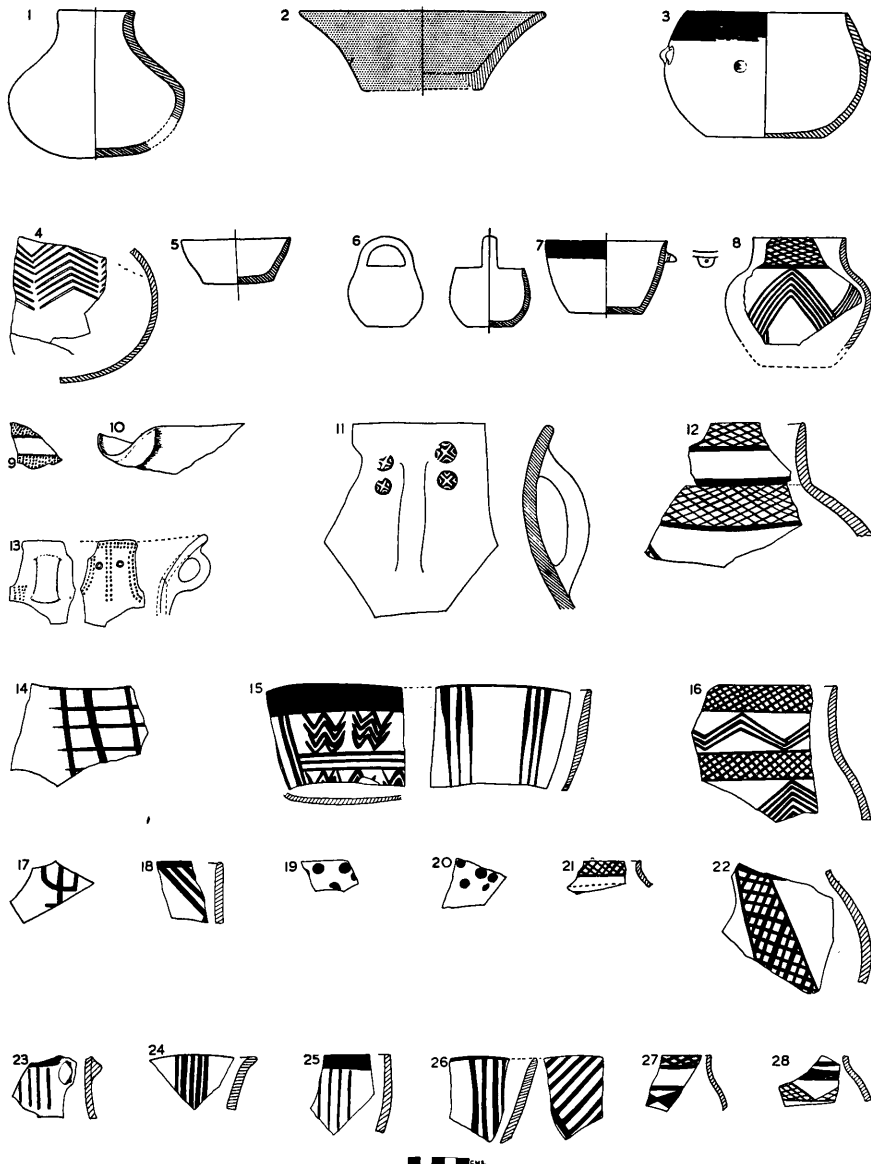


FIG. 54. PLAIN AND DECORATED POTTERY FOUND AT LEVEL XXIII  
 (Nos. 5-7 from a child burial: provenance of Nos. 11, 13 probably Level XVI)

DECORATED POTTERY ILLUSTRATING THE DEVELOPMENT OF  
DESIGNS FROM LEVEL XXII, SCALE 1:5

- |     |  |                         |
|-----|--|-------------------------|
| 1.  | Fragments. Grey core, fired red, buff slip, red paint wearing off inside.  | Rm. 255                 |
| 2.  | Fragments. Drab core, cream slip.  | Rm. 251                 |
| 3a. | Fragments. Fine pink core, buff slip, purplish-red paint.  | Rms. 251 and 266        |
| 3b. | Fragment. Grey core, fired red, wet-smoothed, red paint.   | Rm. 255                 |
| 4.  | Jar, large (restored). Creamy-buff core, cream slip, brown paint.  | Rm. 256                 |
| 5.  | Fragments. Buff core and slip, burnished red paint.  | Rm. 252                 |
| 6.  | Fragments. Drab core, buff slip, purplish paint (? upside down).   | Rm. 256                 |
| 7.  | Jar fragment. Drab core, thin cream slip, brown paint, probably burnished.   | Rm. 256                 |
| 8.  | Rim fragment. Cream core wet-smoothed, brown paint.  | XXII                    |
| 9.  | Rim fragment. Brown core, wet-smoothed, brown paint.   | Rm. 254                 |
| 10. | Rim fragment. Grey core, fired red, thin buff slip, red paint. Band of paint inside rim.                                       | Rm. 252                 |
| 11. | Rim fragment. Drab core cream slip, brown paint.   | Rm. 251                 |
| 12. | Rim fragments. Buff core and slip, burnished red paint.  | Rms. 252, 254, 262, 265 |
| 13. | Rim fragment. Grey core, fired red, thin white slip, red and brown paint.  | XXII                    |
| 14. | Rim fragment. Pink core, cream slip, lustrous red paint.   | Rm. 254                 |
| 15. | Rim fragment. Burnished cream slip, matt black paint. Band of paint inside rim, cream core, medium white grit. Sealed deposit. | Rm. 256.                |
| 16. | Fragment. Buff core, fine grit, burnished cream slip and matt black paint. Sealed deposit.                                     | Rm. 256                 |
| 17. | Fragment. Whitish core, cream slip, lustrous brown paint.  | Rm. 256a                |
| 18. | Fragment. Drab core, thin cream slip, brown paint.   | Rm. 252                 |
| 19. | Rim fragment. Grey core, buff slip, brown paint.   | Rm. 254                 |
| 20. | Fragment. Red core and slip, dark-red paint.   | Rm. 255                 |
| 21. | Fragment. Red core, wet-smoothed, dark red paint.  | Rm. 255                 |
| 22. | Rim fragment. Grey core, fired buff, burnished light brown slip, matt dull red paint. Straight rim.                            | Rm. 252                 |
| 23. | Fragment. Buff core, wet-smoothed, matt black paint, medium grit. Sealed deposit.  | Rm. 265                 |
| 24. | Spout fragment. Grey core, buff slip, red paint.   | XXII                    |
| 25. | Rim fragment. Black burnished, incised decoration.   | Rm. 256                 |
| 26. | Fragment. Grey burnished outside, brown burnished inside, white filled incised decoration.                                     | Rm. 251                 |
| 27. | Fragment. Matt black, incised decoration.  | Rm. 251                 |
| 28. | Rim fragment. Black burnished, incised decoration.   | Rm. 256                 |
| 29. | Base fragment. Grey core, fired red, wet-smoothed, red paint.  | Rm. 254a                |
| 30. | <i>Dish, small. Grey stone, cf. Fig. 49.</i>   | Rm. 246                 |

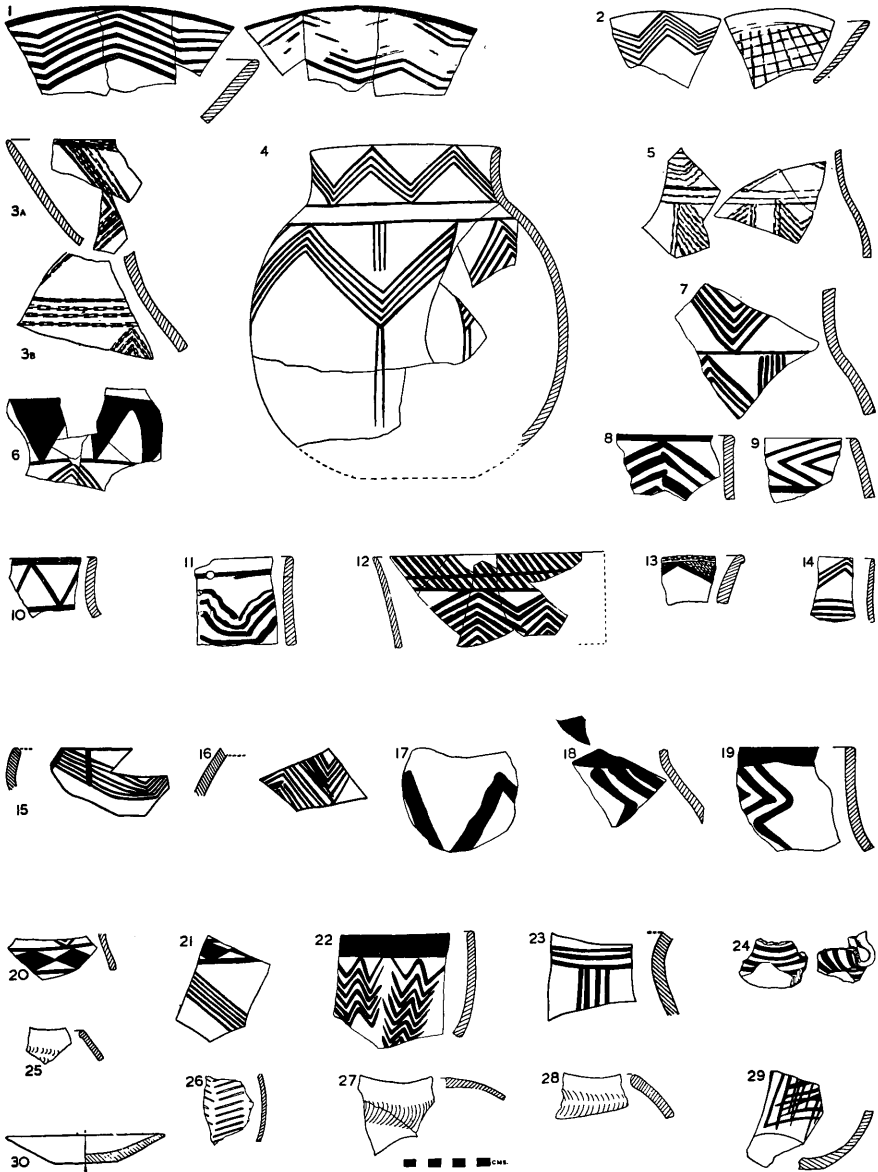


FIG. 55. DECORATED POTTERY ILLUSTRATING DEVELOPMENT OF DESIGNS:  
LEVEL XXII

No. 30. A small stone dish

FURTHER DEVELOPMENT OF LATTICE AND CHEVRON PATTERNS  
AT LEVEL XXII

No. 5. A brazier

- |   |                      |
|---|----------------------|
| 1. Fragment. Buff core, cream slip, lustrous brown paint.   | Rm. 256              |
| 2. Dish. Brown core, baked reddish near surface, dark grey slip, fairly smooth.                                     | Rm. 256              |
| 3. Rim fragment. Drab core, thin cream slip, brown paint.   | Rm. 256              |
| 4. Rim fragment. Drab core, cream slip, brown paint.  | XXII                 |
| 5. Brazier. Coarse straw-tempered clay, brown core, black slip burnished inside and outside except underneath.      | Rm. 256              |
| 6. Rim fragment. Drab core and slip, black paint.   | Rm. 254              |
| 7. Rim fragment. Cream core, red slip, brown paint.   | Rm. 252              |
| 8. Rim fragment. Drab core, wet-smoothed, brown paint.  | XXII                 |
| 9. Rim fragment. Grey core, buff slip, lustrous brown paint.  | Rm. 256              |
| 10. Rim fragment. Cream core and slip, burnished brown paint.   | Rm. 255              |
| 11. Fragment. Grey core, fired red, red slip, red paint.  | Rm. 255              |
| 12. Dish. Light buff core, thin cream slip, black paint. Inside of base decorated as well as sides.                 | Rm. 256 <sub>a</sub> |
| 13. Dish. Brown core, grey slip, wet-smoothed.  | XXII                 |
| 14. Fragment. Drab core, wet-smoothed, brown paint.   | XXII                 |
| 15. Fragment. Buff core and slip, brown paint.  | Rm. 254              |
| 16. Fragments. Grey core, fired red, wet-smoothed, red paint. Decorated lattice with windows.                       | Rm. 252              |
| 17. Fragment. Drab core and slip, burnished brown paint.  | Rm. 256              |
| 18. Fragment. Buff core, wet-smoothed, red paint.   | Rm. 255              |
| 19. Rim fragment. Dark-buff core, fine grit, burnished dark buff slip and burnished dark red paint. Sealed deposit. | Rm. 256              |
| 20. Fragment. Fine pink core, burnished pink slip, matt red paint. Sealed deposit.                                  | Rm. 256              |
| 21. Fragment. Grey core, drab slip, light- and dark-brown paint.  | Rm. 251              |
| 22. Base fragment, pedestal base. Cream core and slip, matt brown paint.  | Rm. 255              |
| 23. Fragment. Grey core, fired red, wet-smoothed, red paint.  | Rm. 254              |
| 24. Fragment. Reddish core and burnished reddish slip, matt dark red paint.   | Rm. 252              |
| 25. Handle. Brown core, wet-smoothed, ridge formed round hole by pressing out the clay.                             | XXII                 |
| 26. Fragment of ? flue pipe. Gritty, hard-baked, brown core, blackened at one end.                                  | Rm. 256              |
| 27. Rim fragment. Wet-smoothed, reddish-buff clay.  | Rm. 256              |
| 28. Technical examples of collars welded onto bodies of jars.   | XXII                 |
| 29. Rim fragment. Knob-handle on slope of shoulder.   | XXII                 |

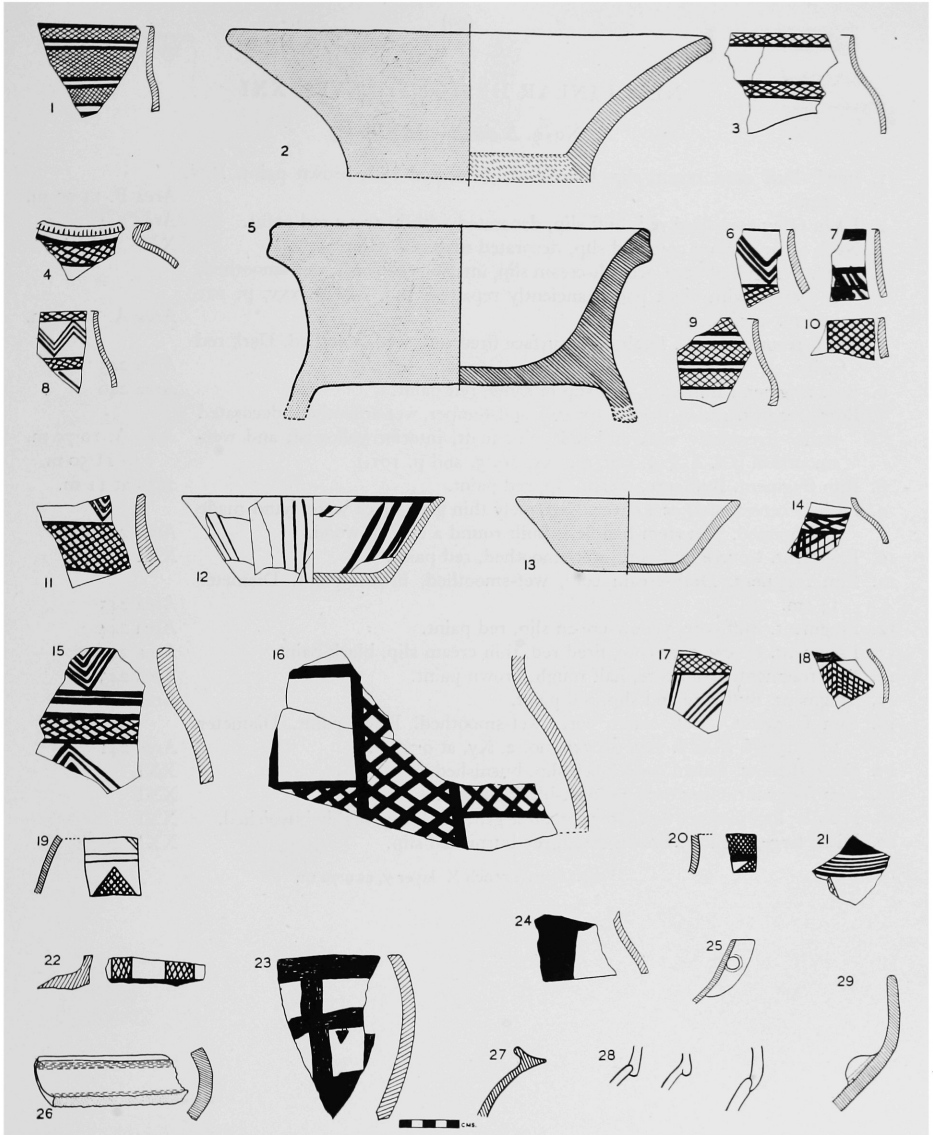


FIG. 56. FURTHER DEVELOPMENT OF LATTICE AND CHEVRON PATTERNS FROM LEVEL XXII

No. 5. A brazier

## NEW LINEAR DESIGNS: LEVEL XXI

## No. 9. A ceremonial dish (?)

- |   |                                   |
|---|-----------------------------------|
| 1. Bowl. Buff core, cream slip, burnished, decorated with brown paint. R.N.<br>1230   | Area B. 11.00 m.                  |
| 2. Dish. Grey core fired red, buff slip, decorated with lustrous red paint.   | Area 241                          |
| 3. Neck of jar. Cream core and slip, decorated matt red paint.  | XXI                               |
| 4. Bowl. Warm buff core, greyish-cream slip, interior yellowish, wet-smoothed,<br>decorated with black paint; anciently repaired. (Cf. <i>L.A.A.</i> xxv, p. 101<br>and pl. xxx, no. 8.)                                    | Area A. 10.00 m.                  |
| 5. Bowl (reconstructed). Drab core, surface fired red, wet-smoothed. Dark red<br>paint.   | Area 245                          |
| 6. Base fragment. Buff core, and slip of same, red paint.   | Area 246                          |
| 7. Bowl (reconstructed). Brick red ware, sand-temper, wet-smoothed; decorated<br>rather irregularly with dull red paint matt, interior yellowish and wet-<br>smoothed. (Cf. <i>L.A.A.</i> xxv, pl. xxx, no. 5, and p. 101.) | Area A. 10.75 m.<br>? to 11.50 m. |
| 8. Rim fragment. Buff core, cream slip, red paint.  | 245 <sup>b</sup> at 11 m.         |
| 9. Dish (? ceremonial) or a cover. Extremely thin grey-black ware, hand-made<br>and pressed. The stem-handle is built round a core of wood.   | Area 244                          |
| 10. Fragment. Course buff core, wet-smoothed, red paint.  | XXI                               |
| 11. Rim fragment. Drab-cream core, wet-smoothed, brown paint. Diameter<br>14 cm.  | Area 245                          |
| 12. Fragment. Buff core, yellow-cream slip, red paint.  | Area 244                          |
| 13. Fragment. Coarse grey core, fired red, thin cream slip, black paint.  | Area 244                          |
| 14. Rim fragment. Drab core, half rough, brown paint.   | Area 245                          |
| 15. Fragment. Buff core and slip, red paint.  | Area 245                          |
| 16. Rim fragment. Drab cream core, wet-smoothed. Black paint. Diameter<br>17 cm. (Cf. <i>L.A.A.</i> xxv, pl. xxx, no. 2, Xy, at 9.70 m.) <sup>1</sup>   | Area 241                          |
| 17. Dish, shallow. Brown core, black slip, burnished.   | XXI                               |
| 18. Rim fragment. Grey core, reddish-black surface.   | XXI                               |
| 19. Handle; lug, pierced, flat. Grey core, fine grit, black slip, highly burnished.   | XXI                               |
| 20. Dish; large, shallow. Brown core, grey burnished slip.  | XXI                               |

<sup>1</sup> i.e., from Trench X, layer y, at 9.70 m.





FIG. 57. NEW LINEAR DESIGNS: LEVEL XXI

No. 9. A ceremonial dish with grip handle

0

DEVELOPED LINEAR DESIGNS AT THE CLOSE OF THE EARLY  
CHALCOLITHIC PERIOD: LEVEL XX

1. Rim fragment. Buff core and slip, matt black paint.	Rm. 238
2. Rim fragment. Grey core, fired red, wet-smoothed, red paint.	Rm. 235
3. Rim fragment. Reddish core, wet-smoothed. Outside, red paint in two shades, wearing off; inside, black paint, wearing off.	XX
4. Rim fragment. Gritty buff core, half rough, brown paint.	Rm. 238
5. Rim fragment. Buff core and slip, red paint.	Rm. 235
6. Rim fragment. Gritty grey core, fired red, red paint.	Rm. 235
7. Rim fragment. Buff core and slip, brownish-red paint.	XX
8. Rim fragment. Buff core, wet-smoothed, red paint, mostly worn off.	Rm. 236
9. Rim fragment. Gritty red core, reddish slip, brown paint.	XX
10. Fragment. Drab core, wet-smoothed, black paint.	XX
11. Fragment. Grey core, fired red, wet-smoothed, red paint.	Rm. 238
12. Fragment. Coarse drab core, wet-smoothed, black paint.	XX
13. Fragment. Buff core, cream slip, red paint.	Rm. 235
14. Fragment. Drab clay, wet-smoothed, black paint.	Rm. 235
15. Fragment. Grey clay, fired buff, wet-smoothed, red paint.	XX
16. Fragment. Cream core and slip, black paint.	Rm. 235
17. Fragment. Coarse grey core, buff slip, red paint.	XX
18. Fragment. Fine buff core and slip, brown paint.	Rm. 236
19. Fragment. Pale buff core, cream slip, brown paint.	XX
20. Rim fragment. Buff core, wet-smoothed, brown paint.	XX
21. Rim fragment. Buff core, burnished light red paint.	Rm. 231
22. Rim fragment. Buff core, cream slip, red paint.	Rm. 235
23. Bowl. Buff clay, wet-smoothed, cream surface, brown paint.	Rm. 235
24. Rim fragment. Grey core, cream surface, half rough, brown paint.	Rm. 236
25. Rim fragment. Coarse buff core, wet-smoothed, red paint.	Rm. 235
26. Rim fragment. Gritty buff core, wet-smoothed, brown paint.	Rm. 236
27. Rim fragment. Greenish core, cream slip, red paint.	Rm. 236
28. Rim fragment. Buff core, whitish slip, burnished brown paint.	Rm. 231
29. Rim fragment. Grey core, cream slip, light brown paint.	Rm. 238
30. Rim fragment. Buff core, wet-smoothed, brown paint.	Rm. 235
31. Rim fragment. Rising rim. Grey clay, wet-smoothed, burnished brown paint.	Rm. 236
32. Fragment. Reddish core, wet-smoothed, red paint, probably burnished.	Rm. 238
33. Fragment. Drab core, cream slip, black paint.	Rm. 238
34. Fragments. Grey core, reddish-brown slip, brown paint.	Rm. 235
35. Fragment. Buff core, reddish slip, red paint.	XX
36. Fragment. Buff core, red slip, red paint.	Rm. 235
37. Fragment. Grey core, buff slip, red paint.	Rm. 238
38. Rim fragment. Grey core, reddish slip, black paint fired dark red. Inside washed black.	Rm. 236
39. Bowl. Pale cream clay, wet-smoothed, brown paint. Asymmetrical (restored).	Rm. 238
40. Box. Fine cream core, wet-smoothed, black paint. Square box and decorated rim.	Rm. 238
41. Rim fragment. Grey core, wet-smoothed, cream surface, brown paint.	Rm. 235
42. Rim fragment. Gritty buff core, half rough, reddish paint.	Rm. 236
43. Rim fragment. Buff core, wet-smoothed, red paint.	Rm. 238
44. Rim fragment. Buff core, wet-smoothed, red paint.	Rm. 238
45. Rim fragment. Buff core and slip, pale brown paint.	Rm. 238
46. Fragment. Buff core, cream slip, brown paint.	XX
47. Rim fragment. Grey burnished, incised decoration.	Rm. 236
48. Base fragment. Buff core, wet-smoothed, red paint.	Rm. 235

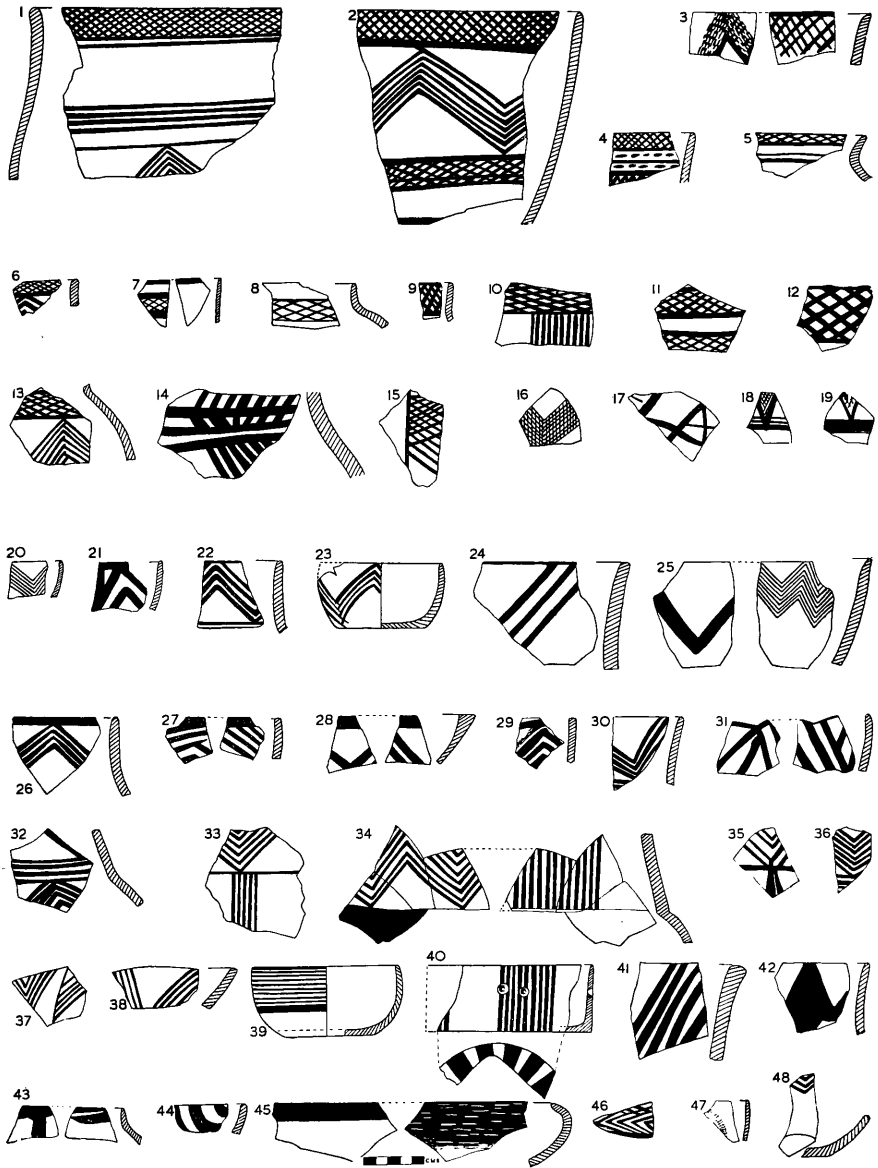


FIG. 58. LINEAR DESIGNS AT CLOSE OF THE EARLY CHALCOLITHIC PERIOD: LEVEL XX

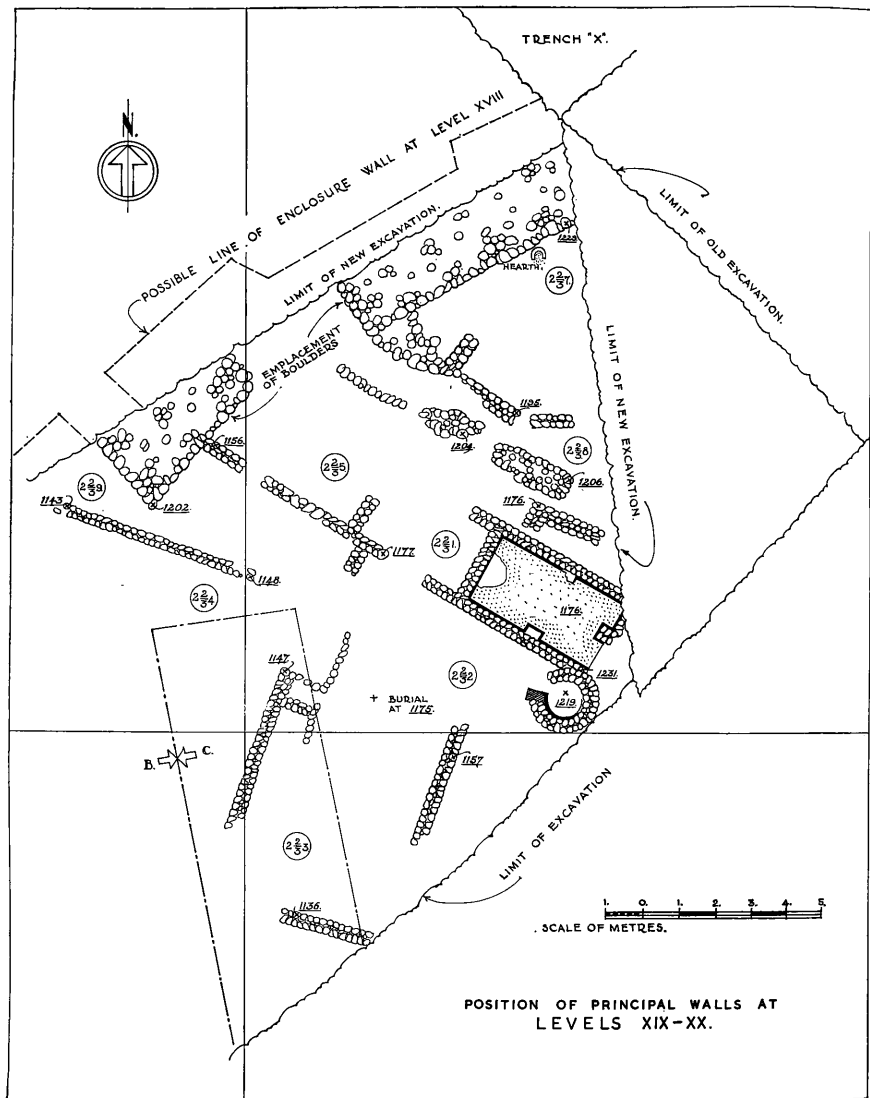


FIG. 59. PLAN OF CONSTRUCTIONS AT LEVELS XX-XIX, INCLUDING AREA C

## VI

### THE HALAFIAN IMPACT

*Middle Chalcolithic Levels, XIX–XVII. (12–13.30 metres)*

THE pottery and other objects (including copper tools) from Levels XIX–XVII mark the beginning of changes which culminate at Level XVI in the fortification of the site. Principal features are the appearance of metal in free use and the sudden influx of the so-called ‘Halafian’ ceramics; while a mass deposit of burnt human remains within the area of occupation suggests that this time the change had been accompanied by violence.

To those unfamiliar with the term, the word ‘Halafian’ may require a short explanation. It is an adjective coined from the name of a site called Tell Halaf on the Turco-Syrian frontier, near Nisibin on the headwaters of the Khabur river in northern Mesopotamia; but its use to connote a particular phase of the chalcolithic period should not suggest in any way that this place was a chief source or the sole distributing centre of this distinctive culture. Far richer and more plentiful illustrations have been recovered by Professor Mallowan from the stratified deposits at Arpachiyah<sup>1</sup> and other sites in the vicinity of Nineveh; while other researches have traced its dissemination widely throughout Iraq, Mesopotamia, and northern Syria including Carchemish<sup>2</sup> on the Euphrates and the Amuq plain,<sup>3</sup> thence to Sakje Geuzi in the broad valley east of the Amanus,<sup>4</sup> and in the north-east to the vicinity of Lake Van. The name of ‘Tell Halaf’ has become associated with this culture in accordance with usage among prehistorians, because its traces were first unearthed there by Baron Max von Oppenheim in 1899 and again in 1927–9, and were recognized by fellow archaeologists as new and distinctive.<sup>5</sup> Similar explanations apply to terms like Ubaidian, Samarran, &c., as indicating other distinctive aspects of the chalcolithic culture in the Near East based on initial discoveries made at Tell Ubaid, Samarra, and elsewhere, and also at Warka where the peculiar ‘Uruk’ types were first recognized.

In the early part of this century the Halafian culture was regarded as among the most advanced and also the earliest product of ancient civilization in the Near East, though a deep sounding at Nineveh made by Professor Mallowan<sup>6</sup> had shown that something even older had still to be disclosed. Fragments from our low-level soundings in Trench X in 1937 confirmed this impression; but it was not until 1943–4 that Mr. Seton Lloyd, who had meanwhile devoted himself to the antiquities of Iraq, brought to light at Tell Hassuna, again not very far from Nineveh, the demonstration of a distinct pre-Halafian culture in the stratified building levels of a prehistoric village, with the same ceramic sequence

<sup>1</sup> Cf. Mallowan in *Iraq*, ii, pt. 1.

<sup>2</sup> Cf. Woolley in *Iraq*, i, pls. xix–xx.

<sup>3</sup> Cf. Braidwood, *O.I.P.* xlvi, 1937, p. 7, Period XIII–XIV (also *A.J.A.* xli, p. 11).

<sup>4</sup> Cf. *L.A.A.* xxiv. Periods I and II of Miss Seton

Williams’s classification. Cf. pp. 130 ff.

<sup>5</sup> First in 1899 and later in 1927–9. Cf. Myres in *L.A.A.* ii, p. 139.

<sup>6</sup> *L.A.A.* xx, pl. lxxiii.

and designs as were found in our lowest chalcolithic Levels discussed in the previous chapter.

The sequence established by these isolated discoveries—Hassuna, Halaf, Ubaid, and Uruk—thus became basic; and it will be found as we proceed to be confirmed and illustrated by the fresh materials from Yümük Tepe, with the advantage that these and other elements of contemporary culture disclose themselves here in a stratified sequence as a continuous panorama. In this lies the unique importance of our results. We shall find, as was to be anticipated, that the three or four distinctive phases overlap considerably here as elsewhere; for a cultural influence once established can only be extinguished by a complete change of population such as has rarely happened, and is not suggested in this case. Also, be it remembered, we are dealing with a community which was situated, so far as we know, on the outer fringe of the Mesopotamian cultural zone and had hitherto developed its own tendencies under the occasional stimulus of trade relations. Our inquiry will be directed not so much to examining the nature of the new contact and the fresh light it throws on the Halafian problem, as to tracing its effect upon the life of this relatively isolated society.

The immediate effects of the Halafian contact are best seen in the influx of new motifs and treatment in the decoration of pottery. These indicate a change in culture and for this reason claim priority of description in this chapter. Pottery has in fact become the leading criterion of most ancient civilizations: it is happily an almost indestructible product of man's handiwork; and its broken fragments, trampled into mud floors or thrown into refuse-dumps, preserve on every Oriental site the precious evidence of his tastes, his domestic requirements, and his cultural contacts. But Halafian pottery is peculiarly distinctive, both in colour and design, glowing with lustrous paint and burnished surfaces, and fashioned to special shapes; in short its characteristics are almost unmistakable. Its introduction into the horizon of the local potters at Level XIX was so sudden, and its effects upon their talent so immediate, that I feel constrained to describe it as an 'Impact' rather than a normal trade contact. Usually the introduction of superior imported pottery is sufficient to ensure the reproduction of its new and attractive designs upon the local wares of a site. Here, however, there is more than superficial copying: what is especially noticeable is the improvement of the local technique in the better and cleaner firing of the clay and the tempering of it with fine grains of powdered flint or gypsum. Whatever else may have accompanied these innovations, it would seem, at least, that some master craftsmen came with them and taught the local potters new lessons which they were quick to assimilate.

#### POTTERY OF LEVELS XIX-XVII (Figs. 71-76)

The figures which illustrate the pottery of this phase (71-76) show this clearly. On Fig. 71 we see the surviving and improved designs of the preceding phase, combined with some new shapes. On Fig. 72 is seen a whole series of Halafian motifs, some imported, like the dishes 5 and 10, others of local fabric. On Fig. 73 is found a further series of Halafian designs, on pots of which a few only are imported; while the splendid imitation, no. 2, with attempted polychrome decoration, appears to be a product of entirely local craftsmanship: yet all these figures represent pottery from one Level, namely XIX.

At the next Level (XVIII) the designs reproduced on Figs. 74 and 75 with the bucranium, dotted patterns, and rosettes, are characteristic Halafian motifs, and some (notably

nos. 27, 28, and 30 on Fig. 75) are found in the corresponding levels of Nineveh. The hachured or criss-cross radiating triangles on no. 35, the combination of chevron with latticed bands, filled in with dashes, in no. 31, combine older motifs with new ideas. The rosettes in nos. 15 to 17 and the filled field of nos. 25 and 39 suggest an advanced stage of the Halafian culture. On Fig. 74, again, fully developed Halafian treatment is found on the lids nos. 8 and 19, well represented also in nos. 13 and the fragmentary specimens 10, 15, and 16; while in the same context nos. 1 and 2 are elementary examples of local art adapted in the latter case to a large bowl of relatively new shape. On Fig. 76 we sense a further change in the designs of nos. 1, 2, 3, and 40 and the pottery is different: a burnished cream-slip ware is decorated with matt black paint, which we shall find to be the characteristic of the Level next above. At this penultimate Level of this series some mingling of old and new motifs is apparent—we are groping here among the foundations of an entirely new order which will be described in the next chapter.

This rapid glance at the leading features of our illustrations and a study of the fabrics will suffice to demonstrate the sudden arrival of some true Halafian pottery, and the obvious imitation of Halafian decorative designs by the local potters on their home-made wares, coupled with surviving traces of the fabrics and patterns already familiar in the lower Levels. The most marked change is in the potters' technique, and this will be made apparent in the fuller description of the figures. It suggests to me, as already stated, the incoming of craftsmen, whose knowledge of pottery-making was based on a wider experience and experiment than even the age-long tradition of the local potters could supply. This incoming is significant: it seems to indicate or foreshadow the end of the isolation and immunity from disturbance which our village had hitherto enjoyed. Clay objects include also spindle whorls, of which some plain examples have been illustrated in Fig. 40. At Level XIX there was found also one that had been burnished and decorated with spaced

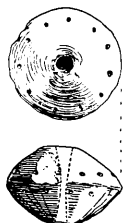


FIG. 60. Incised whorl (1254). Level XVIII. Scale 1:2



FIG. 61

1550 Slate pendant: ibex head.  
Level XVIII. Scale 1:2

1624 Model of cow. Dp XX.  
Probably XIX. Scale 1:2

*pointillé*, shown in Fig. 60 as an almost unique example. A full series of decorative motifs will be found in Fig. 116; but these do not lead, as we shall see, to a typological classification.

Among the innovations of this momentous epoch we note with special interest the appearance of two objects representing animal forms, the earliest recognizable examples on this site.<sup>1</sup> They are shown in Fig. 61.

<sup>1</sup> An earlier example of a horned animal in unbaked clay (R.N. 1674) found at Level XX in Spot 254 could not be identified.

That on the right hand suggests a cow: the drawing is somewhat similar in its outlines to that of a bovine design in pottery of the Tell Halaf period found at Arpachiyah and thought by Professor Mallowan to represent a bull. On Mesopotamian sites, he says, representations of cattle are very common.<sup>1</sup> In our case the object (R.N. 1624) is also of pottery, coloured white except for a stripe of dull reddish paint. Its length is 45 mm., width 16 mm., and height 47 mm. It was found during work on the dump from Level XX and may be attributed to Level XIX.

The second object (R.N. 1550), a pendant carved in stone (a kind of slate) seems to represent the head of an ibex. (See photograph, Pl. XVI.) The length of the head is 36 mm. and the width across the horns 33 mm. It was found at Level XVII in Spot 217.

#### CONSTRUCTIONS AND STRATIFICATION

Of architecture, properly speaking, there is little that remains to be described before we reach at Level XVII the strong foundations of Level XVI. In the two preceding Levels there is abundant sign of demolition and disturbance, and even, for the first time, evidence of violence. None the less, the traces of domestic occupation are continuous throughout, though the Levels differed greatly in character from the series in the earlier period. At Level XIX, apart from the lime-lined building already described as emerging from Level XX, there were few continuous features to place upon the Plan. The area excavated had in fact to be reduced at this stage for reasons of safety, as we had now reached the 12-metre level where the unsupported boundaries to our work rose some 50 feet on the unexcavated sides; while in the north the revetment and foundations of the fortress built at level 13.50 formed an unexpected barrier which for technical reasons could not well be removed before the excavation of the area was completed. The space thus enclosed on three sides was extended towards the west by the inclusion of Area B, which had been uncovered in 1939. Here, as in the general area, the preserved walls show that houses and other buildings had occupied the spot, and these indications were confirmed by the litter of roofing materials and other details.

By the southern corner of the lime structure there appears on the Plan (Fig. 59) the foundation of a circular construction, strongly built, which may have been a kiln; while in the extreme south-west are traces of a small square building of solid masonry suggestive of a guard room. The mass of boulders irregularly laid along the north-west edge may represent the foundations of a terrace to hold an enclosing wall at a higher level.

Level XVIII (at 12.40 metres) disclosed increasing evidence of superficial disturbance so that the structural remains gave no connected plan. None the less it bore abundant traces of occupation in the form of domestic objects and utensils. Much of the area was covered in fact by fallen building materials which included large slabs of dried mud in which the impressions of timber and reeds were plainly visible. The thicker pieces doubtless represented the walls of mud huts built in timber frames to which the reed-marked pieces formed the roof, and the absence of stone tends to confirm this suggestion; there were indeed no traces of any solid foundations. The impression recorded in my notebook at the time was that the area had been partly cleared and occupied by squatters or work-people who lived in temporary structures.

The traces of community life were, however, quite definite and will repay consideration.

<sup>1</sup> *Iraq*, ii, fig. 48, no. 5 and p. 88.



Large bins or bowls seemed to have been used for storage of grain; and it is of interest to note that they occupied much the same area in relation to the village as did the silos at Level XXIV. Seven or eight of these were recorded by Mr. W. Brice in his field plans of the western and northern portions of the area (Spots 214-16) most of them partly sunk into the ground, and some still retaining grain (to be seen on Pl. XIV). Associated with them in the plan are the traces of several open fire-places, one of which was practically intact, and is represented in Fig. 62, drawn from a photograph (also on Pl. XIV). It was based on a bed of cobbles and smaller rough stones set in a layer of hard mud. Its maximum height at the opening was about 40 cm., the periphery falling away to about

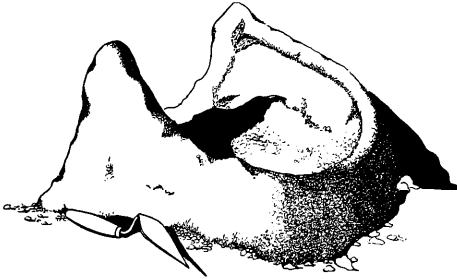


FIG. 62. Open-air fire-place at Level XVIII

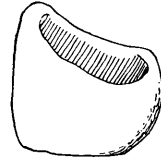


FIG. 63. Clay support for cooking-pots from oven. Scale 1:6. R.N. 1921

35 cm. at the back. Inside, its floor was raised about 10 cm. above the outside level, and the width of the opening at floor-level was 23 cm. The inner sides were roughened and crumbling from the effects of fire, but probably sloped inwards towards the bottom. On its hearth were three supports of clay suitably modelled to hold up a large cooking-vessel: one is sketched in Fig. 63; and the others are to be seen in the photograph on Pl. XV. Obviously this fire-place was used for cooking, and perhaps also for baking slabs of bread placed against its sides. The earliest recognizable appearance of the domed oven so familiar in the Near East does not seem to occur on this site before Level XVII. In this same portion of the area (numbered 216) were found some pottery vessels and fragments; also several cones of baked clay, probably also used as supports for cooking-pots, and one large spherical lump of baked clay of uncertain use (photograph, Pl. XV.)

In the eastern portion of the area (Spot no. 211) there were exposed two small and irregular floors of cobble-stones, and between them a hearth with ashes *in situ* and a large deposit of ash near by. In the immediate vicinity on the inner side were recognized three post holes. In the southern portion (Spot 212) were traces of a house wall about 6 metres long, with an unexplained triangular enclosure two stones deep in its southern quarter. The foundations of other walls made their appearance at sub-Level XVIII<sub>z</sub>, but they covered only a small area without co-ordinated arrangement and nowhere extended to the periphery of the area. These considerations tend not only to confirm the impression quoted above, but in the light of what actually followed suggest that this demolition of buildings on the outskirts of the village and the clearing of the adjacent area were measures preparatory to the great reconstruction which becomes apparent at the next Level.

At Level XVII (at 13.00 metres) the clearance was completed, and the massive founda-

tions of an outer fortification were laid 10 cm. above the floor of occupation upon a deep substratum of stones and clay. The rest of the area was covered partly by traces of temporary occupation, including a domed oven and an open fire, and partly (on the eastern side) by a series of four parallel walls made of mud brick, about 60 cm. wide and a metre apart. These walls ran under the steep edge of the excavation, and so remain unexplained. They were razed to the foundation level of the outer rampart, and no stone structures were found at this Level within 10 metres of the prescribed circuit. The fortress itself, with

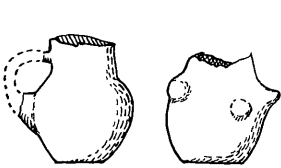
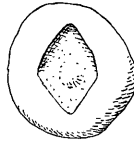
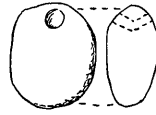


FIG. 64. Miniature pots from Level XVII. Scale 1:3. R.Nos. 1550 and 1529



Socket stone. XVII. No. 1527. Scale 2:3



Pierced stone XVII. No. 1567. Scale 1:4



Clay loom weight. No. 1741. Scale 1:3

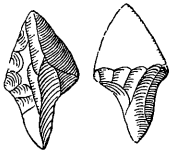
FIG. 65. Objects of stone and clay from Level XVII

Level XVI as its occupation floor, will be described separately in the next chapter. Among the pottery objects found at Level XVII mention must be made of the two miniature jugs shown in Fig. 64. Distinguishing features are the normal loop-handle of which this is the earliest recorded example, and the bosses or lugs on the other specimen. Possibly these exceptional types were really experimental potters' models.

In clay also is the shaped piece bored with a hole for suspension, shown with two objects in stone, in Fig. 65. Its height is 8.8 cm. and its width 6.6 cm. It may well have been fashioned for a loom weight, for which its shape was appropriate, but it showed no sign of wear at the threading-hole. It was found in the eastern part of the area wherein were uncovered the long narrow buildings described above, and perhaps it provides a clue to their purpose.

#### INDUSTRIES OF LEVELS XIX–XVII

*Objects of stone and bone.* Examples of obsidian-working at Level XIX were limited almost entirely to flakes, though sickles and threshing-blades of chert continued to be fabricated in some abundance as well as some good-sized knife-blades of the same material.



Level XIX

Level XVIII

FIG. 66. Arrowhead and stone palette

The few roughly shaped arrowheads found at this Level (Figs 29 and 66) might seem to suggest that hunting for game was less common than it had been in the period of Level XXIV. It crosses my mind,

however, that the elaboration of a shapely arrow-head was not really essential: any sharp chip of obsidian of suitable shape would serve the purpose. It is, in fact, unlikely that hunting would ever have been abandoned in the neighbourhood of foothills where ground

game and feather are abundant. The scarcity of elaborately shaped arrow-heads is therefore not in itself significant.

The last typical specimens of the lithic industry appear at Level XVIII, and though among them are a chisel and one or two useful tools, it is clear that the technique itself was rapidly degenerating. This is explained at Level XVII by the finding of metal tools in a clearly stratified context.<sup>1</sup>

Four obsidian cores found at that Level point the same way. These cores were no longer being flaked on the spot: like those of larger size discovered in higher Levels they probably retained their value for export rather than for use. According to Mr. Dikaios,<sup>2</sup> cores and objects of a geologically similar obsidian reached Cyprus in prehistoric antiquity; and the possibility of intercourse with that island certainly merits further investigation. Aside from this, the technique of flaking such cores is in itself an interesting study: an account of it,

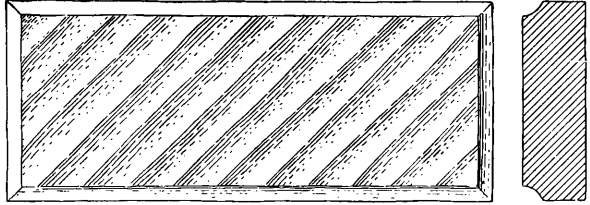


FIG. 67. Chisel-marked stone from Level XVII. Scale 1:5

appended to this chapter, has been written by Mr. Brice, who assisted us in our last campaign.

Two unusual stone objects found at Level XVII have been shown in Fig. 65. The small socket stone with a diamond-shaped hollow, no. 1527, was designed apparently to hold or fix something of that shape. The stone itself is only 37 mm. in length and 20 mm. deep, so I imagine it was a utensil used in a workshop. The stone object adjoining it in the illustration, no. 1567, may have been designed as a loom weight; but its special interest is to be seen in the way its suspension hole has been drilled, with two slanting cylindrical holes which meet in the middle.

Another unusual object, R.N. 1533, found at Level XVIII, appears in Fig. 66 and Pl. X b. Outside it simulates a box, but it is almost solid, with a rubbing-surface just below the rim, as the drawing shows. Its overall length is 11.3 cm., breadth 7.1 cm., and its height 3.7 cm. The stone is quartzite; and it was found together with a cooking-pot, which suggests that it may have been used for crushing salt.

We have already seen in Fig. 43 three objects from the Levels under consideration. The round socket stone R.N. 1825 rather resembles those on which doors pivoted in later times, but was more probably a domestic grindstone. R.N. 1827 represents a stone roller probably for crushing grain; and R.N. 1826 a bowl of unusual shape smoothed inside by use. (See photograph, Pl. XI c.)

Most interesting of all, shown in Fig. 67, is a stone of architectural character which bears clear traces of metal tooling. It is 44 cm. long, 18 cm. wide, and 5.5 cm. thick. Its upper surface is crossed obliquely by a series of parallel grooves, 16 mm. deep. The edges are cleanly chamfered as shown in the section, and the tooling on the reverse side shows

<sup>1</sup> As the foundations of the fortress penetrated 30 or 40 cm. into Level XVII, they were distinguished as Level XVIz, though actually at practically the same metre level as XVII. Finds from XVIz will be in-

corporated in the next chapter.

<sup>2</sup> Cf. Dikaios, 'New Light on Prehistoric Cyprus', in *Iraq*, vi, p. 78.

that it was dressed with a chisel. Though its purpose is unknown, it is a unique piece which illustrates a knowledge of stone-carving far superior to anything discovered in the lower Levels.

Fig. 68 shows four objects, two of bone and two of clay from the same Level. Though rather small, the stout pointed bone R.N. 1513 may, from its resemblance to weavers' tools of a later epoch (Chap. VIII, p. 173), have been a beater-pin. It is 7.2 cm. in length. The crescental object below in the figure, R.N. 1519, is carved from a tusk. It has on its inner side a serrated edge of uncertain use: its overall length is 3.7 cm. The use of tusks is fairly common at this Level. The two objects at the left of the figure illustrate attempts to

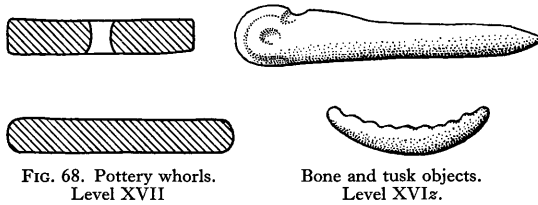


FIG. 68. Pottery whorls.  
Level XVII

Bone and tusk objects.  
Level XVIz.

fashion spindle-whorls from the flat bases of broken pots; but only one of them is perforated. Such flat whorls were presumably used for spinning wool which requires more room on the spindle than flax or cotton.

*Metal objects from Level XVII.* Metal tools of types represented in Fig. 80b, from the foundations of the fortification, are described under XVIz in the next chapter, which deals specially with that building. There are, however, two other metal objects which may be attributed independently of the fortress to Level XVII.



FIG. 69. Copper chisel.  
R.N. 1508. Level XVII



FIG. 70. Copper seal.  
Scale 1:2

One of these is the broad-faced copper chisel shown in Fig. 69 (R.N. 1508). Its length is 5.0 by 3.1 by 0.8 cm. It was found below the foundations of Room 166 which belongs to the Level above, and is accordingly the earliest complete copper tool found as yet upon the site. It is satisfactory that its appearance at this Level coincides with the earliest trace of chiselled stone described above.

The other metal object is the copper seal (R.N. 1562) pictured in Fig. 70. In this case there is some doubt about its provenance. It was found (during one of our periodic inspections) in the tipped debris of Level XVII. In the ordinary course of work its attribution to this Level would be almost a matter of routine. But as possibly the earliest example found on the site, it claims special scrutiny. The design upon it appears sophisticated, and it finds close parallels in the early Copper Age both at Troy<sup>1</sup> and at Dikmen Hüyük.<sup>2</sup> I therefore do not find it possible to accept this doubtful provenance as a reliable indication of its date and origin.

Having now passed in review the more instructive and unusual objects present in these Levels, we may resort to a tabular chart for further details. In this I include Level XX,

<sup>1</sup> Cf. Schmidt, *S.S.*, p. 299, no. 8444.

<sup>2</sup> *Bulleten*, ix, p. 290.

CLASSIFIED TABLE SHOWING THE CONTINUITY OR OTHERWISE  
OF SMALL OBJECTS FROM LEVELS XX-XVI

	XX	XIX	XVIII	XVII	XVI
<i>Personal or Domestic</i>					
Bone needles . . . . .	x				
„ pins . . . . .	x				
Clay beads . . . . .					x
„ cones . . . . .			x		
„ spits . . . . .			x		
„ stoppers . . . . .	x		x	x	
Pottery spoons . . . . .					x
Shell beads . . . . .	x	x			
Slate pendants . . . . .			x		
Stone beads . . . . .	x	x			
„ bracelets . . . . .	x				
„ bowls . . . . .	x		x		
„ palettes . . . . .	x		x		x
„ pestles or rollers . . . . .		x			
„ polishers . . . . .	x	x			x
„ querns or mortars . . . . .	x	x	x	x	
<i>Crafts and trades</i>					
Bone awls . . . . .	x	x	x	x	x
„ spatulas . . . . .	x				
Clay whorls . . . . .	x	x	x	x	x
Copper axes . . . . .				x	x
„ chisels . . . . .					x
„ pins . . . . .					x
„ seal . . . . .				x ?	
Stone celts (miniature). . . . .	x	x		x	x
„ maces (whorls) . . . . .	x		x	x	x
„ scrapers . . . . .					x
„ spatulas . . . . .	x	x			
„ stamps . . . . .	x				
„ weights (sinkers) . . . . .	x	x	x	x	x
<i>Various</i>					
Boar tusks . . . . .				x	
Clay animal figures . . . . .	x		x		
„ balls . . . . .				x	
„ beds model . . . . .					x
Stone balls . . . . .				x	x
„ disks . . . . .			x		
„ hollowed . . . . .			x		
„ perforated . . . . .			x		

which is unaffected by the incidence of the changes already apparent, in particular the influx of Halafian pottery and motifs and the use of metal. These are radical innovations, and coupled with the fortification of the site (to be presently described) they indicate a change of culture.

Comparison of the columns on the chart shows in general a paucity of domestic objects

at Level XIX followed by a considerable increase at Level XVIII, but not of the same category. Indeed, only six out of fourteen classes represent survivals of local practice; these, being pendants, whorls, stone ware, and household tools, are such as were probably used by the women of the community. This indication is significant: for among the burials which we will now describe there were found indications of violence and slaughter.

#### BURIALS AND OTHER HUMAN REMAINS

Though the human remains found in the Levels reviewed in this chapter illustrate both normal and exceptional burial practices, they provide us with little information on the question of race. The ground at these depths was so damp that most of the bones needed special preservative treatment *in situ*. This was a task for dry weather, but unfortunately we experienced at that time frequent storms of rain. Anthropometrical investigation was further hampered by the nature and state of the interments; indeed, the most abundant deposit of human bones had been reduced to fragments and largely calcined by fire.

Most of the burials plainly belonged to Levels XVIII and XVII where (as already noted) the ground was in process of clearance. Normally I ascribe an interment to the Level immediately above it, but owing to the shallowness of these Levels there is here an element of doubt. However, Level XVII must be the upper limit since it was completely sealed down by the fortifications which covered the area at Level XVI.

Within the area of occupation most of the interments were as usual those of children buried below the floors of houses, while others of adults followed the normal practice. Before considering the exceptional cases and their implications, it will be best to describe them all from the record made for us on the site by Professor Gordon Childe.

(i) *Level XVII*. In Area 221 at Level XVIII was found the skeleton of an infant lying on its right side facing north in a contracted position, with the knees well drawn up towards the chin, and the left hand in front of the face. The head lay towards the east, the other bones from north-west to south-east. No relics were found; but the skeleton was removed in the hard earth in which it was embedded and ultimately deposited intact in the Museum at Adana.

(ii) *Level XVII*. In Area 223 at Level XVIII were found the leg bones of a skeleton which had probably lain on its left side in a contracted position; the left tibia was 37 cm. long.

(iii) *Level XVIII*. In the southwest corner of Area 222 of Level XIX immediately under the floor lay a skeleton on its left side facing east and reaching down almost to the floor of the Level below. Stones from a fallen wall rested against the shoulder blade and must have crushed the neck. The head, apparently complete, lay 32 cm. farther south, separated from the trunk by fallen stones and mud bricks. Just under it was baked clay, and under the shoulder a good quantity of ash. This interment was not in a contracted position except for the legs below the knee which were bent up behind the femurs.

(iv) At *Level XIX* just under the floor-level of Level XVIII was found an almost complete skeleton on its left side with head thrown back facing north, while the body lay from west to east. The lower jaw was hanging open: the left arm extended to the knees, while the right arm and hand bent downwards. The right femur was drawn up at about  $110^{\circ}$  to the vertebral column and the left femur at  $180^{\circ}$ , while the left leg was parallel to the right at  $25^{\circ}$  to the v.c., and was covered by the right ribs. No cist was observed, and no

offerings—other than sherds found among the bones and under the skeleton. These, however, do not belong to any single vessel or fit together, and were probably already present in the ground. The skull, including the right *ramus*, had been broken, possibly by the workmen. All the bones were soft and little firmer than the hard earth in which they were embedded. The skull and long bones were however removed, albeit in pieces.<sup>1</sup>

(v) *Level XIX*. In Area 231 of Level XX at the extreme south-east corner of a mud-brick wall were fragments of the skull, jaw, and ribs, also a couple of long bones, of a child with the second teeth forming but not yet erupted. The bones did not pass under the wall, from which fact it is fairly clear that this burial was made under the floor of the room. All the bones were fragile and black on the surface as if they had been scorched, but very few were calcined white throughout. The earth was red all over the floor of the room, especially under the bones.

(vi) *Level XIX*. In Area 234 at Level XX was found an extensive deposit of burnt bones, some completely calcined white and others merely blackened; but all were found as soft as the earth in which they were embedded. No bones could be recognized with certainty, but some good teeth were collected; as these have proved to be human<sup>2</sup> the deposit must rank as a mass cremation *in situ*. With the bones were a few sherds and two vases, one in black ware very thin and crumbling, the other probably painted. Both were badly discoloured and neither was complete. In this case there is a probable indication of the Level of origin in Mr. Brice's detailed charts, where it is seen that whereas the area immediately above the deposit in Level XIX was void, it was sealed down by a layer of heavy stones at the top of that Level in a substratum of Level XVIII at 12.48 metres above zero, the calcined remains being noted in Level XX at 11.40 metres.

It is noticeable that the burials (i) and (ii) which must necessarily be ascribed to Level XVII appear to conform with normal practice. They must have been made in the open ground before building of the fortifications was begun. No. (iii), however, found at Level XIX shows signs of mutilation and the ashes below the head are significant. In no. (iv), also, the signs of disturbance and disrespect are evident. With no. (v) are traces of burning which may possibly have been due to accident, though it is difficult to account in that way for the scorching and calcination of the bones and the red earth on which they rested. The mass burial no. (vi) gives unmistakable evidence (as Professor Childe wrote provisionally in his field book before the teeth had been identified) of mass cremation *in situ*.

Without the evidence of burial no. (vi), the others though abnormal might not have seemed significant; but the fact that the burnt human remains occur at Level XIX, which marks the impact of Halafian culture, arrests attention. Moreover, adult burials of any kind within the precincts of the village, or even in its outskirts, are very exceptional. In this case we see evidence of disrespect and a mass burying of human bodies, a practice altogether unknown upon our site, which betrays violence and suggests the presence of an enemy. The natives would hardly have defiled their village in this way even as an act of vengeance or retaliation. We are forced to conclude that a fight had occurred with strangers who celebrated their victory with this holocaust.

Without more extensive excavations it would be unwise to generalize; but in view also

<sup>1</sup> The skull has been carefully repaired by Professor Senyürek of the University of Ankara, and is pronounced by him to be 'strongly dolicho-cephalic'.

<sup>2</sup> Extract from an interim report by Professor Şenyürek of the University of Ankara, dated 9 January 1951.

of the change of culture and the remarkable innovations of the age, it seems probable that the Halafian impact was accompanied by an assault upon the unfortified village, and the slaying of its defenders. The perpetuation of domestic occupations on the old lines suggest that the women were spared and resumed eventually their spinning, cooking, and pottery-making under new masters. However that may be, the period of peaceful progress now came to an end. It is difficult to imagine whence the invaders came. The fortification of the site was put in hand almost at once and the military architecture described in the next chapter is without known parallel. Had they come from the Mesopotamian side one might reasonably have expected to find there the prototype of these defences. In the lack of light from that direction I feel inclined personally to look to the north-east, to some unexplored region within the widespread zone of the Halafian culture, for the source of these innovations and a possible centre of civilization.

## FRAGMENTS OF DECORATED POTTERY FROM LEVEL XIX

1. Fragment. Buff core and slip, red paint.	Rm. 225
2. Rim fragment. Buff core, cream slip, black paint.	Rm. 223
3. Bowl fragment. Buff core, cream slip, brown paint.	Rm. 223
4. Rim fragment. Grey core, whitish slip, red paint.	Rm. 225
5. Fragment. Grey core, whitish slip, red paint.	Rm. 225
6. Rim fragment. Buff core, cream slip, reddish paint.	Rm. 225
7. Rim fragment. Cream core and slip, black paint.	Rm. 225
8. Rim fragment. Buff core and slip, brownish-red paint.	Rm. 224
9. Rim fragment. Buff core, half rough, red paint.	XIX
10. Rim fragment. Buff core, wet-smoothed, red paint.	Rm. 224
11. Rim fragment. Fine white clay, lustrous red paint.	XIX
12. Bowl fragment. Buff core and slip, brown paint.	Rm. 227
13. Rim fragment. Buff core, cream slip, black paint, fired brown.	Rm. 223
14. Rim fragment. Buff core, reddish slip, red paint.	Rm. 224
15. Rim fragment. Buff core, reddish slip, red paint.	Rm. 224
16. Fragment. Buff core and slip, black paint.	Rm. 223
17. Fragment. Buff core, reddish slip, red paint.	Rm. 223
18. Fragment. Buff core and slip, brown paint.	Rm. 224
19. Fragment. Buff core, cream slip, red paint.	XIX
20. Fragment. Grey core, cream slip, black paint.	Rm. 222-3
21. Rim fragment. Buff core, cream slip, brown paint.	Rm. 225
22. Fragment. Pale buff core and slip, black paint.	Rm. 225
23. Rim fragment. Buff core and slip, brown paint.	Rm. 227
24. Rim fragment. Grey core, cream slip outside, black paint.	Rm. 221
25. Rim fragment. Buff core, cream slip, brown paint.	Rm. 238
26. Fragment. Buff core, cream slip, brown paint.	Rm. 224
27. Rim fragment. Reddish core, buff slip, magenta paint.	XIX
28. Fragment. Buff core and slip, brown paint.	Rm. 221
29. Fragment. Buff core, wet-smoothed, black paint.	XIX
30. Fragment. Buff core and slip, brown paint.	Rm. 224
31. Fragment. Buff core, cream slip, black paint.	Rm. 221
32. Neck fragment. Buff core, cream slip, red paint.	Rm. 222-3
33. Fragment. Buff core and slip, brown paint.	Rm. 225
34. Fragment. Buff core, cream slip, brown paint.	Rm. 224
35. Fragment. Red baked core, buff slip, brown paint.	Rm. 224
36. Fragment. Grey core, baked red, half rough, red paint, rough inside.	XIX
37. Fragment. Grey core, baked red, half rough.	Rm. 224
38. Fragment. Buff core and slip, brown paint.	Rm. 224
39. Fragment. Buff core and slip, brown paint.	Rm. 221
40. Fragment. Buff core, cream slip, black paint.	Rm. 225
41. Fragment. Grey core, buff slip, red paint.	Rm. 224
42. Fragment. Fine reddish core, buff slip, burnished red paint.	Rm. 224
43. Fragment. Reddish core, buff slip, lustrous red paint. Vertical streaks of paint inside.	Rm. 224
44. Fragment. Fine greyish-buff core, burnished slip, matt brown paint.	Rm. 222
45. Fragment. Grey core, buff slip, brown paint.	Rm. 221
46. Fragment. Grey core, white slip, red paint.	Rm. 224
47. Fragment. Reddish core and slip, thick brown paint.	Rm. 224
48. Fragment. Grey core, buff slip, brown paint.	Rm. 224
49. Fragment. Buff core and slip, brown paint.	Rm. 221



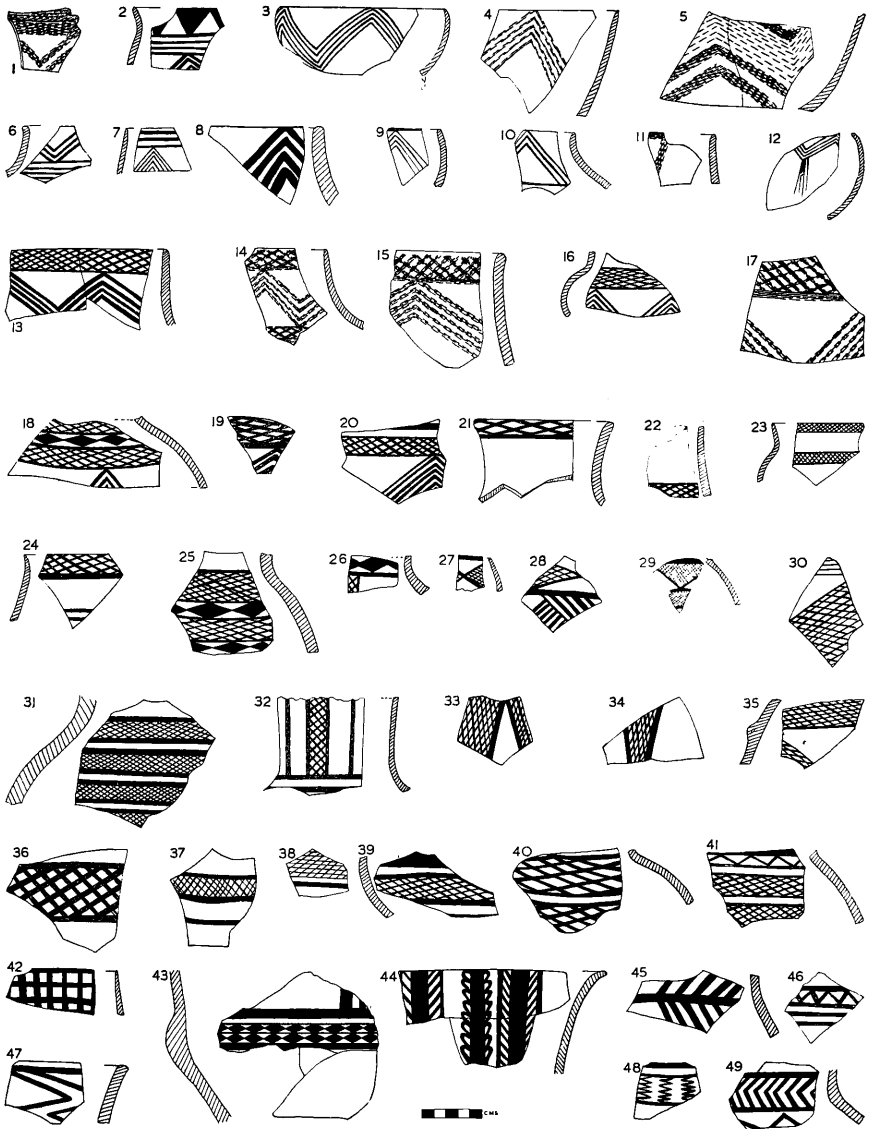


FIG. 71. FRAGMENTS OF DECORATED POTTERY FROM LEVEL XIX  
*Broken lines in Nos. 1, 4, 5, 14, 15, 17, &c., indicate a lighter shade of colour: nos. 1-17 are of local fabric*  
 5250 Q

POTTERY DECORATED WITH HALAFIAN DESIGNS AND PLAIN  
WARES FROM LEVEL XIX

1. Bowl. Buff core, wet-smoothed, brown paint. Note: Rim and base not parallel.	Rm. 226D
2. Dish. Dark-grey core, burnished, partly fired brown.	"
3. Bowl fragment. Buff core, yellowish slip, brown paint, red bands.	"
4. Bowl. Pale buff core; wet-smoothed, warm black paint.	"
5. Dish. Buff clay, yellowish slip, red and brown paint. (Imported Halafian ware.)	"
6. Beaker. Brown core, burnished brown and black slip, burnished black inside rim.	"
7. Bowl. Buff core, wet-smoothed, brown paint.	"
8. Fragment. Reddish core, buff slip, brown paint.	"
9. Fragment. Buff core, cream slip, brown paint.	"
10. Dish. Buff core, brown paint on rim, orange-red paint outside. (Imported Halafian ware.)	"
11. Fragment. Cream slip, brown paint.	"
12. Rim fragment. Grey core, buff slip (? fired red in places), dark-red paint, incised lines.	"
13. Rim fragment. Grey core, black paint.	"
14. Trichrome fragment. Buff core, wet-smoothed, brown paint.	"
15. Trichrome fragment. Buff core and slip, red and orange paint.	"
16. Trichrome fragment. Buff core and slip, brown and red paint. (Cf. no. 3.)	"
17. Spout. Matt cream slip inside and outside, medium grit.	Rm. 225
18. Rim fragment. Reddish core and slip, red paint (lighter shade rendered by broken lines).	Rm. 221
19. Rim fragment. Fine buff core and slip, red paint (broken lines denote a lighter shade of red).	Rm. 224
20. Fragment of lid. Fine cream core and slip (?), black paint.	Rm. 222
21. Rim fragment. Reddish core and slip, reddish brown paint.	Rm. 225
22. Jar. Warm grey core, burnished outside and around rim inside.	Rm. 224
23. Fragment. Brown core and slip, brown paint.	Rm. 226
24. Bowl fragment. Brown core, brown paint, burnished.	XIX
25. Bowl fragment. Grey core, fired red, half rough, red paint.	Rm. 223
26. Base fragment. Buff core and slip, lustrous-red paint (faint rendered by broken lines).	Rm. 221
27. Base fragment. Grey core, fired red, wet-smoothed, very rough inside, red paint.	Rm. 223

226D indicates a Sealed Deposit from Area 226.

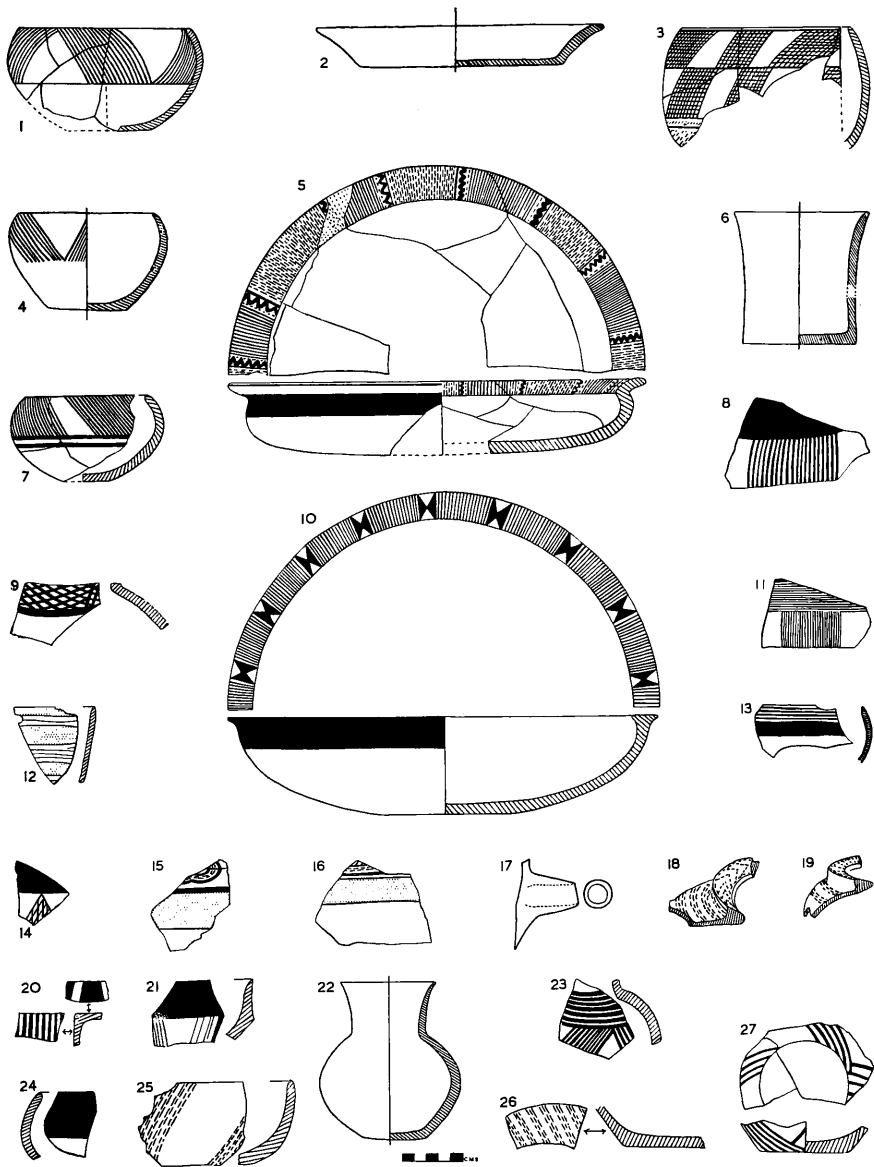


FIG. 72. POTTERY DECORATED WITH HALAFIAN DESIGNS AND PLAIN WARES FROM LEVEL XIX

Nos. 1-16 from a sealed deposit

HALAFIAN IMPORTED WARES AND LOCAL DERIVATIVES  
FROM LEVEL XIX

(No. 2, a restored bowl)

1. Buff core, brown and red paint, burnished. (Imported ware.)	Rm. 224-6
2. Bowl, restored. Fine buff clay, cream slip, brown and red paint. (Local fabric: the stars are red.)	Rm. 224
3. Buff core, cream slip, brown and red paint, burnished.	
4. Red core, buff slip, dark and light-red and brown paint, burnished.	Rm. 225
5. Red core, buff slip, brown and red lustrous paint.	Rm. 228
6. Red core, buff slip, matt brown and lustrous red paint.	Rm. 228
7. Buff core, wet-smoothed, lustrous red and brown paint.	Dump
8. Buff core, white slip, brown and red paint, burnished.	Rm. 225
9. Fine red core, black and red paint.	Rm. 224
10. Buff core, cream slip, brown and red matt paint.	Rm. 227
11. Buff core and slip, brown paint.	XIX
12. Buff core and slip, brown and red matt paint.	Rm. 225
13. Reddish core and slip, brown and red paint, burnished.	Rm. 228
14. Buff core, white slip (?), brown, dark and light red paint. (Possibly part of same pot as no. 4.)	Rm. 225
15. Grey core, buff slip, lustrous red paint.	XIX
16. Grey core, fired red, wet-smoothed (?), brown and red lustrous paint.	—
17. Brown and red paint.	—
18. Buff core, brown and red lustrous paint. Perhaps a lid. (Imported ware.)	Rm. 225
19. Red core, buff slip, red and brown paint.	Rm. 224
20. Reddish core, yellowish slip, brown paint.	Rm. 226
21. Fine reddish core and slip, brown paint.	Rm. 228
22. Grey core, reddish slip, brown paint.	Rm. 224
23. Red core, buff slip, brown paint.	Rm. 221
24. Buff core, cream slip, reddish brown paint.	Rm. 225
25. Fine reddish core, yellowish slip, brown paint.	Rm. 226
26. Greyish-buff core, wet-smoothed (?), brown paint.	Rm. 221
27. Grey core, baked red, cream slip, brown paint.	Rm. 226
28. Buff core and slip, brown paint.	Rm. 224
29. Grey core, fired red, yellowish slip, brown paint.	Rm. 225
30. Whitish core and slip, dark brown paint.	Rm. 227
31. Fine reddish core, brown and red paint.	Rm. 225
32. Yellowish core and slip, brown paint.	Rm. 226
33. Buff core, yellowish slip, brown paint.	Rm. 224
34. Grey core, fired red, buff slip, black and red matt paint. Built of 3 fragments.	Rms. 201, 224, 226
35. Buff core, red and brown matt paint.	Rm. 225
36. Buff core, white slip, dark- and light-red paint.	XIX
37. Buff core, cream slip, dark- and light-brown matt paint.	—
38. Buff core, wet-smoothed, red and brown paint.	Rm. 228
39. Grey core, drab slip, brown and reddish paint.	Rm. 225
40. Buff core, cream slip, brown and red matt paint.	Rm. 227
41. Matt cream slip, dark brown matt paint, fine grit.	Rm. 227-8
42. Fine reddish core, buff slip, red paint.	Rm. 225
43. Red core and slip, red paint.	Rm. 225
44. Reddish core, brown slip, shading to red, black lines, burnished.	Rm. 223
45. Buff core, fine grit, burnished brown and red paint, incised.	Rm. 224
46. Buff core, ridged, not painted.	Rm. 222
47. Grey core, incised.	Rm. 227
48. Grey core and slip (?), burnished, jagged.	XIX
49. Buff core, jagged.	Rm. 221
50. Yellowish core, combed.	Rm. 223
51. Reddish core, combed.	Rm. 224
52. Light brown core, combed.	Rm. 221
53. Grey core baked buff, combed.	Rm. 223

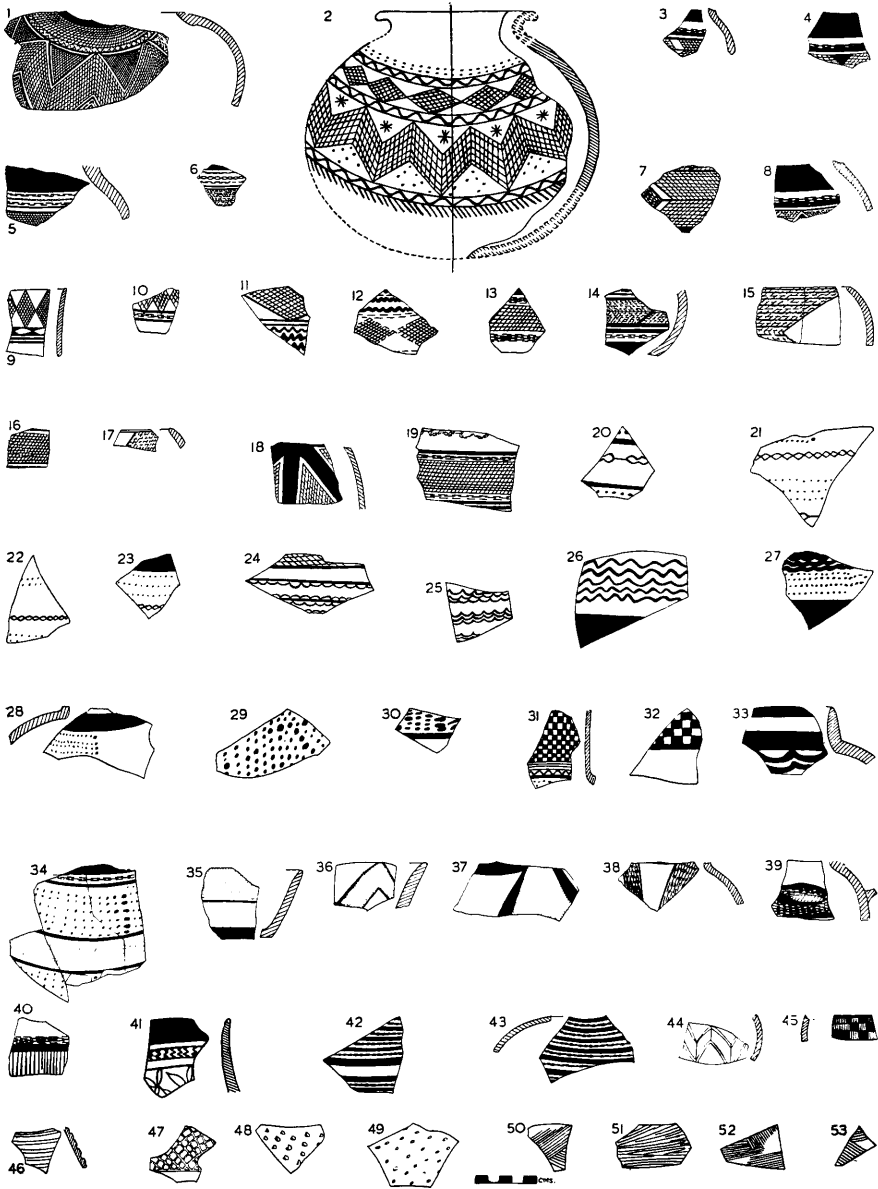


FIG. 73. HALAFIAN IMPORTED WARES AND LOCAL DERIVATIVES FROM LEVEL XIX

LOCAL POTTERY (e.g. 1-3) AND HALAFIAN IMPORTS (e.g. 5, 8, 19)  
FROM LEVELS XVIII-XVII

- |   |                      |
|---|----------------------|
| 1. Bowl. Cream core, wet-smoothed, matt black paint.  | B. 13.25             |
| 2. Bowl, large. Reddish-buff core, wet-smoothed, reddish-brown paint.   | Rm. 212              |
| 3. Bowl, two-handled. Light brown core, wet-smoothed, rather rough. R.N. 1627.  | Rm. 219              |
| 4. Fragment. Buff core and slip of same, matt purple paint.   | Rm. 216              |
| 5. Base fragment. Grey core, matt pink slip burnished on rim, decorated in burnished red and brown paint, splashes of red paint inside. (Halafian motif and possibly imported.) | Rm. 215              |
| 6. Dish. Dark core and burnished surface.   | Rm. 212              |
| 7. Jar. Cream core, wet-smoothed, matt black paint. (Rim not found.)  | Level XVII           |
| 8. Lid. Grey core, fired buff, buff slip, Halafian decoration in red paint.   | Rm. 212              |
| 9. Lid fragment. Pale buff core, whitish slip, black paint turning brown.   | Rm. 216              |
| 10. Fragment. Buff core, wet-smoothed, brown paint.   | Rm. 215              |
| 11. Fragment. Buff core, matt cream slip, matt red paint.   | Rm. 215              |
| 12. Jug, small. Drab core, rough. R.N. 1530.  | Rm. 215              |
| 13. Rim fragment. Buff core and slip, red paint.  | Rm. 204              |
| 14. Fragment. Buff core and slip, red and brown paint.  | Rm. 216              |
| 15. Rim fragment. Matt pale buff slip, matt dark brown paint.   | Rm. 216              |
| 16. Fragment. Buff core, matt cream slip, matt brown and red paint.   | Rm. 216              |
| 17. Dish, large. Buff core, wet-smoothed, brown paint.  | Rm. 211              |
| 18. Bowl. Reddish core, wet-smoothed, red paint.  | Rm. 216              |
| 19. Bowl with lid. Found in 11 m. level below the rampart of Level XVI. Drab core, red slip burnished inside and out, black matt paint. (Halafian style and probably imported.) | Probably Level XVIII |

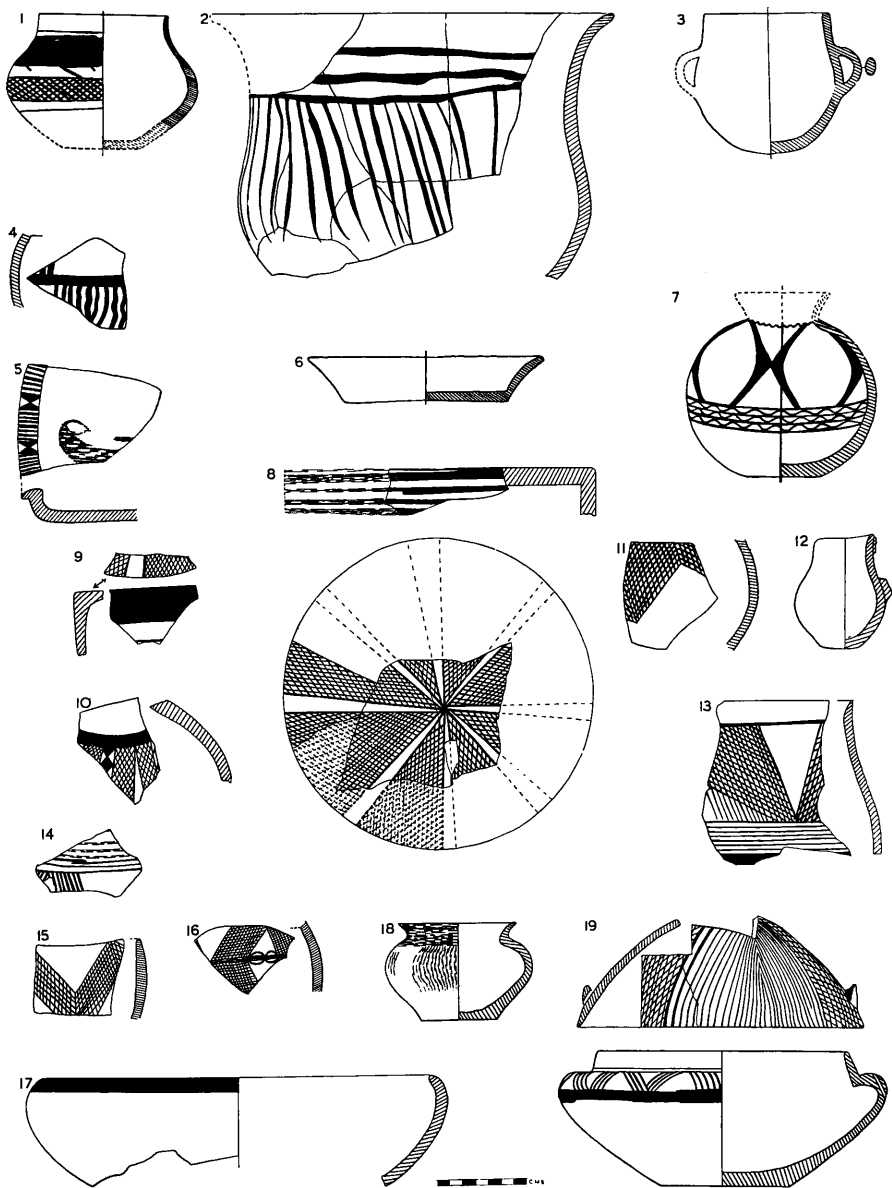


FIG. 74. LOCAL POTTERY (e.g. 1-3) AND HALAFIAN IMPORTS (e.g. 5, 8, 19) FROM LEVELS XVIII-XVII

## POTTERY FRAGMENTS DECORATED WITH HALAFIAN MOTIFS

(mostly from Level XVII)

- |  |               |
|--|---------------|
| 1. Buff slip, decorated with brown and red paint.                                  | Rm. 217       |
| 2. Buff core and slip, decorated with brown and red paint.                         | Rm. 166z      |
| 3. Red core, yellow inside, decorated with brownish paint.                         | Area 205      |
| 4. Buff core and slip, decorated with red paint.                                   | Under Rm. 170 |
| 5. Cream core with burnished cream slip, decorated with matt brown paint.          | Rm. 177z      |
| 6. Buff core, decorated brown paint.   | Under Rm. 166 |
| 7. Buff core and cream slip, decorated with light brown paint.                     | Rm. 216       |
| 8. Pinky core, matt cream slip, decorated with matt brown paint.                   | Rm. 216       |
| 9. Buff core, decorated with brown and red paint.                                  | Rm. 204       |
| 10. Buff core, white slip, decorated with black paint.                             | Rm. 216       |
| 11. Coarse pottery, brown slip, black paint.                                       | XVIz          |
| 12. Buff slip, decorated with brown and red paint.                                 | Under Rm. 170 |
| 13. Cream slip, decorated with brown and red paint.                                | Under Rm. 170 |
| 14. Cream slip, decorated with brown and red paint.                                | Under Rm. 170 |
| 15. Matt cream slip, decorated with matt grey paint. Band of paint inside rim.     | Rm. 166z      |
| 16. Light cream burnished slip, decorated dark-brown burnished paint.              | XVIz          |
| 17. Deep cream slip and black burnished paint.                                     | XVIz-XVII     |
| 18. Trichrome, matt orange-cream slip, matt brown and red paint.                   | XVIz          |
| 19. Brown slip, black paint.   | XVIz          |
| 20. Trichrome, buff surface, lustrous red and matt black paint.                    | Rm. 216       |
| 21. Red core, buff slip, decorated with brown and matt red paint.                  | Rm. 215       |
| 22. Cream slip, decorated with brown and red paint.                                | XVIz          |
| 23. Buff core, wet-smoothed, decorated with dark-red and light-red paint.          | XVII          |
| 24. Trichrome, buff slip, decorated with red and black paint.                      | XVII          |
| 25. Trichrome, reddish core, buff slip, black and red paint.                       | Rm. 211       |
| 26. Buff slip, decorated with brown and red burnished paint.                       | Rm. 203       |
| 27. Dark buff clay, burnished brown slip, incised decoration, inside wet-smoothed. | XVII          |
| 28. Dark cream clay, burnished dark-brown and red paint, incised decoration.       | Rm. 169z      |
| 29. Fine gritty buff core, buff slip, combed decoration.                           | Rm. 206       |
| 30. Yellowish matt slip, decorated with matt black paint, incised decoration.      | Rm. 202       |
| 31. Burnished cream slip, lustrous brown-black paint, burnished inside round rim.  | Rm. 212/15    |
| 32. Buff core and slip, decorated with brown paint.                                | Rm. 216       |
| 33. Buff core and slip, decorated with brown paint, burnished.                     | Rm. 212       |
| 34. Buff core and slip, decorated with brown paint, burnished.                     | Rm. 216       |
| 35. Buff slip, decorated with brown and matt red paint.                            | Rm. 180       |
| 36. Buff core, yellowish surface, thin slip or wash, decorated with black paint.   | Rm. 212       |
| 37. Buff core, reddish slip, decorated with brown and red paint.                   | XVII          |
| 38. Matt cream slip, decorated with matt purplish-black and light brown paint.     | XVIz          |
| 39. Matt buff slip, decorated with matt dark-red paint.                            | XVII          |
| 40. Fine cream core and slip, decorated with pale-brown paint.                     | Rm. 213       |
| 41. Buff core, wet-smoothed, decorated with brown paint.                           | Rm. 214       |



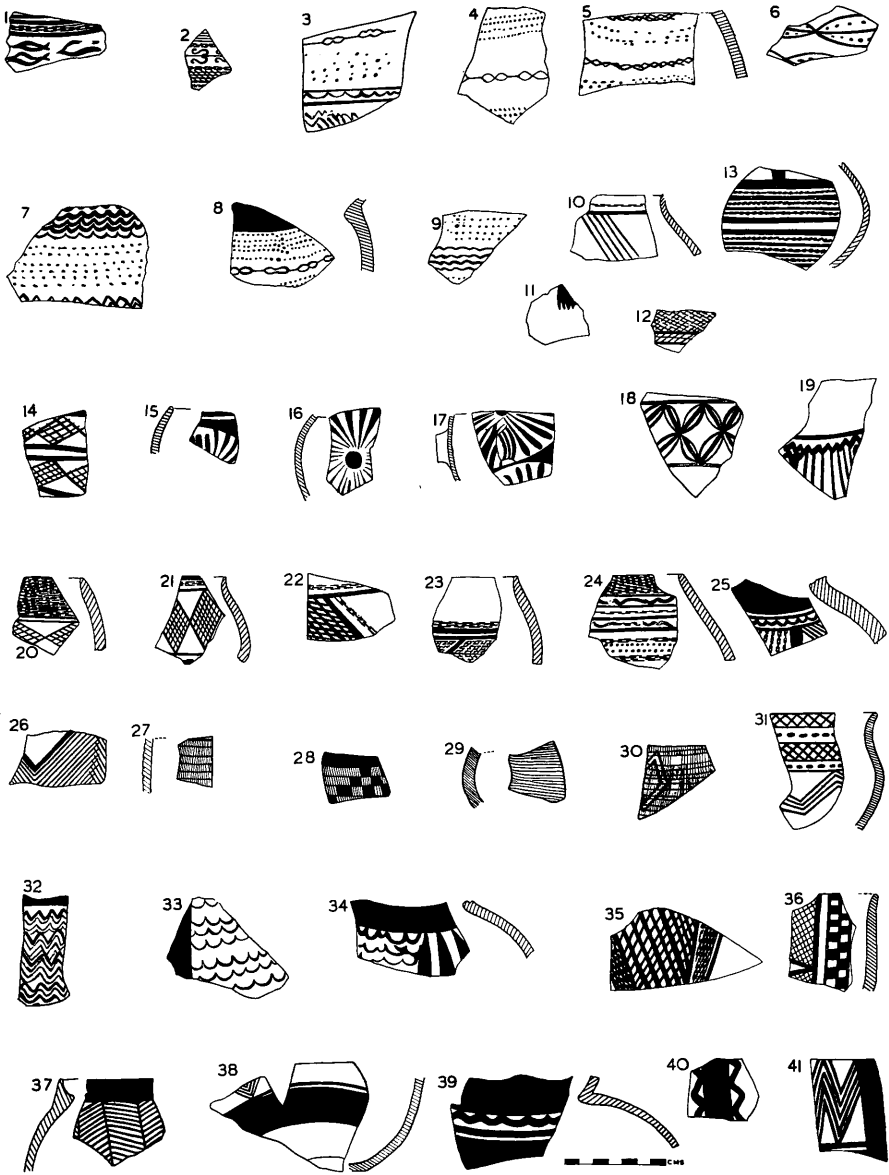


FIG. 75. POTTERY FRAGMENTS DECORATED WITH HALAFIAN MOTIFS, MOSTLY FROM LEVEL XVII

DECORATED LOCAL WARES AND OTHER FABRICS FROM  
LEVELS XVIII, XVII, AND XVI<sub>z</sub>

- 1, 3, 5. Fragments of cream slipped vessels from Level Xyd ascribed by comparison with new finds (e.g. nos. 2 and 4) to Level XVI<sub>z</sub> or XVII (cf. *L.A.A.* xxv, pl. xxiv nos. 4, 7, and 8).
6. Fragment of hole-mouthed bowl with external ridge for cover. Standard cream slip ware, decorated festoons and chevrons in matt black paint. Level XVII from Area 205
- 7-12. Fragments of standard cream slip ware showing combination of designs. Transitional between lower and middle chalcolithic. The decoration is usually done in dark-red paint, sometimes firing brown to black.
13. Neck of jar with handle. Cream slip, brown paint. XVII  
XVI<sub>z</sub>
14. Bowl rim. Burnished buff slip, decoration in matt black paint. XVII
15. Bowl fragment. Cream slip decorated with black. Level XVII from under Rm. 170
16. Fragment. Cream slip, brown paint. Level XVII, Rm. 215
17. Fragment. Rough red core, red paint. Level XVII, Rm. 166
18. Rim fragment. Fine white core, pale cream slip, brown paint. Level XVII, Rm. 204
19. Fragment of jar. Burnished brownish slip, matt red paint. Level XVII, Rm. 204
20. Fragment. Cream slip, brown paint. Level XVII, Rm. 205
21. Fragment. Brown slip, brown paint. Level XVII, Rm. 205
22. Miniature jar with knobs, holed. Rough drab clay. R.N. 1529. Level XVII, Rm. 204
23. Rim fragment. Wet-smoothed core, traces of pink slip inside, incised decoration. Level XVI<sub>z</sub>, Rm. 204
24. Fragment. Cream slip, black and brown matt paint. XVI<sub>z</sub>
25. Fragment. Cream slip, black paint. Rm. 204/5
26. Fragment of bowl. Trichrome. Buff slip, black and red paint. Level XVII, Rm. 170
27. Fragment with pierced rising handles. Cream core, burnished cream slip and burnished brown paint. Same pattern inside and outside. XVII
28. Fragment with pierced lug. Dark buff core, wet-smoothed. Level XVII, Rm. 211
29. Fragment with leaf pattern. Cream slip, brown paint. Rm. 170
30. Fragment, incised. Burnished black surface, white-filled incised decoration. Level XVII, Rm. 212
31. Fragment with small vertical incisions. Grey burnished ware. XVI<sub>z</sub>
32. Fragment. Decorated with alternating black and white oblongs. XVII
33. Fragment. Buff slip, decorated matt black paint. Rm. 216
34. Fragment. Grey core, cream slip, decorated with snakes in black paint. Level XVIII, Rm. 213
35. Fragment, with holed handle. Standard cream slip, burnished, decorated matt black paint. Level XVII, Rm. 216
36. Fragment, round knob handle, holed. Grey core, fired red, brown paint. Level XVIII, Rm. 217
37. Fragment of bowl, burnished cream, broad bands of paint. Level XVIII
38. Fragment of neck, three colours. Reddish core, cream slip, brown and red paint. Level XVIII, Rm. 215
39. Rim of bowl. Cream slip ware, burnished, decorated with fine lustrous brown paint. Level XVII, Rm. 215
40. Bowl fragment, large. Standard cream slip, decorated black inside and outside. ? XVI<sub>z</sub>
41. Fragment, decorated. Buff core and slip, brown paint. Level XVIII, Rm. 216
42. Fragment. Decorated. Levels XVII-XVIII, Rm. 205
43. Neck of jar. XVIII

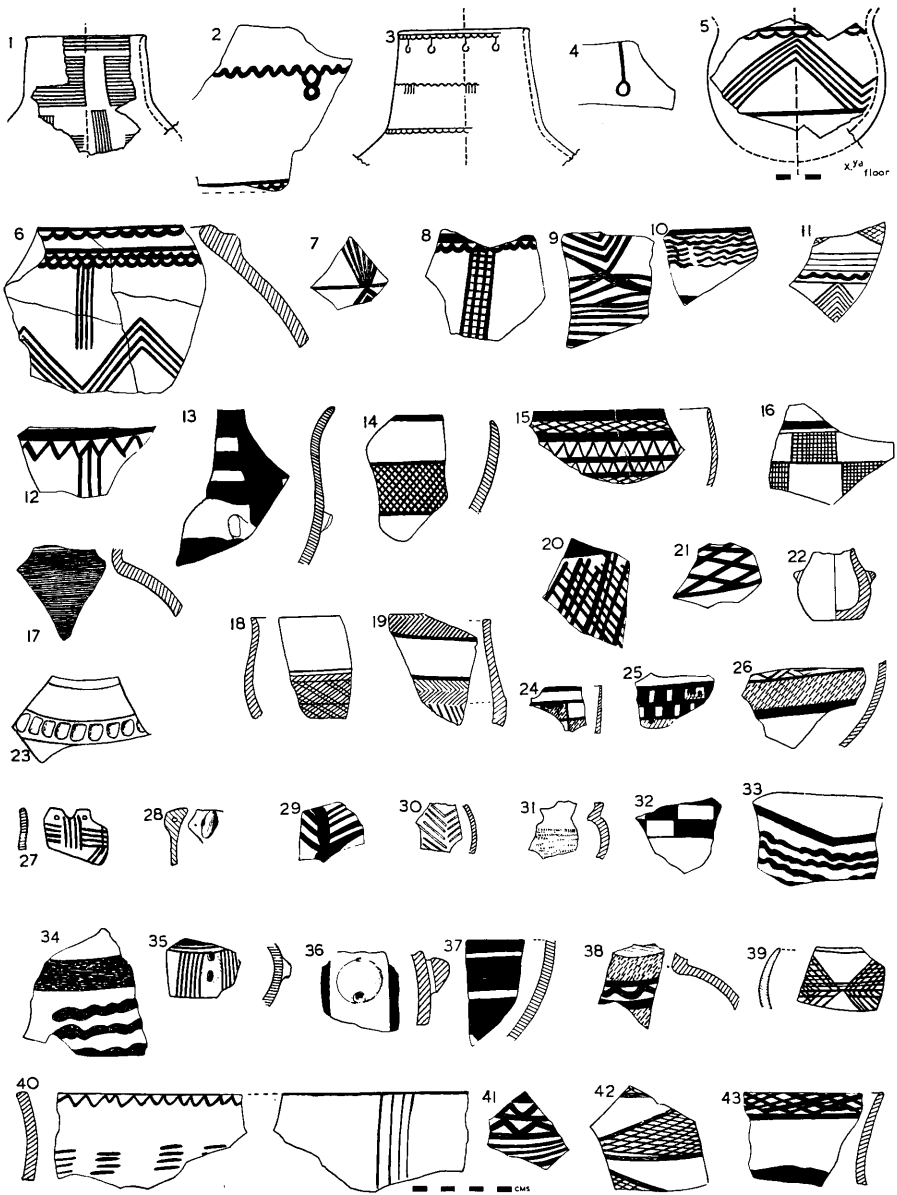


FIG. 76. DECORATED LOCAL WARES AND OTHER FABRICS  
 From Levels XVIII, XVII, and XVIz.

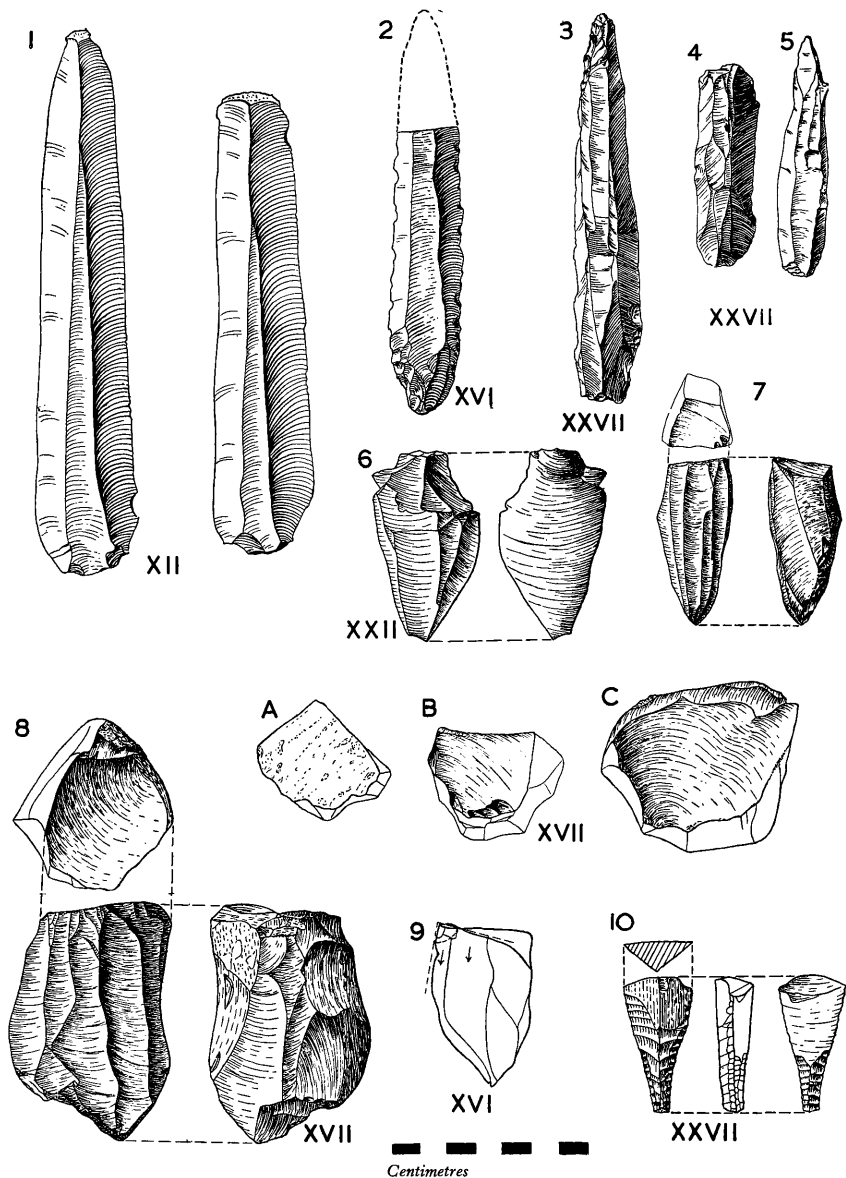


FIG. 77. LITHIC INDUSTRY, BLADES AND CORES, IN THE CHALCOLITHIC PERIOD

## LITHIC INDUSTRIES OF THE UPPER NEOLITHIC AND CHALCOLITHIC PERIODS

The following technical notes are contributed by W. C. Brice, together with Table A and a Frequency Chart, Fig. 78.

*Illustrations appear on Fig. 77 and a photograph on Pl. XVI*

### (i) THE FLAKED-STONE INDUSTRIES

#### *Method*

During the season [1946-7] all fragments of obsidian, flint, and other silicious materials, showing signs of fracture, were preserved and stored by levels. Here three groups of levels are considered comparatively, Levels XVI-XX (middle chalcolithic), Levels XXI-XXIV (early chalcolithic), and Levels XXV-XXVIII (upper neolithic).

#### *Materials*

The predominant material (Table A, col. 10) was obsidian, a volcanic glass, imported from the plateau. It varies in colour from light grey to deep black, and also in translucency, but its quality of very

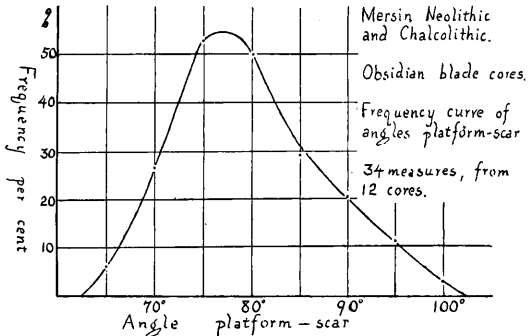


FIG. 78

fine texture remains consistent. This makes possible the manufacture of blades of extreme sharpness of edge, which are, however, soon blunted and in particular are not suited for use as sickle blades, for which a strong, serrated edge not necessarily sharp is required.

For this purpose in particular coarser materials were in demand. They varied widely between cream, grey, and honey-coloured flint, chert, and quartzite. River or shore pebbles seem to have been the raw material employed, judging from the variety of colour and texture and from the number of flakes showing fragments of cortex. In one case a cache of roughly flaked chert pebbles was found; these pebbles were probably of local origin (unlike the obsidian).

#### *Blades*

The high figures in Table A, col. 1 show that this was primarily a blade industry. Both flint and obsidian blades show only diffuse bulbs, suggesting detachment by use of a soft punch or pressure tool.

A large proportion of the obsidian blades were badly blunted by heavy use (Fig. 77, no. 2 and nos. 21

and 22 on photograph, Pl. XVI). The majority, too, were fractured; complete or near-complete specimens, like nos. 21 and 23, being extremely rare. For this reason it was not easy to make a statistical study of the lengths of the blades. A frequency graph (Fig. 78) of obsidian blade-length in eight widely separated levels was constructed by measuring those fragments with a blunted edge and sufficiently long (i.e. 2 cm. or over) for convenient use. This showed a maximum frequency at 3-4 cm.; the original blades would, of course, be longer (e.g. no. 23).

Blade width was more easily treated, being more permanent. Three frequency curves constructed by measuring all the specimens in three groups of levels (representative of the upper neolithic, early chalcolithic, and middle chalcolithic) were compared. They indicate a preference for a narrower blade in neolithic and early chalcolithic times, and the comparatively small 'spread' (the factor  $\frac{Q_3-Q_1}{2}$ ) of the first two curves suggests more skill at acquiring the optimum width in earlier times. Comparing the indication in Table A, col. 1, we see that the Mersin industry was more exclusively one of blade manufacture in the earlier periods. Proficiency appears to have declined over the time reviewed.

*Sickle blades (nos. 14, 15, 16, 17 on photograph, Pl. XVI)*

For reasons already given, these were made exclusively of flint. They are recognizable by the serration of the edge, by its smooth feel, and glossy appearance. The width is characteristically regular, and the bulb nearly always removed. Generally both edges are serrated but not invariably so. No. 16, for example, is backed with cortex. From frequency graphs of the dimensions of these sickle blades it appears that their optimum length varies between 3 and 6 cm. but the most desirable width is more sharply indicated at 1.55 cm.

*Awls (photograph Pl. XVI, nos. 9-13.)*

Apart from the sickle blades and notched scrapers, this is the only class of implement produced by retouch of the narrow blade. This tool is usually in obsidian (Table A, col. 3). The large flint borer (no. 9 on photograph Pl. XVI) is unique.

The obsidian awl is retouched to a broad-angled point, its breadth varying with that of the original blade, and generally being slightly less than 1 cm. We note that this class of tool is much less frequent after the early chalcolithic (Table A, Col. 3).

*Scrapers (nos. 7-8 on photograph, Pl. XVI) and notched scrapers (ibid., nos. 5-6)*

By contrast, these implements are found more frequently in the later periods (Table A, cols. 4 and 5). They are, however, comparatively rare and at best roughly fashioned tools. The scrapers are made by retouching thick flake fragments, the notched scrapers (the primitive lathe?) by pressure-flaking a small notch in a thin flake or (less frequently) blade.

*Irregular flakes with signs of use (Nos. 24-27 on photograph Pl. XVI) and rejects.*

Apart from the prepared tools already treated, a comparatively high proportion (Table A, col. 7) was found of irregular flakes (probably rejects from the fashioning of blade cores) whose sharp edges have been employed for cutting, scraping, or planing. This economy in the use of what would otherwise be 'wasters' is just what we would expect with a raw material imported from a considerable distance. Table A, col. 7 suggests that, in obsidian at least, the tool-makers of earlier periods were most careful to use rejects. By contrast, the proportion of unused obsidian rejects (Table A, col. 6) increased with lapse of time.

*Javelins*

This very specialized weapon is almost exclusively found in Neolithic times (Table A, col. 8). Characteristically, it consists of a long thick blade, with a single high ridge and consequent triangular cross-section. The point and tang are shaped by pressure flaking, generally from the direction of the

bulbar surface of the original blade. Sometimes, too, shallow flakes were removed across the bulbar surface, doubtless to give a firmer grip on the edge of the platform for the flaking tool. Such is the case with the flint tang shown in Photograph Pl. XVI, no. 1 and Fig. 77, no. 10, where the crest of each ridge on the edge of the bulbar surface has been used as a check for the flaking tool, and is in consequence the apex of a flake scar on the inclined side of the tang (Fig. 77, no. 10, side elevation). The tang has been further narrowed by pressure flaking in two directions from the 'keel'.

### Conclusions on chronology

With the passing of time we note the following changes: An increasing proportion of reject flakes, and a less economical use of these 'wasters'; a less exclusive preoccupation with blade production, and (from the evidence of the widths of the blades, at all events) a less careful and specialized technique of blade removal; a marked decline in the numbers of javelins and awls, both specialized tools, but an increase in the proportion of rough scraping edges. The balance of evidence suggests an industry which was declining both in variety and in degree of skill.

TABLE A. MERSIN, 1946-7. STATISTICS

The figures indicate the *percentage of the total* of the pieces in the relevant group of levels. In each column the figure on the left refers to materials other than obsidian (i.e. flint, chert, and quartzite), that on the right to the pieces manufactured from obsidian.

Levels	1		2		3		4		5		6		7		8 <i>Javelins and javelin frag- ments</i>		9		10		Total no. of pieces con- sidered
	<i>Blades and blade fragments</i>		<i>Sickle blades</i>		<i>Awls</i>		<i>Scrapers</i>		<i>Notched scrapers</i>		<i>Rejects</i>		<i>Rough used flakes</i>		<i>Cores</i>		<i>Per- centage of total flint obs.</i>				
XVI-XX	5.2	29.1	1.0	..	0.1	0.9	0.1	2.0	0.1	1.7	6.0	43.1	0.8	7.6	..	0.5	0.1	1.7	13	87	1,214
XXI-XXIV	7.4	31.5	1.6	..	0.2	3.7	0.2	1.6	..	0.7	13.4*	33.9	0.3	5.0	0.1	0.4	..	..	23*	77	1,191
XXV-XXVIII	8.6	34.7	1.6	..	0.1	3.8	..	1.0	..	0.6	4.9	30.6	..	11.2	0.3	2.6	..	..	16	84	631

\* These unusually high proportions are accounted for by a hoard of rough flint chippings in level XXII.

### (ii) THE CORES

#### 1. Comparative scarcity

In the 1946-7 season obsidian blade cores comprised only 1.7 per cent. of the artefacts in Levels XVI-XX and lower down no obsidian cores appeared (Table A, col. 9). This scarcity is noteworthy, considering that we were dealing with what is essentially a blade industry. It must mean that the blades were mostly struck elsewhere and brought to the tepe ready-made, unless the workshop was further inside the mound.

By including two examples from an earlier season, twelve cores were available for study.

#### 2. Size

The length of the cores varied between 8.3 cm. and 3.1 cm., and width between 6.2 cm. and 1.6 cm. Seven of the cores were less than 2.6 cm. wide; it seems that the diminishing width of the platform set the limit to further flaking.

#### 3. Number of platforms

Nine of the twelve cores had a single platform, blades having been removed in one direction only. Three showed double platforms; in one case the platforms being opposed, in the other two adjacent.

#### 4. *Nature of the flaking face (nos. 32, 33 on photograph Pl. XVI)*

From each platform, blades had been struck from a sector of the sides of the core, varying in extent between 30 per cent. and 50 per cent. of the circumference. This sector will be called the flaking face, the remaining sector the obverse (photograph Pl. XVI, nos. 30-31).

Now it seemed on examination that the extent of the flaking face depended on the angle it made with the platform. This was confirmed statistically by taking a series of measures of the angle (Fig. 77, no. 9) between the platform and the blade-scar. The results in graph form<sup>1</sup> suggest that the optimum angle was 77°, and that flaking was rarely possible where the side of the core met the platform at an angle exceeding 90°. Fig. 77, no. 9 shows a core in outline. The flaking face (the arrows indicate the blade-scars) gives way to the obverse where the angle of the side with the platform becomes obtuse.

#### 5. *Nature of the platform (nos. 34-6 on photograph Pl. XVI)*

In striking blades, a primary requirement of the artisan is a platform from which his punch or pressure tool will not slip at the critical moment. In the case of three of our cores, the platform consisted of a matt corroded surface of the raw material, on which the tool would grip (Fig. 77 A and no. 34 on photograph Pl. XVI). In seven cases the platform had been prepared by a single heavy blow as a wide concavity—the 'dished' platform—(Fig. 77 C and no. 36 on photograph Pl. XVI) on the upturned edge of which the punch would get a purchase. Naturally the process of blade-removal will eventually leave only a limited portion of the original flake-scar on the platform (Fig. 77, no. 8). A third device appears to have been to strike small flakes or facets from the edge of the platform, each of which would provide a firm seat for the flaking tool. Only two examples of this type of platform were found, but it should be remembered that the facets are generally altogether removed by subsequent flaking. Fig. 77, no. 8 B and no. 35 on photograph Pl. XVI illustrate a faceted platform. We note that the flake whose scar forms the 'dished' platform is sometimes struck from the direction of the obverse (no. 33 on photograph Pl. XVI), sometimes from that of the flaking face (nos. 35-36 on the photograph whereon the white arrows indicate the direction of the blow).

#### 6. *Nature of the base*

Four of the cores tapered to a point (Fig. 77, no. 7 and no. 32 on photograph Pl. XVI), three had a wedge-shaped base, one a flat base, and four rested insecurely on three protrusions of an irregular base (Fig. 77, no. 8 and no. 33 on photograph Pl. XVI). Five cores showed contusions on the base, which were doubtless scars due to friction with an anvil during the process of flaking. Fig. 77, no. 7 is of special interest as not only are there contusions at the pointed base but also along the angle of a high 'keel', which runs the length of the obverse. As the drawing shows, this keel has been at least in part artificially prepared by rough flaking. This leads to a consideration of the technique of blade-removal.

#### 7. *Clues to technique*

It would seem that in the case of the core on Fig. 77, no. 7, the keel on the obverse, scrubbed as it is, has been prepared as a wedge, possibly to fit into a cleft in an anvil probably made of wood. It may be that the cores with wedge-shaped bases were held in a similar way. Holding the core firm and steady is a first problem in the technique of blade manufacture.

After selecting a nodule of obsidian for use as a core, the workman must first have begun preparation of a suitable striking platform (unless one already existed as a natural rough surface). This he did by striking a heavy blow such as to remove a broad deep flake (nos. 33, 35, 36 on photograph Pl. XVI). If then the base did not fit conveniently into a cleft or against a ledge of his anvil, he would shape it by flaking, with this in view. The diffuse bulbs of the blades, as well as the regularity of the blade-scars, indicate flaking by use of a soft (wood or horn?) punch or pressure tool.<sup>2</sup> The workman would flake

<sup>1</sup> See the graph, Fig. 78, p. 125.

<sup>2</sup> The American Indians made obsidian blades with a wooden shaft tipped with bone. The core was steadied with the feet, and the shaft held with the hands, and the



from the acute-angled edge of the platform, only pausing to strike small facets therefrom as seats for his punch, if the upturned edge of the platform failed to steady it.

Many of the platforms (Fig. 77, nos. 7-9) showed step-flaking around the edge. These scars indicate 'mishits', when the punch only scrubbed off small flakes instead of long blades. A blunted platform-edge makes further flaking difficult and this explains why it is found in so many of our cores (all, it must be remembered, in the reject state). On the other hand, a careful worker could, provided the core was still big enough, remove such a check to further flaking by striking a wide flake well in from the edge of the platform (Fig. 77, no. 6 and nos. 28-9 on photograph Pl. XVI; the salient bulbs of no. 29 and the reverse of Fig. 77, no. 6 indicate a sharp blow with a hard hammer). He could then start again with a fresh flaking-face.

impulsive pressure required to detach the blade was applied by lunging the body forward against a cross piece of the shaft pressed across the chest. See A. S. Barnes, *The Technique of Blade Production in Mesolithic and Neolithic Times*, Proc. Prehist. Soc. Paper no. 6 for 1947.

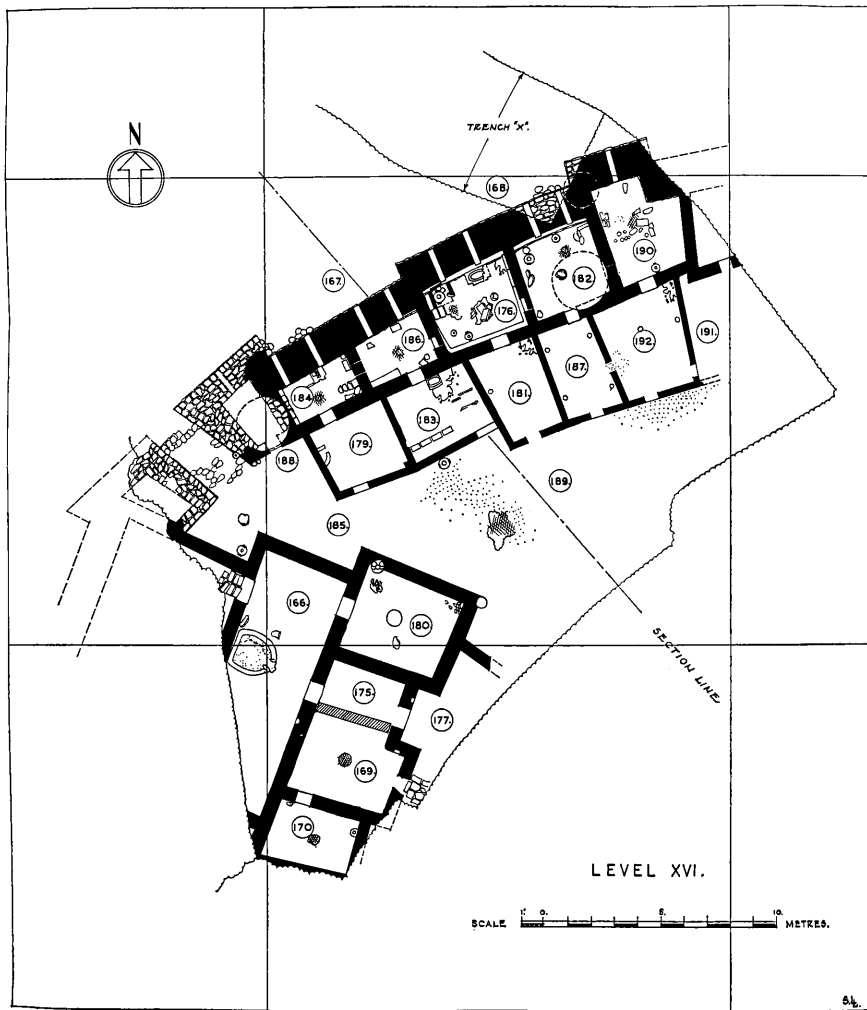


Fig. 79. PLAN OF FORTIFICATIONS WITH BARRACK ROOMS AND RESIDENCE AT LEVEL XVI

## VII

### THE VILLAGE FORTIFIED

*Middle Chalcolithic Level XVI (13.25-14.65 metres)*

THE changing conditions apparent in the preceding floor of occupation culminated at Level XVI in the fortification of the site. The distinctive features of this remarkable reconstruction are shown in Mr. Seton Lloyd's Plan, Fig. 79 and in the photographs, Pls. XVII and XVIII. A stout defensive wall around the brink of the slope now encircled the habitable area; and abutting against it was a row of living-rooms each with its separate courtyard. The continuity of the series was interrupted only by a protected gateway placed at the extreme north-west of the circuit, near the river, where its further traces are lost owing to erosion of the western slope. In the interior a good portion of the area excavated was occupied by the remains of a large residential house in a position which now overlooks the river. While there was plenty of evidence of domestic life in the central building and in most of the rooms, there was no trace in this quarter of the old-style village houses; and as the outer wall of the new system was found to turn with the contour of the mound, it probably enclosed the whole village area which must in consequence have been radically reorganized. Certainly the completed system of defence betokens a developed conception of military architecture, executed with plan and purpose, for which there is as yet no local precedent or contemporary parallel within the wide range of the Halafian culture. Some details of its features are indeed astonishing and claim our first attention.

#### ARCHITECTURE

The main rampart proved to be a metre and a half in thickness, and standing as it did on a terraced foundation of stone at the top of a steep revetment<sup>1</sup> up the slope of the mound (Fig. 88), it must have presented a formidable barrier against assault. It was found preserved to an average height on its outer face of about 2 metres, and it was pierced at intervals through its thickness by narrow apertures, 20 × 50 cm., which were in effect slit windows regularly spaced, two to each room (Fig. 80). They seem low, as the floors of the rooms were some 60 cm. higher than the foundations of the main wall, but they are placed at a convenient height for kneeling archers using bows about a metre long.

Room walls were rather more than half a metre thick, but the main house walls were twice that strength. As building material, mud bricks were used, oblong and regular in shape and rather large (about 46 × 26 × 10 cm.); apparently there were no square bricks as in higher levels.<sup>2</sup> Alignment was good; even the corners of rooms were reasonably

<sup>1</sup> The face of the mound below the actual foundations was protected by a lean-to construction of stone slabs, exposed at the head of Trench X in 1938. Cf. Fig. 3 and *L.A.A.* xxv, pl. xx.

<sup>2</sup> Other dimensions at this Level were 40 × 25 × 10 cm. and 50 × 25 × 10 cm.; while at Level XIII we have both the oblong shape, 41 × 26 × 8 cm., and the square, 40 × 45 × 8 cm.

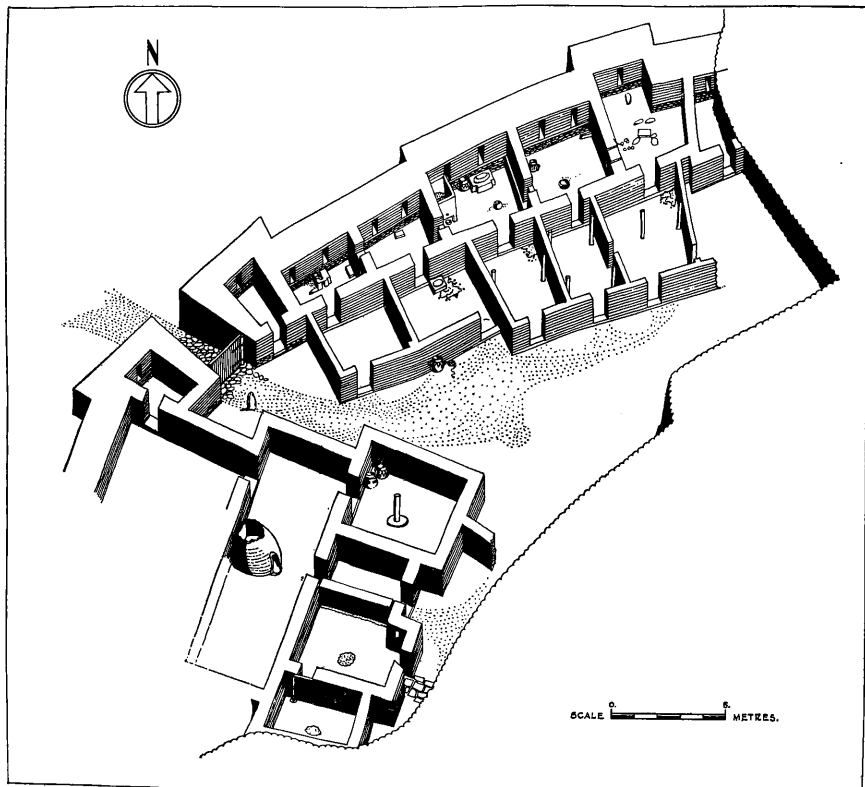


FIG. 8a. ELEVATION OF THE FORTIFICATIONS, BARRACK ROOMS, AND RESIDENCE. LEVEL XVI

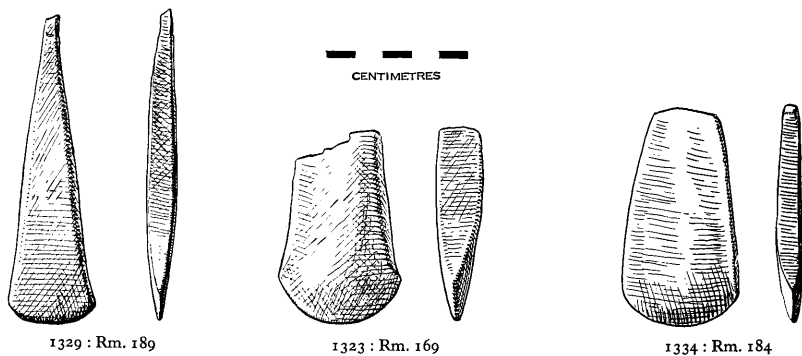


FIG. 8b. Copper chisel and axes from Level XVI. Scale 1 : 2

square, and the faces of walls were plastered. The minimum roof-span of the rooms was about 4 metres, for which supplies of good timber would be available on the lower slopes of Taurus, a factor which helps to explain no doubt the exceptionally early architectural developments of the site. The continuous roof of the rooms would form a defensive platform, and supplies of home-made missiles suggest free use of the sling. Most of these were made of clay, partly baked and ovoid in shape with somewhat pointed ends, and a stock of selected river stones was usually piled with them just outside the room doors.

The furniture of the rooms, recovered from beneath the debris of their destruction, is found to have been more or less uniform, including a grain bin, grindstone and pounder, fire-place and cooking-pots, as well as a number of storage jars and smaller vessels painted with linear designs (cf. Fig. 83). Other domestic objects were found in the courtyards, and around each of these enclosures a series of post-holes indicated a veranda-like roofing of light materials. Thus these rooms against the main wall, though dedicated to the defensive necessities of the town, constituted small domestic units: they formed in all probability the married soldiers' quarters.

Turns in the main wall were covered by stout offsets, each sector of the masonry continuing straight; but the return at its western extremity, which would have been sharp, was covered by the gateway. This was approached from the outside by a sloping way which could still be traced in parts: it had been reinforced in places by layers of stones covered with mud which had been hardened apparently by use; and near the bottom it was joined by a track from the direction of the river. Without much doubt this entrance was primarily a Water Gate, and a similar feature will be found surviving through subsequent rebuildings on the same spot.<sup>1</sup>

It was defended at this stage by an extra-mural tower and a small internal guard-room. The protected passage was nearly 4 metres long, and the width of the doorway nearly 2 metres. Just within, by the side of a mural recess, was a large stone like a mounting-block, the upper side of which had been worn smooth with long use and still retained a remarkable polish<sup>2</sup> (photograph on Pl. XVIII).

The main wall on the west side was found to be denuded by encroachment of the river; but in this quarter of the city there was preserved the greater part of the large detached building already mentioned, presumably the residence of a chief. Its central feature was an open court, about 12 metres long and 4 metres broad, surrounded by good, strong walls. Within this enclosure was a baking oven of familiar bee-hive shape. On the inner side was a row of well-built rooms about 5 metres square—except one (no. 175) which

<sup>1</sup> Cf. Figs. 95 and 99. The main entrance was probably in the south-east of the fortress, where the occupation-road now leads towards the site. On that side, however, no traces of it were found in our soundings owing to continuous attrition.

<sup>2</sup> It may be presumed that the new-comers introduced the Mesopotamian wild ass or mule for riding, while the bullock might serve as beast of burden. Representations of riders with saddle and bridle are sketched on bones found at Susa between the 5-6 and 9-1 metre levels and attributed to the 34th century B.C., though the animals cannot be identified (see *D.P.M.* xxv, p. 199, fig. 38, nos. 24-25). Bones of the wild ass

(onager) were discovered at Tall Asmar in a level of an early period. The representations of animals drawing war-chariots on the 'standard' from Ur (Woolley, *The Royal Cemetery*, ii, pl. 92) seem to me to portray mules, though experts regard them as onagers (cf. Hilzheimer in *Antiquity*, ix, 1935, p. 133, and Mallowan in *Iraq*, x, p. 52). The late Professor Langdon in *Oxford Editions of Cuneiform Texts*, vii, p. 19, identified the Jamdat Nasr sign no. 129 as the ideogram for 'horse' (literally 'ass of the mountain'). This is not impossible, for the remains of horses found at Anau by Pumpelly were undoubtedly very ancient.

was rather narrower, more like a passage, and gave access by an outer door to an open space just opposite the river-gate. Subsidence due to encroachment of the river hereabouts leaves further restoration of the place doubtful. If we have correctly gauged the curve of the main wall, there would just be space for three or four more rooms on that side of the courtyard with a narrow passage between them and the rampart. This would be plausible if the river passed so near as to make it unnecessary to line the wall on that side with rooms for the defenders. But I imagine the river may have flowed at that time 60 or 80 yards farther west, in which case the curve of the wall may have been less acute, and a row of barrack rooms may have lined it as on its northerly sector. The house plan in that case would probably show a square block of rooms ranged on either side of a central court, comparable in general and in some details with that of a house uncovered at Tepe Gawra (no. 2 at Level 15), the pottery of which seems to indicate as in this case a late Halafian date.

The occupation of Level XVI seems to have been of relatively long duration, considerably more, I imagine, than a hundred years. This may be inferred from the great depths of the extra-mural deposits seen in Fig. 3 and from such details as the wear of the mounting-block at the gateway. We must also take into account the length of time represented in Mesopotamian sites<sup>1</sup> by the overlap of the Halafian and Ubaidian cultures which here is covered by this one Level.<sup>2</sup>

In the end, however, notwithstanding the strength and elaboration of this defensive system, the enemy against whose menace it had been designed evidently proved stronger than the defenders, for we found the fortifications razed and burnt throughout with a devastating fire. Their remains, including the debris of their destruction formed a deposit a full metre deep which may be seen in the photograph, Pl. XXIV: and as the area was relatively free from pits or other disturbing elements, the contents of the various rooms were found practically complete and for the most part sealed down by the burnt roof materials, though badly damaged by fire and breakage. Under such circumstances the objects found in this Level, especially everything from the floors, may be regarded with one or two exceptions (e.g. in Rooms 182 and 188)<sup>3</sup> as reliably stratified and characteristic of the period when the fortifications were in being.

#### DEPOSITS IN THE BARRACK-ROOMS

These deposits include copper tools and weapons, needles and pins, miniature celts,<sup>4</sup> and polished implements of stone, as well as bone tools with handles, spindle whorls of

<sup>1</sup> e.g. T.T. 5 at Arpachiyah: cf. Mallowan in *Iraq*, ii, pt. 1, pp. 21-23.

<sup>2</sup> As nothing similar has been found as yet in Mesopotamia or Iraq, I am inclined to look to the hill country of the north-east for the origins of this fortification and the route of the invaders, which may lead us, indeed, far beyond the Halafian zone as at present recognized. The system may very well have evolved from the natural instinct of mountaineers to arrange their houses one against the other on defensible scarps. Thus at Zigli, some 50 miles north-west of the main pass through the Caucasus, by Tiflis, a row of houses with slit windows so arranged presents a remarkable similarity to the outer approach to our fortress at Level

XVI. The date of the buildings at Zigli is probably not earlier than the Middle Ages and may have been as late as the 17th century A.D. Cf. *Matériaux pour l'Archéologie du Caucase* (Moscou, 1888-93), pl. xviii. Farther east to the south of the Sea of Aral, on the track of the ancient Khorezmian civilization, another parallel dating perhaps as early as the 4th-6th centuries B.C. is recorded in the *Journal of the Academy of Sciences of the U.S.S.R.*, 1948, pp. 30-1, &c. For this reference I am indebted to Mr. W. E. D. Allen.

<sup>3</sup> Two large pits reached down to the floors of Room 182 and the guard-room 188. Two others attained the destruction level of Room 176 and its courtyard.

<sup>4</sup> See Pl. XXI.

clay and one of stone of new shape, clay beads, miniature model beds or couches, and irons (Fig. 90), a pottery spoon, a mace head, as well as piles of sling stones and similar missiles of baked clay. Surpassing all in quantity and variety were the painted pottery vessels of varied shapes and designs, of which some sixty completed examples (represented in our Figs. 91-94) reflect the high standard of contemporary culture in the Near East of which they mark as yet the most westerly penetration. All these constitute a remarkable assemblage, whether viewed from the military, industrial, domestic, or artistic standpoint: and the fact that they were found distributed throughout some fifteen rooms under the exceptional conditions already described provides us with an unusual archaeological opportunity. We proceed at once to examine the contents of each room separately, beginning with the easternmost, numbered 190 on Fig. 79.



FIG. 81

Stone mace head. R.N. 1501.  
Scale 1:4. Level XVIz

Three spindle whorls of clay. R.Nos. 1503,  
1510, 1502. Scale 2:3. Level XVIz

*Room 190.* This, one of the largest of the barrack rooms, lay within and behind a mural bastion which marks a bend in the main wall: it has therefore a narrower outside face than the others and in consequence only one slit window. A further point of difference is to be seen in the Plan (Fig. 79) in that, unlike the others, its courtyard opens both east and west into the neighbouring courts on either hand, as well as into the open central space beyond. In this room were found only the skull of a small animal, various stone objects, and at foundation level (XVIz) a whorl of black burnished pottery shown in Fig. 81 (R.N. 1510). From the courtyard no objects are recorded; but in its eastern neighbour, 198, there was found in the foundations (XVIz) a polished bone pointed tool shown in Fig. 23 (R.N. 1322).

*Room 182* was partly disturbed, almost to floor-level, by a rubbish pit or silo sunk from one of the upper levels<sup>1</sup> of the early Hittite period, the contents, among which were fragments of a large pot decorated with multiple brush devices, and a 'hawk-eyed' jug, (Fig. 143, no. 2) are excluded from this inventory. In the room itself were found numerous traces of domestic occupation including:

- (i) a jar sunk into the floor up to its brim;
- (ii) a fine black burnished bowl with pierced lug handles and decorated with white *pointillés* (R.N. 1347) shown in Fig 93, no. 14;
- (iii) a grey stone spindle whorl (R.N. 1357) and (iv) some burnishing stones (Pl. XVI) one of which was found in a niche in the western wall (Pl. XX).

The companion courtyard to this room (numbered 187) was found to contain (i) a large cream slipped jar with flat vertical handles, decorated with a ladder pattern and looped border (R.N. 1308, shown on Fig. 91, no. 9); (ii) a black burnished bowl with tab handles

<sup>1</sup> Probably Level XI.

(R.N. 1343, figured on Fig. 93, no. 11); (iii) a polished bone tool (R.N. 1329) Pl. XVI; and (iv) a grey stone loom weight or sinker pierced at one end (R.N. 1336), Fig. 82.

*Room 176*: this, the most informative of the barrack rooms, had the usual pair of slit windows, as may be seen in the photograph on Pl. XIX. There is a suggestion in the wall that it had at one time access to the neighbouring room through a doorway which was subsequently closed by a thin partition, leaving a small recess on one side (photograph, Pl. XX). Its threshold rose above the level of the court, doubtless to keep out rain-water. In the north-west corner of the room, as seen in photograph, Pl. XX, were the remains of a mud and plaster bin, 90 × 80 cm. in size and still standing 60 cm. high; it is shown on the sketch of this interior made by Mr. Seton Lloyd and reproduced as Fig. 83. Under one of the windows was a quern stone still *in situ* on a mud brick platform and ready for use.



FIG. 82. Loom weight of grey stone: R.N. 1336. Room 187. Scale 1:6. Level XVI

Similar grindstones, used for crushing grain, are still used in the locality, and a country-woman of the district who responded to our invitation to show us how it should be used, found it quite familiar and easy to manipulate (photograph, Pl. XX).

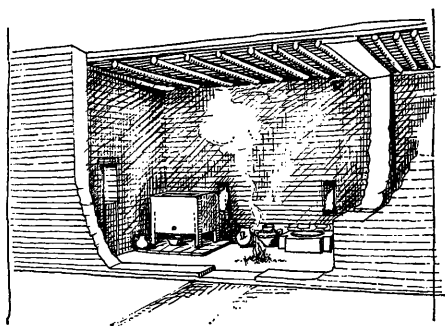


FIG. 83. Restored corner of Barrack Room No. 176. Level XVI

R.Nos. 1344-5); (iv) a black burnished spouted jar, like a feeding-cup but hole-mouthed in shape (R.N. 1346, no. 13 on Fig. 93); (v) a portion of a bowl decorated with rosette (similar to no. 18 on Fig. 93). In addition there was other broken pottery and also (vi) a small black stone celt (R.N. 1340, Fig. 84). All these objects were much damaged and discoloured by the fire which had destroyed the rooms and covered the contents under the burnt debris of the roof.

From the courtyard to this room, no. 181, were taken up a copper axe, type R.N. 1334 (Fig. 80*b*, no. 9), a good quantity of sling stones and clay substitutes, a conical clay lid or stopper (R.N. 1353), and more broken pottery.

*Room 186*, though much smaller than the foregoing owing to the turn in the outer wall, had the same mural frontage with two slit windows. When clearing one of these there were found three clay loom weights one of which was decorated with wavy lines. In its courtyard, no. 183, were found a quern or crushing stone mounted, as in Room 176, on a block

In the middle of the room was a round receptacle made of unbaked clay but so filled with debris that its purpose could not well be defined. Near the doorway were piles of baked clay missiles for the sling. Pottery found in this room, a selection of which is illustrated in Figs. 91, 93, and 94, included (i) a large cream-slipped water jar with two strap handles and decorated with large festoons in the Ubaidian style (R.N. 1307: cf. Fig. 91, no. 4); (ii) a two-handled bowl decorated with festoons and a rosette (R.N. 1275: Fig. 93, no. 18); (iii) two plain burnished buff-coloured jars (Fig. 94, nos. 12, 13;



of mud brick. Around them were more sling-missiles of baked clay. Some oval fire-bricks and a crushed pot lay on the floor which was covered with black ash as well as the charred remains of the roofing beams. In the southern half were to be seen the remains of a narrow structure of mud brick.

*Room 184*, though the smallest of the row, being next to the gateway, was provided like the others with two slit windows (see Pl. XX). Herein were found a loop-headed copper pin (R.N. 1332, no. 6 on Fig. 85), the head of an axe (R.N. 1334) pictured on Fig. 80*b*, and a large bone tool (R.N. 1352) shown on the top row of Fig. 23. The pottery, though very broken, comprised many sherds painted in three colours. Among them was a fragment of an ovoid vessel of much the same type as that numbered 6 on Fig. 92, but decorated with alternate concentric bands of red and black upon a cream slipped surface. In the courtyard (numbered 179) was found a small piece of metal since identified as copper ore.

Next in sequence upon the plan comes the guard-room of the river-gate, then the gateway itself marked by a big socket stone *in situ*, and on the other side a gate tower at an angle in the contour of the defensive wall. Just inside the gateway was found the mounting block, standing apparently in its original position and worn to a smooth polish on the top and near side. The area within the entrance, numbered 188, yielded a green stone celt (R.N. 1338) shown on Fig. 84, a round stone ball (R.N. 1337), and two pottery objects, the one a lid (R.N. 1299) Fig. 93, no. 16, and the other a small grey burnished bowl (R.N. 1302).

Farther inside comes the area numbered 185, in which was found, leaning against the outer wall of the courtyard 183, a large cream-slipped water-jar decorated with festoons (R.N. 1306, Fig. 91, no. 5), also the fragments of a large bowl of similar fabric near the wall of Room 180, together with a brown burnished jar (R.N. 1298, Fig. 93, no. 16). Hereabouts was found a core of obsidian (no. 9 on Fig. 77) with a goodly number of obsidian flakes; also sickle blades of both obsidian and chert, just as of old, and a number of flakes struck off without further trimming. Expert opinion is exercised over this apparent waste of time and effort: I can only suggest that though the fine art of fashioning tools from this material had died rapidly with the more plentiful supply of metal, these chippings were broken off and rebroken in the hope of producing small sharp pieces suitable for tipping arrows. The technique of flaking in the chalcolithic Levels was discussed in the last chapter.

The open area within, numbered 189, which led into the courtyards 181, 187, and 192, is pictured in Pl. XVIII. Herein were found four pottery vessels, of which two were large jars of the standard fabric. One of these was greyish black in colour and provided with a spout, while the other was hole-mouthed in shape with strap handles. A third vessel, this time a bowl, was finished with a grey burnished slip upon a gritty core. Nearby was an interesting fragment of black burnished ware, similar to no. 14 on Fig. 93; and near this was found a copper adze (shape of R.N. 1334, Fig. 80*b*), a chisel also pictured on Fig. 80*b* (R.N. 1329), and two metal pins with rolled tops shown in Fig. 85, nos. 4 and 5, and Pl. XXI. In the same area (189) were found a tool of polished bone (R.N. 1327) and a handle of the same material (R.N. 1354), part of a miniature 'bed' (R.N. 1310), Fig. 87, as well as a handful of seashells, identified as *Murex*.

## THE CENTRAL HOUSE

We come now to the large central house comprising a courtyard (no. 166), and on the east side, four rooms (see photograph, Pl. XVIII). Those on the west side of the court had all been lost through erosion by the river except for traces of that at the north end which abutted on the gate tower. The court itself was probably not roofed: it gave access to the chief room (no. 180) and to that opposite, and communicated with the area eastward by the passage (Room 175) which opened apparently into a walled-off enclosure connected with the house. Into this opened also a main room 169 (Pl. XX) and the smaller one, 170, connected with it. These two thus seemed to have formed a separate unit. It will be noticed that the two main rooms on this side had central roof supports of timber; also that the outer walls incline towards each other in plan, as do those of the northern system, so responding to the bend in the outer rampart.

A leading feature in the central court (166) was a large baking-oven of the familiar domed type (Fig. 80a); and in one corner were foundations for what may have been a loom, while a niche for a lamp was observed in the face of the wall near the entrance. Objects found in this court include a globular jar (R.N. 1280, Fig. 92, no. 8) from which the neck was missing, a fine trichrome vase (R.N. 1300, Fig. 92, no. 6), and a clay spindle whorl burnished brown (R.N. 1357).

Room 180 had been provided with a door, the socket for which remained *in situ* (cf. Fig. 43). As seen from the plan it was sequestered, and there is clear evidence that it had been occupied by a young woman whose charred skeleton was found under the burnt roofing material that sealed down the contents of the room. These comprise a new and interesting series of decorated pottery vessels, of which a typical selection is represented in Fig. 93, as well as the specimens shown in Fig. 91, no. 7 and Fig. 94, nos. 1, 3, 11. The following list of all the contents of this sealed room, taken from our Register book, is given here for ready reference.

## R.N.

- 1281 Red slip bowl with pierced lug handles, shown on Fig. 93, no. 9.
- 1282 A small bowl with similar handles (Fig. 93, no. 10).
- 1283/4 Two warm-buff dishes (Fig. 93, no. 20).
- 1285 A one-handled bowl, decorated with festoons (Fig. 93, no. 3).
- 1286 A plain burnished bowl with two tab handles, dark brown to black.
- 1287 A jar with spout and handles, decorated with red paint (Fig. 93, no. 1).
- 1288 A cream-slip bowl with two loop handles rising above the rim, decorated with brown paint (Fig. 93, no. 4).
- 1289 A decorated bowl with tab handles (Fig. 93, no. 7).
- 1290 A cream-slip jar with two handles decorated in trichrome (Fig. 93, 5 and frontispiece).
- 1291 A two-handled bowl of standard fabric decorated with black paint (Fig. 93, no. 2).
- 1292 A plain two-handled jar of standard fabric (Fig. 94, no. 1).
- 1293 Part of a jar decorated with black paint, standard ware (Fig. 91, no. 7).
- 1294 A small red bowl and lid decorated with black paint (Fig. 93, no. 6).
- 1295 A black burnished tab-handled bowl decorated with white-filled incisions (Fig. 93, no. 8).
- 1296 A plain burnished orange-red cup with high handle (Fig. 94, no. 3).
- 1326 A miniature dark blue stone celt (cf. Fig. 84).
- 1333 A copper pin with loop head (cf. Fig. 85).
- 1367 A pottery spoon with curved handle (Fig. 86).

- R.N.  
 1348 A polished bone handle.  
 1355 Baked clay beads.  
 1361 Part of a miniature clay 'bed' burnished black (Fig. 87).  
 1362 A fragment of burnished pottery decorated with lustrous paint of advanced Halafian technique (Fig. 93, no. 15). Other portions of this bowl were too burnt to be of use.

A stone scraper, some bone tools, obsidian chippings and clay loom weights complete the inventory of Room 180.

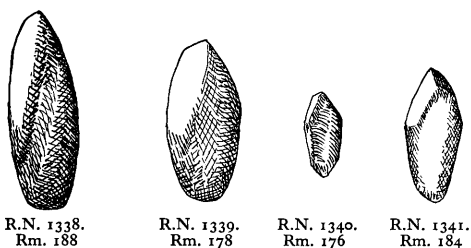


FIG. 84. Four stone celts from Level XVI

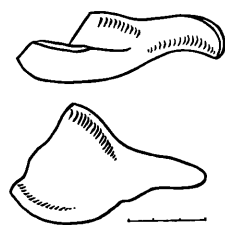


FIG. 86. Pottery spoon from Room 180

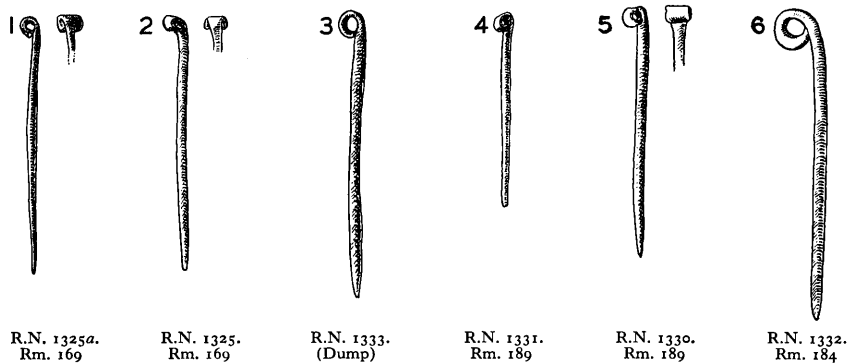
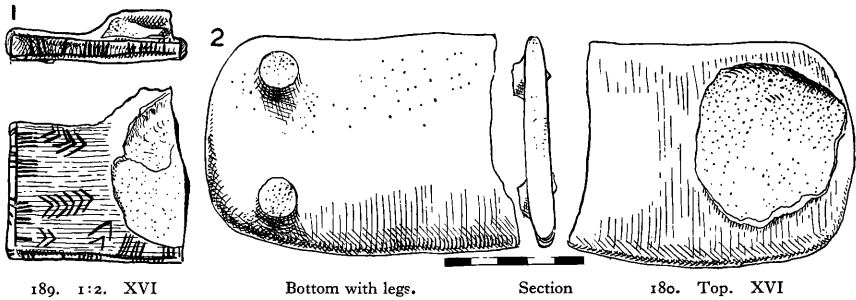


FIG. 85. Six roll-headed copper pins from Level XVI. See also Pl. XXI

*Room 175*: this passage also was covered by burnt reeds and debris from the fallen roof, among the latter being pieces of mud bearing the impression of the reeds on which they had been laid. Its southern wall, which separates it from no. 169, seems to have been rebuilt during occupation; alternatively the two may have originally been one, subsequently divided when a second entrance was cut into the front wall of the latter, so making Rooms 169-70 into a separate suite (photograph, Pl. XX). In the passage-room were found parts of a large brown burnished bowl or basin (R.N. 1278), also a large spouted bowl of standard ware (Fig. 94, no. 8); a jug (R.N. 1297, Fig. 94, no. 9) of the

same fabric; also a cup of gritty grey pottery finished with warm cream slip (R.N. 1279). Painted wares included part of a large two-handled jar decorated with brown paint (Fig. 92, no. 7); and two large two-handled bowls of standard ware decorated with black



189. 1:2. XVI

Bottom with legs.

Section

180. Top. XVI

FIG. 87. Portions of two model beds or couches, from Level XVI. Scale 1:2

(Fig. 92, nos. 9 and 11). In both cases the paint was matt on the burnished cream surface of the vessel.

*Room 169:* some features of its construction have been described above: its door led out over a pavement into the walled enclosure which separated the common courtyard of this system, numbered 177, from the open space within, numbered 189. In the south-east corner of the room were two small niches. Its contents were much broken, but recognizable pieces of pottery included part of a base decorated in three colours; a plain bowl of dark pottery, brown-black finish, with handles rising above the rim (R.N. 1276, Fig. 94, no. 2), a black burnished jug (R.N. 1277), the head of a copper chisel (R.N. 1323, Fig. 80b), a bronze loop-headed pin (R.N. 1325, Fig. 85), and a fine knife-blade of chert (R.N. 1324, Fig. 77, no. 2).

*Room 170:* in this small inner room were found on the floor parts of a pitcher of standard fabric decorated with chevrons (Fig. 92, no. 1); also a large jar decorated in the advanced style with bold festoons (R.N. 1305, Fig. 92, no. 5) and other fragments of a large pitcher also of standard character decorated with linear devices (Fig. 92, no. 10). Cf. photographs on Pl. XXIII.

*Area 177.* This could not be completely excavated as it extended under features of the Hittite fortress at Level VII, which was then in process of conservation as a national monument. The absence of burnt roofing material showed that this had been an open space, and the preserved piece of walling showed that it had been enclosed. In the course of clearance there was found a polished metal tool or pin.

Two extra-mural areas in the north, numbered on the Plan 167-8, proved to be Hittite terraces cut into the slope of the mound to provide room for civil occupation at the time when the summit was covered by the fortress. (Numerous objects of the later period were found therein, including a jar with basket handles and rudimentary spout.) As may be seen from Fig. 88 (cf. also Fig. 3) the whole area below the 13-metre level in Trench X was also extra-mural; but when Level XVI was in occupation the outer defensive wall, as already stated, stood at the top of a steep ramp. This accounts for the recovery at a lower

level therein of numerous objects, including broken pottery vessels, among them the three fine water-pitchers shown as nos. 1-3 on Fig. 91. They were recovered from stratum  $yd^2$ , which evidently rested upon the sloping ground level of the period at the foot of the

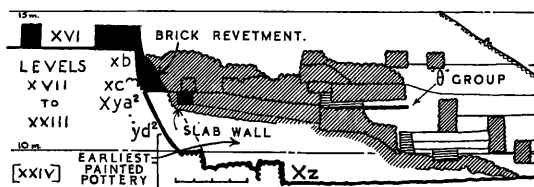


FIG. 88. Extra-mural deposits at the bottom of Trench X. Revetment of mound below Level XVI

mound,<sup>1</sup> and so covered the silo area of Level XXIV which extended, as we have seen (p. 45), over the bottom of Trench X, forming stratum  $Xz$ .

#### THE POTTERY OF LEVEL XVI

*Shape and design.* We have remarked already upon the quantity and variety of the pottery fragments. A sherd count of 500 specimens from a normal series of baskets yielded the high proportion of 23 per cent. of painted fragments; but as in this case many of the decorated vessels were found in large pieces contrasting with the crushed state of the cooking-pots and other common wares, I estimated that the proportion of painted vessels was more nearly 35 to 40 per cent. of the whole.

All the pottery fragments were collected, and the forms of fifty-two broken vessels were restored by Mrs. Garstang and her assistants in our laboratory. Many, if not most, are new in our series in style and shape, as may be seen from the selection on Fig. 93. There is also a great variety of decorative designs, of which drawings appear in Figs. 91-93 and photographs on Pl. XXII. Even the kitchen pots (Fig. 94), though plain, were freely burnished, the most attractive being finished with a shiny black or deep-brown surface and furnished with elaborate handles of a distinctive kind.

The common variety of local painted ware was based in shape on a gourd with shortened neck, and was decorated with linear patterns usually in matt black paint, sometimes flushed in places with a warmer tone, upon a burnished cream surface (Figs. 91 and 92, nos. 1-4). Less common but equally characteristic was a series of trichrome vessels of various shapes on some of which the rosette appears as a central motif of the decorative scheme (Fig. 92, no. 6). This was partly carried out in accordance with local tradition in matt black upon the burnished cream surface, with the addition of broad enclosing bands, whether horizontal, circular, or oval, of red or salmon-pink paint bordered with thick black lines (Fig. 93, no. 5 and frontispiece, also Pl. XXII).

As we saw in the last chapter (Fig. 75, nos. 15-17) the rosette appears as a feature on late Halafian pottery; but it is even more characteristic of the Ubaidian period, which here

<sup>1</sup> The figure 2 in the marking of the provenance of the pots in question ( $X yd^2$ ) indicates that they were found in the inner half of the Trench which was clear of the Hittite terraces near the edge of the mound. In

general the four strata  $ya-yd$  seem to represent deposits from the occupation of Level XVI, while those marked  $xb$  and  $xc$  seem to have been formed mostly by the rakings of Level XV and its sub-Level.

as elsewhere overlaps and outlives the Halafian. Another indication of this overlap is the appearance of decoration in curvilinear bands, loops, and festoons (Fig. 91, nos. 4 and 5; Fig. 92, no. 5), which are characteristic elements in Ubaidian designs. The same motifs will be found continuing in Level XV above, where the Halafian motifs are no longer found.

It will be appreciated from the foregoing remarks that the most striking pottery in shape and decoration is based upon contemporary Mesopotamian models, when not actually imported. On some vessels the lustrous paint betrays their Eastern origin, e.g. Fig. 93, no. 15. This lustre, I am advised, is obtained by clean firing at a high temperature which partially vitrifies the coloured slip but is not allowed to reach the point of fusing.

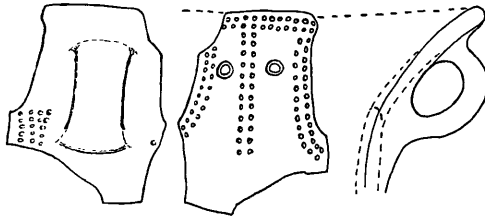


FIG. 89. Large tab handle decorated with white *pointillés*.  
R.N. 1295. Level XVI

Though the local polychrome wares show an immense improvement at this stage in texture and in the baking, there is no clear indication that our potters had achieved this high standard in technique. None the less vessels such as those pictured on Fig. 91, no. 9, Fig. 92, no. 11, and Fig. 93, no. 2 are masterpieces of craftsmanship, and their artistry is all the more apparent because of the restraint and dignity of the designs.

One of the most striking pieces is that shown on Fig. 93, no. 8 and Plate XXII. This bowl is finished with a highly polished black surface decorated with whitened *pointillés* arranged in horizontal and vertical bands. The handles are distinctive, and as far as I know they are peculiar to this site in Anatolia though found in Cyprus.<sup>1</sup> In the field we called them 'tab' handles, and other examples will be seen on the same Figure in nos. 7 and 11. Strangely enough they are found again in the earliest phase of the Copper Age (Level XIIa) but not in the intervening Levels. Other distinctive handles occur on certain decorated pots figured on Fig. 93, nos. 3 and 4; the latter, a loop rising high above the rim, occurs also on an undecorated vessel shown on Fig. 94, no. 2. The high loop-handle seems to occur on no. 3 of the same plate. The pierced lug of the *pointillé* black bowl (Fig. 93, no. 14) and the deeply grooved handle of no. 9 on Fig. 94 will not escape notice.<sup>2</sup> To this Level, or nearly so, may best be ascribed a large tab handle supported by a loop and decorated with deep whitened *pointillés* inside as well as outside. It is shown in Fig. 89. It was found with pieces of metal below the foundations of the outer rampart at approximately Level XXII, but I find no analogy for it except at this Level, and even here the markedly outspreading neck suggested in the drawing appears unusual. The texture also

<sup>1</sup> At Vounous: cf. Dikaios in *Archaeologia*, 1938, pl. xiva, xva, xviii.

<sup>2</sup> Objects nos. 4-7 on Fig. 94 are apparently intrusive. Cf. p. 152.

of the pottery is not altogether familiar; and the design seems to have no parallel on this site. In general it may be observed that at this stage the clay was refined and mixed with a very fine temper which looks like powdered flint, so that the fabric was now firm and the surface smooth. As a result the slip, though perhaps tending to be thinner than of old, was correspondingly more even, and it took a high polish; and this applies not only to the 'standard' cream slipped wares, and to the shining black and polished red surfaces already noticed, but with particular emphasis to the broad red bands forming a rich element in the schemes of trichrome decoration seen, for instance, in our coloured frontispiece.

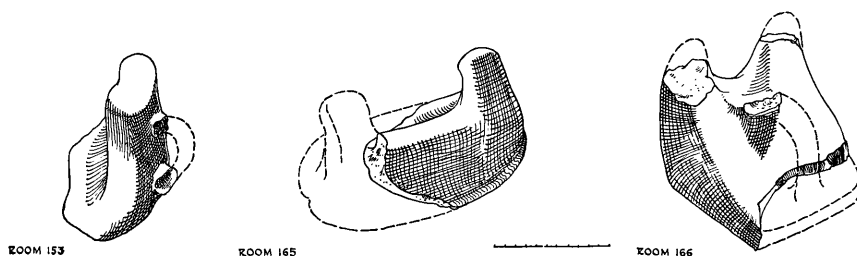


FIG. 90. Andirons from Rms. 153, 165, 166. Levels XIII–XIV–XVI

*Foreign relations.* The mention of trichrome decoration introduces the question of foreign relations, not only with the Mesopotamian area and the Near East in general, but with the West. On the latter aspect the opinion of Professor Fritz Schachermeyr (translated from a personal letter) will be read by students with interest and as a stimulus to thought and investigation.

Resemblances between the vase-forms of Tell Halaf and Sesklo have for long been regarded as rather fortuitous owing to the absence of intermediate links. But since the new excavations at Mersin it has become clear to us that the area covered by the Mesopotamian Tell Halaf and El Obeid cultures (in the wider sense) extends as far as the Mediterranean and south-east Anatolia. A decisive intermediate link is thus obtained and the question of the dependence of the Sesklo pottery on the East is raised. An investigation (not yet published)<sup>1</sup> which I have started on this subject seems to me to lead to the conclusion that almost the whole repertory of the Neolithic of the Greek mainland and of south-east Europe goes back ultimately to ceramic prototypes of the Tell Halaf period and the El Obeid culture of Upper Mesopotamia which follows it (only the black-polished ware, resembling metal, constitutes an exception, because its metallic prototypes are of a somewhat later date, yet even these can be traced back to Anatolia). Also from Tell Halaf are derived numerous decorative motifs of the painted and perhaps also of the old incised wares of Macedonia and Thessaly. Part of these resemblances between the Aegean and Mesopotamia find an intermediate link at Mersin, especially in Levels XIX to XIIb, which shows us that the influences spread partly by way of Cilicia. Yet it is possible that there was another inland route beside this from Mesopotamia directly to Cappadocia and farther to the west, for in Sesklo there are found many Mesopotamian features which are so far lacking at Mersin, but exist in Mesopotamia. A link hereto is provided to some extent by Alishar in Asia Minor; but this place lies too far to the north-east away from the direct east-west line of communication; also its chalcolithic layers may in part be somewhat later. Even so Alishar shows a whole series of intermediate forms. We

<sup>1</sup> An article 'Zur Entstehung der ältesten Zivilisation in Griechenland' has since appeared in *La Nouvelle Clio*, no. 10, Dec. 1950, p. 567.

also realize from isolated sherds that there must at that time have been painted vases in other parts of Anatolia, which with their chevron-pattern established a link with Mesopotamia, and with their spider's web pattern run parallel with Macedonia. In contrast to Alishar, Troy cannot show any clear intermediate types, since it does not begin until after the above-mentioned connexions between Asia and Europe had been severed.<sup>1</sup> In Europe itself the most numerous reminiscences of oriental motifs are to be found in Macedonia (Servia) and Thessaly. Yet the pottery of the rest of the Greek mainland, and that of Bubanj 1, or Starcevo 1 and of Kőrösch are also dependent on oriental types, with the proviso that the farther one goes to the north-west the fewer and simpler become the forms that constitute this primitive repertory. Painting of vases is found as far as the Danube, but is accompanied by an ever-increasing impoverishment of the decorative repertory. In view of these observations it seems to me not improbable that, together with the oriental vase-forms and decorative motifs, the art of pottery itself found its way from the Near East to the Aegean and from there to the Danube.

NOTES ON SOME TECHNICAL PROPERTIES OF EARLY AND MIDDLE  
CHALCOLITHIC POTTERY: COMMUNICATED BY PROFESSOR F. MATSON

*Early Chalcolithic*

A. *Thick tan ware with painted decoration (2 sherds)*

The two sherds examined were 8-11 mm. thick and had a red striped linear decoration 2 mm. in width on a drab orange-tan surface. The oxidized zone was only 1-2 mm. thick at both surfaces, the rest of the core being gray-brown in color and spotted with black marks. These marks were undoubtedly organic inclusions in the clay. The texture of the ware was sandy, but it did not contain any inclusions larger than 1 mm. and these were rare. Calcite was present, for there was marked effervescence when a drop of HCl was placed on a freshly fractured edge.

The refired chip developed a reddish-orange color, and the cross-section was speckled with white rounded grains of limestone that showed up clearly now that all the organic material had been burned out.

The thickly applied stripes of red painted decoration contained many fine granules of red rock that were rounded and polished. The pigment might have been ground up from lumps of red ochre. It is also possible that the red burning clay used in the burnished neolithic ware may have been purified in later times and employed as a pigment.

B. *Thin yellow ware with painted decoration (2 sherds)*

These sherds, 3-5 mm. thick, were a gray-yellow in color throughout the body. The clay was very fine-textured, but contained a moderate number of subround to round grains of quartz and red ochre. The latter appeared to have shrunk somewhat during the firing of the pottery, for they did not quite fill the holes. There were some holes in the surfaces where ochre or limestone had been removed by water action, perhaps in an acid soil. There was a negative reaction with HCl. On firing to 950° C. there was no change in color. This would appear to have been a fairly high fired ware, and was quite different in color and thickness from the other sherds examined. In texture the sherds looked like the neolithic orange fragment, and the mineral assemblage used to temper the clay appeared similar. It is possible that the yellow sherds were fired at a much higher temperature than the orange ones of the earlier period, and that the atmosphere in the kiln of the yellow ware was reducing. Both types may have been made from the same materials, but were fired by different techniques because of culture changes that occurred in the interval between their manufacture. The red paint used for the decoration was not as thickly applied as in group A.

<sup>1</sup> Cf. his article in the Merhart-Festschrift (*Prähistorische Zeitschrift*, xxxiv/xxxv, 1949/50, pp. 39 ff.).



*Index by Rooms of Pottery Types of Level XVI Illustrated in Figs. 91 to 94**Room**or**Area*

- 163b 1272: Fig. 94, no. 10.  
 166\* Fig. 92, nos. 6, 8.  
 169 Fig. 92, nos. 2, 3, 4; Fig. 94, no. 2.  
 170 Fig. 92, nos. 1, 5, 10.  
 75 Fig. 92, nos. 7, 9, 11; Fig. 94, no. 8. 1297: Fig. 94, no. 9.  
 176 1307: Fig. 91, no. 4. 1346: Fig. 93, no. 13. 1275: Fig. 93, no. 18. 1344: Fig. 94, no. 12. 1345:  
 Fig. 94, no. 13.  
 177\* 1362: Fig. 93, 15.  
 180\* 1293: Fig. 91, no. 7. 1281-5, 1287-9, 1294-5, 1362: Fig. 93, nos. 1-10, 15-20. 1283/4: Fig.  
 93, no. 20. 1292: Fig. 94, no. 1. 1296: Fig. 94, no. 3; Fig. 94, no. 11. (See also p. 138.)  
 181 Nil.  
 182 Frag. Fig. 93, no. 14.  
 183 „ Fig. 91, no. 8.  
 184 Nil.  
 185 1298: Fig. 93, no. 16.  
 186 1306: Fig. 91, no. 5.  
 187 1308: Fig. 91, no. 9. 1343: Fig. 93, no. 11.  
 188 Fig. 94, no. 10b.  
 189 1303: Fig. 93, no. 17. Frag. Fig. 93, no. 19.  
 190 Nil.  
 Trench X. Fig. 91, nos. 1, 2, 3; and no. 6; Fig. 94, nos. 4-7.

\* Trichrome wares were found in rooms indicated by an asterisk.

STANDARD CREAM-SLIPPED PITCHERS AND OTHER LARGE  
VESSELS, TYPICAL OF LEVEL XVI

Scale of nos. 1-3: one-tenth; of nos. 4-9: one-sixth

- |          |  |               |
|----------|--|---------------|
| 1, 2, 3. | Pitchers, restored from fragments. Ascribed to Level XVI. (Half scale.) Buff core, cream slip burnished; black matt paint. | Tr. X, yd. z. |
| 4.       | Jar. Warm buff core; warm cream slip burnished; brown matt paint. Hand-made. R.N. 1307.                                    | Rm. 176       |
| 5.       | Jar. Warm buff core; cream slip burnished; brown-black matt paint. R.N. 1306   | Rm. 186       |
| 6.       | Pitcher, fragment, showing decoration on handle; cream slip, black paint.  | Tr. X, yd. z. |
| 7.       | Jar (restored). Buff core; cream slip burnished; black matt paint. R.N. 1293.  | Rm. 180       |
| 8.       | Jar, two handles (restored). Warm buff core; cream slip burnished; matt black paint.                                       | Rm. 183       |
| 9.       | Jar, two handles. Warm buff core; cream slip burnished; matt black paint. R.N. 1308.                                       | Rm. 187       |

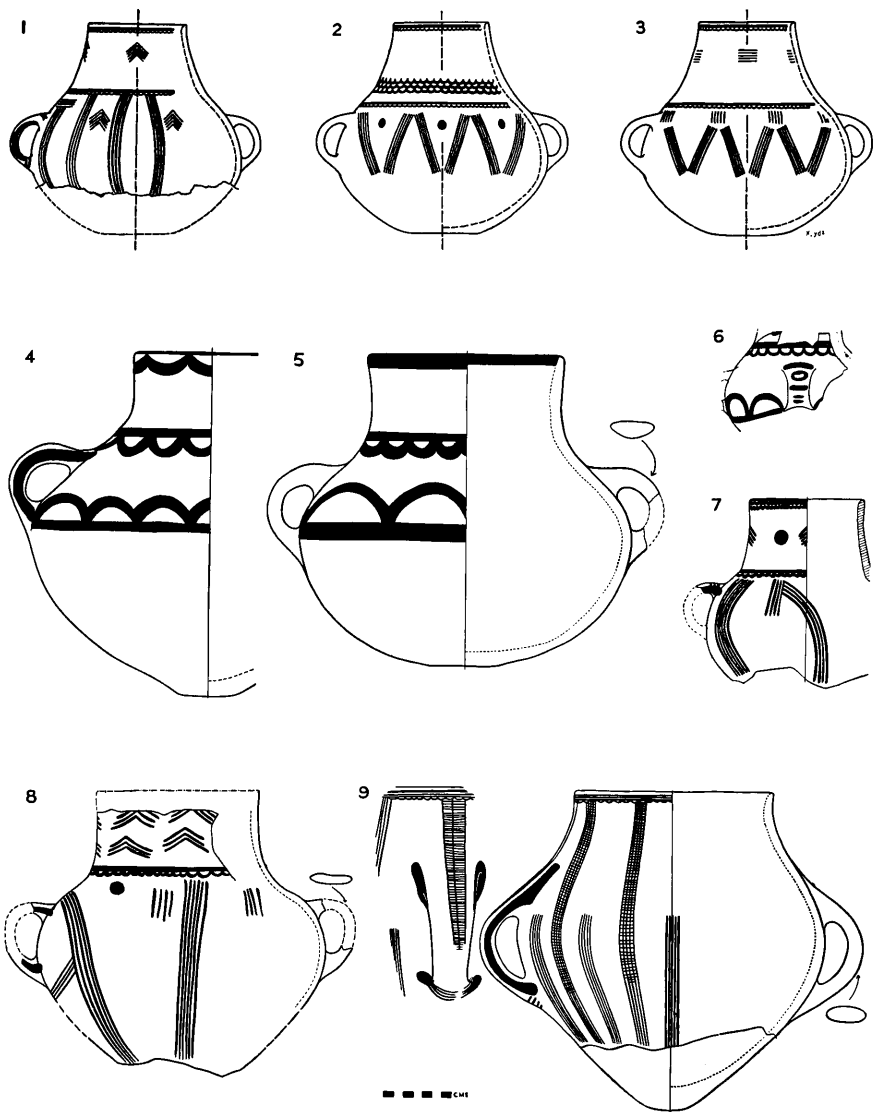


FIG. 91. STANDARD CREAM-SLIPPED PITCHERS AND OTHER LARGE VESSELS OF LEVEL XVI  
*Scale of Nos. 1-3: one tenth; of nos. 4-9: one-sixth*

EXAMPLES OF STANDARD CREAM SLIP WARES, HAND-MADE,  
BURNISHED, AND DECORATED WITH MATT BLACK PAINT

Found in sealed deposits in Rooms 169, 170, 175, and the Courtyard 166 of the large central house of Level XVI. Nos. 1, 4, 5, 6 are reproduced on half the scale of the other drawings, the scale of which is one-sixth linear.

1. Pitcher. Gritty light buff core; dark-cream burnished slip; dark-brown matt paint. Rm. 170
2. Pitcher (neck fragment). Dark-cream core and slip burnished; red matt paint; hand-made. Rm. 169
3. Pitcher. Greyish cream core and slip, burnished; reddish black matt paint; hand-made. Portion only. Rm. 169
4. Pitcher. Gritty light core; cream slip burnished; matt black paint; hand-made. Rm. 169
5. Jar. Dark buff core; lightly burnished buff slip; dark-brown paint, matt; hand-made. Height 23 cm. R.N. 1305. Rm. 170
6. Jug, two-handled (base missing). Buff core, smoothed and matt with cream slip surface; decorated in three colours; the curving lines and rosette in black paint upon the cream are matt, while the broad bands of red (stippled) are burnished. R.N. 1300. Courtyard 166
7. Jar. Warm buff core; with cream slip lightly burnished; black matt paint; hand-made. Fragment. Rm. 175
8. Jug (neck missing). Grey core, dark-brown surface; black matt paint; hand-made. R.N. 1280. Courtyard 166
9. Bowl, with two handles. Cream buff core; cream slip burnished; black matt paint; hand-made. Rm. 175
10. Pitcher, large. Gritty buff core; dark-brown burnished slip with warm patches; red matt paint; hand-made. Rm. 170
11. Bowl, large, inturning, with side handles. Dark-buff core; cream slip burnished; black matt paint; pattern symmetrical but uneven; hand-made. Height 51 cm. R.N. 1309. Rm. 175

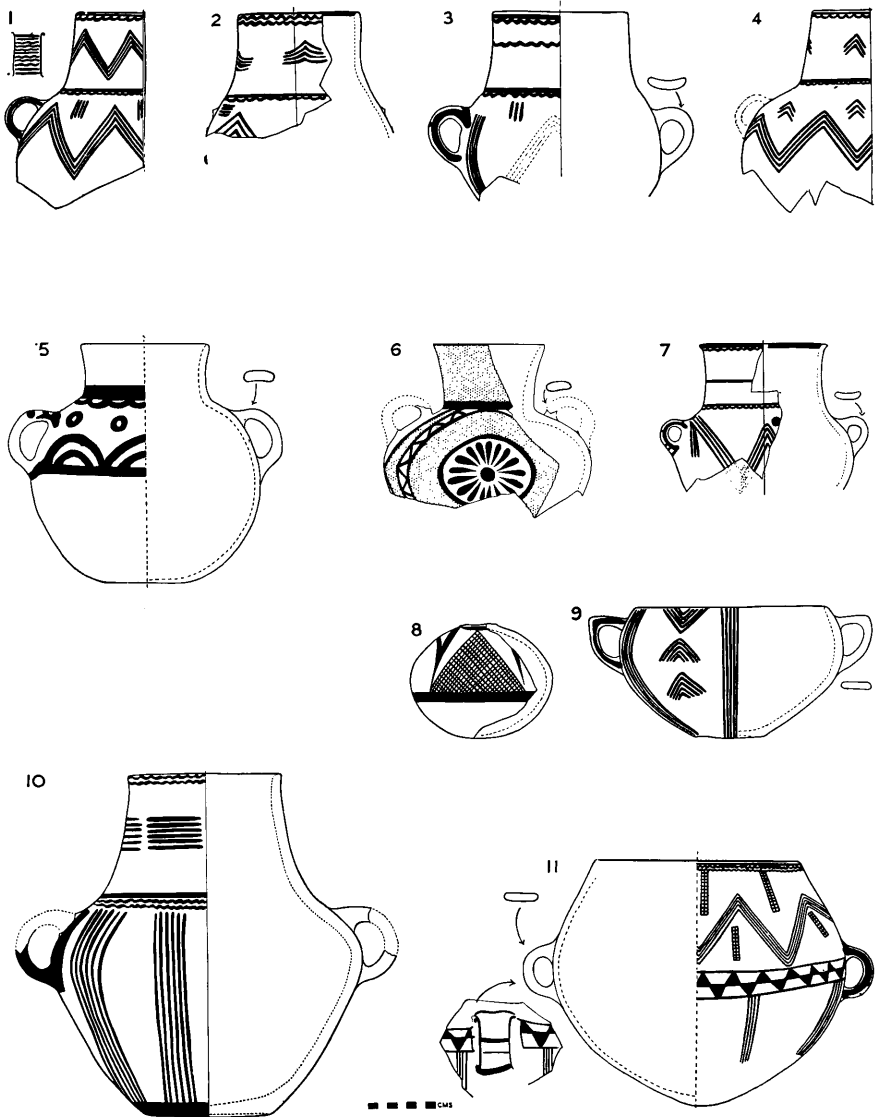


FIG. 92. EXAMPLES OF STANDARD CREAM SLIP WARES, HAND-MADE, BURNISHED, AND DECORATED WITH MATT BLACK PAINT  
*No. 6 in three colours*

## CREAM-SLIPPED AND BLACK BURNISHED POTTERY OF LEVEL XVI

Mostly from sealed Room 180

1. Jar, two-handled, with spout. Drab core and burnished cream slip; decorated matt red paint. R.N. 1287. Rm. 180
2. Bowl, two-handled, one handle restored. Cream ware with burnished slip of same. Decorated matt black paint. R.N. 1291. Rm. 180
3. Cup, with large uprising handle (partly restored). Buff ware; burnished cream slip; decorated brown paint. R.N. 1285. Rm. 180
4. Bowl, with two loop handles (one restored) above the rim. Dark buff core and slip; decorated warm brown paint. R.N. 1288. Rm. 180
5. Jar, two-handled: buff ware, burnished cream slip, decorated in three colours; matt black lines on the cream slip and broad bands of orange. See also Pl. XXII. R.N. 1290. Rm. 180
6. Bowl and lid, small: buff ware, red burnished slip; decorated in and out with matt black paint. R.N. 1294. Rm. 180
7. Bowl, with two tab handles above the rim. Buff ware, burnished cream slip. Decorated matt black paint. R.N. 1289. Rm. 180
8. Bowl, with two tab handles (one restored). Grey ware; black burnished slip; decorated white-filled *pointillés*. R.N. 1295. Rm. 180
9. Bowl or cup, with pierced lug handles. Grey ware; burnished orange-red slip. No decoration. R.N. 1281. Rm. 180
10. Jug, small, with pierced lug handles. Buff ware, wet smoothed, hand-made. R.N. 1282. Rm. 180
11. Bowl, with pierced tab handles (one restored). Grey gritty ware, burnished black slip; no decoration. R.N. 1343. Rm. 187
12. Bowl, with tab handles (restored): gritty warm buff core; cream slip burnished; decorated with orange-red matt paint. Fragment. Rm. 180
13. Jug or feeding cup, spouted, with two handles (restored). Buff ware and burnished cream slip. No decoration. R.N. 1346. Rm. 176
14. Bowl, with pierced lug handles: grey core; brown burnished slip outside; black inside: decorated with white-filled *pointillés*, in and out. Fragment. Rm. 182
15. Fragment, of Halafian character: warm buff core, decorated with brown-black and red lustrous paint on a buff burnished surface. R.N. 1362. Rm. 180
16. Jar, small, with lid. Buff ware, burnished brown slip; no decoration. Lid: light buff. R.N. 1298. Rm. 185
17. Bowl, miniature; gritty grey ware, hard, wet-smoothed. Hand-made. R.N. 1303. Rm. 189
18. Bowl, with two loop-handles. Buff ware and cream slip burnished; decorated with matt black paint, the central motif being a rosette possibly like a solar radiate emblem. R.N. 1275. Rm. 176
19. Bowl, fragment, with vertical loop-handles. Core dark grey, black slip highly burnished, decorated with panels of white-filled *pointillé* (in the style of no. 8). Rm. 189
20. Bowl or pot-stand, coarse. Buff ware, wet-smoothed. R.N. 1283. Another similar R.N. 1284. Rm. 180

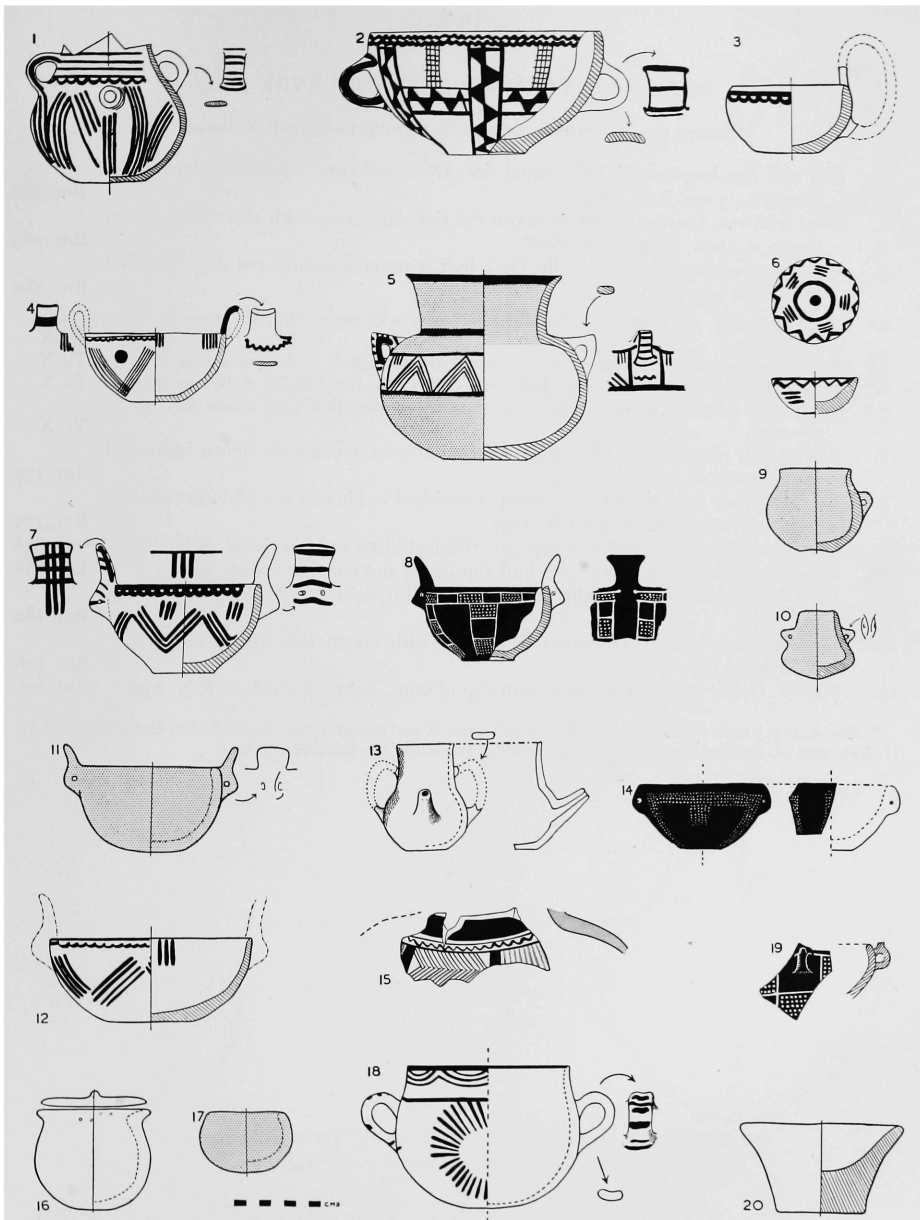


FIG. 93. CREAM-SLIPPED AND BLACK BURNISHED POTTERY OF LEVEL XVI  
*Mostly from sealed Room 180. For No. 5 see Frontispiece*

## PLAIN POTTERY VESSELS OF LEVEL XVI

Except nos. 4-7 which came from a group in Trench X above.

- |               |   |                  |
|---------------|---|------------------|
| 1.            | Jar, with two loop-handles of unequal size. Dark buff core. Cream slip burnished. Height 14.5 cm. R.N. 1292               | Rm. 180          |
| 2.            | Bowl with two handles (restored) above the rim. Grey core with slip shading from brown to black, lightly burnished.       | Rm. 169          |
| 3.            | Cup, large, with rising loop-handle. Dark-buff gritty core, orange-red slip burnished inside and out. R.N. 1296.          | Rm. 180          |
| 4.*           | Bowl, inturning, with two ledge handles. Buff core with cream slip. Hand-made. Scale: one-tenth.                          | Tr. X            |
| 5.*           | Bowl, inturning with flat base. Grey core, black slip burnished. Scale: one-tenth.  | Tr. X            |
| 6.*           | Bowl, inturning with loop-handles. Buff core, cream slip. Hand-made. Scale: one-tenth.                                    | Tr. X            |
| 7.*           | Bowl, with crescental ledge-handles close against the sides. Buff core, cream slip. Scale: one-tenth.                     | Tr. X            |
| 8.            | Bowl, large, two-handled, with spout. Warm buff core, reddish slip lightly burnished inside and out.                      | Rm. 175          |
| 9.            | Jug. Dark grey core, black to brown slip, burnished inside and out. (Another similar, R.N. 1277 from Rm. 169.) R.N. 1297. | Rm. 175          |
| 10.           | Bowl, with two knob handles. Grey core, finished black and burnished. R.N. 1272.  | Rm. 163 <i>b</i> |
| 10 <i>b</i> . | Fragment with handle. Grey core, buff slip inside and out, burnished.   | Rm. 188          |
| 11.           | Jug. Warm brown core, light orange-brown slip lightly burnished. Decoration incised.                                      | Rm. 180          |
| 12.           | Jar, with two handles (restored). Buff core with cream slip lightly burnished. R.N. 1344.                                 | Rm. 176          |
| 13.           | Pitcher. Gritty warm brown core, with slip of same, lightly burnished. R.N. 1345.   | Rm. 176          |

\* Nos. 4, 5, 6, 7 were found in a deep deposit in Trench X and though formerly ascribed to Level XVI or XV*b* (L.A.A. xxv, pl. xxvii and p. 89) are now preferably ascribed to the Early Metal Age.



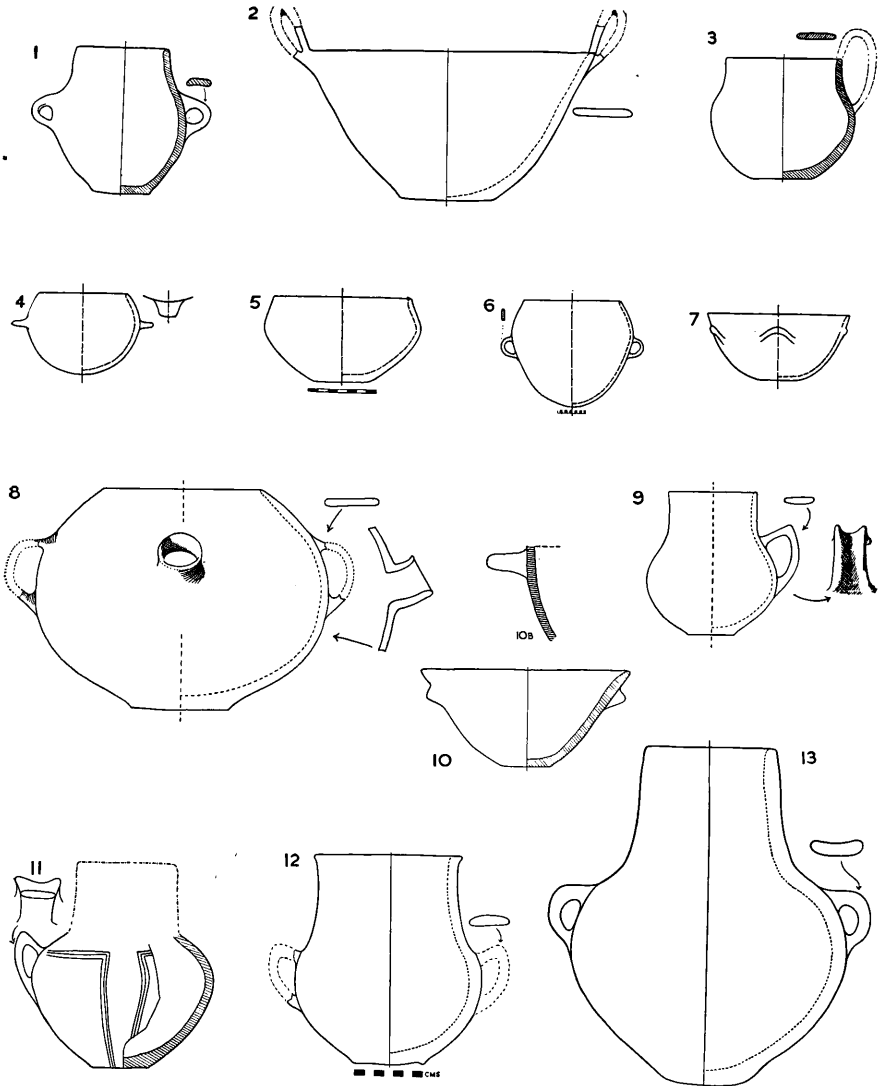
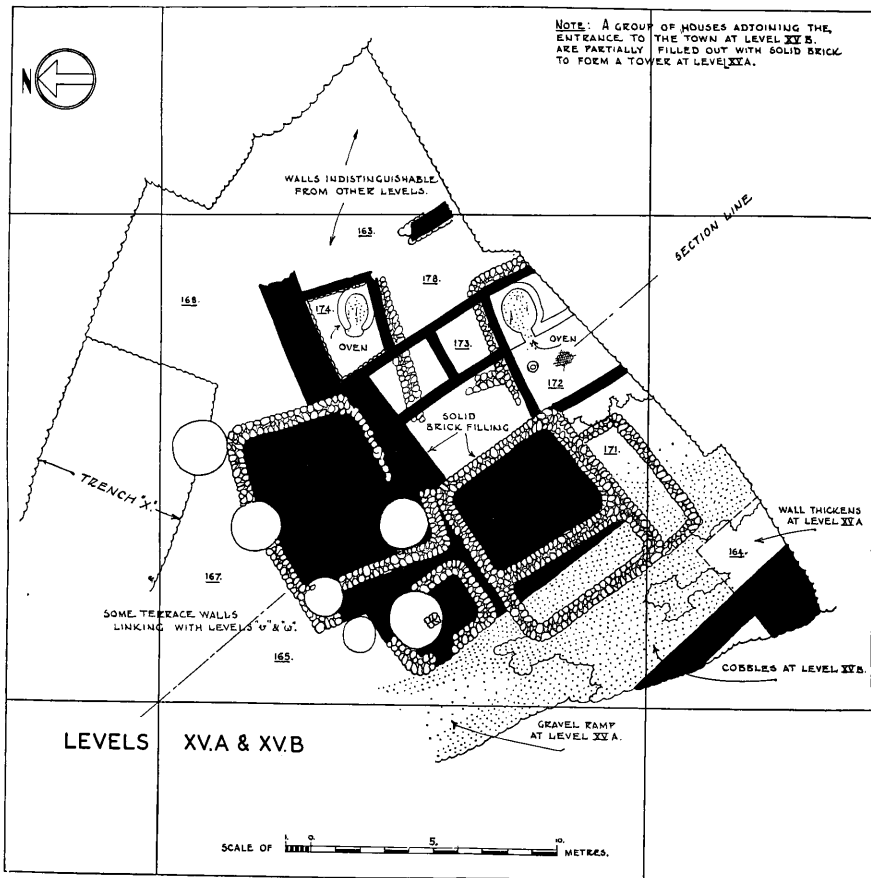


FIG. 94. PLAIN POTTERY VESSELS OF LEVEL XVI. SCALE 1:6  
 (Except nos. 4-7 from Trench X, which are of later date. Scale 1:10)



95a. PLAN OF BUILDINGS IN LEVELS XVa AND XVb

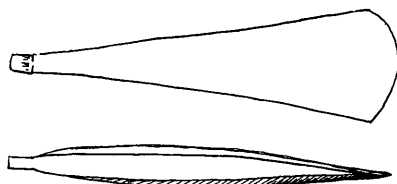


FIG. 95b. Tanged metal chisel from Area 164b. Level XVb  
R.N. 1207. Scale 2:3

## VIII

### STRUGGLES FOR POSSESSION

*Later Chalcolithic Levels XV-XIIB (14.65-16.78 metres)*

THE destruction and burning of the fortifications and living rooms at Level XVI are indications of another major disaster which presumably overwhelmed the whole settlement and once again modified the life of the community. Politically, the complete remodelling of the fortress which ensued reveals the fresh domination of a foreign power. Culturally, the surviving traces of the Halafian period were now effaced leaving the Ubaidian influence unchallenged; but this has no special significance as the transition from one culture to the other had been taking a normal course and was almost completed during the long period while Level XVI was in occupation. Socially we may suppose this upheaval would involve the loss of most of the younger men; but it is fairly clear that, as before, some artisans of the village, presumably mostly female, remained or returned and resumed their tasks under their new masters: this is again suggested by the continuity in domestic products of the new era (seen in the chart on p. 177), notwithstanding the successive architectural and other changes which we shall find to characterize three successive Levels (XV-XIII).

#### ARCHITECTURE (Levels XV-XIII: 14.65-16.29 metres)

At Level XV, as seen from the Plan, Fig. 95*a*, a new group of houses arose over the derelict buildings in the vicinity of the water gate—that is, the entrance which overlooked the river to the north-west. This temporary scheme became at a secondary stage (A) a solid brick structure which once again gave the entrance a fortified appearance;<sup>1</sup> and the way into the interior (indicated in the Plan by a gravelled pathway) may be seen to turn at an angle between two walls.

At Level XIV this structure is found to have developed into a solid gate tower some 15 metres square, joined by a mural bastion to a sector of the town wall, and provided with an internal guard-room (Fig. 100). The way into the interior passed below two sides at least of this tower and was enclosed on the opposite side by a stout wall the full width of which could not be traced. A reconstruction by Mr. Seton Lloyd of this protected entrance is also reproduced on Fig. 100. The compact mass of the tower stood upon stone foundations, but was itself constructed of mud bricks: some of these were almost square (40 × 45 × 8 cm.), and others oblong (41 × 26 × 8 cm.). In the next phase, at Level XIII, the outline of tower and wall persisted; but the former as reconstructed can be seen (on the same plate) to be no longer compact and solid like the one below and to have enclosed a much larger guard chamber. Opposite to this, on the west, nearest the exit, was a similar feature, while the entrance-way turned around it as before.

The Area thus approached comprised at the first stage, on Level XV*B*, six or seven stone-walled houses, of which one was extremely small, and another divided into two.

<sup>1</sup> Photograph on Pl. XXIV.

A noticeable feature in the foundations of both phases of these Levels XV<sub>B</sub> and XV<sub>A</sub> is the rounding of the corners of the stone-work. Each room had a good floor on which uniform hole-mouthed cooking-pots were found; one was covered by an inverted bowl, and each contained the bones of a bird or small animal. Most of the walls stood seven courses high. As stated on the Plan, at Level XV<sub>A</sub> three of the stone-walled rooms were filled in with crude bricks (measuring about 40 × 26 × 8 cm.), so forming a solid mass of masonry in the core of the fort which protected the entrance. In the same phase (XV<sub>A</sub>) some other rooms with narrow mud-brick walls were built upon the stone foundations of the underlying system; two of them (nos. 174, 172) contained ovens of the familiar horse-shoe shape<sup>1</sup> one of which almost filled part of the room walled off to contain it.



FIG. 96  
 Stone half mace head. R.N. 1363. Level XV  
 Clay spindle whorl. R.N. 1316. XV  
 Bone spindle whorl. R.N. 1178. XV

#### ROOMS OF LEVEL XV AND THEIR CONTENTS

Room 178 is an odd-shaped room in the south-east of the area. Its contents included a jar in reddish ware containing some animal bones and a cream coloured pottery whorl (R.N. 1316. Fig. 96).

Room 174 is a small room to the north of 178 containing an oven.

Room 173, to the west of 178 and 174, is divided into two oblong compartments. It contained many loom weights and part of an andiron (Fig. 90), also a cup decorated with rosette pattern (R.N. 1274, Fig. 102, no. 14), a flat pottery whorl decorated with incised lines (R.N. 1312), and a polished bone tool (R.N. 1314).

Room 172, to the south of 173, seemed also to be divided into two compartments, one of which was filled by a baked clay oven (Fig. 95*a*). Also found in Rm. 172 was a polished bone tool (R.N. 1317).

Room 171 lay to the west of 172. Its stone walls were supplemented by yellow 'kerpitch' (mud prepared for building), and it had a cobbled floor (possibly part of the ramp built over the foundations of XV<sub>B</sub>). A miniature rough clay cup or bowl (R.N. 1318) and a polished bone tool (R.N. 1320) were found in this room.



FIG. 97  
 Incised whorl 164*b*. R.N. 1187. Level XV<sub>B</sub>  
 Stamp seal 164*b*. R.N. 1206. Level XV<sub>B</sub>

#### Extra-mural areas and terraces, Level XV.

Area 164*b* was at the back of the ramp, i.e. in the south-west corner of the excavation area. Found in it were a flat red stone spinning whorl with scratched design (R.N. 1187, Fig. 97), a black stone incised stamp seal (R.N. 1206), a broad copper chisel, the handle of which was missing (Fig. 95*b*; cf. R.N. 1329, Fig. 80*b*), a polished bone tool (R.N. 1315), also a fine bowl decorated with festoons in red paint (R.N. 1271) shown on Fig. 102; the cup no. 5 and the two decorated fragments numbered 3 and 4 on the figure.

Area 163*b* lay just to the east of 174 and 178 and comprised the foundations of 163 (Level XIV-

<sup>1</sup> Cf. Fig. 62, p. 105.

XIII). Objects found in it include a black burnished clay spindle-whorl (R.N. 1186); a black burnished bowl with small knob handles (R.N. 1272), and the neck fragment no. 9 shown on Fig. 102.

Room 162*b*, in the middle of the excavated area, represents the earliest stage of no. 162 (Level XIV–XIII) found after taking away the mass of mud-brick filling. The stone foundations on the west side were built immediately upon an oven floor belonging to the underlying level (189 area). A small wall of prepared mud ran inside the stone wall on the west side. Objects found in 162*b* include half a grey stone mace head (R.N. 1363, Fig. 96), a small yellow clay cup (R.N. 1185), and the two interesting though fragmentary specimens figured as nos. 15 and 17 on Fig. 102.

Room 139*b* on the south side of the excavation area lay under the ash and rubbish layers in 139 and over Room 171. Found in 139*b* was a bone spoon (R.N. 1205, Fig. 98). The pottery was transitional between the types of Level XVI and those of Level XIV–XIII.

Area 165, which lay outside the walls by the entrance to the town in the north-west corner of the excavation area, was renumbered 165*b* as work proceeded, when it passed below the walls at 15.00–14.80 metres; the same area at Level XVI bore the number 167, being then a terrace outside the main walls. A Hittite chalice (R.N. 1214) and an incised polished buff clay spindle whorl (R.N. 1311) were found in 165*b*. All finds in these extra-mural areas must therefore be ascribed to the Hittite period, when the civil population lived on terraces below the fortress.

The plans on Fig. 100 show also several pits descending from higher levels, three or four of which penetrated as deep as Level XVI.

#### STONE AND BONE OBJECTS, LEVELS XV–XIII

No tools of obsidian or flint worthy of special mention seem to have been found at this Level. A flat stone palette with a hole in the corner shown in Fig. 99 resembles the similar objects found in Egyptian pre-Dynastic graves, a fact of some chronological significance: it would seem to fall in sequence date 49–72 of Professor Petrie's system.<sup>1</sup> Its length is 10.6 cm. and its width 7.1 cm. It was found at this Level in the cutting of a terrace (N) which subsequently developed into Area B.

Of special interest as early examples of their kind are the two objects represented in Fig. 97. That on the left (R.N. 1187), which is apparently a spindle whorl, is made of red stone and decorated with linear incisions the symbolism of which is not clear. Its diameter is 3.1 cm. and it was found in the lower floor of Room 164, belonging therefore to Level XVb. From the same room and Level came the stamp-seal (R.N. 1206) seen in the same figure (97). Made of black stone, it has a pierced grip and is also decorated as shown with linear incisions. Another seal (R.N. 1321), with a square base about 1.7 cm. wide and an unfinished threading-hole, was made in red stone; but the face is plain. It was found in Room 171*b* at the same Level as the foregoing.

In Fig. 96 are represented two spindle whorls, and the broken mace-head (R.N. 1363) described above. It is the first example in our series of the successful boring of a cylindrical

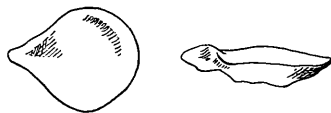


FIG. 98. Bone spoon. Room 139*b*. R.N. 1205. Level XVb

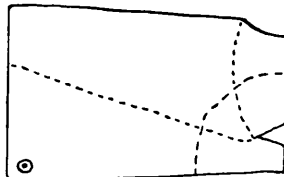
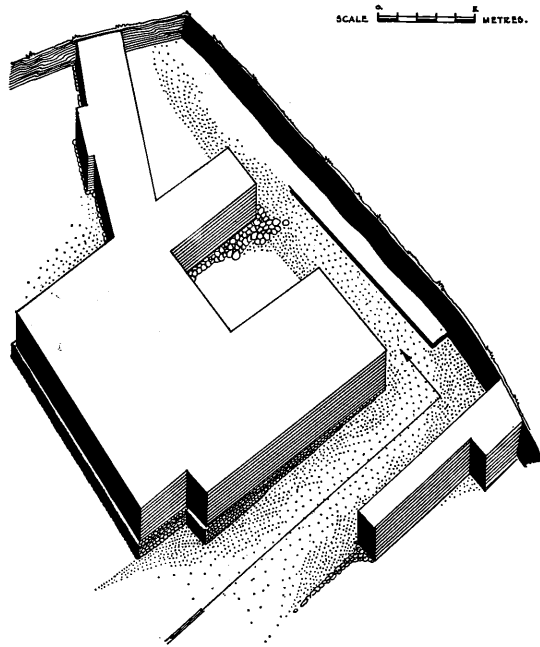


FIG. 99. Stone palette with corner hole. R.N. 1160. Level XV. Terrace N

<sup>1</sup> Cf. Petrie, *Naqada*, pl. L, 115; also his *Prehistoric Egypt. Corpus*, pl. lix, no. 95.



RESTORATION OF THE GATE-TOWER AT LEVEL XIV

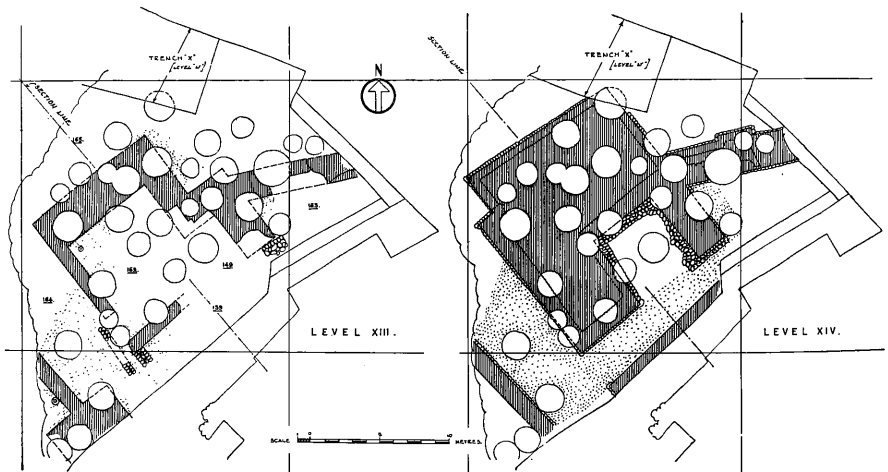


FIG. 100. PLANS OF THE GATE-TOWER AT LEVELS XIV (R.) AND XIII (L.)  
 Showing positions of intrusive Pits

hole of any length in stone (see p. 32); its diameter is 5.7 cm. and its thickness 4.5 cm. The stone in this case is grey in colour, and an almost exact replica of this specimen was found two Levels higher (R.N. 1351) with a diameter of 4.5 cm. The present specimen was found in the lower part of Room 162, recorded as at Level XVb. The spindle whorl in the middle (R.N. 1316) is of baked clay covered with a cream-coloured slip without superficial decoration. Its diameter is 3.7 cm. and its height 2.8 cm. It was found in Room 178, Level XVb. It is obviously a home-made article of the bulbous shape already familiar (cf. Fig. 47), in marked contrast to the finished products of the Metal Age

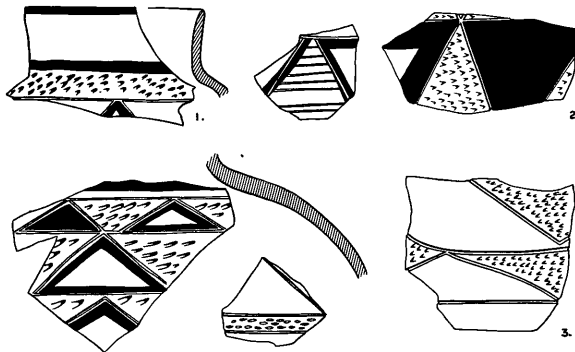


FIG. 101. Fragments of trichrome pottery with decoration in triangles.  
Ascribed to Level XV

shown on Fig. 116. That on the right hand (R.N. 1178) is made of bone, and apparently sectioned from the head of a tibia and drilled with a vertical hole for use as a spindle whorl. It came from Room 163 at the same Level XVb; its diameter is 4.2 cm. At the same Level in Room 139b was found the bone spoon represented in Fig. 98. It is the earliest example of a shapely utensil of this kind; its length is 5 cm. The interior has a smooth surface slightly hollowed: the rough exterior of the bottom is probably accidental.

#### POTTERY, LEVELS XV-XIII

The pottery of Level XV comprises some fine specimens both as regards technical quality based on Halafian experience and new decorated motifs of Ubaidian character. Types are shown on Fig. 102, and their provenance will be discussed later. The polychrome treatment of nos. 9, 10, and 13 and the ovaloid shape of the jugs are noticeable features, following upon the earlier examples already illustrated at Level XVI (Fig. 93). Some specimens actually came from Level XVIa which is hardly to be separated from XVb. Nos. 14, 17, and 20 conform with the favourite Ubaidian fashion of a well-filled background. Though the details of fabric and decoration are given in the tables facing the figures, mention should be made at this stage of some trichrome fragments of unique design upon our site, and inadequately represented on the figures. Examples are shown in Fig. 101. Some of them were found at Level XV, while others for reasons which will presently become apparent were distributed throughout the next two Levels. These

specimens are distinguished by a scheme of decoration in painted triangles, the red being lustrous, and the interspaces which also tend to be triangular or diamond-shaped are treated with jagged impressions. The slipped surfaces are pink-buff in colour, unburnished; while the triangles are enclosed or filled with black or brown-black paint also matt, giving a trichrome effect to the whole.

*Problems of stratification.* The whole area of Levels XV to XIII was unfortunately honeycombed with pits or silos reaching down from a much higher level: cf. photograph, Pl. XXV. They are represented in our Plans by small circles. It is thanks to the careful work of Mr. Seton Lloyd, who supervised the field operations at this stage, that so many of the architectural features can be placed on record notwithstanding this disturbing factor.

Pits deliberately dug from higher levels introduce, indeed, one of the most difficult problems an excavator can have to solve; and at this stage of our investigations their great number and varying depth challenged the validity of results based exclusively on the stratigraphic method. This relies on the general rule that nearly all objects found in association with buildings on a floor or 'Level' of occupation belong to one and the same period; and the sequence of such objects will follow the superposition of such floors. But, when a pit is dug, potsherds and other objects are brought up and scattered over the surface, so becoming inevitably mixed with specimens belonging to the Level actually in occupation. If the pit descends through a number of Levels all these will thus be represented among the mixed deposits at the Level of origin. Moreover, the pit, whatever its original purpose, will sooner or later be filled up from above with broken pots and rubbish, making confusion worse confounded. The resulting problem is somewhat simplified if the head of the pit can be recognized at its original level; for in such a case the whole contents can be cleared to the bottom and kept separate for later comparison with the finds of the Level under excavation. Yet, even so, there is grave risk of infiltration and admixture. Sometimes the mouth of a pit not completely filled is raised to a higher level, the pit remaining in use; so giving rise to further complication among the contained deposits. Happily such cases are relatively rare: a pit filled during the occupation of its Level by the inhabitants will contain contemporary deposits; and even the open mouth of an unfilled pit is usually filled with debris raked from the Level of origin by the builders of the next one, with much the same result.

This digression is designed to warn the reader of difficulties ahead, particularly as regards Levels XIV and XIII (Fig. 100). Here we find plentiful evidence of infiltration from one Level to another, and are obliged to rely largely on comparisons and typology in an attempt to elucidate the stratification of these and the related Levels. Thus I have thought it best to omit from the pottery types of this late chalcolithic period all isolated potsherds already familiar in lower Levels from their fabric and design, and to rely mostly upon distinctive pots found in a clear domestic environment. For instance, on the inner side of the area under excavation we found, by digging as far as was safe below the outer edge of the Hittite fortress of Level VII, a small group of rooms of special character (110-13) almost free from pits, so that the specimens from these rooms and the areas below them (e.g. 139 and 163) supply reliable evidence which will be discussed separately. I have included, however, at the Levels where found, occasional sherds and specimens interesting in themselves or for comparison with others from higher or lower levels.



In our Plans circles represent the position of the pits, all of which bore numbers in our field books, and were cleared out as soon as found. At Level XV (Fig. 95A) six pits were traced, all of which may be seen from the Plans on Fig. 100 to pass through Levels XIV and XIII, where many more become visible: nearly all of these pits can be traced on Fig. 117 to higher Levels where unfortunately their origins were mostly lost owing to disturbance of the strata in the second half of the Early Metal or Copper Age. A few, which had their origins in the Early Hittite period (which corresponds to the Middle Bronze Age of Syria, from 2000 to 1500 B.C.), were detected among the intact Levels (XI-VIII) of that period. Higher they could not go, as the ground outside the Hittite Fortress at Level VII was covered by a layer of *béton* (a concrete of mud-mortar and pebbles), nearly 2 metres thick which turned it into an outer defensive platform. As a result we find here, at Levels XIV-XIII, a considerable infiltration of potsherds and other objects from those higher Levels as may be seen in the assemblage of pottery vessels from Levels XIV-XIII shown on Fig. 125. Nos. 1-13 and 16, for example, will be found in Chapter IX to belong typologically to a late phase of the early Metal Age, approximately to the latter half of the third millennium B.C. Happily Levels XIV and XIII mark the maximum of this kind of difficulty.

*Extra-mural deposits.* As already stated (p. 140), the outer edge of the Tepe was terraced in Hittite times for domestic use; and in this zone, which was outside and lower than the military platform of the Hittite fortress, were found further pits, descending to still deeper levels (as shown in Fig. 3). Some of these provided interesting groups of the Early Metal and Hittite periods. Lower down, in Trench X in particular, several such groups were found separated from the surrounding debris by the circular walls which formed the bottom of the pits. This debris largely consisted of city refuse which, as seen in the preceding chapter, included broken pots, tools, and weapons, &c., thrown over the edge by the inhabitants of that quarter in the chalcolithic period, and noticeably when the first fortress at Level XVI crowned the brink of the slope. Their gradual accumulation gave them the kind of stratification found in a tip-heap. Thus we find the sloping stratum labelled xb (Fig. 3) to have been formed mostly during the early Metal Age; while that next below (labelled xc) proved to contain broken pieces of the chalcolithic period though pierced, as stated, by clearly defined pits from higher Levels.

*Pottery shown on Figs. 102, 103, and 123.* In the light of such observations there have already been included among our pottery types (e.g. Figs. 72 and 75) selected examples from Trench X, some of which are found to be of later origin, while others correspond clearly with specimens from sealed deposits at Level XVI. Similarly, several fragments from Trench X are included for comparison on Fig. 102 (e.g. nos. 18, 20, and 22), among the selection of pottery shapes and patterns from Level XV. The motifs of enclosed trellis and opposed triangle, seen in nos. 16 and 17, for example, provide the precedent for attributing to Level XVb the fragment of a one-handled bowl decorated with both these designs numbered 18. Certain details support this conclusion, which may be applied also to no. 20, though in general the filled-in background is a Ubaidian feature. In no. 22 we have a definite instance of the use of the multiple brush, contrasting with the more painstaking work on no. 21, and placing the appearance of this device at Mersin rather early in the Ubaidian period.

On Fig. 103 again, similar considerations lead to the inclusion of a few specimens

TYPES OF PAINTED POTTERY FROM LEVELS XV, XVI, AND  
THE INTERMEDIATE STRATA

- |  |                                 |
|--|---------------------------------|
| 1. Bowl, large, with flat bottom. Gritty brown core; warm cream slip; decorated with festoons in matt red paint.   | R.N. 1271; Rm. 164b             |
| 2. Bowl with two handles. Warm buff core and surface, wet-smoothed; decorated matt brown paint.  | R.N. 1272; Rm. 165b<br>Rm. 164b |
| 3. Fragment decorated with tree or leaf pattern; buff clay; black paint; cream slip.   | Rm. 164b                        |
| 4. Bowl, fragment. Buff core; decorated with black bands on cream slip, lightly burnished.   | Rm. 164b                        |
| 5. Cup. Buff core, cream slip; decorated red bands and black lines. Level XV B.  | Rm. 164b                        |
| 6. Fragment. Decorated with chequered squares of red-orange paint alternating with basic cream slip.   | (XV B) Dp.                      |
| 7. Fragment. Decorated with triangles in black paint alternating with the cream slip.  | Rm. 172b                        |
| 8. Cup with spout and basket handle; buff core, red paint burnished.   | Rm. 178                         |
| 9. Neck fragment with handle (in the style of no. 11). Buff core, red burnished slip; matt black lines on rim and handle. Appropriate shape for no. 11.  | Rm. 163b                        |
| 10. Neck fragment. Buff core; decorated band of orange burnished slip, lines of matt black paint. (The probable shape of neck of no. 11 but too large.) Level XV B.  | Rm. 164b                        |
| 11a. Jug, side view, and (11b) end view, ovoid, trichrome, which had (apparently) only one handle (restored). Buff cream core, with cream slip burnished; decorated with broad concentric bands in orange-red, lightly burnished; border lines, &c., of matt black paint on the cream. | R.N. 1232; Rm. 169a<br>Rm. 139b |
| 12. Cup or pot-stand of grey clay; warm cream slip burnished.  | Rm. 139b                        |
| 13. Bowl of a jug, fragmentary, decorated in trichrome, similar in all respects to No. 11, but with narrower neck.   | R.N. 1301; Rm. 184              |
| 14. Cup, decorated with rosettes; core drab cream; cream slip; decorated on bowl and handle in dark-brown paint matt. Level XV B.  | R.N. 1274; Rm. 173              |
| 15. Bowl, fragment, decorated with rosettes (restored) on pseudo-ring base; dark-grey core, with warm buff slip lightly burnished; decorated bands in matt red and lines in matt black paint. Level XV B.  | Rm. 162b                        |
| 16. Bowl, fragment. Warm buff core and slip; decorated in lattice lozenges and triangles in matt black paint. Level XV B.  | Rm. 171                         |
| 17. Fragment. Brown core; cream slip; decorated opposed triangles in matt black paint. Level XV A.   | Rm. 162b                        |
| 18. Bowl, one-handed (restored). Warm drab core, cream slip, decorated with trellis pattern and opposed triangles in warm brown paint. Ascribed to Level XV B.   | Tr. X, y                        |
| 19. Fragment with pink-buff core, dark cream slip, decorated with black matt paint. Level XV B.  | Rm. 171                         |
| 20. Fragment. Buff core, cream slip; decorated with line and opposed solid triangles in warm brown paint. Ascribed to Level XV A.  | Tr. X, x                        |
| 21. Bowl, large, fragment, with outer ledge; buff core, cream slip; decorated with brown matt paint.   | Rm. 185                         |
| 22. Bowl, fragment of hole-mouthed; warm buff core, warm cream slip burnished; decorated in black and brown paint.   | Tr. X, x                        |
| 23. Bowl, fragment. Buff core, cream slip; decorated with trellis bands in matt black paint.   | Rm. 191                         |
| 24. Jar, fragment of hole-mouthed. Drab core, cream slip; matt black paint.  | Rm. 188                         |
| 25. Fragment. Buff core, with cream slip burnished; lines of black and dark red matt paint.  | Rm. 188                         |

*Index by Rooms to pottery illustrated on Fig. 102*

Rm. 139b, No. 12. Rm. 162b, Nos. 15, 17. Rm. 163b, No. 9. Rm. 164b, Nos. 1, 3, 4, 5, 10. Rm. 165b, No. 2. Rm. 169a, No. 11a. Rm. 171, Nos. 16, 19. Rm. 172b, No. 7. Rm. 173, No. 14. Rm. 178, No. 8. Rm. 184, No. 13. Rm. 185, No. 21. Rm. 188, Nos. 24, 25. Rm. 191, No. 23.



FIG. 102. PAINTED POTTERY FROM LEVELS XV, XVI, AND INTERMEDIATE STRATA  
 Nos. 1-7, 9-11: XV. Nos. 13, 21, 23-25: XVI. Nos. 18, 22: Trench X, y. Others XV-XVI

## PAINTED POTTERY AND FRAGMENTS FROM LEVELS XIV AND XIII

- |  |                    |
|--|--------------------|
| 1. Jar rim. Dark grey gritty core, pinkish-cream surface, wet-smoothed, matt brown paint, hand-made.             | Rm. 163            |
| 2. Jug. Orange core, wet-smoothed, matt black paint, wheel-made.   | R.N. 1222; Rm. 162 |
| 3. Bowl fragment. Dark-cream core, wet-smoothed, hand-made. Matt black paint.                                    | Rm. 139            |
| 4. Jar neck. Light-brown core, wet-smoothed, matt black paint, hand-made.  | Rm. 139            |
| 5. Bowl with handle. Cream core, wet-smoothed, matt black paint, hand-made.                                      | Rm. 163            |
| 6. Rim fragment. Buff core, greenish-cream slip, lightly burnished, hand-made.                                   | Rm. 163            |
| 7. Rim fragment. Light brown core, matt black paint, hand-made.  | Rm. 165            |
| 8. Fragment. Greenish core, brown paint.   | Rm. 165            |
| 9. Fragment. Buff core, black paint.   | Rm. 139            |
| 10. Bowl with handle. Dark cream core, wet-smoothed, dark-brown paint, hand-made.                                | Rm. 139            |
| 11. Bowl. Rough grey core, cream surface, wet-smoothed, matt red paint.  | R.N. 1203; Rm. 163 |
| 12. Fragment. Pale cream core, wet-smoothed, brown paint, hand-made.   | Rm. 163            |
| 13. Jar rim. Cream core, wet-smoothed, matt black paint, hand-made.  | Pit in Rm. 163     |
| 14. Bowl rim. Cream core, wet-smoothed, matt black paint, hand-made.   | Rm. 163            |
| 15. Rim fragment. Pinkish core, matt black paint.  | Rm. 163            |
| 16. Bowl with handle. Cream core, wet-smoothed, matt black paint, hand-made.                                     | R.N. 1208; Rm. 139 |
| 17. Bowl fragment with handle. Cream core, wet-smoothed, black paint, hand-made.                                 | Rm. 163            |
| 18. Bowl fragment. Brown core, wet-smoothed, hand-made.  | Pit in Rm. 163     |
| 19. Rim fragment. Creamy buff core, black paint.   | Rm. 162            |
| 20. Rim fragment. Creamy buff core, black paint.   | Rm. 162            |
| 21. Fragment. Cream core, wet-smoothed, matt brown paint, hand-made.   | Rm. 162            |
| 22. Fragment. Reddish core, burnished red slip, incised decoration, hand-made.                                   | Rm. 163            |
| 23. Fragment. Buff core, burnished red slip, incised decoration, hand-made.                                      | Rm. 163            |
| 24. Strainer fragment. Buff core, wet-smoothed, scraped holes, hand-made.  | Rm. 163            |
| 25. Rim fragment. Dark grey core, burnished black surface, incised decoration, probably white filled, hand-made. | Rm. 162            |
| 26. Fragment. Cream core, wet-smoothed, matt black paint, hand-made.   | Rm. 163            |
| 27. Fragment. Buff core, cream slip, black paint, jagged decoration.   | Rm. 139            |
| 28. Fragment. Buff core and slip, black paint, incised decoration.   | Rm. 165            |
| 29. Fragment. Buff core and slip, brown paint, incised lines.  | Rm. 165            |
| 30. Fragment. Buff core, wet-smoothed, matt black paint, incised lines.  | Rm. 163            |
| 31. Rim fragment. Dark cream core, wet-smoothed, dark brown paint, hand-made.                                    | Rm. 163            |
| 32. Rim fragment. Gritty grey core, buff surface, wet-smoothed, matt dark-brown paint, hand-made.                | Rm. 163            |

*Index by Rooms to pottery illustrated on Fig. 103*

- Rm. 139, Nos. 3, 4, 9, 10, 16, 27.  
 ,, 162, ,, 2, 19, 20, 21, 25.  
 ,, 163, ,, 1, 5, 6, 11, 12, 13, 14, 15, 17, 18, 22, 23, 24, 26, 30, 31, 32.  
 ,, 165, ,, 7, 8, 28, 29.

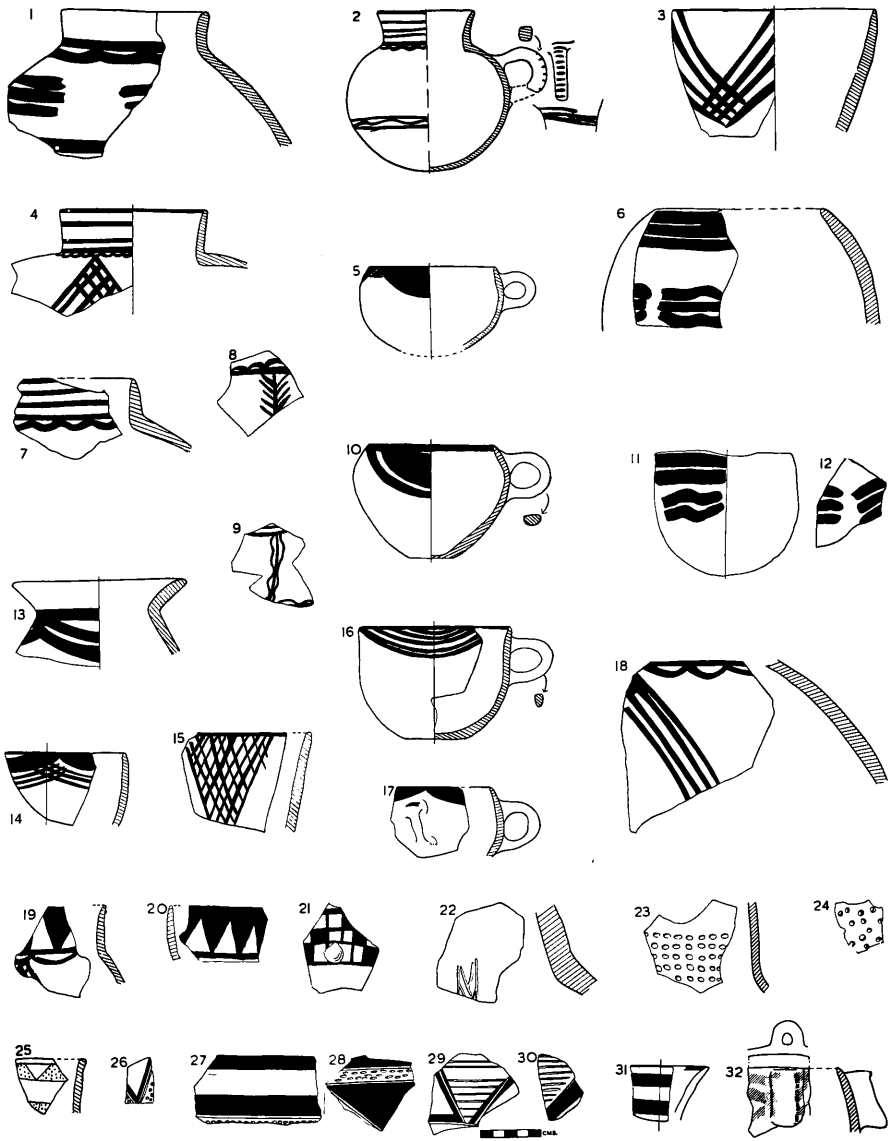


FIG. 103. PAINTED POTTERY AND FRAGMENTS FROM LEVELS XIV AND XIII

notwithstanding the vicinity of pits, e.g. nos. 11, 13, and 18, because they conform in type with numerous other specimens from Levels XIV–XIII, where Ubaidian designs and treatment are much in evidence. Exceptionally, there are figured also a number of fragments, nos. 19–32, either because they illustrate unfamiliar designs or may be suspected of being intrusive. Nos. 26–30, for example, seem to belong to the remarkable and unique type shown in Fig. 101, which we have ascribed tentatively to Level XV; while nos. 25 and 32 have undoubtedly come down from deposits of the Metal Age above. The last-mentioned of these reappears indeed as no. 10 on Fig. 123; it is part of a vertically pierced handle known in the West, for example in the first City of Troy,<sup>1</sup> and hence to be ascribed as a type to the earliest phase of the Copper Age.

Some of the vessels pictured in the lower part of Fig. 123 may, however, belong to Level XIII where they were found. The area 139, for instance, falling below Room 111,

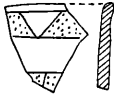


FIG. 104. Potsherd. Room  
162. Level XIV

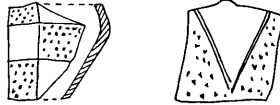


FIG. 105. Late chalcolithic fragments  
Areas 150 and 162. Level XIII

lay mostly nearer the heart of the mound and clear of the pitted zone; so that the provenance of objects found in it is generally reliable. This admits the out-turning bowl no. 15, also no. 14 and possibly no. 17 as belonging to a large local series which closely resemble the grey Uruk wares, and are seemingly contemporary. No. 15 in particular with its light-grey burnished finish clearly simulates some of the grey stone vessels found in the same context. That numbered 20, also from Room 139, though quite unusual, recalls the shape and fabric of the vase decorated with rosettes in trichrome from Level XV shown as no. 15 on Fig. 102.

*Other pottery objects.* Among miscellaneous pottery objects of this upper chalcolithic period may be noted a series of 'andirons' some of which have already been shown in Fig. 90. The earliest of the series, from Room 166, belongs as already mentioned to Level XVI, where it was found in association with a domed oven. The other two in Fig. 90, from Rooms 163 and 165, are somewhat similar in character, and may be attributed to Levels XIV and XIII, in which they were found. Those shown in Fig. 106 from Room 112 were found on the floor of that room at Level XII B. It seems probable that they were used as supports for cooking pots, and that the space between the horns was designed to permit the flame of the fire to circulate freely.

Dark pottery decorated with *pointillés*, which are frequently white-filled, seems to have been a feature of late chalcolithic pottery here as elsewhere. The specimen figured on Fig. 103, no. 25, and reproduced here on a larger scale as Fig. 104, is a typical example. It came from Room 162 in Level XIV. Of great interest for comparative purposes are the two specimens shown in Fig. 105. The one on the left was found in a reliable context in Room 150, the other in Room 162. Both can be matched almost identically with specimens found by Hamit Koşay in the small late chalcolithic mound of Güllücek.<sup>2</sup>

<sup>1</sup> Cf. Schmidt, S.S., p. 1, no. 15 and p. 6, no. 168. The Mersin series also includes an example of type no. 14 in form but without holes.

<sup>2</sup> Reproduced by courtesy of Hamit Koşay in the *First Annual Report of the British Institute of Archaeology at Ankara 1948–9*, pl. 11a.

## OBJECTS OF METAL, LEVELS XV-XIII

Two long needles of copper (R.Nos. 1167 and 1168) were found at Levels XIV-XIII where we have recognized the possibility of intrusion. They are illustrated in Fig. 108. Both were found in Room 163: the length of the upper one is 12.4 cm. and the lower one 12.3 cm. The metal has not been analysed, but their loss of shape is probably due to the softness of an unalloyed metal, and is characteristic of all the needles of this and subsequent Levels till we reach the Bronze Age at Level XI. Mention should be made also of two broad-ended chisels: one (R.N. 1329) from Area 189 at Level XVI and the other (R.N. 1207) from Room 164*b* at Level XV*B*. They are shown in Figures 80*B* and 95*B*.

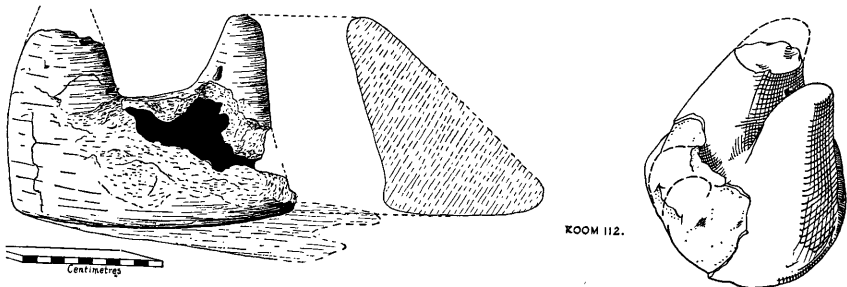


FIG. 106. Andirons from Level XII

These two instruments are almost exactly similar; the length of the former is 11.3 cm. and its breadth 3 cm., while the corresponding dimensions of the other are 11.2 cm. and 3.2 cm., the sharp edge being the broadest part. Both taper towards the other end where there is a tang of metal roughened for hafting, while in that numbered 1329 there is also a rivet-hole. They seem to be made to a model or possibly moulded, a surprising feature at this stage of our local chalcolithic series. However, a scrutiny of the plans on Figs. 95 and 100 will show that the find-spot of no. 1207 was practically sealed down by the solid brickwork of Area 164 which was not penetrated by any pit. The other case is different. Area 189 will be seen on Fig. 79 to fall in the open space within the fortifications of Level XVI, and there is evidence on Fig. 95 that one or two pits had passed through Level XV almost directly above that area; so that in this case there is a possibility of infiltration. As the types are inseparable, it seems probable that both belonged to Level XV*B*, and they may have been introduced by the invaders who destroyed the fortifications of Level XVI.

THE UPPERMOST CHALCOLITHIC LEVEL XI*B* was so denuded, and so clearly interlocked with the later buildings of XI*A*, which prove to belong to a subsequent era, that it was not recognized as a separate occupational Level in our interim reports. As the bulk of the combined masonry belongs to the upper Level, the reasons for separating them are given more fully in Chapter IX; but some indication of the buildings of XI*B* is called for at this stage. They are shown in the composite Plan on Fig. 117, where the foundations of a curving wall at Level XI seem to have circumscribed the village, while the elaborate fortified gateways of the lower Levels are no longer seen. A row of house-rooms abuts against it, with traces of others in the interior. The ground sloped rather steeply at this

stage, so that these buildings emerged at much the same level as those of earlier date in the south-east of the area.

Two of the rooms mentioned, nos. 144 and 145, belonged to the uppermost level of this series, namely Level XI<sub>B</sub>. This is made clear by a study of their contents which included a drinking-cup of 'Early Hittite' character (R.N. 1139), three spindle-whorls (R. Nos. 1171-3) of the elaborate type of the later epoch pictured in the third row of Fig. 116, and a number of wheel-made pottery vessels which form part of the repertory dealt with in Chapter X, Pt. i. The intervening space was largely filled with pits which were obviously extra-mural at the time when they were sunk.

Examining now some of the less-pitted spaces, we find fresh factors towards the disentanglement of the problem. Thus:

- i. In room-area 128*b* at 17.23 metres, layers of ash began to appear together with black burnished pottery. Below it was Area 154 which contained many pits including nos. 136, 141, 148, 155, and 156. For this reason, though there was found in it an interesting fragment of an incised jar (R.N. 1210, cf. Fig. 126), it is not here taken into consideration.
- ii. In room-area 125*c* were found a number of sherds below the floor of 125*b* of Level XI<sub>B</sub>. Below 125*c* again, and above 153 of Level XIII (which contained a pit), finds included a 'tea-pot' (R.N. 1150), a strainer bowl (R.N. 1192), and a cup which appeared to be wheel-made (R.N. 1216). The original position of these objects is rendered doubtful by the presence of the pit: all existing analogy would ascribe them to the period I call the Early Metal or Copper Age of Anatolia.
- iii. Room 122 had two floors, the lower one at 17.00-16.70 metres being assigned to Level XII. A piece of cream-ware decorated with black paint and jagged incisions was found upon the lower one, as also were two flint scraped bowls (R.N. 1151-2) of a class familiar in late Chalcolithic deposits of Mesopotamian sites, cf. Fig. 113. There is no record of black pottery in this case.
- iv. Area 153 appeared to have been anciently filled with rubbish in which was found the ridged bowl shown on Figs. 120 and 123, no. 4. It lay below Areas 126 and 120 of Level XI to which it probably belonged. A sloping pavement ran down from the floor of 124 at Level XII.

An analysis of these records shows two things: (*a*) that the stone-walled buildings in the south-west belong to Level XI<sub>B</sub>, and (*b*) that in the extreme south-east we get the first appearance of a new type of black burnished pottery beneath the layer of ashes which intervenes between the uppermost stone walls of Level XI and the walls marked in solid black. There is no record of this black pottery being found outside the dark line (including Area 154) which the architect's note upon the Plan shows to have marked the limit of the buildings of Level XII.

The buildings below those marked in solid black in Rooms 110, 111, and 112, together with the adjoining Room 113, belong obviously to the earlier period of Level XII. These rooms, as already explained, lay directly under the foundations of the Hittite fortress of Level VII, and were free from pits. The close superposition of later walls in Rooms 111-12 complicates the analysis of their contents, but some constructions and features at floor level are of immediate interest.

Of Room 111, it is recorded in our field books: 'On the south side, the mud-brick wall did not go down to the floor but ran over an oven', as may be seen in the Plan. The implication of this evidence is inescapable that we have to do here with two different building



Levels. This conclusion is indeed confirmed by the fact that painted fragments of late chalcolithic pottery were found embedded in the brickwork of the upper walls. That this pottery is to be associated with the lower stratum XII B is shown by direct evidence from Room 113, which was free from the complication of a superstructure. On its floor was found a considerable deposit of pottery fragments of exclusively late chalcolithic character—dark on light. Upon the basis of this evidence I have selected from the confused pottery content of Rooms 110–11–12 the vessels nos. 1–6 figured on Fig. 107 and have assigned to this floor level the special number XII B. The superstructure of these rooms is differentiated as Level XII A, and to this are ascribed the black and grey burnished wares, some decorated with white pigment—light on dark—which will be described in detail in the next chapter as belonging to a different epoch.

Professor Matson kindly supplies the following notes on some technical features of the pottery of Level XII:

The two sherds of this group, each 5 mm. thick, were formed from a sandy clay that contained inclusions up to 1 mm. in size. There was a 0.5–1 mm. wide gray core in the center of each sherd; the rest of the body was oxidized to a dull orange brown. The exterior surface had a black burnished slip on which was a scraped decoration, while the interior had a deep reddish-brown slip. The sherds showed a positive reaction with HCl. The chip that was refired developed a reddish-orange core color and was peppered with white rounded inclusions of limestone. It appeared identical to the refired chip from the Early Chalcolithic painted sherds of group A. Apparently both wares were made from the same kind of clay.

The slipped surfaces of Mersin XII ware were made of a red ochre, for the refired test piece had bright red surfaces. This slip, being very fine textured, shrank more upon firing than did the rest of the vessel wall. This resulted in strains developing and the appearance of surface cracks or crazing similar to the pattern of drying mud flats. If one may judge from the small sample studied, the slip was more thinly and less uniformly applied on the interior than on the exterior surface. The deep red color of the oxidized slip and the ease with which it could be burnished suggest that a purified clay, of the type used to fashion the neolithic burnished wares, was the source of the slip.

The technique used to create the linear decoration in bands 2–3 mm. in width is quite interesting. Apparently after the vessels were burnished and were fairly dry, a scraper was used to remove very thin strips of the slip so as to form a design. No depressions can be seen on the sherd surface at low magnification. There were no scraping marks of any kind in the dull strips, but one can see under a binocular microscope how the striations formed during burnishing were interrupted by the scraper, for such striations continue on both sides of the bands. Attempts were made to simulate this decorative technique by the scraping of strips from the burnished areas with a dental scraping tool and with a needle. It was easy to remove the slipped surface, but even with very light pressure, a deeper channel was cut than in the original decoration and cutting marks could be seen. Therefore it is likely that the scraping was done before the ware was fired. The edges of the bands are sharply delineated from the burnished slip, with very little chipping. It would be interesting to study a large series of sherds of this type so as better to reconstruct the decorative technique used.

As it is impossible to disentangle completely the contents of the rooms of Level XII, it is desirable to give a list of them at this stage, together with an account of the more interesting features found at floor level or forming part of the basic construction:

*Room 110* was filled with an ash deposit at least 60 cm. deep in which was much chalcolithic pottery. Other objects found included a stone utensil (R.N. 1560), a miniature

POTTERY OF THE LAST CHALCOLITHIC LEVEL XII<sub>B</sub>

1. Bowl. Creamy-buff core, matt dark brown paint, wet-smoothed.	Rm. 112
2. Bowl. Reddish core, creamy-pink slip, matt brown paint, hand-made.	Rm. 112
3. Bowl. Buff core, pink slip, matt dark-brown paint.	Rm. 111
4. Bowl. Pale cream core, dark-brown paint. R.N. 1231.	Rm. 111
5. Rim fragment. Creamy buff core, matt black paint, hand-made.	Rm. 112
6. Jug, reconstructed. Cream core, matt black paint, hand-made.	Rm. 110
7. Jug (portion). Dark-grey core, pinkish-buff slip, matt black paint, hand-made.	Rm. 112
8. Rim fragment. Cream core and slip, matt brown paint, hand-made.	Rm. 111
9. Rim fragment. Buff core, turning red, wet-smoothed, dark-brown paint, hand-made.	Rm. 111
10. Rim fragment. Buff core, wet-smoothed, matt black paint.	Rm. 112
11. Jar (top portion). Grey core, red surface, wet-smoothed, dark-brown paint, hand-made.	Rm. 111
12. Rim fragment with loop handle. Greyish-buff core, turning cream on outside, wet-smoothed, matt black paint, hand-made.	Rm. 112
13. Fragment. Buff core, cream slip, matt black paint.	Rm. 112
14. Fragments. Cream core, greenish slip, matt black paint, hand-made.	Rm. 111
15. Rim fragment. Buff core, wet-smoothed, matt black paint turning brown in places, hand-made.	Rm. 112
16. Jar fragment. Cream core, greenish slip, matt black paint, hand-made.	Rm. 111
17. Jar, lower portion. Cream core, matt brown paint, wheel-made.	Rm. 154

*Index by Rooms of pottery shown on Figure 107*

Rm. 110	No. 6.
„ 111	Nos. 3, 4, 8, 9, 11, 14, 16.
„ 112	„ 1, 2, 5, 7, 10, 12, 13, 15.
„ 154	No. 17.

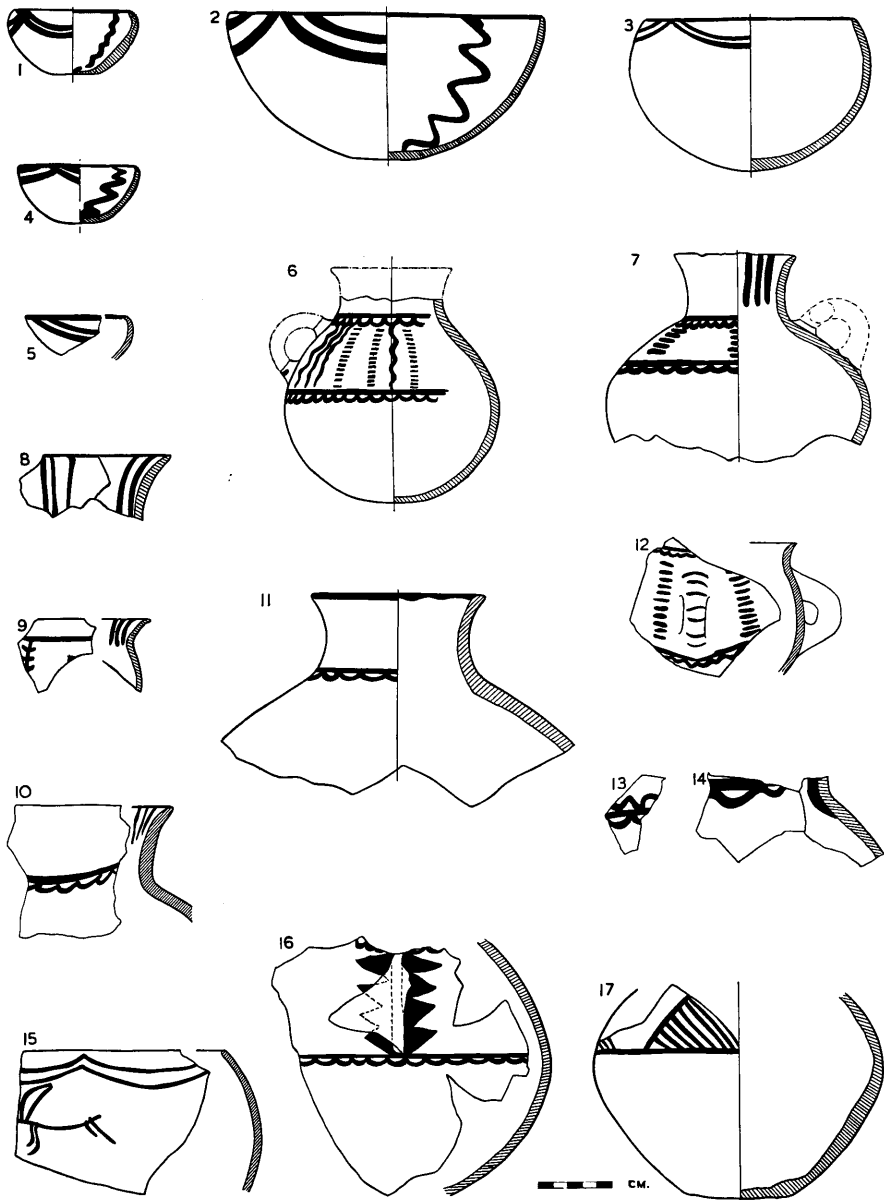


FIG. 107. POTTERY FROM THE LAST CHALCOLITHIC LEVEL XII B

cup (Fig. 124, R.N. 1142), and two great sickle blades or knives of chert (Fig. 77, R.Nos. 1349-50): these were respectively 16 and 19 cm. in length.

*Room III.* Among the ash layers was found an amount of burnt pottery including a small grey pottery lamp. Other pottery objects included black burnished sherds decorated with white paint, coarse cooking pots with ledge- and lug-handles and chalcolithic fragments of the familiar north Ubaidian style. All these were found in a confused unstratified deposit which practically filled the room. There was no floor to the upper walls, but a good floor to the lower system had possibly served for both. Under the ashes, on the north-east side of this room, was a small clay oven; and near by among the ashes were found some 'andirons' of burnt clay (Fig. 106). In the middle of the floor was a hearth surrounded by ashes. On the south side the mud brick wall did not go down to the floor

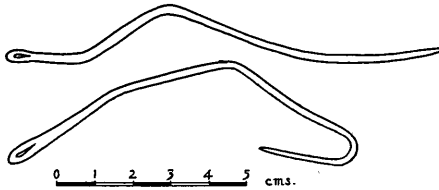


FIG. 108. Copper needles. R.Nos. 1167-8. Area 163

but ran over another oven as previously mentioned. The latter also seems to have intruded at the east end of the original room upon a brick construction which suggested to me at the time the base for a vertical hand-loom, and later discoveries in the adjoining room (112) tended to substantiate this impression. Here, however, apart from a clay spindle-whorl (R.N. 1051) there was found no material

evidence on this question. Other small objects recovered included a pierced shell (Fig. 109, R.N. 1054), part of a metal needle (Fig. 131, R.N. 1052); half a bone amulet representing a stag or deer (Fig. 140, R.N. 1053); also a small cream-coloured bowl decorated with dark-brown paint (Fig. 107, R.N. 1231) and a burnished black vase (R.N. 1266).

*Room III.* Among the grey ashes which filled this room were found as before some pottery fragments of Ubaidian type, and also some of a black burnished jar decorated with white paint (R.N. 1269). In a recess in the wall at 70 cm. above the floor was a black burnished double pot (illustrated on Fig. 119, no. 6, R.N. 1224); and among the debris were some 'andirons' as in the neighbouring room. On the floor, at 16.85 metres above our zero datum, were found five shaped clay loom weights (cf. Fig. 112), two stone weights, and a bullet-shaped object of black clay. Pottery objects included four clay spindle whorls (R.Nos. 1153, 1073-5), some pottery fragments painted in the Ubaidian style, a miniature incised vase (Fig. 119, no. 16, R.N. 1085), three pedestalled bowls of burnished black pottery, two of which were plain (Fig. 119, nos. 21, 20; R.N. 1264-5)



FIG. 109. Pierced shell receptacle. Room III. R.N. 1054.

and one was decorated with white paint (Fig. 118, no. 5, R.N. 1268); also a black burnished bowl (not illustrated, R.N. 1267). Other objects included a flint knife (R.N. 1056), two obsidian flakes (R.Nos. 1057-8), two pointed bone tools (Fig. 112, R.Nos. 1071-2), and a pierced horn, Fig. 111. Another pierced horn of similar character, found in an adjoining room, is shown in the same figure; both were seemingly needle shuttles, used in conjunction with the other utensils shown in Figs. 111 and 112. Among these was the shell receptacle (R.N. 1054) pierced with a smooth hole, shown in Fig. 109.

Though unexplained as yet, it seems probable from the context that this object also formed part of a weaver's outfit. Its height is 4.1 cm., and its width at the top 3.5 cm.

At Level XII of Room 112 on the original floor were found traces of low walling (cf. Fig. 110) which may have supported a vertical loom; and various objects, including warp-weights *in situ*, suggest the presence of a weaver's workshop. Among these are the three heavy bone pointed tools shown in Fig. 112, the pierced horns shown in Fig. 111; and probably the small receptacle cut from a shell (Fig. 109) already mentioned. The bone tools are respectively 12.3 cm., 15.4 cm., and 13.3 cm. in length. The loom weights are flat-bottomed and uniform in size, as may be seen in the sketch, Fig. 112 and the photographs on Pl. XXVI. They were made of baked clay, conical in shape, and pierced near the top, and weighed approximately 2 lbs. each. Their average height is about 15 cms. Mrs. Crowfoot writes on this subject: 'I quite agree that Room No. 112 may represent a weaver's workshop. The vertical loom could have stood in the trough at the base, and the loom weights and small tools give good support to the theory. The bone pins could certainly have been used as "beater-pins"—the size seems right for the purpose, near that of the wooden beater-pins used by the weavers of Hama on looms which are vertical though not warp-weighted. Wooden and metal pins also are used sometimes instead of gazelle horns on horizontal ground looms, but I think the Hama example is the nearest to yours.'

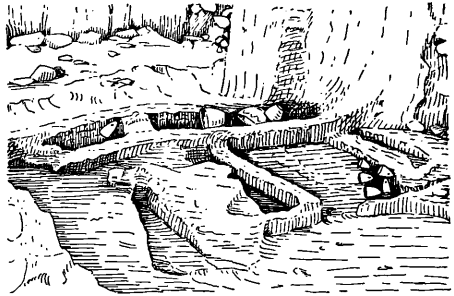


FIG. 110. Remains of weaver's workshop. Rm. 112.  
Level XII<sub>B</sub>



FIG. 111.

Horn needle-shuttles.

L. Rm. 112. R.N. 1113. Level XII<sub>B</sub>  
R. Rm. 133B. R.N. 1136. Scale 1:2

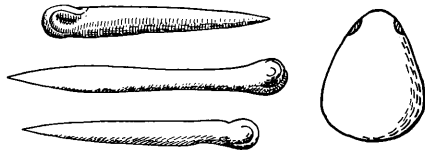


FIG. 112

Three beater-pins of bone.  
Rm. 112. XII<sub>B</sub>. Scale 1:2

Typical loom-weight.  
R.N. 1741. Scale 1:5

#### CHRONOLOGY OF THE CHALCOLITHIC AGE

The special relations of these uppermost chalcolithic Levels, in particular their points of contact with Uruk and Jamdat Nasr, have an important bearing upon the chronology, both local and general, of the closing stage of the chalcolithic period which borders on the Early Dynastic period of southern Iraq. Some indication of the relative dating of these Levels is found among the specimens from Levels XIV and XIII. Here distinctive grey-finished pottery bowls of the Uruk type<sup>1</sup> and stone bowls of similar shape and appearance were present in quantity so considerable as to justify the conclusion that they really belonged to those levels (cf. nos. 14, 15, 19 in Fig. 123); and this inference is sustained by their rarity in others.

<sup>1</sup> Cf. Seton Lloyd in *Iraq*, vii, p. 18.

Among the same deposits but slightly higher, mostly in Levels XIII–XII B, were found a number of rough plain bowls almost uniform in size and appearance, hand-made of gritty yellow clay which had apparently been prepared with a straw 'binder', and finished

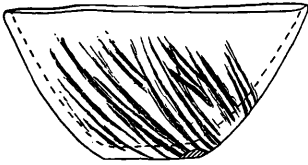


FIG. 113. Specimen of scratched vase.  
R.N. 1152. Level XII B

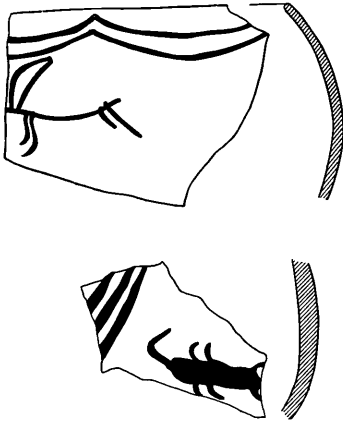


FIG. 114. Naturalistic designs on late chalcolithic pottery. XII B

off with a flint flake by scraping and scarring from the bottom diagonally upwards. The upper parts, for 2 or 3 cm. below the rim, and all the interiors of these vessels were wet-smoothed. As may be seen in Fig. 113 the type is very distinctive: it is familiar in southern Iraq, where also it marks the disappearance of the Uruk types.<sup>1</sup>

Lastly, among the significant potsherds may be included the two specimens decorated with naturalistic designs shown in Fig. 114. The fabric of the former is typical of the late chalcolithic period, being hand-made, with a buff core, and a smoothed surface, decorated in black paint which is brown in places. It was found in the topmost chalcolithic Level XII B. The shape is familiar and the festoons also, which correspond with those of no. 3 on Fig. 107, are regarded by Professor Mallowan as being in the antique style. The drawing is clumsy rather than careless, and is presumably copied without knowledge of the bird. The nearest parallels seem to occur on Nūzi pottery of c. 1500 B.C.,<sup>2</sup> but birds are well depicted on wares of the middle or late chalcolithic period at Arpachiyah.

The lower fragment, in which a scorpion seems to form a central feature of the decoration, is also a standard local fabric, with a cream slip lightly burnished on a gritty (possibly sandy) drab core, the paint being pinky-red. Its place in our stratification cannot be decided, as it was found in the extra-mural deposit of Trench X which gave us also the metal-age vessel shown on Fig. 126, no. 42, viz. layer m. It cannot therefore be put later than 1500 B.C. as the stratum was sealed down by the Hittite military platform of that date, though it may well be earlier. The motif appears on pottery of the Jamdat Nasr period of c. 3000 B.C. at Arpachiyah, and seems to have a much earlier origin. These are the earliest examples of designs derived from life disclosed on our site.

We have thus found in this latest chalcolithic series a remarkable correspondence and parallelism with the development of pottery types in lower Mesopotamia as well as the rest of the wide zones permeated by the Ubaidian culture. We have also found reason to believe that the last vestiges of this culture still lingered in our distant site after the Uruk period, suggesting that during this time the village was freed for a space from the political

<sup>1</sup> *Iraq*, vii, p. 19, and cf. Mallowan in *ibid.* ix, pl. lxvi, 4, and p. 222.

<sup>2</sup> For comparisons in both cases cf. Mallowan in

*Iraq*, ix, pls. lxxvii, lxxviii; also fig. 77, nos. 2-4; and E. Tulane in *J.N.E.S.* iii, no. 1, 1944.

control of Mesopotamian or Syrian centres—a lull before a different storm. These considerations enable us to assign tentatively the close of our chalcolithic series to a date comparable with that of Jamdat Nasr, just before the rise of the early Dynasties. Though, in view of the general uncertainty I continue to use the round date of 3000 B.C. to mark the end of this epoch, it may indeed not have closed locally until one or two centuries later, c. 2900–2800 B.C. Sir Leonard Woolley tells me that he has arrived at much the same conclusion from his excavation of Alalakh.

The following chart, which subdivides our thirteen chalcolithic Levels into three groups—Early, Middle, and Late—is based on the foregoing considerations and indicates the visible points of cultural contacts. The suggested dates before 3000 B.C., though based on local considerations, are open to criticism from the Mesopotamian standpoint; but I could not ascribe more than 1,500 years to the whole development of our chalcolithic series without stretching the evidence, as all the main phases are represented and there is no trace of a long sterile gap, with the possible exception of our disturbed Levels XIV and XIII.

FOREIGN RELATIONS OF YÜMÜK TEPE DURING THE  
CHALCOLITHIC PERIOD

<i>Late</i>	c. 2800 B.C.	Level XII B	Lingering Ubaidian influence outlasting the plain scratched wares contemporary with Jamdat Nasr and the 'Uruk grey' wares of Level XIII.
	c. 3000 B.C.	„ XIII	} Periods ending in destruction of successive fortifications (with possible intervals).
		„ XIV	
	c. 3500 B.C.	„ XV	
		XV B	DESTRUCTION OF FORTRESS
<i>Middle</i>	c. 3600 B.C.	Level XVI	Ubaidian influence appears in XVII A.
		„ XVII	The site fortified.
		„ XVIII	Halafian influence dominant.
		„ XIX	Appearance of metal tools and weapons.
	Before:		
<i>Early</i>	3800 B.C.	„ XX	} Period of peaceful development of agriculture and other rural industries. Lithic industry decadent. Pottery resembles that of Hassuna.
		„ XXI	
		„ XXII	
		„ XXIII	
	4300 B.C.	„ XXIV	Silos: stockfolds: spinning: painted pottery.
			<i>Emergence from an earlier neolithic culture (Levels XXV–XXXI).</i>

In view of the discussion with which the next chapter opens attention is drawn in conclusion to the specimens of a design in which the apex of a chevron is made to interlace, whether roughly as in Fig. 115 or neatly and deliberately as in nos. 3 and 4 shown on Fig. 103. This motif appears on some examples of the black burnished ware already mentioned as assigned to Level XII A, and we may reasonably infer that the similarity is not fortuitous. It is significant therefore that all three specimens are typical chalcolithic

fabrics with the traditional cream core, decorated with dark matt paint, and that they came from Level XIV–XIII. No. 3 in particular was found in the undisturbed sector 139 below Room 111. The specimen shown in Fig. 115 consists of two fragments found in the

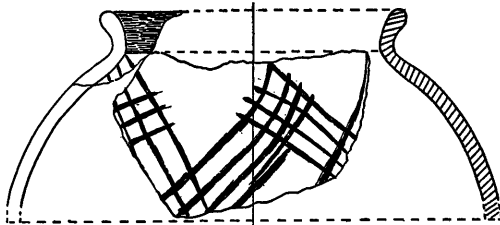


FIG. 115. Interlacing chevron design. 125/165. XIII–XIV

adjoining areas 125c and 165: the pottery is hand-made and wet-smoothed, the core cream-coloured with fine grit, the paint black on a cream surface.



TABLE OF OBJECTS FROM LEVELS XX-XII

(showing the presence of various products representing the Middle and Upper Chalcolithic cultures between the Levels XIX and XIIb at both of which there were marked changes)

<i>Material</i>	<i>Object</i>	<i>Earlier</i>	<i>XX</i>	<i>XIX</i>	<i>XVIII</i>	<i>XVII</i>	<i>XVI</i>	<i>XV</i>	<i>XIV- XIII</i>	<i>XII</i>	
Bone	Amulets									×	
	Awls		×	×	×	×	×	×	×	×	
	Beater-pins							×		×	
	Bracelets	×									
	Handle						×				
	Needles		×							×	
	Pins		×								
	Spatulas		×								
	Spindle-whorl								×		
	Spoon							×			
Bronze and Copper	Tools (pointed)		×			×	×	×			
	Fish-hooks						×	×	×		
	Needles							×	×	×	
	Pins						×		×		
	Seal					×					
	Tools					×	×	×			
	Weapons					×	×				
	Clay	Animal figures		×		×				-	
		Ball					×				
		Beds (models)						×			
Cones					×						
Loom weights						×	×			×	
Spindle whorls		×	×	×	×	×	×	×	×	×	
Spoon							×				
Stamps or seals											
Stoppers			×		×	×					
Supports, oven-					×	×					
Horn	Supports, fire-						×	×		×	
	Shuttles								×	×	
Flint, &c.	Blades, &c.	×	×	×	×	×	×			×	
	Obsidian	Flakes and chips		×			×				×
Shell			×	×	×						
Slate	Beads		×	×							
	Fish-hooks	×									
Stone	Palettes		×		×			×	×	×	
	Pendants				×					×	
Tusks	Balls	×				×	×				
	Beads		×	×							
	Bowls		×		×			×	×		
	Bracelets	×	×								
	Celts		×	×		×	×				
	Grindstones (flat)		×	×		×	×				
	Loom-weights		×	×		×					
	Mace-heads		×		×	×	×	×	×		
	Mortars (Querns)		×	×	×	×	×				
	Palettes	×	×		×		×	×	×		
	Pendant				×						
	Polishers		×	×			×				
	Roller			×							
	Seals or stamps		×					×			
	Spatula		×	×							
	Weights (? sinkers)	×	×	×	×	×	×				
	Weapons	×	×					×			

PROVENANCES OF CLAY SPINDLE WHORLS ILLUSTRATED  
ON FIG. 116

*Stratified*

- Top row: R.N. 1122: Level XI. 1128: NW. Terr., Level XV. 1126: Level XI B. 1184: Level XI B. 1092 (? holed fossil), Level XI.
- Second row: 1125: Rm. 133, Level XI. 1051: Rm. 111, Level XII. 1124: Rm. 128, Level XI. 1127: Rm. 110 B, Level XII. 1073: Rm. 112, Level XII.
- Third row: 1171: Rm. 144, Level XI B. 1172: Level XI B. 1109: Pit 134, ? Level XI. 1108: Pit 134. 1064: Rm. 116, floor, Level X.

*Unstratified, from Trench X* (For position of strata v, w, x-y, &c. see Fig. 3):

- Fourth row: R.N. 528: Layer u-v. R.N. 512: Layer v-w. R.N. 569 B: Layer xb-xc (outer). R.N. 617: Layer xc-ya. R.N. 601: Layer ya (outer).
- Fifth row: (one only) R.N. 1121 at 13 m. (Level approx. XVII).

*Trench X continued*

- Sixth row: R.N. 546: Layer xa-xb. R.N. 593: Layer xc-ya. R.N. 559: Layer xb-xc. R.N. 536 (plain): Layer w-xa. R.N. 537 (plain): Layer w-xa.
- Seventh row: R.N. 587 B: Layer xb-xc. R.N. 548: Layer xa-xb. R.N. 530: w-xa. R.N. 511: Layer w-xa.

Some of the unstratified specimens are comparable with those from Levels XII-X and with examples from Alishar, e.g.: No. 512 (fourth row) with Alishar, c. 309; also with no. 1122 (top row). The two specimens at the end of the third row, with Alishar, e. 98, Fig. 209 (Copper Age). The second specimen from the fourth row compares with Alishar, d. 2377 (Copper Age), also d. 2174, Fig. 203 (Copper Age). The plain hemisphere shape of the fourth row 6 = Alishar, C. 2084, Fig. 198 (Copper Age). The third in bottom row = d. 200, Fig. 213 (Copper Age).

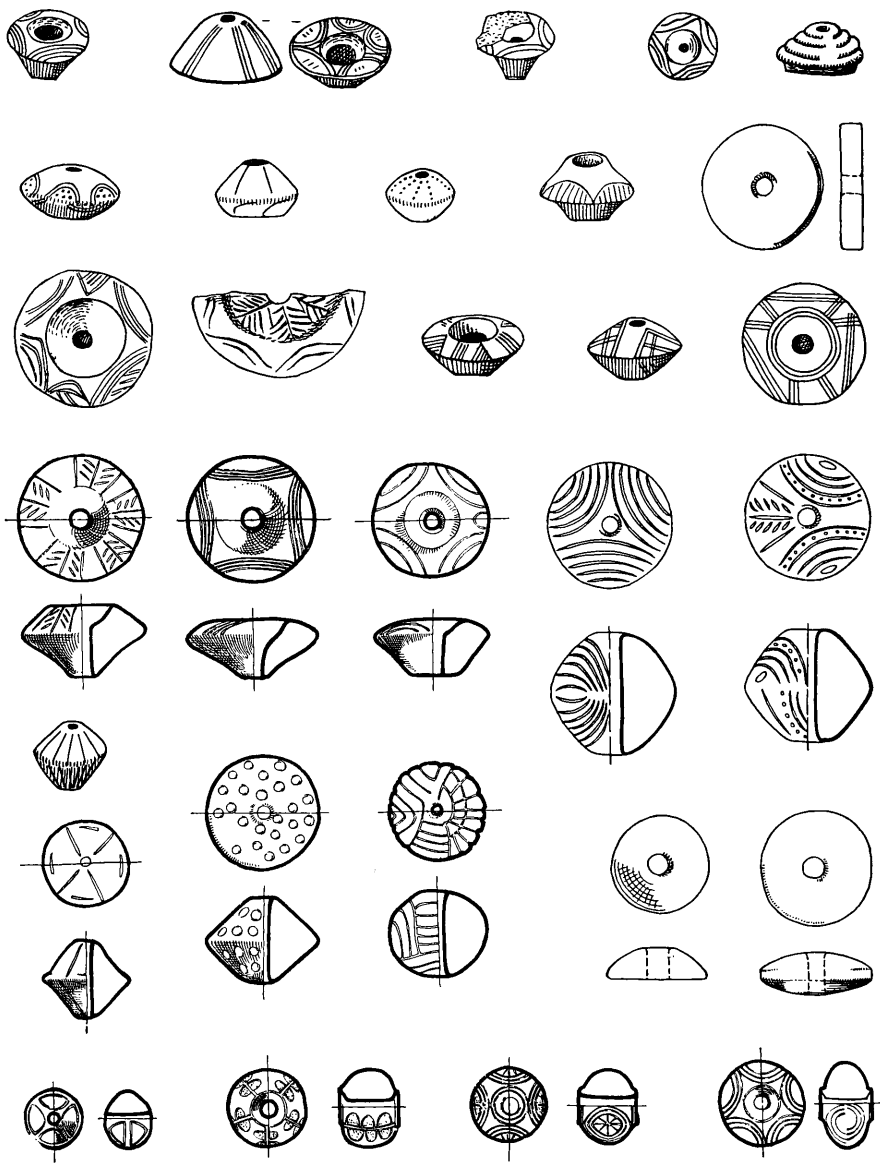


FIG. 116. TYPES OF SPINDLE WHORLS, DECORATED AND PLAIN  
 The three upper rows from stratified Levels XII-X: others from Trench X  
*The single specimen on the fifth row from Level XVII*

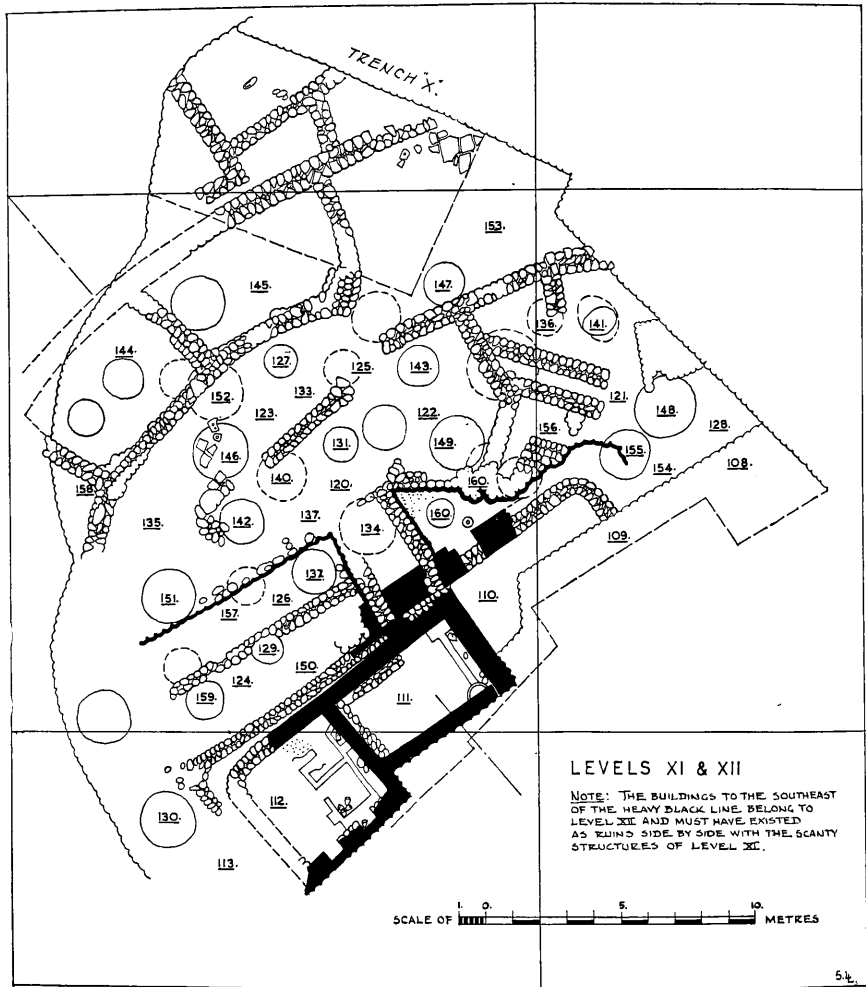


FIG. 117. SUPERPOSED PLANS OF LEVELS XIIb, XIIIa, AND XI  
*(Level XIIb belongs to the last phase of the Chalcolithic period)*

## IX

### RELATIONS ESTABLISHED WITH ANATOLIA

*Early Metal (or Copper) Age. Level XIII (16.80-17.40 metres)*

**A**S stated in the preceding chapter, the passing of the old order with its Mesopotamian contacts and the incoming of the new were not at first sight obvious in the tangled remains of Level XII. The general confusion due to infiltration from pits was intensified at this stage by the further disturbance of the strata caused by the activities of later occupants, who had thoroughly raked out the area to get a clear space for a fresh series of buildings, and appear to have turned over the contents of preserved rooms in search of treasure or a solid floor.

It would indeed be surprising if the end of a cultural era of over a thousand years' duration, the closing stages of which had witnessed the development of political organization and military systems, were not accompanied by visible signs of some kind, whether of violence or radical innovation.

In view of the signs of general destruction and disturbance already described the evidence afforded by the preserved Rooms 110, 111, and 112 is of exceptional importance; and it is to be regretted that the clues they furnished could not be followed further because the rooms in question passed under the main rampart of a Hittite fortress at a higher level which it had been decided to consolidate and preserve as a historic monument. Their importance was, however, recognized in the course of the excavation and all work in them was done under expert observation. Specially detailed records were kept, and include seventy pages of field sketches in addition to the routine series of photographs and notes.

A careful study of these leaves no doubt in my mind as to the correct interpretation of this material, the general trend of which has been indicated in the previous chapter and must modify in some respects the opinions expressed in my interim reports.<sup>1</sup> I now find in short, that the remains in these rooms indicate two different cultures, one of which closely overlaid and in certain details may have perpetuated the other, rather than a single culture in which two distinctive elements were merged. There is not much chronological difference involved in the revision, for the new phase seems to have followed directly on the old.

#### ARCHITECTURE

The architectural remains comprised, as will be seen from the Plan (Fig. 117), the walls of two different building periods, those shown in solid black being broad brick walls which overlay and partly followed some older stone foundations. These two periods were closely interlocked without separate floors and had perforce to be cleared together, but the upper system proved to be radically different from the lower one in its construction.

<sup>1</sup> *The Times*, 10 March 1939; *L.A.A.* xxvi, p. 40 and pl. xxvii.

Its walls, nearly a metre thick, were built of good bricks rather large in size and dark in colour. They may be seen beneath the stone walls of Level XI, on the photograph Pl. XXVII. They remind me now of the well-preserved buildings of the 'Early Bronze' Age uncovered at Tarsus.<sup>1</sup>

That these walls represented a completely independent and later series is confirmed by the fact already noted (Chapter VIII, p. 168) that the mud-brick wall of Room 111 ran over an oven clearly assignable to the original floor and the lowest courses of the walls associated with it. We have seen also that in Room 113, where no upper structure was present, the pottery found upon the floor was exclusively of the late chalcolithic character represented on Fig. 107, while fragments of this type were found elsewhere embedded in the brickwork of the upper walls of the adjoining rooms, which must thus be of a later, though not necessarily a much later, date. To this evidence we have now to add that of a new and strikingly different type of pottery.

#### POTTERY FROM LEVEL XII

All the excavated area, including the dual system just described was covered deeply with ash and also overlaid by the better-preserved but smaller rooms of Level XI, which were traced all over the area as it sloped away to the edge of the mound (cf. Fig. 117). Happily this additional complication was not a serious one; for Level XI belonged primarily to a quite different epoch of the second millennium B.C. Its pottery, found in great quantity at this highest level and in pits of the same period, was all wheel-made and for the most part readily distinguishable, as will presently be seen.

The ground being thus cleared, we can return to our main problem. The pottery found within the area of the three rooms mentioned is still nearly all hand-made, but it resolves itself readily into two classes, which comprise as their chief features:

- (i) A large series of vessels and numerous sherds, mostly of drab wares, decorated in black paint with designs of festoons and other simple devices obviously derived from the Ubaidian tradition. These are the types represented on Fig. 107 and assigned in Chapter VIII to Level XII B.
- (ii) Black or grey-black burnished wares of varied shapes decorated with white lines frequently in chevrons or curvilinear designs adapted to the contours of the vessels. These are illustrated on Fig. 118 and Pl. XXVII and are now assigned by me to Level XII A.

In view of the architectural evidence already adduced it is reasonable to assume that these two radically different classes of pottery, though found as we have seen in close association, really represent two different strains of culture; the one originally related to the underlying stone foundations, the other to the upper series of broad brick walls. In other words their association is fortuitous, being the result of the proximity of their respective buildings and their subsequent disturbance.

*Pottery of Level XII A.* The distinctive class of pottery now assigned to Level XII A is also one of the most attractive products of the site. The clay is usually dark grey, but sometimes the baked core is almost black, while occasional specimens appear to be light grey in colour. The clay is almost invariably tempered with a very fine grit resembling

<sup>1</sup> Cf. Hetty Goldman: Reports in *A.J.A.*, 1935-40, also 1947.

blown sand. All vessels of this fabric are hand-made and with a thickness proportioned to their size, being about half a centimetre (5 to 6 mm.) in the larger kinds, but never as fine as some of the late neolithic products. The best examples are finished with a jet-black slip which is highly burnished. Sometimes the final shade is dark grey, and occasionally the exposed edges of the rim and base tend to a warm brown shade, as also more rarely do patches on the vessels, owing probably to freak firing.

Nearly all these vessels are decorated with a white pigment which gives the bubble reaction of lime to a drop of hydrochloric acid. On some it has been applied very thickly so as to remain rough to the touch;<sup>1</sup> on others so thinly that it wears or washes off, leaving the trace of the pattern on the otherwise polished surface.

*The designs* as will be seen on Fig. 118 are highly attractive, especially those which show an interlacing of the curvilinear patterns adapted freely to the contours of the vessel (nos. 1-6, 14).

The simple chevron, well seen on no. 5, had been familiar from the beginning of the chalcolithic period,<sup>2</sup> while the overlapping of the lines at its apex (no. 13) is found, as we have noted, towards the end (Chap. VIII, p. 176). To this extent the hand of the local potter is visible, a fact confirmed by the local origin of the clay itself: and the evident skill and artistry displayed are only such as might have been expected from the many centuries during which the craft had been practised on the site. On the other hand the complete novelty of the curvilinear designs and the sudden revolution of style from dark on cream to white on black are features which point to a new source of inspiration.

*The shapes* of these vessels may be seen from the selection illustrated on Fig. 118 to fall mostly into three groups:

- (i) Large pedestalled bowls like tureens, and chalice-like goblets on short pedestals, with rims outcurving or incurving, and provided with rather meaningless handles which are welded flat against the sides, rising to the rim and sometimes horned. Nos. 7 and 8 are specimens of these handles broken away from the vessels to which they belonged: they look like a revival of the earlier 'tab' handles (cf. p. 142).
- (ii) Bowls outcurving gracefully and furnished with a thin flat bottom added to the vessel (cf. Fig. 118, nos. 1 and 3).
- (iii) Dishes of similar character as the bowls and presumably slightly outcurving (*ibid.*, nos. 12 and 17); but no completed example has actually been found. Examples of other shapes and features occur, but they are few and fragmentary and our figure represents all the established types of this time and place.

Though the fabrication of black burnished wares had already a very long tradition at Mersin, dating indeed from the beginning, this class of pottery had not previously been painted, the old style of whitened incisions being quite different in technique and range and not present in this context. Nevertheless, as with the designs, there are certain features about this ware which suggest its local origin. The 'tab' handles, for example, were found to make their appearance on black burnished bowls and other fabrics as early as Level

<sup>1</sup> Appropriately described as 'crusted' by Mr. Heurtley (*Prehistoric Macedonia*, p. 158, fig. 27k, &c.), who, however, finds the white paint on a specimen from

Kritsanâ (op. cit., p. 133) to be graphite, a material freely found in limestone of various kinds.

<sup>2</sup> Cf. Figs. 34 and 55.

## BURNISHED BLACK POTTERY VESSELS DECORATED IN WHITE

## LEVEL XIIA

- |     |   |                  |
|-----|---|------------------|
| 1.  | Bowl. Burnished black surface, matt white paint, hand-made.   | Rm. 112          |
| 2.  | Pedestalled bowl. Burnished black-grey core, matt white paint, hand-made.<br>R.N. 1269.                     | Rm. 112          |
| 3.  | Bowl. Burnished black, grey core, matt white paint, hand-made.  | Rm. 112          |
| 4.  | Bowl. Black core, burnished black slip, turning grey towards the base, faint white paint, hand-made.        | Rm. 111 <i>b</i> |
| 5.  | Pedestalled bowl. Burnished black, dark core, matt white paint, hand-made.<br>R.N. 1268.                    | Rm. 112          |
| 6.  | Rim fragment. Burnished black, grey core, matt white paint, hand-made.                                      | Rm. 111          |
| 7.  | Handle. Black core, burnished black slip, matt white paint.   | Rm. 111 <i>b</i> |
| 8.  | Handle. Black core, burnished black slip turning brown, matt white paint, hand-made.                        | Rm. 111          |
| 9.  | Pedestal base. Grey-black core, burnished black slip, turning brown, faded white paint.                     | Rm. 111          |
| 10. | Bowl fragment. Black core, burnished black slip, matt white paint, hand-made.                               | Rm. 112          |
| 11. | Rim fragment. Black core, burnished black slip, matt white paint, hand-made.                                | Rm. 112          |
| 12. | Base fragment. Black core, burnished black slip, matt white paint, hand-made.                               | Rm. 112          |
| 13. | Bowl. Gritty black core, burnished black slip, matt white paint, hand-made.                                 | Rm. 111          |
| 14. | Bowl fragment. Grey-black core, burnished black slip turning brown, matt white paint.                       | Rm. 111          |
| 15. | Rim fragment. Gritty grey-black core, burnished black slip, faint white paint, hand-made.                   | Rm. 112          |
| 16. | Base fragment. Burnished black, grey core, matt white paint.  | XII              |
| 17. | Base fragment. Dark-grey core, burnished brown slip inside, burnished black slip outside, matt white paint. | Rm. 112          |



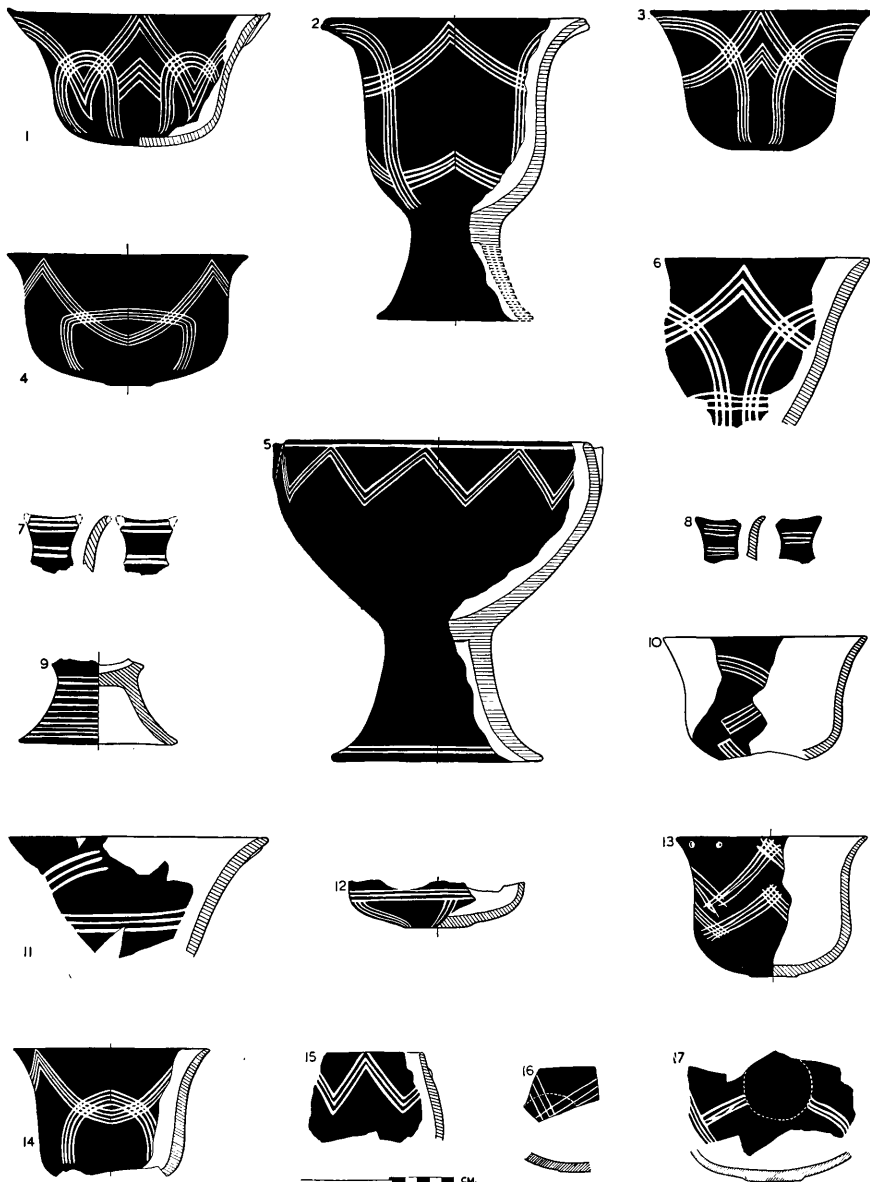


FIG. 118. BURNISHED BLACK POTTERY VESSELS DECORATED IN WHITE. LEVEL XIIA

6250

B b

XVI (cf. Fig. 93, nos. 7, 8, and 11). Almost unknown elsewhere,<sup>1</sup> their recurrence at this Level is noteworthy. Unfortunately no specimen was found attached to its vessel, a fact which is not surprising when one considers the fragile nature of the design and the thorough disturbance of this stratum. A somewhat different type of handle was made of a strip of clay folded over so that one end projected: this end was attached to the out-turning rim of the vessel, while the shorter end was fixed to the top edge, the whole being pressed together compactly. This kind resembles the more robust and usual type of handle which does not rise above the rim but is pressed solidly against the upper side of the vessel (e.g. nos. 1 and 2). Similar handles were found in the drab wares at Levels XIV–XIII; another indication that for all their novelty of shape and decorative design the black burnished wares possessed at least some elements of local origin.

There is, however, another side to this picture—for it is important to note that the art of decorating black burnished pottery with linear devices in white pigment is by no means confined to Mersin. North of the Taurus, undated examples have been found by Tahsin Özgüç at Fraktin to the south of Kaiseri, where the design appears to be part of a curving pattern just below an outcurving rim and thus resembles the Mersin types somewhat closely, except that the painting is done on the inside of the vessel and is usually thin.<sup>2</sup> Farther north other good examples have been found by Remzi Arik at Karaoglan,<sup>3</sup> to the south of Ankara: one in particular, a bowl with lateral handles on the rim, is decorated on the inside with a developed design comparable with our nos. 1 and 3. Other examples from the site seem to belong, however, to a later 'Copper Age' stratum. At Ahlatlibel, also in this central zone, two pieces at least show faint but definite trace of similar decoration in white paint on the inside of bowls. This site is a key position in the archaeology of the period in which by common consent it marks also an advanced phase.

Within the loop of the Halys, at Güllücek, north of Chorum, Dr. Hamit Z. Koşay has found further specimens, associated this time with primitive types, which suggest a relatively early period in the little-known prehistoric archaeology of this area.<sup>4</sup> Here (at Güllücek) elementary designs in white occur both on the outside and the inside of various specimens. On the burnished black surface of one of them there is the clear trace of a chevron pattern in white though the paint has mostly disappeared. The incised and *pointillé* designs on some of the associated fabrics, possibly from a lower level, simulate some patterns of our neolithic series, but are rightly assigned by the discoverer to the late chalcolithic period, as our examples from a reliable deposit of Levels XIV–XIII show. They are illustrated in Fig. 105 (Chap. VIII).

Farther north again, near Samsun on the coast, Tahsin Özgüç has recorded further examples of this kind of decorated ware in contexts which invite examination.<sup>5</sup> At Dündartepe a hole-mouthed bowl of grey flinty clay and burnished surface is decorated in white with vertical bands of multiple lines, eleven in all; while a second bowl with slightly everted rim and painted boss, bears traces of a chevron. Associated with these is

<sup>1</sup> The only good examples known to me comes from Vounous in Cyprus (cf. Dikaios in *Archaeologia*, 1938, pl. xivd, xva, and xvic), though the shape and details are not quite the same.

<sup>2</sup> Specimen in the Archaeological Dept. of the University at Ankara.

<sup>3</sup> Now in the Ethnographical Museum at Ankara.

Reproduced in *T.T. Kon.* (1948), figs. 22–3–4.

<sup>4</sup> *Büyük Güllücek Araştırmaları*, 1st report (in *Belleten*, xii, no. 46, pp. 471–85), figs. 17, 19, 20. Specimens in Museum of the Dept. at Ankara.

<sup>5</sup> *Belleten*, ix, no. 35, p. 372 and pl. lxxvii, with other unpublished specimens by courtesy of Dr. Özgüç.

a different technique, in which the pattern is outlined by very fine lines slightly cut into the slipped surface after baking, and whitened. The general context is that of the Copper Age and this perhaps applies also to other examples announced by the same archaeologist from Tekeköy slightly to the east.<sup>1</sup>

The white-on-black scheme of decoration that we are considering thus ranges in the early Metal Age through the heart of Anatolia from Samsun to Mersin—from the Black Sea to the Mediterranean. It is not known to exist farther east, either in Anatolia or in Cilicia. Towards the west, however, its ramifications are extensive. At Kusura, situated to the south of Afyon not far from the track of the ancient Pisidian Highway<sup>2</sup> which connected Mersin with Troy, it has been found by Dr. Winifred Lamb on different shapes but decorated in the same way with graceful flowing lines, and assigned by her to the earliest period of the settlement.<sup>3</sup> This is a valuable link; and I am indebted to the same scholar for assistance in tracing its further distribution. It appears at Yortan fully developed, and in Troy makes apparently an earlier appearance in City I—again, be it noted, upon the coast.<sup>4</sup>

Farther west, among the Aegean islands, it was found, again by Dr. Lamb, at Thermi in Lesbos in the early and middle cities but only rarely in the later ones,<sup>5</sup> and in Samos in unstratified deposits at Tegani.<sup>6</sup> Southward, in Crete, it is said by Sir Arthur Evans to have been found in the first part of the early Minoan period<sup>7</sup> which would approximate to its appearance at Mersin and Thermi, and also apparently at Troy.<sup>8</sup> Lastly, it has been found in relative abundance on the mainland of Europe across the Aegean in Macedonia, where it is classed as late neolithic by Mr. Heurtley in his monumental work.<sup>9</sup>

Apart from the suggestion of a very wide range of cultural relations evoked by the distribution of this class of pottery, our attention is drawn at once to the fact that, so far as is yet known, its affinities are all western rather than eastern. Hitherto at Mersin, the dominant cultural influence throughout the chalcolithic period from first to last had been Mesopotamian;<sup>10</sup> but now the changing era is heralded by a significant Anatolian contact, the first we can discern. This conclusion is as momentous as its implications are far-reaching. In the first place, it solves the initial problem of this chapter, by confirming the separation of Level XIIb with its Mesopotamian relations from the brick walls of XIIIa with which these Anatolian wares must now be definitely related. Thus, while our Level XII as a whole covers a period of transition, the line which separates its upper and lower features also divides two major eras. The position of this landmark in our stratification, two Levels above the scratched wares resembling those of Uqair and other Mesopotamian sites, and two to three Levels above the grey 'Uruk' wares and stone vessels, familiar from Professor Mallowan's finds in T.T. 4 at Arpachiyah and stratum 3 at Nineveh, brings it plausibly into line with the rise of the earliest dynasty of Ur, which marks the beginning of the Bronze Age in the Near East. In face of this new power and political system many of

<sup>1</sup> *Ibid.*, p. 386.

<sup>2</sup> On the importance of this route cf. Ramsay in *G. J.* (London), 1921, lxi, 279 f.

<sup>3</sup> *Archaeologia*, lxxxvi, fig. 6, nos. 12 and 13.

<sup>4</sup> Forsdyke, *Preh. Aeg. Pottery*, A. 35, A. 58.

<sup>5</sup> Lamb, *Thermi*, pp. 78, 82, 85, 88, pl. xxx.

<sup>6</sup> *Athenische Mitteilungen*, lx-xli, pp. 112-290.

<sup>7</sup> Evans: *P.M.* i, p. 63.

<sup>8</sup> Schmidt, *S.S.*, nos. 154, 229, Blegen, *Troy I*, p. 79.

<sup>9</sup> W. A. Heurtley, *Prehistoric Macedonia*, pp. 74-75, 149, 158; cf. E. J. Forsdyke, *Preh. Aeg. Pottery*, p. 18, A. 87. Specimens found by Mr. Hutchinson and now in the Museum of Archaeology at Cambridge are hardly distinguishable from those of Mersin.

<sup>10</sup> Using this term in a general sense which includes the basins of the Tigris and Euphrates.

the older centres of influence and authority must inevitably have collapsed or been weakened, so that the hold of the nearer unknown ruler over our village, which has been sensed in several earlier Levels, may now have relaxed, leaving it exposed to invaders. At the same time, archaeology tells us, there was arising in Anatolia a general movement towards unification, disclosed everywhere through the ensuing centuries by a developing uniformity of culture which distinguishes this period. Its visible impact upon our site thus appears as a natural sequel to the greater changes on all sides. It gives us our first chronological land-mark, which we may place approximately at the close of the Jamdat Nasr period, about 2900–2800 B.C.

To judge from the limited evidence which our excavations afforded, this Anatolian penetration into Cilicia was effected by normal trade expansion. The special pottery which forms the basis of our argument was probably made, as we have seen, by the local potters, and it embodied features already locally traditional. Where such wares originated is quite uncertain. It is possible that the method of decoration may have come down from the northern part of the plateau, to be locally developed with more attractive designs on shapes to which they were well suited, and thereafter transmitted to the west by land along the established trade routes and also by sea to the islands of the Aegean and so to Europe.

I am not convinced, however, that this is the true explanation. The presence of specimens comparable with our own in Crete of E.M.I., and in Troy I as well as in the Aegean islands, suggests a sea rather than a land connexion: nor should we overlook the remarkable similarity, as well as the abundance, of the Macedonian sherds of this class. Taking a general view it seems to me that the distribution of these wares points to an infiltration from coastal districts by Mersin, Troy, and Samsun; and it may be urged in support of this that the earliest specimens from Yortan are later than those of Troy, while those of Kusura in Dr. Lamb's opinion may be later than those of Mersin. The specimens from the centre of the plateau and from the vicinity of Samsun commonly show a different style and treatment and may be later still.<sup>1</sup> In any event, as far as Mersin is concerned, it seems clear that the local potters combined the new inspiration with their own age-long skill and experience, thus producing the series of superb vessels seen on Fig. 118.

Fig. 119. In the debris that filled Rooms 111 and 112 most of the plain wares shown on Fig. 119 were associated with the decorated types illustrated on Fig. 118 which we have been discussing. This association creates a problem, in that some of the shapes on Fig. 119 are familiar upon the plateau almost as late as the Kültepe period (c. 2000–1800 B.C.) and others nearer still at Tarsus.

The white-on-black vessels, on the other hand, are so closely linked by the circumstances of their discovery, and by the evident survival of distinctive features of design and decoration, with the underlying chalcolithic Levels, that I feel compelled to assign them, tentatively at least, to the earliest phase of the Metal Age at Mersin (approximately 2800–2500 B.C.). This conclusion is upheld logically by two cogent though extraneous observations. In the first place we note the total absence of similar white-on-dark pottery from the com-

<sup>1</sup> On the wider ramification of this style see Frankfort, *Studies II* (1927), pp. 29, 45, &c. Its extension to the Black Earth region of Transylvania suggests the possibility of a direct contact by sea with Samsun and

the northern area, though as yet no comparable examples have been discovered and chronological difficulties are involved. See further Dr. Schachermeyr's note on the possible contacts in the chalcolithic period, p. 143.

prehensive ceramic series (Class A) discovered by Miss Goldman at Tarsus, and ascribed by her to the latter half of the 'Early Bronze Age' (c. 2500–2000 B.C.) which is also represented by a sequence of solid building levels.<sup>1</sup> The deposits at Tarsus of the period just mentioned included evidence of contact with types of Troy IIc–IV; and this observation introduces the second point that must be taken into consideration, namely the fact that no such Trojan specimens or derivatives were found among the room-deposits of Level XIIA at Mersin, wherein alone our white-on-black series appeared. Both these factors point to a period before the Trojan types had become sufficiently established to be widely traded. For these reasons I am inclined to place the white-on-black Mersin series about the latter half of Troy I (c. 2700 B.C.). Its later distribution upon the plateau can hardly deflect these pointers, though it may be inferred from the presence of the white-on-black technique in decoration at Ahlatlibel, and from its contexts in the other sites that have been mentioned, that in some places on the plateau it survived throughout the latter half of the so-called Copper Age till the earliest historic period, viz. that of the Kültepe tablets about 1900 B.C.

Though plausible, the grouping and dating advocated in the two preceding paragraphs create a considerable problem. Some of the shapes which appear and disappear with Level XIIA upon our site (e.g. nos. 6 and 21 on Fig. 119) occur early in the Kültepe period (*Temp.* Adad-Zululi), and with various modifications elsewhere (e.g. at Alishar).<sup>2</sup> It is true that the relationship is not always close; but there are instances where it is apparently derivative. In others again the general sense of resemblance in design (e.g. of the pedestal bowl or chalice-like goblet), is dispelled on comparison by the difference of some essential detail.<sup>3</sup>

Had it been possible to attribute all the vases from Rooms 111 and 112 to the period immediately preceding the Kültepe period, the resemblance between nos. 6, 20, and 21 on Fig. 119 and certain Kültepe shapes could easily have been explained. But this is not the case: there is other material from Mersin which represents the second half of the Anatolian Early Metal Age, c. 2500–2000 B.C. It is illustrated on Figs. 123 and 124, and was found in the deep and extensive sounding called Trench X. It includes cups with low handles and other specimens characteristic of Troy II and III, all of which fall within our early Metal Age inescapably. The absence of these types from among the deposits represented on Figs. 118 and 119 has thus to be explained; and this can be done only in one of two ways, by ascribing the pottery represented on both Figs. 118 and 119, which we cannot rightly separate from one another, either to the beginning or to the end of the period. But since at Tarsus these distinctive Trojan types appear in Miss Goldman's period A, and indeed were traded widely in the latter half of the third millennium, while on our site two 'red-cross bowls' betoken continuing relations or influence in the days of Troy V, I find it difficult to ascribe our groups represented on Figs. 118 and 119 to any other than the earliest phase of the Anatolian Metal Age, otherwise frequently called the Copper Age.

This inference, though perhaps logical, is inconclusive and not altogether satisfactory. It involves the supposition that the Kültepe shapes such as nos. 6, 20, and 21 on Fig. 119

<sup>1</sup> *A.J.A.* li, pp. 383 f., with pls. xci, no. 1, and xcvi, no. 2.

<sup>2</sup> Vol. i, pl. ix, c. 491.

<sup>3</sup> Compare, for example, our nos. 20, 21 on Fig. 119 with those from Kültepe figured in Özgüç: *Kültepe Kazısı Raporu*, 1948, pl. lviii.

PLAIN GREY AND BLACK POTTERY VESSELS ASCRIBED TO  
LEVEL XIIA

- |     |   |          |
|-----|---|----------|
| 1.  | Pedestalled bowl. Black clay, burnished black slip, hand-made.  | Rm. 112  |
| 2.  | Dish, large and thick. Irregular rough gritty dark-grey core, buff surface, wet-smoothed, hand-made.                          | Rm. 112  |
| 3.  | Bowl on pedestal, with knobs. Black core, burnished black slip, hand-made. Cf. 15.  | Rm. 111  |
| 4.  | Pedestalled bowl fragment, with flat handle. Dark grey core, burnished black slip, hand-made.                                 | Rm. 112  |
| 5.  | Bowl fragment. Buff core, lightly burnished red-black slip, hand-made.  | Rm. 112  |
| 6.  | Double pot. Black core, burnished black slip, hand-made, four holes in the neck of each pot. R.N. 1224.                       | Rm. 112  |
| 7.  | Bowl. Dark-grey core, reddish surface, wet-smoothed, hand-made.   | Rm. 113  |
| 8.  | Jar fragment. Gritty reddish core, wet-smoothed, hand-made.   | Rm. 112  |
| 9.  | Lid. Red-brown core turning black, top only burnished.  | Rm. 128b |
| 10. | Jug fragment. Gritty dark-grey core turning red in patches, wet-smoothed, roughly hand-made.                                  | Rm. 138  |
| 11. | Jar fragment, with handles. Irregular rough gritty red-brown clay, wet-smoothed, hand-made.                                   | Rm. 112  |
| 12. | Rim fragment with lug. Black core, burnished brown slip, hand-made.   | Rm. 111  |
| 13. | Cup, with handle. Greyish buff core, wet-smoothed, hand-made. R.N. 1142.  | Rm. 110  |
| 14. | Rim fragments, with handle. Buff core and slip.   | Rm. 162  |
| 15. | Bowl on base. Rough gritty black core, burnished black slip turning red, hand-made. R.N. 1266.                                | Rm. 111  |
| 16. | Miniature vessel. Warm grey core, wet-smoothed, incised decoration, hand-made. R.N. 1085.                                     | Rm. 112  |
| 17. | Miniature vessel. Dark-grey core, burnished black slip, incised decoration, hand-made.  | Rm. 112  |
| 18. | Miniature vessel. Greenish-grey core, burnished greenish-buff slip, pinkish smears, incised decoration, hand-made. R.N. 1076. | Rm. 113  |
| 19. | Pedestal. Dark grey core, dark brown-black slip turning light brown, hand-made.   | Rm. 112  |
| 20. | Bowl, pedestal (reconstructed). Grey-black clay, burnished black slip, turning reddish-brown, hand-made. R.N. 1265.           | Rm. 112  |
| 21. | Bowl on pedestal. Black core, burnished black slip turning brown on one side, hand-made. R.N. 1264.                           | Rm. 112  |

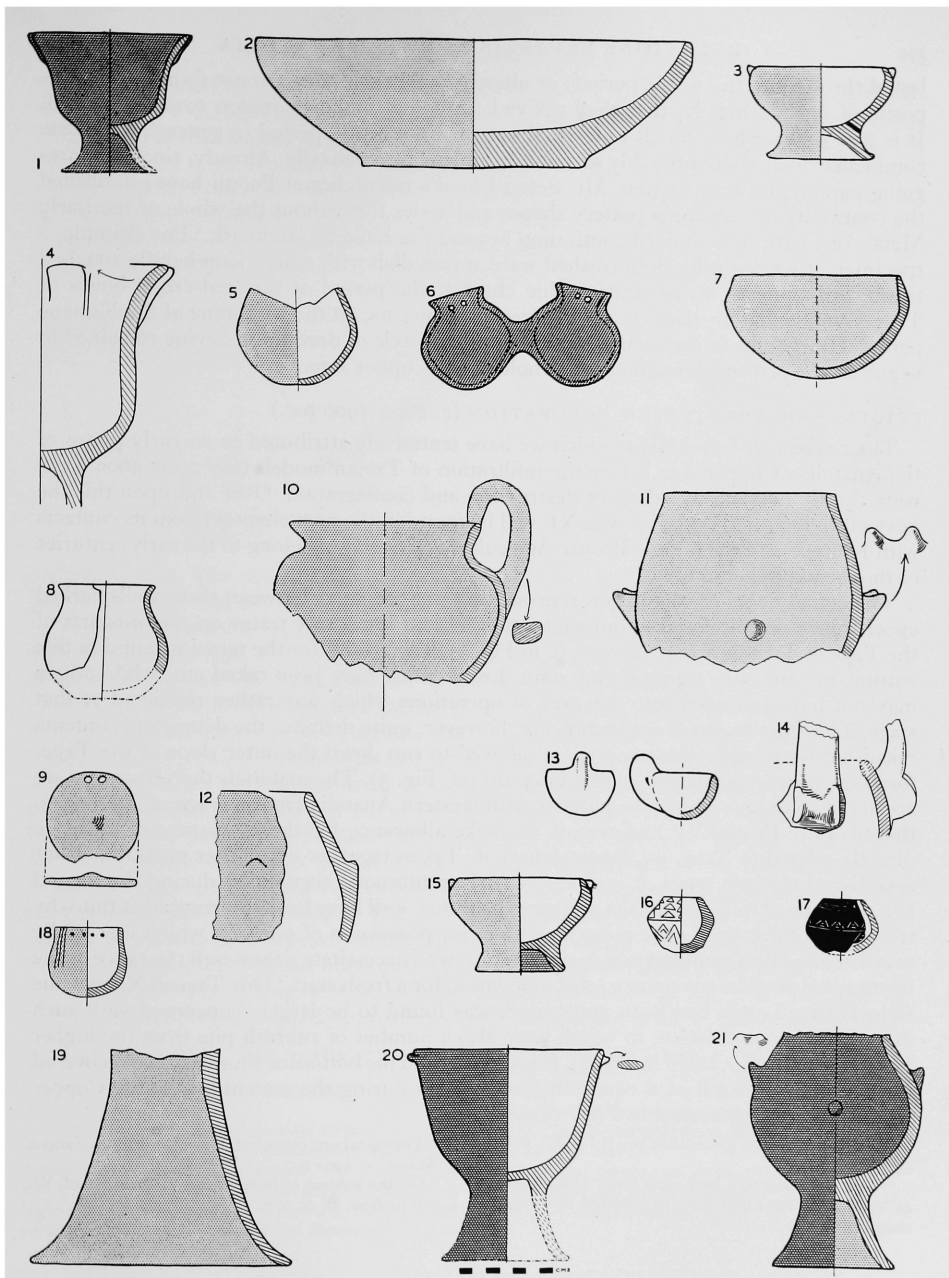


FIG. 119. PLAIN GREY AND BLACK POTTERY VESSELS ASCRIBED TO LEVEL XII A  
See also Pl. XXVII

lasted throughout the whole period: or alternatively, since they are not found in the deposits of our Trench X, that they revived for some unknown reason toward the end. It is true that we have much to learn about this interesting period in general, and more complete evidence will probably solve our problem automatically. Already, since the foregoing paragraphs were written, Mr. Seton Lloyd's researches at Polatli have established the continuity of numerous pottery shapes and styles throughout the whole of the Early Metal Age, with some indeed continuing beyond the Kültepe landmark.<sup>1</sup> For example, a specimen of white-on-black burnished ware, a thin dish with a high loop handle attached to the rim, appears in his stratigraphic chart at the period of the 'red-cross' bowls of Troy V and is thereby dated to the twentieth century B.C. at the beginning of the Kültepe period. One begins to realize the possibility of this style of decoration having remained in vogue on the plateau throughout the whole of the Copper Age.

#### EVIDENCE OF CONTINUING OCCUPATION (c. 2600-1900 B.C.)

The remains of Level XIIA, which we have tentatively attributed to an early phase of the Anatolian Copper Age before the infiltration of Trojan models (say 2900-2600 B.C.), were thickly overlaid by debris of destruction and conflagration. Over and upon this the next surviving building Level, viz. XI, will be found in the next chapter (from its contacts with Kültepe and the middle Bronze Age culture of Syria) to belong to the early centuries of the second millennium B.C.

The actual floors of occupation representing the 500 years between these well-marked epochs were not disclosed in our excavation, except for scanty traces on the outskirts of the Tepe in Trench X (e.g. layers t, u, in Fig. 3). To account for the remains found in this cutting we can only suppose that some Levels must have been raked out, while others may not have extended into our area of operations which was rather restricted at that stage. The other traces of occupation are, however, quite definite; the debris and contents raked out were either thrown over, or allowed to run down the outer slope of the Tepe, forming an irregular partly stratified deposit (cf. Fig. 3). The materials therefrom that we are about to examine indicate contacts with western Anatolia from the age of Troy II to that of Troy IV and V;<sup>2</sup> and even if we make allowance for the sparseness of evidence directly related to Troy, we cannot ignore it. Taken together with other unstratified but established ceramic types, it indicates a fairly continuous occupation during the second half of the third millennium. As at Tarsus, this may well have been interrupted at times by the action of invaders<sup>3</sup> once more struggling for possession of our site, which was finally overwhelmed by a conflagration so devastating as to necessitate a thorough clearance of the burnt ruins in order to secure a solid foundation for a fresh start.<sup>4</sup> Our Trench X, once the Syro-Hittite Levels had been penetrated, was found to be largely concerned with such extra-mural accumulation, in which were also a number of rubbish pits from the higher Levels (notably  $\beta$ ,  $\gamma$ , and  $\delta$  in Fig. 3). It is chiefly from the bottom of these that we recovered the objects which tell of a continuing occupation during the second half of the Copper Age: they are represented in Figs. 124-7.

<sup>1</sup> *Anatolian Studies* (Journal of the B.I.A.A.), vol. i, fig. 5, p. 33.

<sup>2</sup> The discovery of a 'red-cross bowl' characteristic of Troy V at our Level XI B is recorded in the next chapter.

<sup>3</sup> Among whom conceivably may have been Sargon of Akkad, c. 2300 B.C.

<sup>4</sup> On the subject of burnt strata c. 2000 B.C. cf. W. Lamb in *Iraq*, xi, p. 199.



Fig. 123, which we consider first, shows a number of types from the heavily pitted area of Levels XIV–XIII. They are presented together as found, but are liable to involve discrepancies, as the mouths of the pits had been dug away in antiquity, and the objects had to be removed when exposed towards the bottom; so that a certain amount of admixture was inevitable. However, there is no real difficulty in estimating the approximate period to which these pot-shapes belong, as they are for the most part typologically established. Four or five shown in the lower registers of the plate, notably no. 15, and probably 17–20, may properly belong to the Level where they came to light, and so date from a late chal-

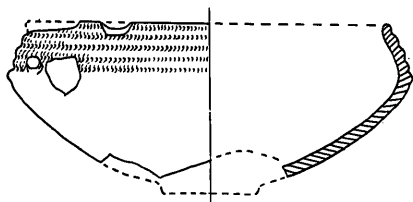


FIG. 120. Bowl with horizontal grooves.  
Room 153

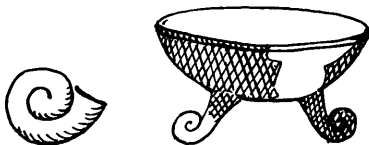


FIG. 121. Rolled or coiled foot from Mersin  
(Rm. 164); and restoration (Tarsus)

colithic period. The shape of no. 20 is in fact almost a replica of a polychrome vase of Level XV (Fig. 102, no. 15).

All the other objects represented on Fig. 123 seem to typify the latter half of the Early Metal or Copper Age, from about 2600–2000 B.C. For example, the dish with horizontal grooves (no. 4, and Fig. 120), finds its parallel at Tarsus,<sup>1</sup> Kusura,<sup>2</sup> and Polatli,<sup>3</sup> at each of which it falls within this period. Basket-handled jugs with spouts, such as nos. 5 and 6, and the high-handled cup no. 8, are also characteristic: it will be recalled that the 'basket' handle first appears on our site in an indubitably early chalcolithic context at Level XXIII. The handle no. 10, pierced vertically, has early Cycladic counterparts, and is represented in the Trojan series in which it has seemingly a long range;<sup>4</sup> while the triple pot no. 16 finds a painted parallel at Yortan,<sup>5</sup> and an almost exact replica at Tarsus,<sup>6</sup> where it is ascribed by the excavator to 'period A' which covers the centuries from 2500 to 2000 B.C. A similar triple pot, with a basket handle decorated to suggest its plaited origin, was found in our preliminary work at Kazanlı,<sup>7</sup> a site between Mersin and Tarsus. Here the context was not clearly exposed, but it suggests a date rather nearer the Kültepe period, though still within the broad horizon of the latter half of the third millennium.

Another interesting fragment of pottery, illustrated above in Fig. 121, can also be restored tentatively and dated approximately by comparison with a discovery at Tarsus.

<sup>1</sup> Goldman-Garstang, 'Early Cilician Pottery', in *A.J.A.* li, pl. xciii, no. 11.

<sup>2</sup> W. Lamb, *Archaeologia*, lxxxvi, fig. 7 (f. p. 21), no. 8, Period B.

<sup>3</sup> Information derived by courtesy from charts prepared by Mr. Seton Lloyd, Director of the British Institute of Archaeology at Ankara, who investigated this site in 1949, finding an apparently unbroken continuity throughout the Copper Age and Early Hittite periods. Cf. B.I.A.A. *First Annual Report*, p. 17, and

*Anatolian Studies*, vol. i, pp. 45, 52.

<sup>4</sup> e.g. Forsdyke, op. cit., p. 55, fig. 58; Schmidt, op. cit., p. 6, no. 163 (Troy I) and p. 28, no. 561 (Troy II–V). Our specimen seems to be of the earlier type. For an Eastern example from Brak see Mallowan in *Iraq*, ix, i, pl. lxxv. 8.

<sup>5</sup> Forsdyke, op. cit., no. A. 63, p. 11.

<sup>6</sup> Goldman, op. cit., pl. xli, no. 1.

<sup>7</sup> *L.A.A.* xxv, Pl. vii, no. 10.

This is a 'rolled' or coiled foot exactly similar to that of the vessel from Tarsus pictured alongside, and ascribed by Professor Goldman to her 'period A'.<sup>1</sup> Similar coiled feet of vessels (different, however, in style and shape) appear in the Trojan Catalogue, in which they are assigned by Hubert Schmidt<sup>2</sup> to Troy II-V, which covers 'period A' at Tarsus. Our tentative dating in these cases thus seems to conform with established criteria.

A greater element of doubt enters into our consideration of interesting specimens found in pits and unstratified extra-mural debris in Trench X and shown on Fig. 124; but this record would not be complete without an explanation of the circumstances of their discovery and an attempt to assign them to their appropriate place within our Copper Age series.

*Fig. 124.* On Fig. 124 are represented the outlines of twelve vessels from Trench X, attributable also to the second half of the Copper Age (2600-1900 B.C.) by comparison with known types elsewhere. Nos. 1 and 2 represent a common one-handled dish found also at Tarsus where it is ascribed by the excavator to her 'period A', 2500-2000 B.C.<sup>3</sup> On the plateau at Polatli Mr. Seton Lloyd has shown that it appears about the middle of the Copper Age and has continuous history through the Kültepe period into that of the Hittite Empire. The feeding cup, type no. 3, finds a good parallel in Dr. Lamb's excavations at Thermi where examples appeared in the first and second cities which she regards as contemporary with Troy I: but there are parallels from Alishar I, which, though less close, may be later.<sup>4</sup> The two-handled variety figured with objects from Room 176 at Level XVI (Fig. 93, no. 13) is presumably intrusive, and to be explained by the presence of a pit to be seen at Level XIV, which may have reached down into the debris of the room without touching the floor and so escaped observation. At Polatli the 'tea-pot' spouted vessel ranges as high as the Kültepe period (c. 1900 B.C.). With no. 3 were found the vessels numbered 4, 5, and 6, these four objects forming a well-attested group (8); all of them can be matched at western sites or at Kusura.<sup>5</sup> The jugs 7 and 8 and the jar no. 9 were found nearby at the same level and may be judged to have been contemporary. The shape of the small vessel no. 9 finds a ready parallel in a specimen from Thermi<sup>6</sup> and in a cup from Alishar.<sup>7</sup> The short-necked jugs with gently rising spout, such as nos. 6 and 11, are well represented in 'Period A' at Tarsus, and the dating of all these objects to the latter half of the Copper Age (c. 2600-2000) seems plausible. The cup numbered 10 looks later, in view of specimens somewhat similar at Troy and Alishar.<sup>8</sup> No. 12 is one of the much-discussed two-handled cups, known from Troy (IIc-IV), and also at Tarsus and elsewhere.<sup>9</sup>

*Fig. 125.* Of the sixteen shapes outlined on Fig. 125 all but four (nos. 2 and 14-16) were found at the bottom of a pit ( $\theta$ ) towards the outer side of Trench X (see Fig. 3); and though some of their individual features have a much longer range, this group as a whole

<sup>1</sup> Reproduced by courtesy of the excavator from *A. J. A.* li, pl. xciii, no. 10.

<sup>2</sup> Schmidt, *S.S.*, nos. 1739-40, 2330, 2336.

<sup>3</sup> *A. J. A.* li, pl. xcii, no. 3.

<sup>4</sup> W. Lamb, *Thermi*, pp. 104-5, pl. xii, no. 89; pl. x, xxxv, no. 118; *Alishar I*, pl. viii, b. 331 (cf. *O.I.P.* xix, pl. i).

<sup>5</sup> With no. 4 cf. W. Lamb, 'Kusura', in *Archaeologia*, lxxxvi, pl. vii, 5, 6; *Thermi*, fig. 26, cup no. 1; also, Bittel, *P.F.K.*, Taf. xiii. 3. With no. 5 cf. *Thermi*

xxxvi. 366. With no. 6. cf. Goldman, *A. J. A.* li, pl. xcii. 4, where the shape is ascribed to period A (2600-2000 B.C.); and at Troy (II-V). Cf. Schmidt, *S.S.*, no. 384, &c.

<sup>6</sup> W. Lamb, *Thermi*, pl. xxxvi, no. 308.

<sup>7</sup> *Alishar I*, Pl. viii, b. 594, &c.

<sup>8</sup> Cf. Schmidt, *op. cit.*, p. 76, no. 1764; *Alishar II*, pl. iv, c. 2636

<sup>9</sup> For a recent list of sites which have produced such types see W. Lamb in *Iraq*, xi, p. 198, notes 5, 6.

may be ascribed with some confidence to the latter half of the Copper Age, though possibly not much later than 2500 B.C. The bowl no. 2 may be slightly later. It was associated in another pit ( $\beta$ ) with the bowl no. 14. The rim of this is more distinctive, and may be compared with some figured in the Trojan series<sup>1</sup> and also with one from Kültepe,<sup>2</sup> in either case falling within the second half of the third millennium B.C. The strong ledge handle no. 15 on this plate seems curiously to be fixed on the inside curve of the vessel, a feature which I have observed elsewhere, and was conceivably designed to help to support an internal lid. The large loop handle no. 16, attached lightly to the rim-edge of a shallow bowl, is a feature which at Polatli seems to have a long range covering the period of 2600–2000 B.C., to which in broad figures we may ascribe all the objects on this Fig. 125.

*Fig. 126.* Coming now to Fig. 126 we find some of the upper shapes to be unusual, while those below are familiar. Yet nos. 3, 4, and 7–11 all come from another pit-group ( $\gamma$ ) in Trench X. The shape of no. 1 is unique in my experience of Cilician pottery and difficult to match upon the plateau. It is comparable in certain details, such as the angularity of its base and the pronounced outcurve of its rim, with nos. 2 and 3 respectively. It is thus of special interest to note that all three of these shapes are found in the Mesopotamian series as disclosed by Professor Mallowan's investigations at Chagar Bazar and other sites in the Habur basin.<sup>3</sup> Our shapes 1 and 2 are represented by objects from his Level 2, ascribed by him to a period which would fall in the first half of our Copper Age; while our no. 3 is paralleled by a vessel from an early intermediate phase of his Level 1, ascribed by him (p. 154) to 2000–1800 B.C. which would correspond with our Kültepe period. I hesitate on such slight evidence to dwell on possible inferences from these resemblances; but we note that these shapes were current in Mesopotamia during our Copper Age. Further investigations may establish a closer basis of contact which might account for some of the layers of destruction both here and at Tarsus.

The incised pattern of no. 2 on Fig. 126 as well as the handles, may also be regarded as characteristic of the later Copper Age; while the form of no. 3 is comparable with that of an incised bowl from Tarsus<sup>4</sup> ascribed by Miss Goldman to the period 2600–2000 B.C. The single handled cup no. 4 came also from this group ( $\gamma$ ) and is probably of the same period. It is to be distinguished, however, from the dish with three loops at the base, no. 5, which on Palestinian analogy from Jericho<sup>5</sup> would date to about 1750 B.C. and is a known type. No. 6 compares with a specimen from Troy (Schmidt, *S.S.*, no. 368) and Tarsus (op. cit., pl. xcii, no. 4). Tall-necked jugs like nos. 7–9 are found freely at Tarsus and all fall within the period of Troy II–V, say 2500–1900 B.C. The stump-based jar no. 12 is also exactly paralleled at Tarsus, but is there unique. Ours was found upon an occupation terrace below the Hittite Level, and is probably one of the latest objects of the local Copper Age series; but it may belong to the transitional phase of the twentieth century B.C., well represented by the discoveries at Kültepe.

*Fig. 127.* The twelve pottery types represented on this Figure, the last of the series, can as yet only be ascribed tentatively to the Early Metal Age. Doubt arises from the relatively unstratified context (in strata v, w of Trench X) from which they were recovered. They lay, however, below the traces of the superposed buildings in strata m to u (which comprise

<sup>1</sup> Schmidt, op. cit., p. 38, no. 722.

<sup>2</sup> Bittel, *P.F.K.*, pl. v. 3 (a reference for which I am indebted to Dr. Lamb).

<sup>3</sup> Cf. *Iraq*, iv, pl. 2, fig. 18, nos. 5 and 6 and fig. 19, no. 4, and pp. 141–3.

<sup>4</sup> *A.J.A.* li, pl. xc, no. 7.

<sup>5</sup> *L.A.A.* 1932, Tomb 9, pl. xxxiii, nos. 5–8.

the remains of some higher Levels) and above the debris of the chalcolithic period (from stratum x downwards): also they are all hand-made and suggest kinship with other vessels of the period in various details. Such are the rising handles of the cups numbered 3 and 4; the restoration of the familiar twin pot, no. 5; the shape of cup no. 7; and the position of the handles of the large pithos no. 10, which may be compared with no. 12 on the previous Figure. It was found together with no. 12 on Fig. 127 in the side of a railway cutting a little to the west of Trench X, with which it was subsequently linked up at the level quoted. I have hesitated to include these two vessels among the early series because of the existence of Hittite terraces at higher levels, and also because of their general

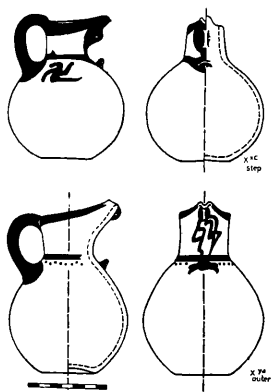


FIG. 122. Two jugs found near the bottom of Trench X

resemblance to a large stamped pithos found at Kazanlı in our preliminary explorations (*L.A.A.* xxv, pl. viii, no. 26). However, there is no clear evidence that the Hittite terraces descended as low as stratum w, as a glance at Fig. 3 will show; and the find-spot of the Kazanlı specimen at 4 metres depth was stratified beneath a number of visibly continuous Levels. The shape also is not really the same. It seems therefore admissible that in these cases the depth of the finds corresponds to their date, and that the type of handle high in the neck was established before the close of the Anatolian Copper Age. The single handle to the large cooking-pot no. 9 is also a noteworthy feature; it will, however, be found again at a higher level in a seemingly stratified deposit (Fig. 145, no. 6). There is an evident continuity of various pottery shapes and details throughout the whole Metal Age, as was found to be the case upon the plateau by Mr. Seton Lloyd's investigations at Polatlı. Any attempt to fix the date of such isolated specimens typologically will always be liable to error.

The schedules associated with Figs. 124-7 describe the fabrics; but I cannot well omit from the specimens attributable to this period the two jugs with painted rims and handles represented in Fig. 122, notwithstanding their excellent finish and unique character. Though it is tempting at first sight to assign them to a somewhat later period, both seem to be hand-made, and the find-spot of the upper one suggests this earlier date. Their shapes also conform in a general way with types already established, before the close of the Early Metal Age (e.g. at Tarsus, *A. J. A.* li, pl. xcii, no. 4). Each has a buff core covered by an orange-coloured slip, lightly and smoothly burnished; and the paint with which they are decorated is black fading to brown. Unfortunately nothing like them has been recognized among the stratified deposits of the site.

Though lacking in precision, certain broad conclusions may be drawn from the foregoing examination of the unstratified remains depicted on Figs. 123-7. In the first place it establishes incontestably the continuing occupation of our Tepe during the second half of the third millennium, from the beginning of the period of Troy II down to that of Troy V and the Kültepe datum, c. 1900 B.C. We cannot say that the occupation was one of unbroken continuity; the established criteria are not yet sufficient to justify such a conclusion from mere typological comparisons.

In short, putting together the evidence from Level XIII, examined earlier in this

chapter, with the information provided by the unstratified remains described in this section, we find nearly the whole of the Early Metal or Copper Age (from 2900 to 1900 B.C.) to be represented, sparsely but unmistakably, by ceramic types characteristic of this period on the plateau.

Except for occasional breaks of relatively short duration, western Cilicia may be judged to have been linked politically throughout that time with the plateau. About the twentieth century B.C., however, the link was broken, and a new culture, reflecting the Middle Bronze Age of Syria, replaced that of the Anatolian Copper Age.

POTTERY FROM THE ZONE OF NUMEROUS PITS AT  
LEVELS XIV-XIII

- |   |                           |
|---|---------------------------|
| 1. Jar. Black gritty core, red burnished slip (worn), hand-made. R.N. 1215.   | Level XIV; Rm. 163        |
| 2. Strainer dish. Cream core, wet-smoothed, wheel-made.   | Level XIII; Rm. 153       |
| 3. Bowl, with semi-carination. Buff core, cream slip, turning red, wheel-made.                                      | Level XIII; Rm. 153       |
| 4. Bowl, with horizontal ridges. Buff core, red slip inside and out, wheel-made.                                    | Level XIII; Rm. 153       |
| 5. Jug, with 'basket handle' and spout. Buff core, pebble burnished red slip, wheel-made.                           | Level XIII; Rm. 153       |
| 6. Jug, with 'basket handle' and spout (larger). Light-brown core and burnished surface, wheel-made.                | Level XIII; Rm. 153       |
| 7. Fragment of rim and spout of a bowl. Grey ware, black burnished slip.  | Level XIII-XIV; Rm. 139   |
| 8. Jug with handle (restored). Cream clay, red burnished slip, hand-made. R.N. 1213.                                | „ Rm. 165                 |
| 9. Handle fragment. Gritty black core, red burnished slip.  | „ Rm. 163                 |
| 10. Handle fragment, pierced vertically. Grey core, buff surface, wet-smoothed red matt paint.                      | „ Rm. 163                 |
| 11. Cup fragment with lip at rim, light red-brown clay, wet-smoothed.   | „ Rm. 163                 |
| 12. Bowl, pierced around top. Rough brown clay, burnished, hand-made. R.N. 1204.                                    | „ Rm. 163                 |
| 13. Rim fragment with stout ledge handle. Rough gritty core, brown surface, wet-smoothed.                           | „ Rm. 163                 |
| 14. Bowl. Greenish-grey clay. Grey burnished slip turning light brown and dark grey in parts, hand-made. R.N. 1229. | Level XIII-XIV; Rm. 163   |
| 15. Bowl, restored. Grey-brown core, light-grey burnished slip turning light brown, hand-made. R.N. 1226.           | Level XIII-XIV; Rm. 139   |
| 16. Triple vessel with basket handle. Dark grey-red core, black burnished slip, hand-made. R.N. 1225.               | „ Rm. 165                 |
| 17. Bowl. Dark grey core, burnished surface with patches of brown, hand-made. R.N. 1228.                            | Level XIII-XIV; Rm. 139   |
| 18. Bowl. Rough black core, black burnished slip.   | Level XIII (pit); Rm. 162 |
| 19. Bowl. Greyish-brown clay and burnished surface.   | Level XIII-XIV; Rm. 139   |
| 20. Cup-like bowl. Rough black ware, buff surface, wet-smoothed.  | Level XIII-XIV; Rm. 139   |

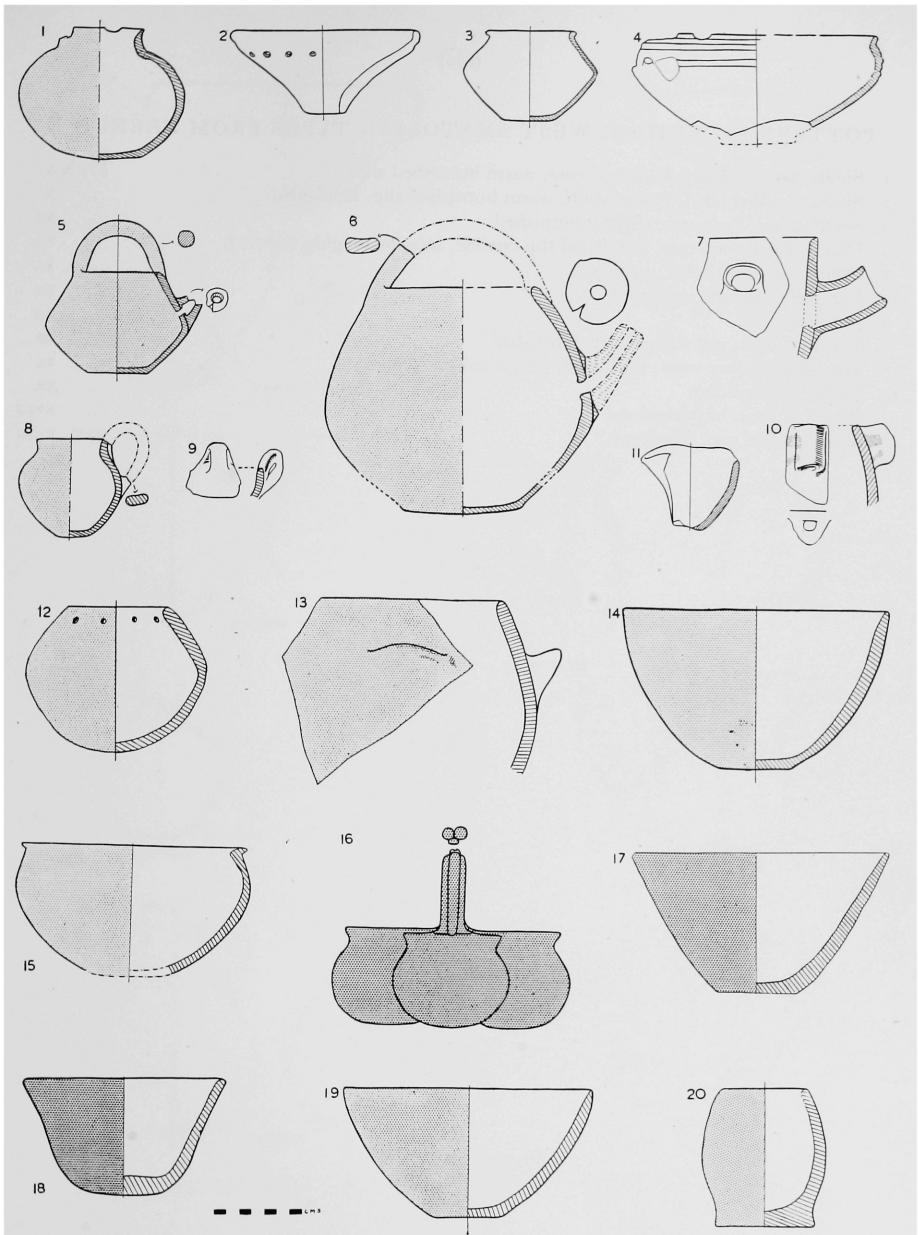


FIG. 123. POTTERY FROM THE ZONE OF NUMEROUS PITS AT LEVELS XIV-XIII

See pp. 193-4

## POTTERY INCLUDING WEST ANATOLIAN TYPES FROM TRENCH X

1. Single-handled bowl. Pink buff core, warm burnished slip.	Tr. X x.
2. Single-handled bowl. Pinkish-buff, warm burnished slip, hand-made.	„ x
3. Spouted jug. Pink core, slightly burnished.	„ xa
4. Cup. Light brown core, burnished slip outside, interior roughly finished.	„ xa
5. Double vase. Red clay, unslipped.	„ xa
6. Jug. Reddish core, unslipped.	„ xa
7. Jug. Red core.	„ xa
8. Jug. Buff core; red slip, slightly burnished.	„ xa
9. Jar. Reddish-grey ware; unslipped, burnished surface.	„ xa
10. Single-handled cup.	„ xa
11. Jug. Buff core, burnished red slip.	„ x-xa
12. Two-handled cup. (Restored.)	u, v, x-xa



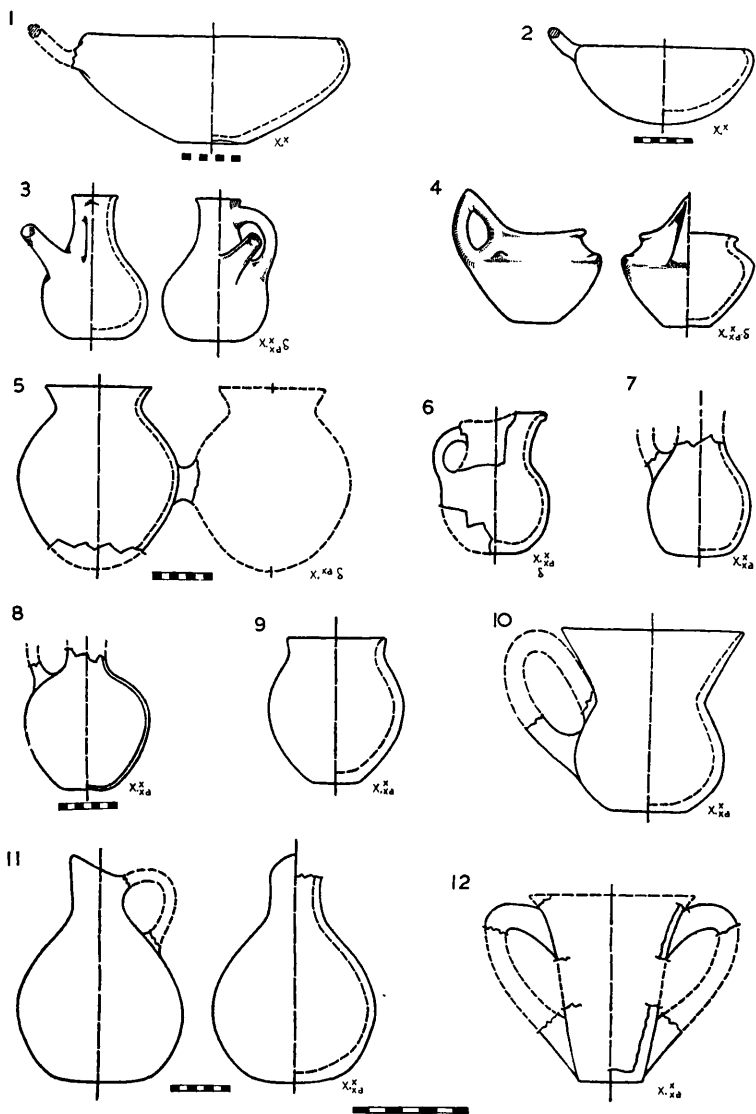


FIG. 124. POTTERY INCLUDING WEST ANATOLIAN TYPES FROM TRENCH X

## EARLY METAL (OR COPPER) AGE POTTERY FROM TRENCH X

(Nos. 1 and 3-13 from Pit-group  $\theta$ , Nos. 2 and 14 from Group  $\beta$ ; and No. 16 from Group  $\gamma$ .)

1. Bowl. Buff core, brown-black slip, hand-made.	Tr. X ya
2. Bowl. Buff core, black slipped.	„ xb
3. Bowl. Grey core, black slip.	„ ya
4. Bowl. Buff core, cream slip.	„ ya
5. Bowl. Buff core, cream slip.	„ ya
6. Bowl. Grey core, black slip.	„ ya
7. Bowl. Buff core, cream slip.	„ ya
8. Bowl. Grey core, black slip.	„ ya
9. Bowl. Grey core, black slip.	„ ya
10. Bowl. Buff core, black surface.	„ ya
11. Bowl. Coarse yellow-brown ware.	„ ya
12. Deep bowl. Buff core, brown slip.	„ ya
13. Deep bowl. Buff core, cream slip.	„ ya
14. Bowl. Grey core, black burnished slip.	„ xb-xc
15. Rim and interior handle, or ledge.	„ yb-yc
16. Handle of bowl. Buff core, red surface.	„ xb

For the position of the pit-groups see Fig. 3, p. 6, and photographs on Pl. II.

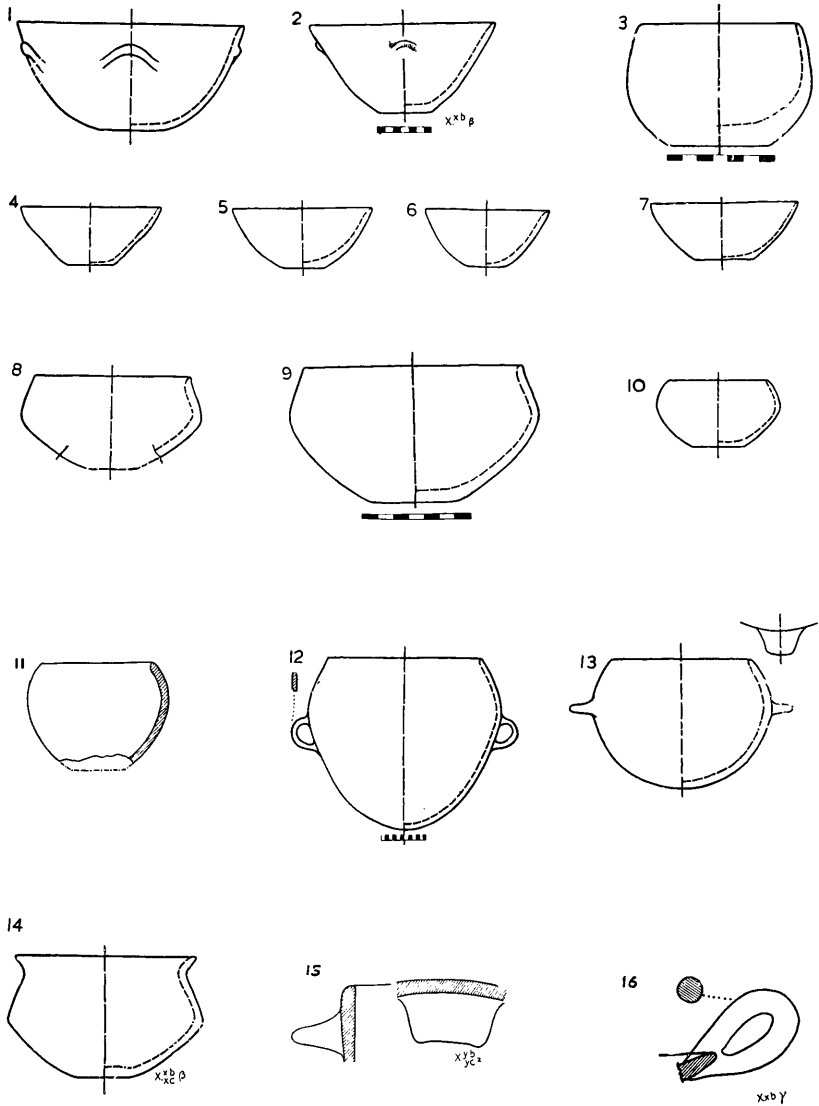


FIG. 125. METAL AGE POTTERY MOSTLY FROM A DEEP PIT IN TRENCH X

## POTTERY FROM DEEP LAYERS AND A PIT IN TRENCH X

(No. 3-4 and 7-10 from Pit-group  $\gamma$ .)

1. Bowl. Buff core, red wash outside only, buff slip inside.	Tr. X, Layers xc-ya, (outer)
2. Bowl. Red core and slip, hand-made, incised decoration.	„ xb-xc
3. Vase. Red core, red slip.	„ xb-xc
4. Single-handled cup. Buff core, red slip.	„ xb-xc
5. Bowl, with three-loop base, buff core, red slip lightly burnished, hand-made	„ xb-xc
6. Part of jug.	„ xc
7. Jug. Buff core, pink slip.	„ x-y
8. Jug. Red core, red slip.	„ „
9. Jug. Red core, red slip.	„ „
10. Jug. Neck only, red core, red slip.	„ „
11. Jug. Red slip, red core.	„ „
12. Stump-based jar (from a Terrace).	„ xc-ya

For positions of the strata indicated, see Fig. 3, p. 6.

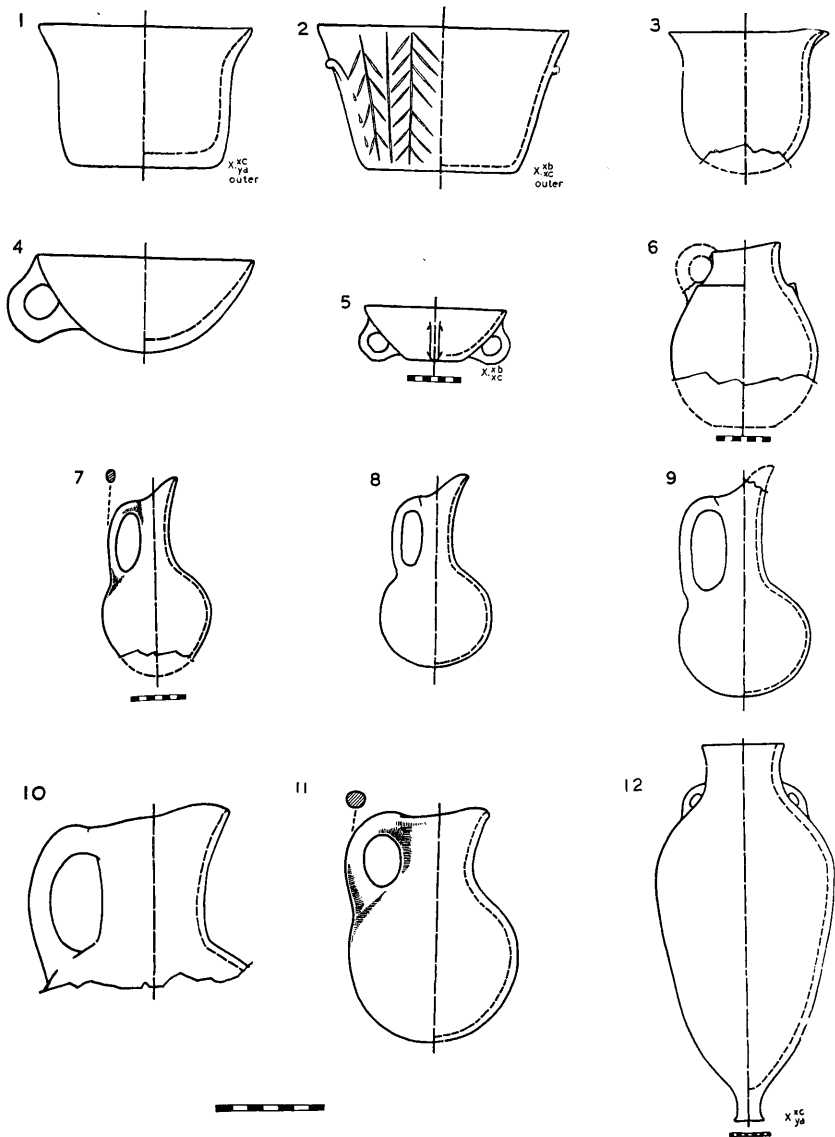


FIG. 126. POTTERY FROM DEEP LAYERS AND A PIT IN TRENCH X

UNSTRATIFIED METAL AGE POTTERY FROM LOW LEVELS IN  
TRENCH X

1. Bowl. Red core, hand-made (R.N. 507).	Tr. X v
2. Bowl. Red core, hand-made (R.N. 520).	,, v
3. Cup. Buff core, cream burnished slip, hand-made.	,, u-v
4. Cup. Reddish-buff core, cream slip? Wheel-made.	,, w
5. Double pot, restored. Grey core, burnished surface.	,, u-v
6. Jug. Buff core, cream slip, hand-made.	,, v-w
7. Vase. Grey-brown core, hand-made.	,, v-x
8. Jar. Rough cream-reddish ware, wet-smoothed, hand-made.	,, u-v
9. Large one-handed bowl. Coarse gritty-grey ware, hand-made.	,, v-w
10. Amphora. Coarse gritty-grey ware, fired reddish-brown with grits on surface, handle made on core.	,, v-w
11. Amphora. Red core unslipped, hand-made.	,, w
12. Amphora. Dark core, white grits, red surface; partly smoothed handle made on core.	,, v-w

For positions of the strata u-x see Fig. 3.

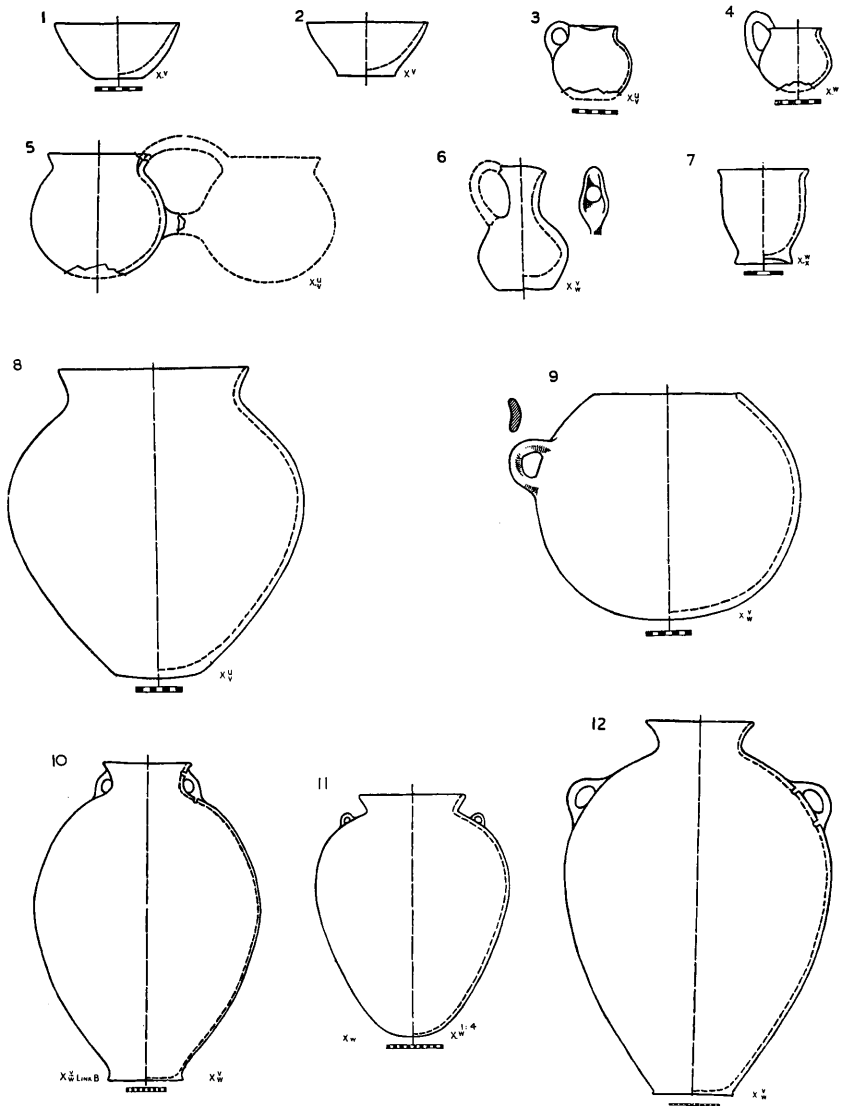


FIG. 127. UNSTRATIFIED METAL AGE POTTERY FROM LOW LEVELS IN TRENCH X

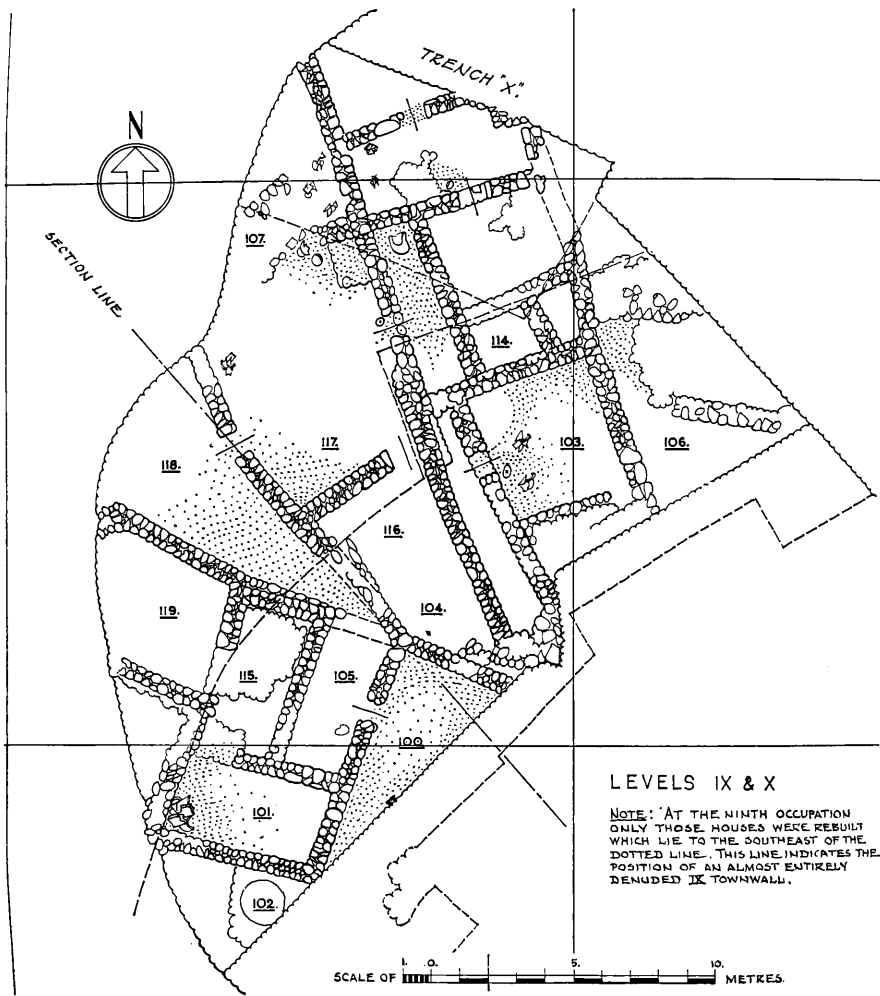


FIG. 128. PLAN OF LEVELS X AND IX, c. 1750-1600 B.C.



# X

## PART I

### RENEWAL OF EASTERN INFLUENCE

*Bronze Age Levels XI-VIII (c. 2000-1500 B.C.)*

AS we approach at Level XI the concluding stages of this record, we enter the era of Anatolian history. The story of Yümük Tepe still retains its prehistoric character, being based essentially on archaeological materials, for we did not discover there any inscribed or documentary evidence which might have thrown light on the social and political changes that succeeded one another in these later phases more quickly than of old. We do gain, however, the advantage of comparative materials nearer in time and place than such as have been available hitherto from Syrian and Mesopotamian sources.

The earliest written records bearing on Anatolian history date as yet only to the beginning of the second millennium B.C., when Assyrian traders settled peacefully at Kanesh, now Kültepe (between Kaisari and the Kizil Irmak), and there established on the outskirts of the city a *karum* or trading centre. The administration and activities of this community resulted in the accumulation of a vast archive of tablets, mostly business letters of the merchants but including their legal documents and accounts, and a few which contain historical allusions. Some of these have been known for many years; but they have now been traced by hundreds to their original setting by the scientifically conducted excavations of Dr. Tahsin and Nimet Özgüç, under the auspices of the Turkish Historical Society,<sup>1</sup> together with rich and varied archaeological materials which can be dated approximately by reference to the tablets to the first two or two-and-a-half centuries of the second millennium B.C. It is not till about 1750 B.C. that there is first mention of Hattusas, later the Hittite capital.

These discoveries not only establish for the time being a well-defined datum line, which we can place conveniently at 2000 B.C., between the prehistoric and historic periods of Anatolia; but they enable us to examine the finds of our successive Levels, beginning with no. XI, from a surer standpoint, by comparison with the datable remains from the corresponding Levels at Kültepe. This investigation is facilitated by the fact that the settlement of the *karum* introduced, or coincided with, some marked cultural innovations comprising painted pottery in new shapes and styles of uncertain origin among which Syrian designs form a noticeable element. At Mersin the culture changed more radically, as we shall find from an examination of the products, but was not so complex, having the Syrian element as its predominant feature. This recurrence of Syrian influence was the natural result of Mersin's situation on the Mediterranean coast, as already illustrated by the ebb and flow of Oriental and Anatolian contacts in earlier ages; and it recalls the reality of the Taurus mountains as a barrier from the north.

<sup>1</sup> Cf. T. Özgüç, 'Kültepe Kazısı Raporu 1948' (*T.T.K.*, V<sup>e</sup> Serie, no. 10).

The significance of these observations, so far as they apply to the history of our Tepe, is already apparent. We have noted the traces of burning and destruction upon the debris of which Level XI was constructed, and it appears that similar traces were conspicuous at Tarsus. These indications seem to contrast violently with the peaceful settlement of the Assyrian traders on the plateau. This apparent incongruity is at first sight perplexing, but I am persuaded that the explanation lies in geographical considerations coupled with the fact that the culture of the Levels from XI upwards now becomes dominated by eastern influence, whereas in the Levels immediately below it was uniquely and strongly Anatolian. It seems to me probable that Assyrian or allied arms had paved the way for a relatively peaceful entry of their traders on to the plateau by the previous capture of Tarsus and the Mersin Tepe, which guarded the readiest approach to Kanesh by the Cilician gates.

#### CHRONOLOGICAL EVIDENCE

*Pottery.* Taking the datable finds at Kültepe as fundamental criteria, I have selected for our purpose two distinctive details, both of Syrian origin, namely

- (i) the painted device of two opposed triangles filled with dots, known as the 'butterfly motif' shown on Fig. 143, no. 1;
- (ii) a painted jug on which appears a special feature sometimes called the 'hawk-eye', also shown on Fig. 143, no. 2.

At Kültepe the butterfly pattern is found on various shapes of jug and dish in the second and fourth Levels, datable from their association to 1950-1850 B.C. At Mersin the same motif appears also in three Levels (XI A, XI B, and XI z). XI A is the main building Level covering the whole area shown in plan on Fig. 117, and including the related buildings of stratum *p/q* in Trench X. It thus extended to the brink of the Tepe after rakings of the previous centuries had enlarged the area and covered the accumulated deposits at the foot of the Tepe (Fig. 3). XI B comprises the stratum between XI A and the burnt debris beneath, continuing as *q/r* in Trench X; while XI z refers exclusively to stratified deposits of stratum *r/s* and below, also in Trench X.

The butterfly ornament occurs at Mersin most frequently at Level XI B and its continuation in Trench X, layer *q/r*; but it is freely met with in the higher and lower strata, XI A and XI z. A number of examples are shown on Fig. 144 (e.g. nos. 6, 9, 13, 16, and 18-20). It thus seems reasonable to relate our three Levels XI A, XI B, and XI z to Levels 2, 3, and 4 at Kültepe. In the best authenticated examples from XI A and XI B the form of the vessel so decorated is a pedestalled cup or goblet of Syrian character; but a deeper bowl with flat bottom occurs also at these Levels as well as below (e.g. nos. 9, 13, and 16). There is thus close parallelism with the Kültepe finds.

The Hawk-eyed pot is rarer but even more distinctive; and like the pedestalled cup it is also found at Tarsus, where it is assigned by Professor Goldman to 'period B' which she ascribes, as we do, to the centuries following 2000 B.C. At Kültepe it appears as stated in the deposits of the *karum*, and at Alishar in the 'Cappadocian' context. At Mersin our type specimen (Fig. 143, no. 2) was taken from a deep pit (182), but other fragmentary examples came definitely from Level XI (cf. nos. 4, 5). There are also counterparts from Syria.<sup>1</sup>

<sup>1</sup> Cf. *Syria*, viii, figs. 46-47; and xx, fig. 5.

The correlation of these two datable specimens from Kültepe enables us to examine the whole of our pre-Hittite series from a chronological standpoint. In the first place it is clear that at least two Levels in the main area represented by the remains in layers *q/r* and *r/s* of Trench X had been largely raked out in antiquity when Level XI A was constructed, inasmuch as we have found specimens of both types in these layers sealed down by the floors and foundations of stratum *p/q* which forms part of Level XI A. Our Level XI A was thus not the earliest of our 'Kültepe series', but may be placed as early as 1900-1850 B.C. Our Level XI B thus falls naturally into the twentieth century B.C., a conclusion consistent with the finding at this level of a 'red-cross' dish of Troy V type, as well as the historical synchronism described below (p. 213).

There is, however, a further point to be discerned before leaving the subject of Trench X, in that below the buildings therein of Level XI $\alpha$  (i.e. below stratum *r/s*) there appear amid the debris the stratified remains of other buildings, in which the deposits cover an earlier period. These may be, and probably are, surviving traces of the late Copper Age Levels (2600-2000 B.C.) which, nearer the centre of the village, had been destroyed by fire and raked out before building started in the new era. The incursions of Sargon of Akkad c. 2300-2250 B.C. to the 'western sea' could hardly fail to leave some repercussions of this kind, though there is no suggestion that he visited our site in person.

In addition to the traces of two or more Levels below stratum *p/q* in Trench X, we uncovered four complete building levels of this pre-Hittite period (viz. nos. XI-VIII) in the main area of excavation. The series was closed with the construction of a fortress on the imperial Hittite model and a considerable reinforcement of the whole area, at the 19-metre level. The foundations of this building, which were very solid, rested on Level VIII, and occupation of it began on Level VII. The question of its date will be discussed in the next part of this chapter.

*Lugged axe.* The fortress was not the earliest trace of Hittite intervention. At Level IX there was found *inter alia* a lugged bronze axe of a distinctive Hittite shape and character. (Fig. 129.) The distribution and typology of this class of weapon have been studied by Mrs. K. R. Maxwell Hyslop, who has kindly placed some notes at our disposal. From these we learn that among the thirty or more examples of the lugged axe or adze blades found in Asia Minor, the one which most closely resembles our stratified specimen comes from Alishar where it appears, obviously misplaced, in a relatively high Level.<sup>1</sup> The lugs on these specimens are pronounced and they are placed nearer to the butt than to the cutting edge. Among other stratified Anatolian examples which exhibit this characteristic are blades from Alishar, Level II<sup>2</sup> and Boghaz-köy, Level III,<sup>3</sup> and there are similar unstratified blades from Kayseri,<sup>4</sup> Boghaz-köy,<sup>5</sup> Yazili-kaya,<sup>6</sup> and Ordu.<sup>7</sup> The fact that the last mentioned formed part of a hoard of metal implements, and that Ordu itself lies in the

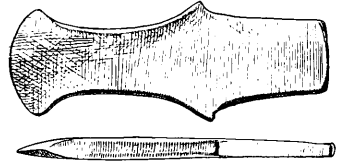


FIG. 129. Lugged bronze axe-head from Level IX. Scale 1:3

<sup>1</sup> *Alishar III*, fig. 107, e. 1243a. Cf. Bittel, *K.S.*, pp. 59-61.

<sup>2</sup> *Alishar II*, fig. 286, c.1741.

<sup>3</sup> Bittel, *M.D.O.G.* lxxvii, Abb. 18a.

<sup>4</sup> Przeworski in *A. Or.* vii, Taf. xlix b, c.

<sup>5</sup> *M.D.O.G.* xxxv, 1907, Abb. 1.

<sup>6</sup> *Ibid.* lxxiv, 1936, Abb. 18 f. and p. 54.

<sup>7</sup> Przeworski, *op. cit.*, Taf. xlvii a.

former territory of the Gasgas which comprised or adjoined the country of the Chalybes, traditionally the earliest of all metal-workers, opens up a widening field of inquiry. Of immediate significance is the recovery of a number of these lugged implements in Palestine, among which those from Tell El Ajjul and Gezer<sup>1</sup> are dated, like ours, by Mrs. Maxwell Hyslop to 1600-1450 B.C. from the pottery associated with them. This rather surprising discovery she explains plausibly by the presence in southern Canaan at that time of a number of workers from Kurustama,<sup>2</sup> which was situated on the frontier between the Hittite and Gasgan areas, therefore not far from Ordu.

From this it would appear that though this type of weapon in Asia Minor is best known from specimens dated to the period of the Hittite Empire, it is quite possible for the early Hittite kings to have adopted it soon after they crossed the Halys to settle around Hattusas, when they could not have avoided immediate contact with the Gasgas. Satisfactory though this explanation may be, we must not overlook an important consideration, that as yet no stratified examples of these axes have yet been found in the Gasgan area, which indeed remains archaeologically almost unexplored. The one example found at Dündartepe is of a different type from ours. It seems that as yet Cilicia has yielded the earliest stratified examples of this particular type, which, however, may yet appear in an earlier context with the progress of research in Anatolia.<sup>4</sup>

The earliest known activities of the Hittites in the south which might explain the presence of this implement date back to the reign of Mursil I who about 1600 B.C. (according to the revised chronology) descended from the plateau to the conquest of Aleppo and Babylon. Of the three known routes into Syria, the most easterly, by the Kemer pass (from Punarbashi-Azizieh, Cl. Zamandos, possibly the Hittite Zimammu) runs through a dangerous defile which was probably at that time in Hurrian or other enemy control. The second, by Gez-Bel, Saim-Beyli, and Sirkeli, recently discovered, was much more difficult and apparently not then opened for wheeled traffic, though there is mention of Sis, at its southern end, in the Kültepe tablets. The third was the well-known route through the Cilician Gates past Tarsus which can now be assumed, from the familiarity of Assyrian traders with the roads to the Kültepe *karum*, to have been in active use for some centuries. The great ancestor of the Hittite kings, Labarnas, who was Mursil's grandfather, had in fact already secured its northern approach by his capture of Tyana and other great cities in the south of the plateau. It seems probable then that Mursil I would make use of this open route, and would find it desirable to secure his flank at the descent to the Cilician plain by occupation of Yümük Tepe. The discovery of similar weapons at Tarsus<sup>5</sup> tends to confirm this view.

<sup>1</sup> Petrie, *Ancient Gaza*, iii, pl. xxii, 93; Macalister, *The Excavation of Gezer*, iii, pl. lxxxix, 17. For the other Palestinian blades see *A.Or.* viii, p. 53.

<sup>2</sup> From a prayer of Mursil II, as interpreted by Dr. Forrer in *P.E.Q.*, 1937, 104 ff. This text states also that the Hittite king, Subbiluliuma, sent his troops and chariots in force into Egyptian territory—a record of military activities in Canaan which offers an alternative explanation, though archaeologically less complete.

<sup>3</sup> The Land of Gasgas (Egyptian Keshkesh) lay to the north and north-east of the Hittite homelands within the Halys; and the peoples of this name formed

a constant menace to Hittite security. It seems probable to me that they had occupied formerly the area seized by the Hittites when they captured Hattusas.

<sup>4</sup> Dr. C. Schaeffer's revised dating of the earlier strata at Alishar Hüyük would ascribe the origin of this class of weapon to the Middle Bronze Age; see *Strat. Comp.*, p. 324. The distribution of these weapons appears to extend to the Caucasus; cf. *Izvestiya Archiologicheskago Kommissii*, pt. 12, p. 52, with sketch no. 14, a reference for which I am indebted to Mr. J. E. D. Allen. Cf. also E. Dullo in *Präh. Zeits.* xxvii, 1936, pp. 86 f. and fig. 9.

<sup>5</sup> *A. J. A.* xli, 1937, p. 271 and fig. 19 (late Bronze Age).

Our first historical period thus begins and ends with two interesting archaeological synchronisms; firstly the overlap at Mersin of a pot-type of Troy V with specimens dated at Kültepe to the round figure of 2000–1900 B.C.; and secondly a trace of Hittite activity at Level IX about 1600 B.C. which seems to synchronize with the descent of Mursil I towards Aleppo. The intervening 300 or 400 years are represented by five or six occupation Levels (XI $\bar{x}$ –IX) giving an average span to each of some 70 years, a result which seems reasonable and is supported by the other archaeological indications.

#### ARCHITECTURE

The plans of Levels XI and X–IX are reproduced on Figs. 117 and 128 respectively. Building technique shows a definite falling off from the high quality of the stout brick-work of the early Metal Age at Level XI $\bar{A}$ , and almost reverts to the simple type of masonry familiar in the earlier periods, the walls being narrow and their foundations rough and shallow (see photograph, Pl. XXVIII). The arrangement of the buildings, however, shows a certain sense of town planning: at XI, for instance, the outer wall of some of the houses bends around the area in a defensible position overlooking the slope, as in many old towns of the Near East today. In Levels IX and X most of the houses seem to be somewhat larger, having four rooms in addition to a courtyard, two of the rooms being smaller than the others; and, generally speaking, the walls are longer and better aligned than of old. In the case of Level IX, Mr. Seton Lloyd's note on the plan refers to the remains of a town wall of the upper period, indicated by a dotted line; but it was difficult to trace.

#### POTTERY OF LEVELS XI–IX

Fig. 143 shows the type specimens decorated with the 'butterfly' pattern (dotted triangles), and also the 'eye' placed near the rim of certain jugs. The former pattern occurs on our site freely on pedestalled goblets, and also to a less extent on bowls, as shown on Fig. 144. These two Plates illustrate the styles of decoration most freely used throughout this period as far up as Level IX, namely latticed triangles, vertical and diagonal lines, and occasionally (as in no. 10 on Fig. 143) more elaborate designs in which such motifs may be grouped or associated with meanders or other linear devices. On the 'hawk-eye' series of jugs not infrequently there are in addition designs in panels representing animals, as in our type specimen no. 2 and the example (no. 6) shown below it on a broken fragment from Level XI. Other fragments similarly decorated with animal motifs were found in the lower Levels of the series.

Conspicuous among the shapes of decorated pottery of this time are the pedestalled or calyciform goblets, of which numerous typical examples are shown on Fig. 144; but there are other types, for instance no. 21, which represents a one-handled bowl of a now familiar shape, decorated around the rim and on the handle with short vertical or horizontal lines. The presence of two such goblets among the deposits taken out of Pit 163—one of them decorated with the tell-tale 'butterfly' ornament (Fig. 148, no. 2), as also of the distinctive cup with a painted rim (no. 3), enables us to assign the whole of that group, which is seemingly homogeneous, to this period. Among the decorative designs are, as before, triangles filled with latticed patterns or with vertical lines (nos. 4 and 6), while in no. 8 there appear opposed triangles filled solid with dark paint, and forming a panel or

panels, in a setting of horizontal and vertical lines. Handles of jugs also are frequently embellished at this period as seen in nos. 9 and 10.

Figs. 145 and 146 show the stratified types of pottery bowls, jugs, dishes, and cups ranging as before from Level XI B to Level IX. The two-handled vessel no. 2 on Fig. 145 is of some special interest because it figures in a late sacramental scene at Malatia on a sculptured relief representing the pouring of a libation into a vessel of this shape.<sup>1</sup> Its position in Level IX would give an approximate date of about 1600 B.C. to this specimen, but as a cult object it has a longer range. Jar no. 3 is also of interest, because it shows the combination of ledge handle and loop handle on a single vessel. The chart on the left hand of the second row indicates the range of lunate ledge handles on cooking pots, showing their presence all through the Copper Age into this later phase of the Metal Age. The range of lateral loop handles on cooking pots is much the same, but the frequency is less. Most of these objects were found in various levels from XI B upwards to Level IX, with the exception of the three jugs 12-14, and four painted handles 15-18, the provenance of which is doubtful.

The objects figured on Fig. 146 call for little comment. The type of single-handled bowl is familiar from specimens found in lower levels; and it ranges, as at Polatli, through the whole of the Metal Age into the Hittite period above, as may be seen from the diagram attached to no. 10. The double or divided handle appears at this stage, as in the Middle Bronze Age of Syria and Palestine, and is represented by specimens nos. 13 and 18. The high-handled cups shown in 14-16 are among the very familiar types, and range also throughout the Metal Age. The drinking-cup no. 6, with a rim painted inside and outside, varies only in the slight out-curving of its sides from the type no. 13 on Fig. 147, taken from Pit 163.

On Fig. 147 we meet with shapes and features already familiar: taken together with the painted specimens from Pit 163 shown on Fig. 148, they constitute a representative and presumably contemporary group, which from the presence of the 'butterfly' ornament may be ascribed to an early phase, corresponding to the Kültepe period, *c.* 2000-1800 B.C.

It may be observed that while there is evident continuity in certain domestic types of pottery vessels, the new decorative wares of Syrian character appear chiefly in the lowest Levels of this series XI A and XI B, and these are precisely the types found in what we may call the Kültepe repertory. Indeed, these are classed by Professor Goldman, in her study of the ceramic types of Tarsus,<sup>2</sup> as a separate group (B) having 'Near Eastern, especially Syrian affinities, ranging from about 2000-1650 B.C.' She finds, however, no sharp break between this group and her next one (C) which is distinguished by the appearance of 'Pottery similar in general to that of the older phases of the Hittite Empire', in which there is a 'noticeable return to highly polished surfaces with a thinner coating of slip than in the Anatolian Period' (Group A).

Though in general we find the development of ceramic types at Mersin to be similar, the element of continuity in our four or five intact Levels with their copious supply of stratified materials is so marked that it seems to call for a somewhat different classification which would emphasize this aspect. I incline to believe that the Syrian types, as represented at Kültepe and in our Levels XI and X, are superposed upon a continuing series of

<sup>1</sup> Cf. *H.E.*, p. 205, fig. 16.

<sup>2</sup> *A.J.A.* li, p. 385.

monochrome pottery ranging from the middle of the Anatolian Copper Age, with relatively slight modification, until our Hittite period begins to develop at Level VIII. For that reason I prefer to use for the time being terms and dates derived from local history. It is true that there is a considerable advance in technique and some change of shapes observable in the local wares as between these two phases of the Metal Age, corresponding to the differing influence of the Anatolian Copper Age on the one and of the Syrian Middle Bronze Age on the other; but the two seem at Mersin to form a continuous series, overlapped but not separated by the influx of Syrian novelties. It may be mentioned in conclusion that pedestal goblets similar to our own were found at Atchana, as Sir Leonard Woolley tells me, at a considerably earlier date than on our site. This observation applies to north Syria in general and also to Mishrifeh, where they seem to range from 2150 to 1900 B.C.<sup>1</sup> They thus seem to overlap there the end of the Early Metal Age as well as the beginning of the Syrian Middle Bronze Age.

#### BRONZE-AGE INDUSTRIES

*Spindle whorls* (Fig. 116). This period saw a marked development in the modelling and decorating of these familiar objects, most of which seem from their symmetry to have been turned on the wheel, and contrast with the cruder specimens found at all earlier Levels from the end of the neolithic period. The first three rows on Fig. 116 illustrate selected types found in stratified contexts from Level XI B up to Level X. Their provenance is shown in the list which accompanies the plate.

In the fourth row the first three specimens are comparable in shape and character with the foregoing, and, though found in the debris of Trench X, they may be ascribed on typological grounds to the same period. All appear to be represented in the Trojan repertory of the sixth settlement, and also at Alishar and Kusura. The fourth and fifth specimens in the fourth row are not readily datable; though the patterns occur in the Trojan series and may be compared with types from Alishar (e.g. fig. 209, e. 98) where they are ascribed by the excavators to the Copper Age. Their bulbous forms certainly seem to have earlier developed on our site, as may be seen in Fig. 47, p. 76.

The single specimen in the fifth row came from Level XVII, no. 1121, and it is inserted in this group to illustrate the earlier decorative style and shape; but we have no examples to represent reliably the upper chalcolithic Levels.

The fifth row shows three decorated and two plain types, all from various strata in Trench X, but their original provenance is doubtful. Examples comparable with these in shape and decoration are ascribed at Alishar to the Copper Age, but I hesitate to accept that as conclusive evidence of their typological position in our local series, as there is no evidence of a parallel development. Our last line shows four specimens of a different shape and style found in somewhat higher levels in Trench X than the foregoing, and I incline to place these in a later category than those of our first three rows, possibly in the Hittite period.

*Objects of Bronze.* On Fig. 149 are represented a series of knives and daggers as well as javelin-heads, a chisel, toggle pins, and a needle, all apparently of bronze. The appearance of the midrib on the offensive weapons is a new feature, which has a contemporary

<sup>1</sup> Prof. Goldman in *A.J.A.* li, p. 387. The overlap of this type with the close of the Copper Age (A) and the beginning of the next period (B) seems to be established also at Tarsus.

parallel in Egypt.<sup>1</sup> Most instructive of all is the seal no. 1 (reproduced on a larger scale, together with the stamp seal no. 2, in Fig. 130). The running spiral pattern with which it is decorated closely resembles an Egyptian type of the twelfth and thirteenth dynasties that can be dated with some confidence to about 1900–1700 B.C.<sup>2</sup> Both the seals illustrated in Fig. 130 came from Level X. We have already noted the presence of a bronze axe-head of Hittite character from Level IX, dated approximately to 1600 B.C., the age of Mursil I. These results seem to be quite uniform and consistent with the conclusion already



FIG. 130. Bronze seals from Rooms 117, 104, Level X

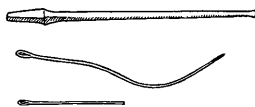


FIG. 131. Bronze chisel and two needles



FIG. 132. Bronze coiled ring

reached that the Levels we have been considering (XI<sub>z</sub>–VIII) range approximately from 2000–1500 B.C.

Other metal objects found in these Levels comprise a well-made bronze chisel, R.N. 1068, found in Room 117 at Level X; its length is 14.3 cm. and it is reproduced in Fig. 131 on a scale of 1:3. From the same Room and Level came the bent needle (R.N. 1069) shown below the foregoing in the same figure; the length of this needle is 11.2 cm.: it is exceptionally thin and has a well-defined point. The third object in Fig. 131 (R.N. 1052) came from Level XII, Room 111; it is half of a needle of finer workmanship, and from its rigidity would appear to be made of bronze.



FIG. 133.  
Metal haft

Fig. 132 shows a bronze coiled ring (R.N. 1101), the diameter of which is 2.25 cm.; it came from Room 108 at Level XI. In Fig. 133 there is shown the haft of a weapon of bronze with two rivets in position (R.N. 1061); its length is 5.6 cm. and the scale of the drawing about 1:3; it came from Room 114 at Level IX.

A number of these metal objects from Levels XI–IX are shown in the photograph, Pl. XXIX.

<sup>1</sup> Cf. Petrie, *T.W.*, pl. xxxiii; *Arabah*, pl. xvi. Also in S. Palestine at Tell El Ajjul, Petrie, *Ancient Gaza*, i, pl. xix. 47, pl. xx. 61, 67, &c.

<sup>2</sup> Cf. Miss H. Kantor in *A.J.A.* li, pp. 21 ff., where the Egyptian and Cretan material is fully treated. A vessel bearing an impression of a very similar seal was

found at Karahöyük, near Elbistan, in the debris below a late Hittite building; see Özgüç, *Karahöyük Hafriyatı Raporu*, *T.T.K.*, Series V, no. 7, pl. xlviii, no. 14. At Troy (II–V) a similar design is found on pottery; cf. Schmidt, *S.S.*, p. 124, no. 2470.



*Objects of stone.* Fig. 134 shows the outline of a palette made in laminated stone (R.N. 1160); its length is 8 cm., the scale as shown being about 2:3. It came from Area 127 at Level XI B. In Fig. 135, at the top, is shown a smooth utensil (R.N. 1060): its length is 7 cm. and it came from Level X.

Two interesting and exceptional objects are the figurines shown in Fig. 136; that on the left-hand (R.N. 1003) came from the *béton* foundation of the Hittite extra-mural platform

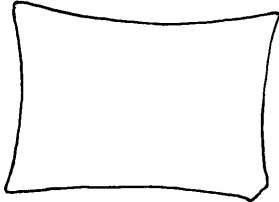


FIG. 134. Stone palette

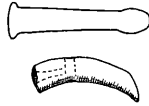


FIG. 135. Stone utensil and horn

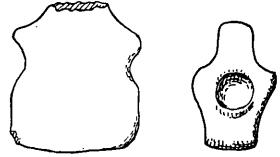


FIG. 136. Two figurines. Stone and pottery

at Level VIII, and it seems properly assigned to the period under discussion. It is made of stone, its height being 4.3 cm. The companion figure is made of pottery (R.N. 1114) and came from Room 142 at Level XI B; its height being 6.5 cm. Both apparently symbolize the cult of the Mother Goddess, and it is interesting to compare them with the much earlier type shown in Fig. 39, p. 71.

*Small objects of clay.* The crescental objects shown in Fig. 137 (R.Nos. 1093 and 1066) are both made of baked clay and came from Room 117 at Level X. The length of the former is 13.5 cm. and of the latter 4.7 cm. Such crescental objects are freely found all through Anatolia from Troy in the west to Mesopotamia in the east. Their use is quite unknown, and interpretations differ widely, from loom-weights to emblems of a lunar cult. The holes with which they are nearly always pierced at the ends and sometimes in the middle suggest that they were trappings or ornaments of some kind.

In Fig. 138 is shown a jar-handle with the impress of a stamped seal from the same Room as the foregoing (Rm. 117, Level X); its length is 4.1 cm. Further designs of stamped seals occur in two examples shown in Fig. 139 (R.Nos. 1028 and 1015).

*Objects of bone.* The seal on the right (R.N. 1030) is carved from bone. These simple designs have their counterparts in many sites, and all three came from the *béton* platform already mentioned. They cannot therefore be later than 1500 B.C. and seem to be properly



FIG. 137. Two crescental objects



FIG. 138. Jar handle with seal



FIG. 139. Seals and seal designs

placed in this group. An amulet of bone (R.N. 1053) is shown in Fig. 140; it is unfortunate that it was found broken, as the preserved portion of the design of a stag or other horned animal is neatly executed. Its preserved width is 2.2 cm. and its height 2.5 cm.; and it came from Room 111 at Level XII. Decorative designs based on living creatures are now in vogue, and we close this catalogue with descriptions of two fashioned in the round.



FIG. 140. Bone amulet

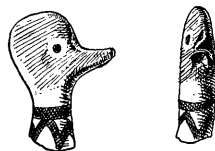


FIG. 142. Handle in form of duck's head. 1223. 192  
Pitted area. ? XI

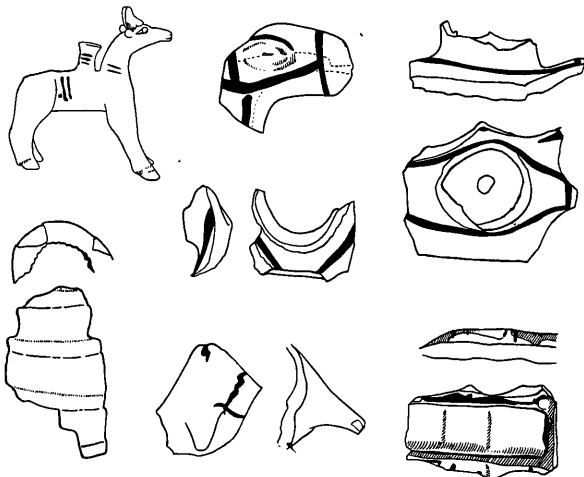


FIG. 141. Spout shaped like a horse's head and fragments of the vessel.  
Level X

*Animal Models.* Among the pottery objects illustrated on this page is the spout in the form of a horse's head which forms the centre piece of the top row of Fig. 141. It is modelled in a greyish-cream clay finished with a light cream slip and dark red paint. The fragments pictured with it are similar in fabric and doubtless parts of a hollow vessel after the style of the deer from Kültepe shown as the first item in the Fig. 141.<sup>1</sup> Though objects of a generally similar appearance are found in the Middle Bronze Age deposits in Cyprus, our specimen seems to have no direct analogy in that island. It was found at Level X.

The duck's head, admirably portrayed (Fig. 142), is presumably a product of the same period and connexions as the foregoing. It was found, however, in a pitted area at Level XV, but would appear out of context at that Level. It belongs more probably to Level XI or X. It is registered (R.N. 1223) as a handle, hand-made of buff clay; finished with a burnished red slip and decorated with brown paint. The scale of reproduction is 1:2.

<sup>1</sup> Cf. Frankfort, *Studies*, i, pl. ix.

## OTHER REGISTERED OBJECTS FROM LEVELS XI-VIII

	<i>Room</i>	<i>Level</i>
1031 Butt of bronze chisel (L. 8.2 cm.).	103b	X
1032 Part of bronze ring (D. 4.4 cm.).	103b	X
1033 Nail of bronze (L. 8.1 cm.).	105b	X
1034 Awl, no. 16 on Fig. 149 (L. 11 cm.).	103b	X
1035 Ring (ends crossed). Bronze. (D. 2 cm.).	101	IX
1037 Part of needle, bronze.	103b	X
1044 A lugged awl (L. 4.3 cm.).	104b	X
1045 A flint 'knife' (L. 8.25, B. 2.3 cm.).	107b	X
1048 Awl, bent (L. 10.5 cm.).	106	IX-X
1050 Clay miniature vessel (H. 2.2 cm.).	109	X
1052 Part of a needle, bronze (L. 5.1 cm.).	111	XIIA
1053 Half an amulet of bone (B. 2.5 cm.).	111	XIIA
1054 Shell, pierced (B. 3.5 cm.).	111	XIIA
1060 Stone utensil (L. 7 cm.).	110	X
1061 Half of a weapon (L. 5.6 cm.).	114	IX
1062 Part of a bronze fibula (?) (L. 4.8 cm.).	114	IX
1063 Stone crescental object (L. 8 cm.).	115	X
1066 " " " "	117	X
1067 Pottery jar handle with seal impression (L. 4.1 cm.).	117	X
1068 Fine chisel like a long screwdriver (L. 14.3 cm.).	117	X
1069 Bent needle, bronze (L. 11.2 cm.).	117	X
1078 Stamp seal, bronze (H. 2.5 cm.).	114	X
1078a Part of needle, bronze.	114	X
1082 Half of a ring, bronze. (L. 5.3 cm.).	117	X
1083 Pin or coiled end (cf. 1040) (L. 5.6 cm.).	117	X
1084 Flat pin or rolled end (L. 6.7 cm.).	118	IXb
1086 Bracelet? bronze (D. 7.7 cm.).	117	X
1087 Large ring, bronze (D. 7.1 cm.).	117	X
1091 Piece of wire, bronze (L. 6.6 cm.).	117b	XI
1092 Clay spindle whorl (D. 30 cm.).	117b	XI
1093 Crescental object, clay (L. 13.5 cm.).	117	X
1096 Bone point (L. 8.8 cm.).	124	XI-XII
1098 Clay crescental object.	108	X-XI
1100 Lid of a pottery vessel (D. 5.0 cm.).	108	X-XI
1101 Coiled ring, bronze.	118	XI

‘BUTTERFLY’ ORNAMENT, ‘EYED’ JUG, AND OTHER DECORATIONS  
FROM LEVEL XI

- |  |                     |
|--|---------------------|
| 1. Cup on pedestal. Buff core, cream surface, decorated in red-brown matt paint, with ‘butterfly’ design (cf. Fig. 144, nos. 6, 9, 13, 16, 18-20), wheel-made. | Area 136; Level XIb |
| 2. Jug. Greenish buff core and smoothed surface: matt black paint decoration of latticed triangles with ‘eye’ and animal: wheel-made.                          | Pit 182. Approx. XI |
| 3, 4. Examples of ‘hawk-eye’ decoration.   |                     |
| 5. Neck of jar decorated with ‘eye’ (technique similar to nos. 2, 3, 4).   | Tr. Xp/q = Level XI |
| 6. Fragment of panel with animal decoration.   | Tr. Xp/q = Level XI |
| 7. Jug with narrow neck. Warm buff core, wet-smoothed surface, lower part burnished vertically, wheel-made (1145).   | 128: Level XI       |
| 8. Fragment of a jug. Yellow core and slip, fine sandy grits, decoration painted in two bands of latticed triangles. From layer t/u (? Pit) in Trench X.       | ? XIz               |
| 9. Portion of a jug. Light brown core, cream slip; decorated with matt red paint in two bands of latticed triangles.   | Terrace: 145.       |
| 10. Fragment of a large jug, shows elaborate dark on light decoration in concentric bands combined with wavy and diagonal lines (cf. Fig. 144, nos. 1, 4, 7).  | Tr. Xr/s = XIz      |



FIG. 143. 'BUTTERFLY' ORNAMENT, D' J'EYUG, AND OTHER DECORATIONS FROM LEVEL XI

## PEDESTALLED GOBLETS, CUPS, AND BOWLS

(Figure 144.)

	<i>Level</i>
1. Cream clay, wet-smoothed, black matt paint, hand-made.	165b Terrace. XV
2. (1147) Cream clay, red matt paint, wheel-made.	NW. Terr.
3. Reddish-cream clay, red matt paint, wheel-made.	Terr. 167 (Extra-mural)
4. Dark-cream clay, black matt paint, wheel-made.	Pit 137; XIb
5. Buff clay with cream slip, chocolate paint, wheel-made.	Tr. Xs step.
6. Cream-buff clay, reddish-brown matt paint, wheel-made.	Pit 136 XIb
7. Cream-buff clay, brown matt paint, wheel-made.	
8. Light red clay, cream slip, slow-wheel-made.	Tr. Xv-w XIb
9. Greenish clay, wet-smoothed, black matt paint, wheel-made.	Tr. Xq-r; XIb
10. Buff clay, wet-smoothed, wheel-made.	109 X
11. As 10.	NW. Terr.
12. Dark cream clay, wet-smoothed, dark red paint, wheel-made.	165b Terr.
13. Greyish clay, buff lightly burnished slip, black matt paint, wheel-made.	NW. Terr.
14. Gritty buff clay, wet-smoothed, yellow slip outside, wet-smoothed inside, matt red paint.	Tr. Xq-r; XIb
15. (1081) Reddish clay, dark-cream slip lightly burnished, pale red matt paint, hand-made,	104, IX. IX
16. Pinky-yellow clay; black paint.	Tr. Xq-r XIb
17. Buff core, small white grits, cream-yellow slip, matt paint in black done over with thick red paint.	Tr. Xq-r XIb
18. Pinky-yellow clay, wet-smoothed, black lines with red between black spots, wheel-made.	Tr. Xt-u
19. Fine pinky-yellow clay with slip of same, dull red paint.	Tr. Xu-v
20. Buff-cream core, wet-smoothed; brown and black matt paint, wheel-made.	Tr. Xt-u
21. One-handled bowl of buff clay, wet-smoothed, hand-made.	145b
22. Handle of similar, light buff clay with slip of same, matt red paint; hand-made.	Tr. Xp-q XIb
23. Part of handle of similar, buff clay, black matt paint.	Tr. Xs-t XIb

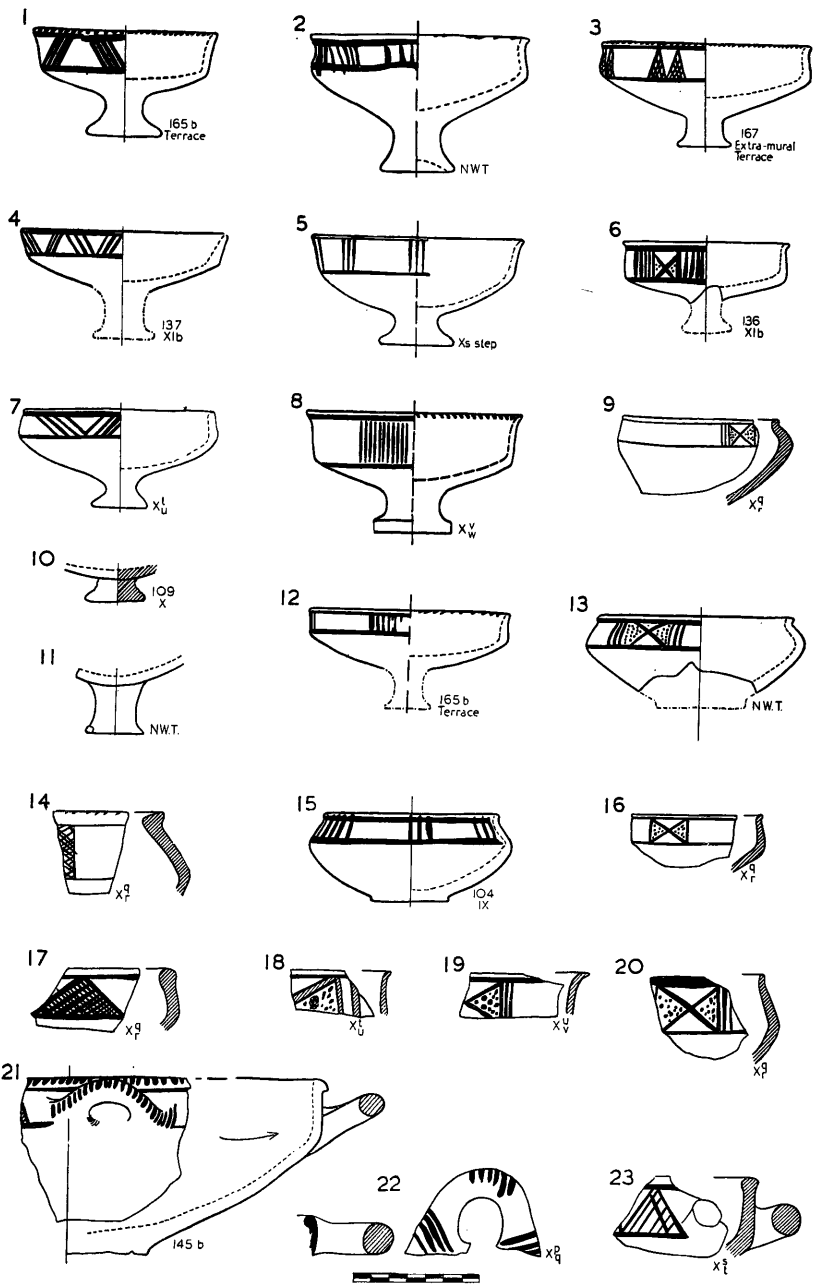


FIG. 144. PEDESTALLED GOBLETs, SOME WITH 'BUTTERFLY' DECORATION, ETC., MOSTLY FROM LEVEL XI

POTTERY BOWLS, JUGS, ETC., FROM STRATIFIED LEVELS IN TRENCH X  
AND MAIN AREA

	<i>Level</i>
1. Cooking-pot. Buff-reddish core, dark towards base.	Rm. 100, IX
2. Amphora, two handled. Buff gritty core, cream slip.	Tr. Xn-0, IX-X
3. Cooking-pot. Gritty-grey core, surface reddish brown, slightly burnished, hand-made.	Pit 140, XIb
4. Cooking-pot. Buff core, cream burnished slip.	Tr. Xn-0, IX-X
5. Jar, two handled. Buff core, buff slip, uneven, hand-made.	Pit 161, XIb
6. Cooking-pot. Buff clay, cream burnished slip, hand-made.	Tr. Xn step, IX-X
7. Jar. Light buff core, wheel-made.	Rm. 128b, XIb
8. Jar. Cream core, wet-smoothed, wheel-made.	Pit 129, XIb
9. Jug. Buff core burnished, hand-made.	Rm. 116, X
10. Jug. Grey gritty core, with red surface, wet-smoothed, hand-made.	Area 125b, XIb
11. Jug. Red core turning red-brown, wet-smoothed.	Pit 141
12. Jug. Buff core, wet-smoothed, hand-made (R.N. 1219).	Rm. 145, Terrace
13. Jug. Buff core, red and grey in patches, hand-made.	Rm. 145, "
14. Jug. Grey core, red and black in patches, burnished slip, hand-made.	Rm. 145, "
15. Spout, painted.	Tr. Xt-u, XIz
16. Channel spout. Reddish-grey core, red burnished slip.	Tr. Xt-u, XIz
17. Spout. Buff ware, lightly burnished.	Tr. Xu-v, XIz
18. Spout. Reddish-buff core, cream slip, matt red paint, hand-made.	SW. Terrace





POTTERY BOWLS AND CUPS FROM STRATIFIED LEVELS IN  
MAIN AREA: XI-IX

		<i>Level</i>
1. Bowl. Buff core, hand-made.	Tr. Xn-0	IX
2. Bowl. Green-cream core, wet-smoothed, wheel-made.	Rm. 101	IX
3. Bowl. Light brown core, wet-smoothed, wheel-made (R.N. 1200).	Area 117	X
4. Bowl. Grey burnished ware, slipped in and out, hand-made.	NW. Terr.	
5. Bowl. Cream core, wet-smoothed, hand-made.	Pit 129	XIb
6. Bowl. Cream core, wet-smoothed, matt black paint on rim, wheel-made (second example from Pit 103).	Area 120	XIb
7. Bowl. Light reddish core, lightly polished, hand-made.	Rm. 101	IX
8. Dish. Cream core and slip, wheel-made.	Tr. Xm	VIII
9. Dish. Cream core, wet-smoothed, wheel-made (R.N. 1200).	Area 125b	XIb
10. Bowl. One handled, buff core, lightly burnished slip, wheel-made (R.N. 1146; cf. Fig. 124, no. 1).	Pit 129	XI
11. Bowl. One handled, wet-smoothed, wheel-made.	Area 126	XI
12. Bowl. Fragment. Buff core, wet-smoothed, red inside.	Area 114	X
13. Double handle of cup. Painted decoration.	Tr. Xq-r	XI
14. Cup with high handle. Buff ware.	Area 116b	XI
15. Cup. Buff core, same slip, wet-smoothed, hand-made.	Area 116	X
16. Cup. Yellow-creamy core, same slip, hand-made.	Area 104	IX
17. Bowl. Gritty black core with lightly burnished slip.	Area 117	X
18. Cup. Yellow-cream core and slip, hand-made.	Pit 129	XIb

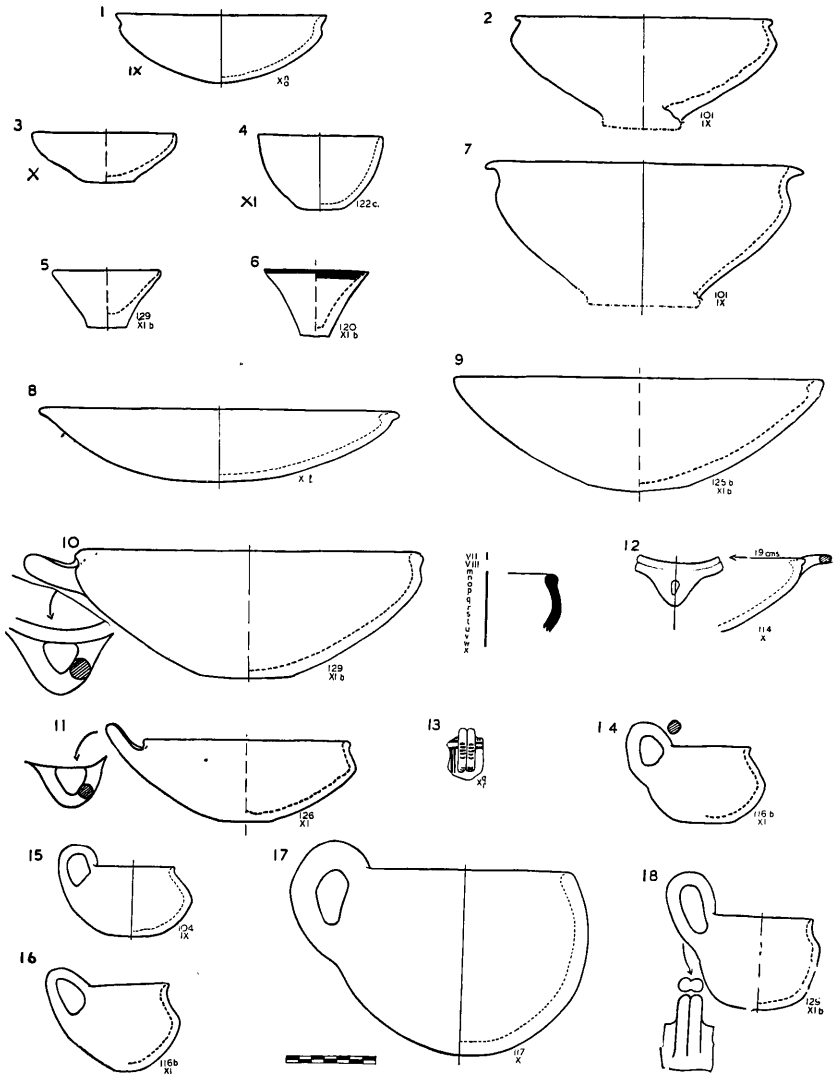


FIG. 146. POTTERY DISHES, CUPS, ETC., OF *c.* 2000–1500 B.C. LEVELS XIb–IX

SHAPES OF PLAIN POTTERY VESSELS FROM PIT 163, ASCRIBED  
TO LEVEL XI

- |   |         |
|---|---------|
| 1. Rim. Reddish core, red patches, wet-smoothed, hand-made.                     | Pit 163 |
| 2. Rim. Red core, light-brown slip, lightly burnished, hand-made.               | ”       |
| 3. Rim. Grey-buff core, light-brown slip, lightly burnished grey in patches.    | ”       |
| 4. Rim. Red core, matt slip, red paint, wheel-made.                             | ”       |
| 5. Rim. Grey-brown gritty core, wet-smoothed, hand-made.                        | ”       |
| 6. Rim. Buff core, red-brown slip, wheel-made.                                  | ”       |
| 7. Rim. Red core, wet-smoothed, wheel-made.                                     | ”       |
| 8. Rim. Grey core, pink slip, lightly burnished, wheel-made.                    | ”       |
| 9. Rim. Gritty-grey core, light-brown surface, wet-smoothed.                    | ”       |
| 10. Rim. Cream core, red paint in and over rim, wheel-made.                     | ”       |
| 11. Rim. Cream core, red paint in and over rim, wheel-made.                     | ”       |
| 12. One handled bowl. Cream-brown core, wet-smoothed, wheel-made.               | ”       |
| 13. Bowl. Cream core, red paint in and outside rim, wet-smoothed, wheel-made.   | ”       |
| 14. Bowl. Cream core, wet-smoothed, wheel-made.                                 | ”       |
| 15. Base, fragment of dish. Buff core, wet-smoothed, wheel-made.                | ”       |
| 16. Bowl. Dark-cream core, wet-smoothed, wheel-made.                            | ”       |
| 17. Bowl. Yellow-buff core, wet-smoothed, wheel-made.                           | ”       |
| 18. Cup. Light-cream core, wet-smoothed, wheel-made.                            | ”       |
| 19. Rim. Pink-buff core, wet-smoothed, incised decoration, hand-made.           | ”       |
| 20. Bowl. Light brown core, burnished, hand-made.                               | ”       |
| 21. Jug rim. Light red-brown core, wet-smoothed, wheel-made.                    | ”       |
| 22. Two-handled bowl. Creamy-buff core, wet-smoothed, wheel-made.               | ”       |
| 23. Pot. Grey-gritty core, firing red, red burnished slip much worn, hand-made. | ”       |

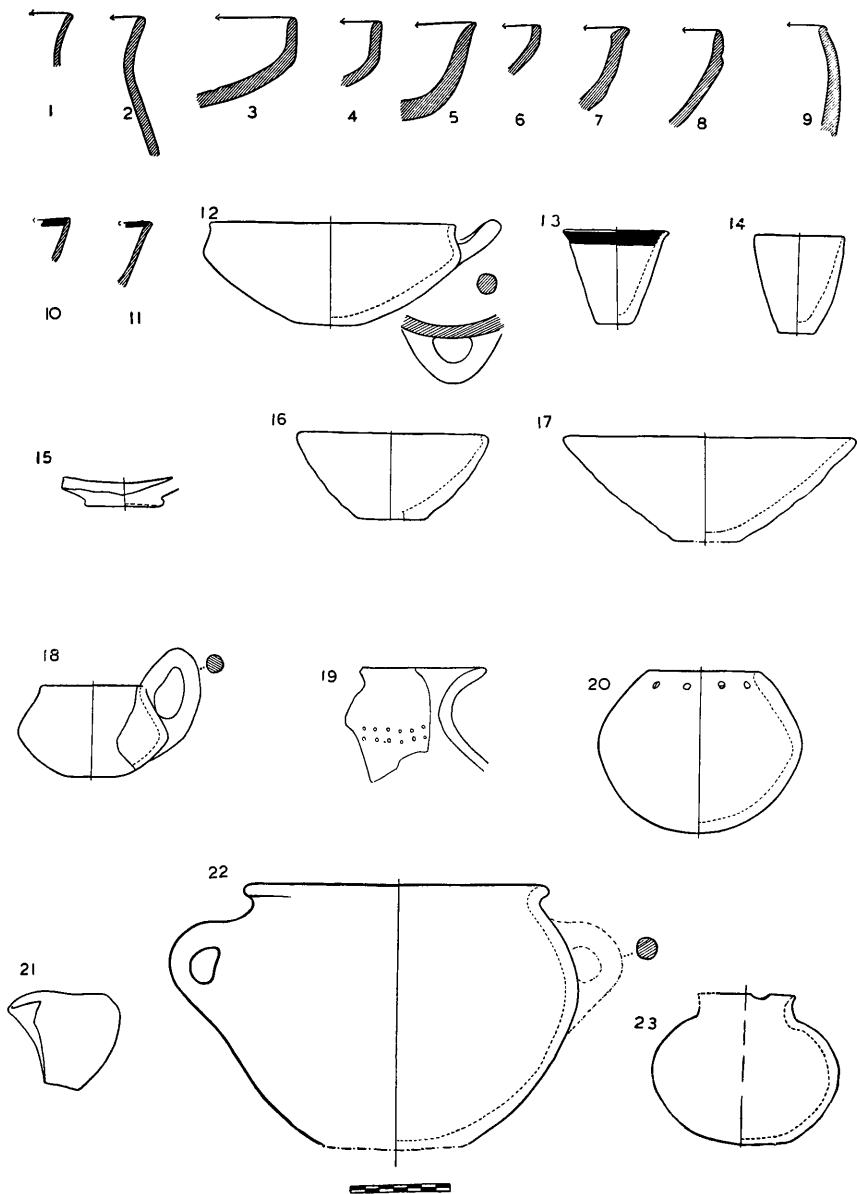


FIG. 147. SHAPES OF PLAIN POTTERY VESSELS FROM PIT 163, ASCRIBED TO LEVEL XI

DECORATED WARES FROM PIT 163 ASCRIBED TO PERIOD  
OF LEVEL XI

1. Chalice cup of creamy-reddish clay, light red matt paint, wet-smoothed, wheel-made.
2. Another of light brown clay, lightly burnished brown slip, matt brown paint, wheel-made.
3. Wine cup of cream ware, red paint inside and outside of rim, wet-smoothed, wheel-made.
4. Fragment of cream clay, cream slip, dark brown matt paint, wheel-made.
5. Fragment of rim, pinkish-buff clay, wet-smoothed, incised decoration, hand-made.
6. Cream clay, black matt paint, wheel-made.
7. Jug of cream clay, cream lightly burnished slip, dark-brown matt paint; wheel-made (cf. Mersin, *L.A.A.* xxv, pl. xxi, 3 and 22; also Kazanlı, *L.A.A.* xxv, pl. ix, 15).
8. Upper part of jug, dark grey-brownish clay, creamy-white slip, matt brown-red paint, hand-made (cf. Kazanlı, *L.A.A.* xxv, pl. xii, 9).
9. Jug, cream clay and slip lightly burnished, red matt paint, wheel-made.
10. Jug, cream clay, dark cream slip lightly burnished, black matt paint, wheel-made.

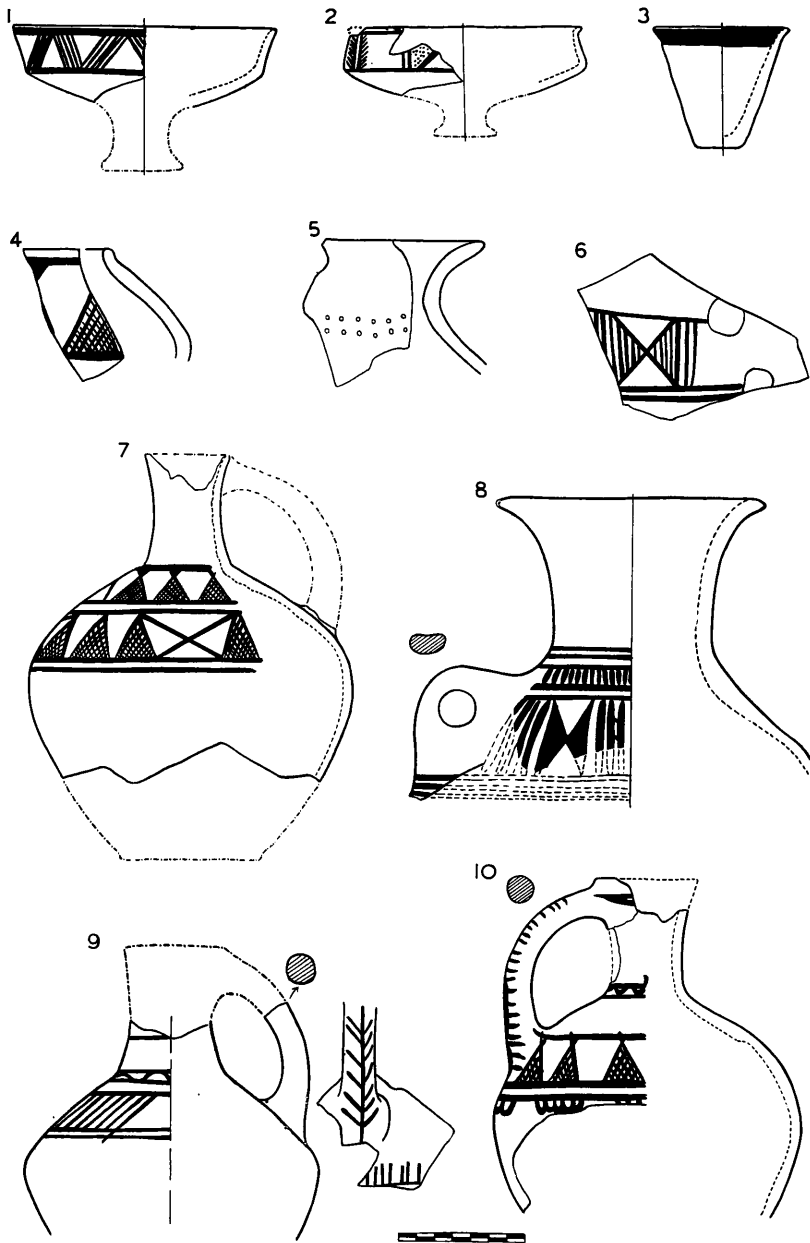


FIG. 148. DECORATED WARES FROM PIT 163 ASCRIBED TO PERIOD OF LEVEL XI

## BRONZE OBJECTS FROM LEVELS XI-IX

		<i>Level</i>
1. (1090) Engraved seal, bronze.	Rm. 117	X
2. (1078) Plain bronze seal.	„ 114	X
3. (1116) Bronze ring.	„ 128	XIb
4. (1017) Ring of copper (?).	<i>béton</i>	
5. (1086) Bronze bracelet.	Rm. 117	X
6. (1120) Toggle pin, bronze.	„ 101	IX
7. (1048) Bronze awl.	„ 106	(IX-X)
8. (1040) Bronze pin.	„ 101b	X
9. (1110) Bronze sickle blade.	W. Terr.	
10. (1130) Bronze sickle blade.	NW. Terr.	
11. (1098) Bronze spatula.	Rm. 121	XI
12. (1020) Copper pin with fancy head.	„ 101	IX
13. (1022) Copper toggle pin.	„ 106	IX
14. (121) Bronze toggle pin.	Tr. Xq-r	
15. (103) Needle.	Tr. Xn	
16. (1034) Bronze awl.	Rm. 103b	X
17. (1019) Copper knife.	„ 100	IX
18. (1001) Bronze arrow-head.	<i>béton</i>	
19. (1024) Arrow-head.	Rm. 105	IX
20. (1041) Bronze chisel.	„ 101b	X
21. (1094) Dagger.	W. Terr.	
22. (1038) Bronze spear-head.	Rm. 103b	X
23. (1088) Bronze dagger.	„ 118	XI



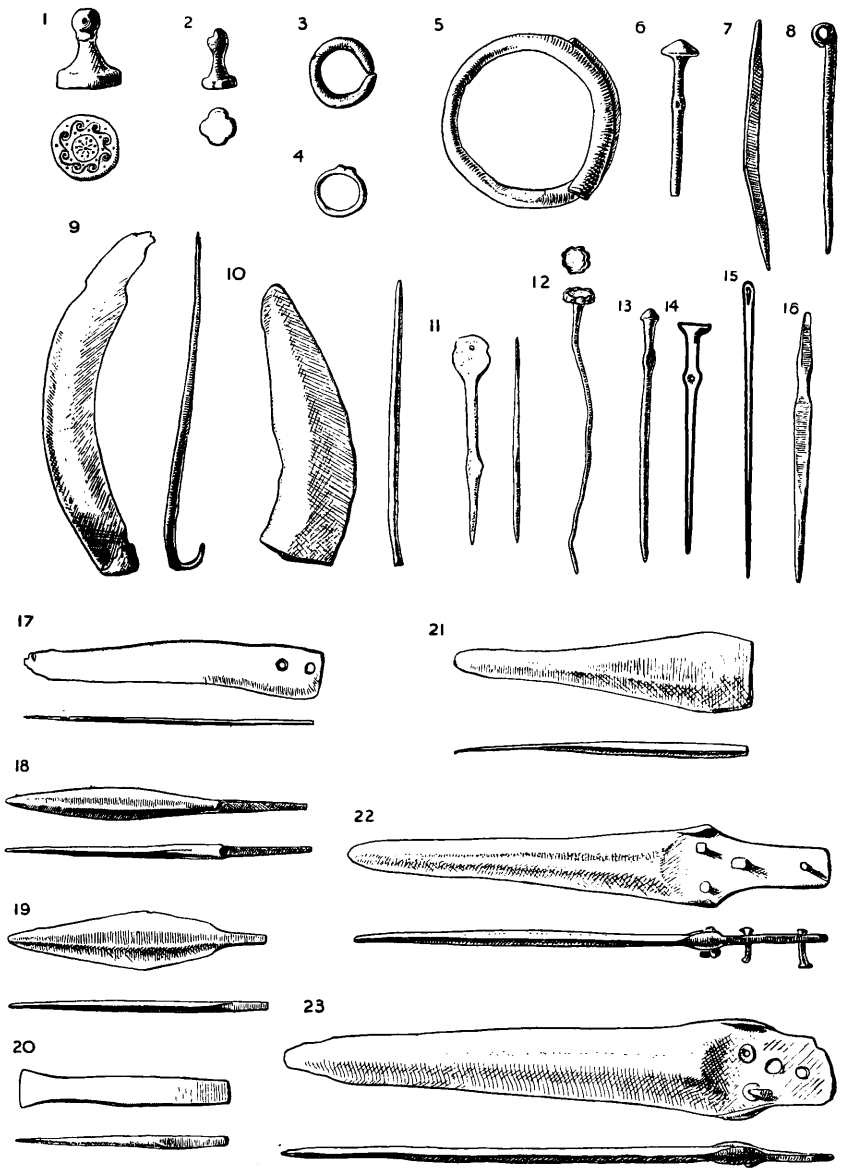


FIG. 149. BRONZE OBJECTS FROM LEVELS XI-IX

H h

SMALL OBJECTS OF VARYING PROVENANCE MOSTLY ASCRIBED  
TO LEVEL XI

- |   |           |                     |
|---|-----------|---------------------|
| 1. (594) Modelled animal's head in orange clay.   | (Pit)     | Tr. Xxc-ya          |
| 2. (73) Polished head of grey stone.  | (Pit)     | Rm. 9               |
| 3. (574) Modelled animal figurine.  |           | Tr. Xxa-xb          |
| 4. (143) Bronze spear point.  |           | Xs step             |
| 5. (503) Metal tool.  |           | Xv-w                |
| 6. (1060) Stone tool.   | (Level X) | Rm. 110             |
| 7. (597) Bone tool.   | (Level X) | Tr. Xxc-ya          |
| 8. (599) Bone tool.   |           | „ Xya               |
| 9. (533) Celt of dark-green stone.  |           | „ Xx-Xa             |
| 10. (557) „ „ „ „   |           | „ Xxb-xc            |
| 11. (398) „ of green stone.   |           | „ Xya 2             |
| 12. (98) Stone seal.  |           | „ Xm                |
| 13. (567) Pink stone seal.  |           | „ A 7.30            |
| 14. (571) Head of stone seal.   |           | „ Xxb-xc            |
| 15. (587) Stone object.   |           | „ Xxb-xc            |
| 16. (608) Bone object.  |           | „ Xya-yb            |
| 17. Fragment of pottery of red clay and red slip, with impressions of cylinder seal and of stamp seal. May very well have Jamdat Nasr affinities, but unfortunately of doubtful provenance. |           | „ Xxb-xc<br>(outer) |
| 18. (543) Bone object.  |           | A 8.90.             |

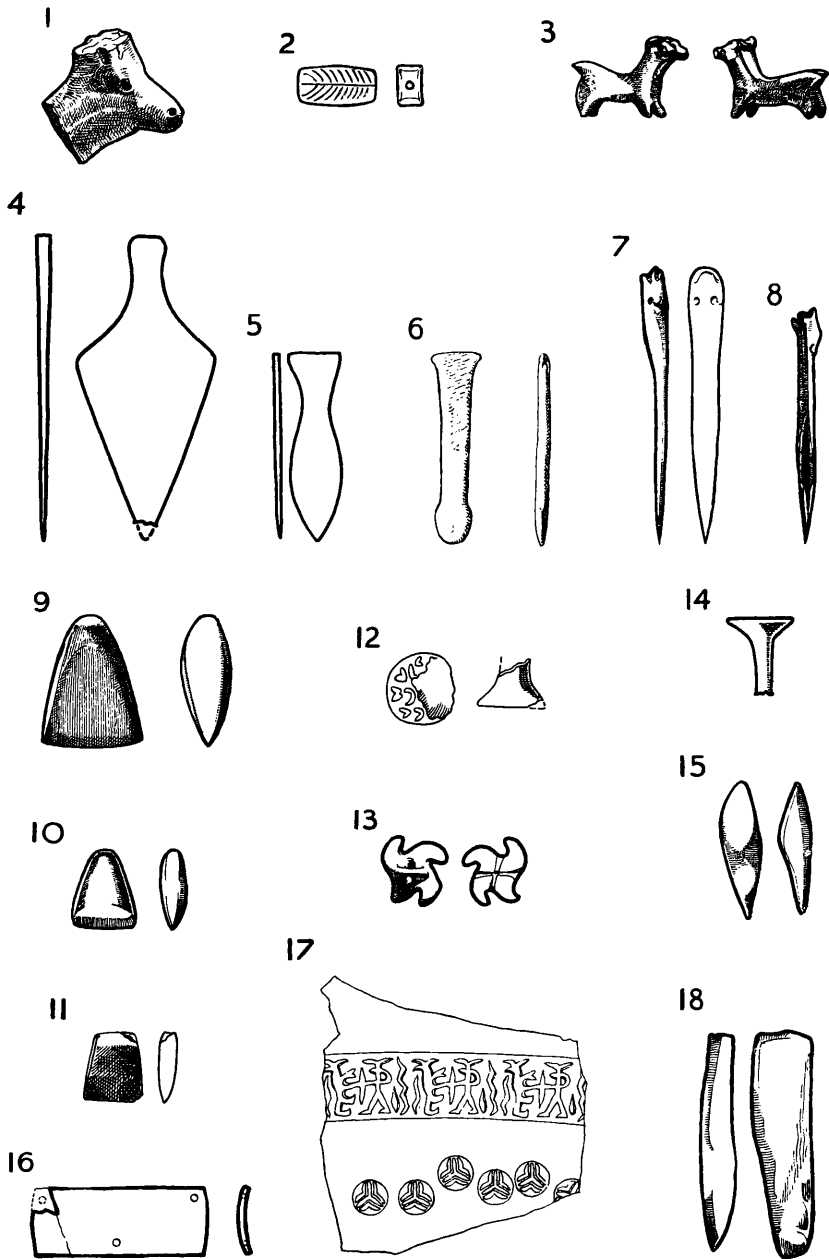


FIG. 150. SMALL OBJECTS OF VARYING PROVENANCE MOSTLY ASCRIBED TO LEVEL XI

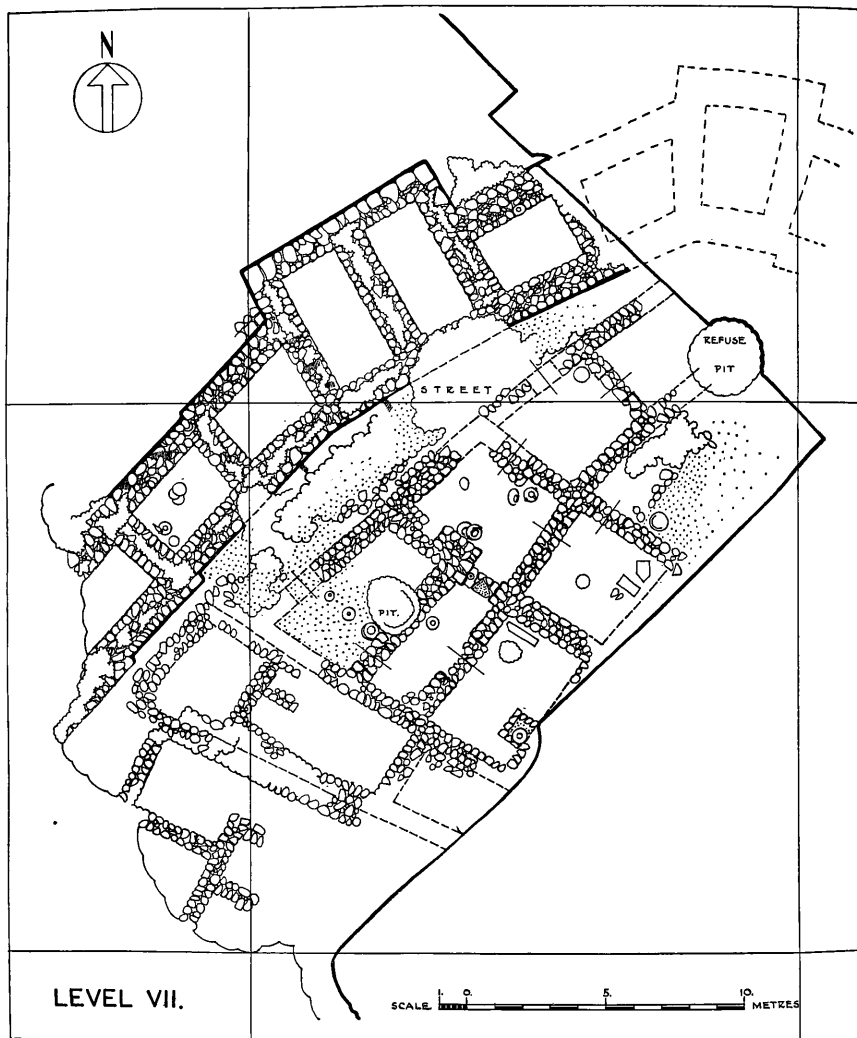


FIG. 151. HITTITE FORTIFICATIONS AT LEVELS VII-V WITH BUILDINGS AT LEVEL VIA

X  
PART II  
THE HITTITE FORTIFICATIONS

*Bronze Age. Levels VIII-V (c. 1500-1200 B.C.)*

CHARACTER AND DATE OF THE FORTRESS

THE strong defensive wall which crowned our Tepe at this stage belonged essentially to Level VII at 20.30 metres above zero, and endured during the two main occupation Levels that followed; but its foundations were based solidly on Level VIII which becomes again involved in our discussion. This link with the preceding period is fortunate, for it helps us to assign a tentative date to this fortification, without the necessity of assuming a break in the continuity of occupation, notwithstanding the novelty and undoubted Hittite character of its construction. The main defence consists of stout twin walls strengthened by cross-walls, and protected by projecting towers placed at intervals along its course where the direction changed. Comparison with similar defences of the Hittite capital (Hattusas) at Boghaz-köy, of which a sector is shown in Fig. 152, coupled with the known history of the Hittite imperial expansion, leaves no doubt as to the source of its inspiration if not of its actual construction.

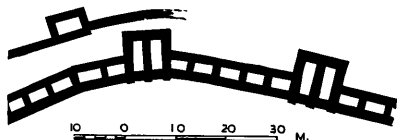


FIG. 152. Defensive walls of Hattusas

The precise date of such Hittite fortifications at the capital has not been ascertained, but their construction is commonly ascribed to the reign of Subbiluliuma (c. 1370 B.C.), because an inscription of this king is found on an outcrop of rock (called the Nishan Tash) in the centre of the fortified area. But the association is not structural, and the inscription bears no physical relation to the fortifications which may have been earlier or later. That such defences were almost standardized in the Imperial Age is certain, but the Hittite Empire was not founded by the prowess of one king, notwithstanding the extension he gave to its frontiers. It had clearly been in the making under Subbiluliuma's predecessors.

Our Tepe is believed, by fairly general consent of scholars, to have stood within the kingdom of Kizzuwadna, which retained a nominal autonomy until the age of Mursil II. The treaty which Subbiluliuma concluded with its king Sunassura was of a reciprocal character, not implying vassalage. Prior to this two similar treaties are known to have been signed. Of the one between Telepinus of Hatti and Ispatalsus of Kizzuwadna only fragments have been found:<sup>1</sup> the other between an unknown Hittite king and the local Padatissu is known, however, from a larger fragment,<sup>2</sup> which indicates also its

<sup>1</sup> *K.U.B.* xxxi, no. 81 (in Hittite) and No. 82 (in Akkadian).    <sup>2</sup> *Ibid.* xxxiv, no. 1 (in Akkadian).

reciprocative character. The earliest treaty (with Telepinus) may be dated approximately to 1500 B.C. That this may explain and date the building of this fortress agrees with my reading of the archaeology of Levels VIII and VII to be presently described, in which the Syrian painted wares persist, to be displaced at Level VI by the monochrome burnished pottery of Hittite style. We have already noted the presence of a typical Hittite weapon at Level IX which can be attributed to the military activities of Mursil I a century before. The conclusion reached is thus in harmony with all the related facts: we therefore tentatively ascribe the inception of this Hittite-style fortress on Levels VIII and VII to about 1500 B.C.

#### ARCHITECTURE

With the exception of the fortifications, the traces of actual buildings uncovered consisted of the foundations or a few lowest courses of stone walls from 50 cm. to 1.00 metre thick. These were composed of small boulders probably collected from the bed of the river, and were set in mud mortar. With the same exception, not a single trace was found of any crude-brick upper structure, although in certain cases the walls remained standing to a height of several courses above the floor or pavement of the house which they enclosed.

The rise in pavement level from one building period to another is relatively small, showing the completeness with which the settlement was razed on each occasion; and it can easily be accounted for, where the fallen stones themselves are re-used, by the great quantity of mortar necessary for this type of wall and the accumulation of fallen roofing-material including stamped earth and mud. Our descriptions of these buildings and fortifications are based essentially on the field reports of Mr. Seton Lloyd already published.<sup>1</sup>

*Level VIII* seemed to represent a building period immediately preceding the construction of the great fortress wall; but it was incompletely excavated, owing partly to the necessity for leaving the fortress wall untouched. We were able, however, to trace the greater part of one well-paved room of a private house, containing the remains of two bread ovens, and to note that the house and the half-dozen less coherent walls in the vicinity were similarly oriented but had no other relation whatever to the fortress-wall, which was clearly of later date.

*Level VII* includes the Hittite fortifications (shown on the plan Fig. 151 and photograph Pl. XXX), which may be presumed to have completely encircled the summit of the mound, turning it for the time being into a formidable military post. Occupation began at Level VII, while Levels VIA, VIB, and V all represent subsequent phases of buildings or occupation during the period of the great wall's existence. It consisted for the most part of an inner and outer shell each a little over 1 metre thick, with a series of rectangular chambers between.

The inner shell is founded directly upon the pavement of Level VIII, and where it crosses ruined walls belonging to this previous period these are simply incorporated in its structure. On the other hand, the foundation of the outer shell descends about a metre lower and has a projecting footing of large boulders. These twin walls and the cross-walls connecting them are constructed with facings of boulders between which is a filling of stone chippings and rubble. They remain standing to an average height of 1.25 metres above Level VIII.

<sup>1</sup> *L.A.A.* xxvi, pts. 3-4, pp. 93 ff.

The part falling within our main area of excavation was discovered in 1938 under the supervision of Mr. Seton Lloyd: it includes a projecting tower in which are two internal chambers, lying at right-angles to those on either side, at a point where there is a slight change of direction in the wall. Later investigation to the north-east in 1939 revealed traces of two small chambers as shown in the plans in *L.A.A.* xxvi, pl. xlv, but owing to their burnt condition their outline was by no means clear. In 1947 Dr. O. R. Gurney, by cutting short sections at intervals along the contour, located the eastern corner of another projecting tower farther round on the eastern slope.<sup>1</sup> I have therefore come to the conclusion that one of the two chambers found in 1939 must have been in a small angle tower, as suggested by the dotted lines in Fig. 151 which would account for the slight projection of its ruined wall beyond the main line.

A narrow street, paved with rudimentary cement separated this fortress wall from the nearest private houses inside the town. The inner face of the former is finished with a layer of mud plaster about 5 cm. thick. This stops at the pavement, which then slopes sharply downwards towards the houses. The outer face of the fortification is similarly plastered down to a point a little above the projecting footing. At two points in the wall small 'weep-holes' are constructed at pavement-level to drain off moisture from the thickness of the masonry. The remains of houses inside the town, at Level VII, are fragmentary, and hardly more than suggest the width of the street, as seen in Fig. 153.

*Level VI A.* At Level VI A the houses were completely rebuilt with a considerable change of plan, and the street became a cul-de-sac. A special number (VI B) is used to designate an occupation Level which, though corresponding with the foundations of the new walls, may equally well have been an intermediate pavement penetrated by them. The buildings of Level VI A are included in the general plan on Fig. 151, partly because it was at this point in the course of excavation that the ruins of the fortifications first appeared in full, and partly owing to the fact that the remains of private houses within the town here form a coherent and intelligible group. In some of the rooms, details of their equipment have been recovered. The positions of doors are generally indicated by pivot stones still in place or by roughly paved thresholds; while in each room a hearth is recognizable; and certain other features occur, such as stone mortars and storage jars sunk beneath the floors.

*Level V* represents a reoccupation of these same houses, with certain minor structural alterations. An important collection of whole pots came from Room 43 which adjoined Room 42 to the north-east (Fig. 153): they are illustrated on Fig. 157. It was at this stage

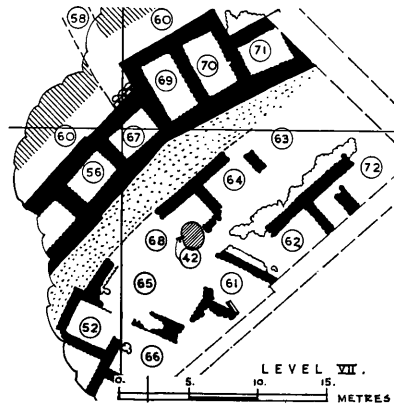


FIG. 153. Numbered chambers, &c., at Level VII

<sup>1</sup> At a distance of 14.60 m. southward from the nearest point exposed in the NE. angle, on the 23 m. contour (Fig. 1).

that the complete destruction of the fortified town took place; for the street, now paved with cobbles, the stone foundations of the fortress wall, and the whole area to the north-west, were found buried beneath half a metre of ashes and brick refuse. There was evidence to suggest that the thoroughness with which the fortification was razed could only be explained by a systematic process of destruction. Not a single brick of the upper structure remained in place; and since there is no way of telling to what extent the surviving stonework has been denuded, it is not yet possible to fix the height at which the crude-brick began. The heat of the conflagration must have been considerable, for piles of white dust show where the stonework itself has been calcined. Also, rather surprisingly, considerable traces of burnt wood were found lying directly upon the tops of the walls. As the disposition of these made it improbable that they were the remains of fallen roof timbers or of structural woodwork in the thickness of the wall, it is possible to suppose that wood fuel was used to sustain the fire and complete the destruction.<sup>1</sup> Elsewhere deep pits, where the foundations had been methodically undermined, testified to the deliberate character of the demolition. Comparatively little burnt debris was found inside the houses, the floors of which at this period occur somewhat above the level of the street outside. But here and there (notably in Rooms 42 and 52) scattered bricks lay actually upon the pavements. These and other bricks which survived intact amongst the fallen debris measured  $45 \times 35 \times 12$  cm. They were invariably burnt to a consistent dark-red colour, but were brittle and easily broken.

The only sign of occupation inside the fortification itself was another interesting group of complete pots lying upon a trodden floor in Room 56. This floor actually occurs at Level VI A, but since it was evidently in use at the time of the destruction of the building, we must conclude that it corresponds to Level V in the houses.<sup>2</sup> Everywhere except in this one chamber (Room 56) the fortification was denuded down to its foundations, and even here what remains above floor-level is insufficient to establish the position of doors communicating with the adjoining chambers. This raises a somewhat difficult problem. For when the excavation of these chambers was continued to a greater depth, although various 'floors' were encountered which might correspond to Levels VI and VII, they showed no signs of occupation. Furthermore, there were no doors connecting one chamber with another. Perhaps, during the earlier stages of the walls' existence, these compartments were not intended to be accessible.

A special feature of the fortification was the terrace or filling of *béton* which abutted against it on the outside. As shown in Fig. 3, this extended from the face of the wall to the edge of the mound, a distance of 25 metres in the vicinity of Trench X where it was first encountered. It consisted of a reddish clay-soil mixed with small stones, laid in irregular horizontal layers, and sometimes separated by a thin 'pavement' of beaten mud. So far from following the slope of the mound, the striations seemed to turn up a little as they reached the edge. It was more like a platform than a terrace, and as work developed it was found to support the foundations of an outer screen wall, thus completing the analogy with the military defensive works of the Hittite capital. The fact that its upper surface was

<sup>1</sup> An alternative possibility is that there was a wood framing for a brick superstructure—a method of construction familiar in earthquake zones. That such a method was actually used at Boghaz-köy, has been shown by Bittel and Naumann, *Boğazköy* ii, pp. 49–51.

<sup>2</sup> As will be seen below the date of destruction is clearly shown by the contrast between the pottery content of the rooms with their debris of destruction and that of the superposed layers to fall at the close of the Mycenaean era.



completely covered with burnt debris from the great conflagration shows that it was associated at any rate with the last occupation of the fortress. A study of our deep section in Trench X (Fig. 3, p. 6) suggests, moreover, that, in order to support the weight of the outer rampart, this thick *béton* platform was called for because of the insecure and pitted nature of the subsoil. This massive undertaking had an average thickness of 1.50 metres; and if continued around the whole mound at the same average distance of 25 metres from the fortifications, must have more than doubled the effective occupational area. It was not clear, however, whether it was partly covered with temporary structures or reserved as an open platform for military purposes.

Finally it should be mentioned that the portion of fortress wall uncovered by us is cut short at the south-west end by the intrusive foundations of an enclosure wall dating from Islamic times, the fragmentary remains of which appeared at Level V (though pertaining doubtless to Levels I and II).

THE POTTERY from these Levels, as already indicated, falls into two groups. That of the period of the inception and first occupation of the fortress (from Levels VIII and VII), while still displaying Syrian motifs, is distinguished by painted and burnished wares resembling those of the older phases of the Hittite Empire; while that from the later phases of occupation (Levels VI and V) is mostly monochrome and comprises shapes characteristic of the better known Imperial Age, 1400–1200 B.C. A glance at our plates showing selected types<sup>1</sup> will illustrate this general conclusion. It is also worthy of notice that the lower group (Fig. 155) presents analogies with 'group C' from Tarsus, which is ascribed by the excavator to the period 1650–1400 B.C.; while our upper series (Figs. 156–7), is readily comparable with her 'group D' which covers the Hittite Imperial period.<sup>2</sup> Making allowance for minor differences of classification, we thus find a close parallelism of results and conclusions; obviously this tends to substantiate the earlier date which is now ascribed on archaeological grounds to the construction of the fortress, viz. c. 1500 B.C., rather than the age of Subbiluliuma as his treaty with the King of Kizzuwadna might suggest.<sup>3</sup>

The fact that these Levels were honeycombed with rubbish pits after the Hittite practice, introduces a serious complication in interpretation, as already described in Chapter VIII (p. 160). Having now completed our excavation and description of all the lower Levels, we find it easier to eliminate from further consideration some of the possible intrusions. These include at Level VII a 'red-cross' bowl of Troy V type, the correct provenance of this type having been determined by a find *in situ* at Level XI B; also, many fragments decorated with cross-hatched triangles and numerous small pedestals, as both are common features in the same Kültepe (or early Hittite) period. We omit also some other broken specimens not occurring in sufficient quantity to be regarded as typical of the Level where they

<sup>1</sup> For the complete series including possibly intrusive fragments cf. *L.A.A.* xxvi, pls. liv–lx.

<sup>2</sup> Cf. H. Goldman: *A.J.A.* li, 1947, pls. xlvii–xlvi; noting that 'group D' at Tarsus ranges from 1400 to 1100 B.C. thus including types of non-Hittite character such as are found in our post-Hittite Level IV.

<sup>3</sup> If we identify our Tepe with the frontier station of Pitura, as seems reasonable, we cannot escape noticing

that the local king was authorized to fortify this site. It should be noted in interpretation that this treaty is stated to embody clauses from earlier treaties, two of which are known (see p. 237 above). The archaeological synchronisms suggest that the reconditioning of the interior at Level VI followed the signing of the later treaty.

were found. It is true that some of these may prove to be survivals and so indicate a longer range for certain types than can be assigned to them on local evidence. Happily there is abundant evidence independent of such doubtful elements, to justify a general description of the two groups of pottery from these Levels. In this we rely upon the detailed study made by Mr. G. M. FitzGerald and already published.<sup>1</sup>

*Levels VIII and VII.* At Levels VIII and VII, which for reasons now obvious may best be grouped together, distinctive features were bichrome decoration mainly black and red, sometimes accompanied by incisions or punctured patterns; burnishing of the surface, extensively employed on both plain and decorated wares; jars and pots with heavy rims, as well as a variety with everting rims; shaped ring-bases, splaying outwards, and also tall pedestal or 'trumpet' bases. The beaked spout, though not common, is present here as at Tarsus (Fig. 154). Our Fig. 156 shows the common forms of the cooking-pots of this period, most of which have a burnished surface. Sherds from the larger vessels display bands of combing, while others have raised ridges and rows of nicks running around the body of the jars. Projecting knobs are sufficiently numerous to be included as characteristic, as also possibly are ledge handles. Crescental handles, 'basket' handles arching over the mouth of a vase, and the double-strand handle, though all present, are too rare to be regarded as typical of these series.

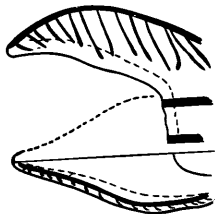


FIG. 154. Beaked spout. VII

*Levels VI and V.* The pottery of Levels VI and V was nearly homogeneous: in fact the only difference noted in our interim reports was that fragments of base-ring ware in Level VI were replaced by milk bowls in Level V. On the other hand, all the undecorated types were found to be identical. In this connexion it is of interest to recall that Mr. Lloyd found traces of a major rebuilding at Level VI, in which he was able to recognize two stages, and the extent to which these Levels overlapped is evident from the record. Decorated wares are common in Level VII but are quite exceptional in Level V; Level VI is intermediate, some areas containing a considerable number of decorated fragments while others reproduce rather the characteristics of Level V.

We may therefore regard Level VI as transitional and consider the pottery of Level V in particular as determining the characteristics of our Upper Group. In describing these we rely again on Mr. FitzGerald's observations,<sup>2</sup> beginning with a note of caution arising again from the disturbance caused by pits. Early and apparently intrusive shapes were small pedestal bases, ledge handles, and trough-shaped spouts; and these will not be taken into further consideration.

Among the distinctive pottery found in both Levels of our Upper Group was a whole series of the so-called brown or drab wares, including lentoid flasks, shallow bowls or plates (some with incised symbols), narrow-necked jugs, and a red-burnished jar-stand. Types are illustrated on Fig. 157. They show a close resemblance to the pottery found at Tarsus<sup>3</sup> where they occurred immediately below the Iron Age pottery of Cypriote character. A small quantity of Cypriote white slip ware was found in each case. There is, however, one noticeable difference between the two sites: at Tarsus the 'drab' ware was found together with Mycenaean ware of the 'Granary' class, whereas we only observed two

<sup>1</sup> *L.A.A.* xxvi, pp. 131 ff.

<sup>2</sup> *Ibid.*

<sup>3</sup> *Cf. A.J.A.* li. Group D, pls. xcix-c.

fragments of Mycenaean character,<sup>1</sup> a cup-rim and a jug-neck, nos. 1 and 2, Fig. 160. The final appearance of the 'drab' ware at Tarsus is dated to not much later than 1200 B.C., presumably on the evidence of the 'Granary' style pottery, which may be regarded as belonging to the twelfth century, though it seems to have made its appearance at Mycenae about the end of the thirteenth.<sup>2</sup> Its absence from Mersin would incline us to date the end of Level V somewhat earlier than that of the corresponding strata at Tarsus.

In Level V, as in the Levels below, a large number of sherds have a burnished surface. Among them are long slender handles and fragments, mainly red in colour, which seem to come from long spindle-bottles, though it was not possible to reconstruct any of these. A minor exception to the undecorated character of Level V wares is afforded by the practice of covering the exterior of bowls with red slip or wash which is carried over the rim to form a broad band round the inside. A conspicuous shape is the lentoid flask with three handles, shown in Fig. 157, no. 15. A somewhat similar type is represented in a fourteenth-century tomb at Enkomi, with Mycenaean and base-ring wares and a spindle-bottle;<sup>3</sup> it occurs at Boghaz-köy also, but in association with pottery of an earlier period. Shallow bowls and dishes, some of them almost flat, were a common feature of Level V, and (as at Tarsus) it is from these that come most of the sherds with incised symbols; examples are given in Fig. 157, nos. 1-8. The bowl-rims as a rule are either inturned or else more or less carinated. Ring-bases were found in a variety of outward-splaying shapes; fragments of high trumpet-bases also occurred. Of the handles some are grooved, but in certain groups of pottery only plain handles appeared—more or less round in section—so there was perhaps a time during which the latter fashion predominated. Fragmentary strainer-spouts and trefoil-shaped jug-rims should also be noticed. The Cypriote milk-bowls and certain possibly intrusive fragments have already been mentioned.

<sup>1</sup> See the report on the East Greek pottery, &c. (pp. 256 ff.) for the late variety of Mycenaean wares found in Level IV.

<sup>2</sup> W. A. Heurtley, *Q.D.A.P.* v (1939), pp. 90 ff.

<sup>3</sup> C. Schaeffer, *Missions en Chypre*, 1932-5, fig. 36.

## PAINTED DECORATIONS ON POTTERY FROM LEVELS VIII-VII

	<i>Levels</i>
1. Buff core, cream-painted surface, light-brown paint.	VII
2. Grey fine ware, grey surface, brown lustrous paint and black matt paint.	VII
3. Buff core; dark-buff surface, chocolate-brown paint.	VII
4. Yellow buff ware, cream slip, grey, light-brown, and black paint.	VII
5. Fine buff core, burnished buff surface, light-red paint.	VII
6. Fine buff ware, red-brown paint.	VII
7. Buff ware, buff surface, black and orange-red paint.	VII
8. Pinky-buff ware, buff surface, brown paint.	VII-VIII
9. Pinky-buff ware, creamy slip, matt dark-brown paint.	VII-VIII
10. Rough buff ware, cream slip, black and red paint.	VII-VIII
11. Black core fired buff; buff burnished slip, red matt paint.	VII-VIII
12. Buff fine ware, buff slip, red and black matt paint, wheel-made.	VII-VIII
13. Fine light red ware, creamy surface, black and red paint, wheel-made.	VII-VIII
14. Light-brown ware, grey, black, brown, and white paint.	VII-VIII

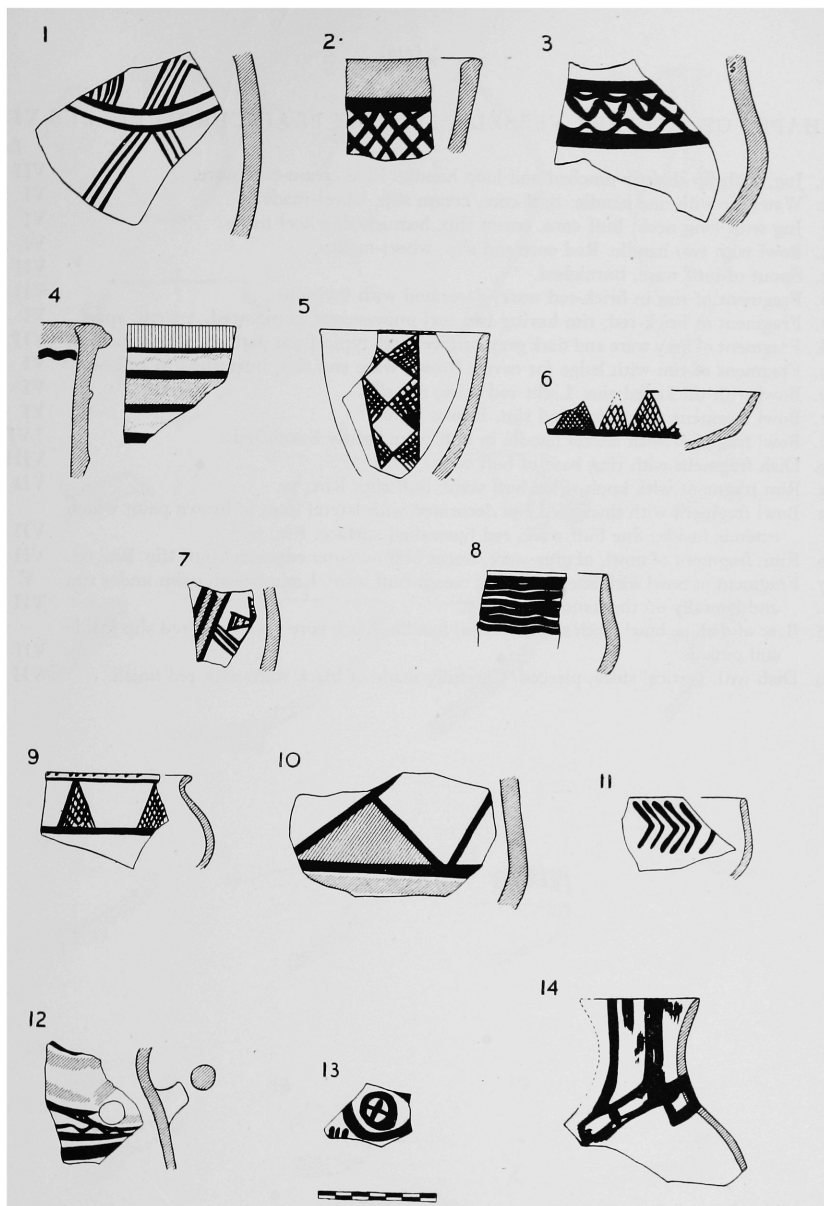


FIG. 155. PAINTED DECORATIONS ON POTTERY FROM LEVELS VIII-VII

## SHAPES OF POTTERY VESSELS, MOSTLY PLAIN, FROM LEVELS VII-VI

	<i>Level</i>
1. Jug, with lip slightly pinched and loop handle. Fine cream-buff ware.	VII
2. Water jar with one handle. Buff core, cream slip, wheel-made.	VI
3. Jug with long neck. Buff core, cream slip, burnished, wheel-made.	VI
4. Bowl with two handle. Red core and slip, wheel-made.	VI
5. Spout of buff ware, burnished.	VII-V
6. Fragment of rim in brick-red ware, decorated with incisions.	VII-V
7. Fragment of brick-red, rim having two seal impressions as pictured, 3.2 cm. apart.	VI
8. Fragment of grey ware and dark grey surface, with typical star pattern, deeply incised.	VII
9. Fragment of rim with ledge for cover. Brown ware and slip, burnished in and out.	VI
10. Bowl with thickened rim. Light-red ware, red slip.	VI
11. Bowl fragment with thickened rim. Brown ware.	VI
12. Bowl fragment with lateral handle in buff ware lightly burnished.	? VI
13. Dish fragment with ring base of buff ware.	VIII-VII
14. Rim fragment with knob. Fine buff ware, buff slip. Rm. 70.	VII
15. Bowl fragment with thickened rim decorated with lateral lines in brown paint which extends inside: fine buff ware, red burnished surface. Rm. 62.	VII
16. Rim, fragment of bowl, of grey ware, burnt buff on outer edges and buff slip. Rm. 62.	VII
17. Fragment of bowl with lateral handle; cream-buff ware. Light brown paint under rim and laterally on the handle. Area 65.	VII
18. Base of dish or bowl, with small vertical handle. Black core fired buff; red slip inside and outside.	VII
19. Dish with vertical sides, pierced. Carefully made of black ware with red finish.	VII

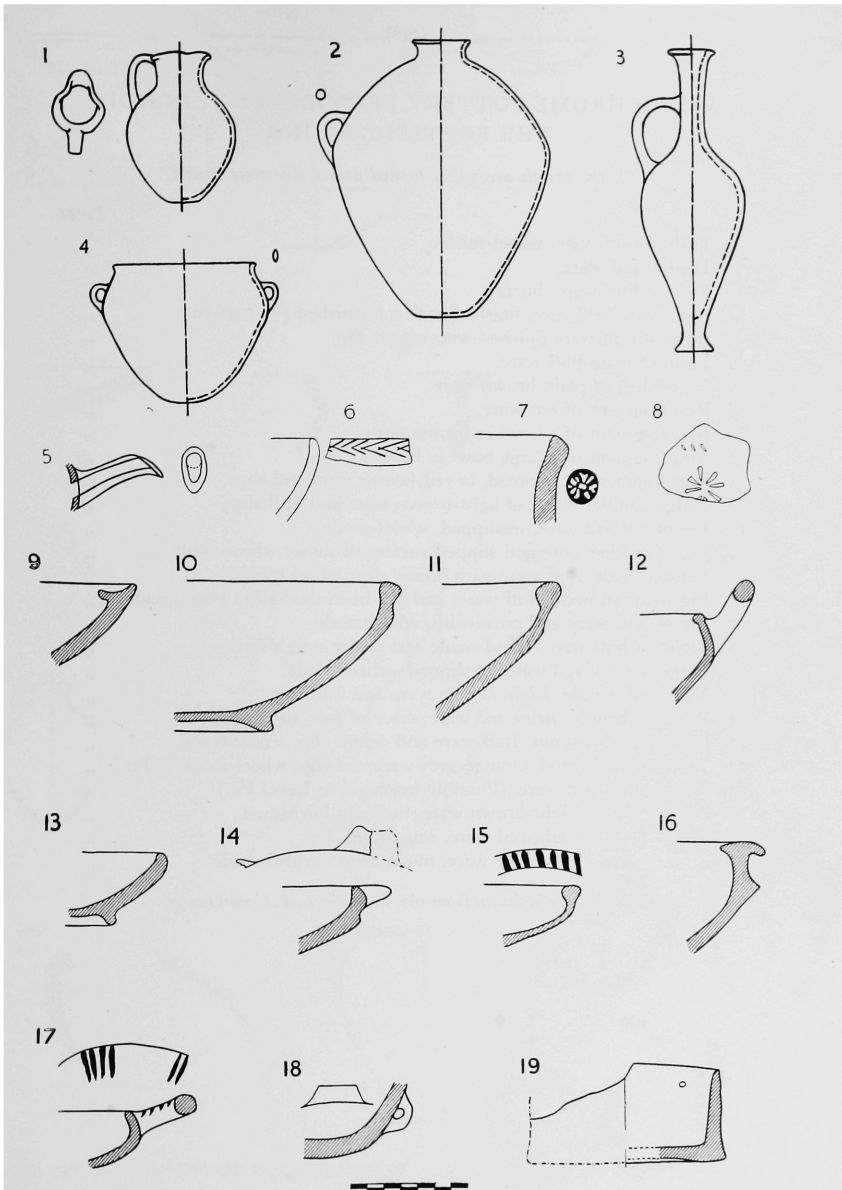


FIG. 156. SHAPES OF POTTERY VESSELS MOSTLY PLAIN FROM LEVELS VII-VI  
 (Types selected from *L.A.A.*, vol. xxvi. Pls. liv-lvi)

MONOCHROME POTTERY FROM LEVEL V: INSIDE  
THE FORTIFICATIONS

*All the vessels are wheel-turned unless otherwise stated*

	<i>Level</i>
1. Dish of buff ware, wheel-made.	V
2. Dish of red ware.	"
3. Dish of buff ware, burnt.	"
4. Basin with buff core, finished with a burnished red surface.	"
5. Bowl of buff ware finished with cream slip.	"
6. Basin of plain buff ware.	"
7. Large dish of plain brown ware.	"
8. Rim fragment of red ware.	"
9. Rim fragment of a bowl in brown ware.	"
10. Rim fragment of a large bowl in brown ware.	"
11. Rim fragment, reinforced, of red-brown ware and slip.	"
12. Ledge handle. Plain, of light-brown ware and dull slip.	"
13. Jug of reddish ware, unslipped, wheel-made.	"
14. Jug of reddish core and slipped surface of same; wheel-made.	"
15. Lentoid flask. Buff ware with cream slip; wheel traces.	"
16. Jug with tall neck. Buff ware, and red burnished slip; wheel-made.	"
17. Jug of buff ware and cream slip, wheel-made.	"
18. Juglet of buff ware. Hand-made and rather rough finish.	"
19. Large bowl of red ware, unslipped; wheel-made.	"
20. Neck and handle. Light-brown ware and buff slip.	"
21. Rim and handle. Brick red ware, trace of pale slip outside.	"
22. Large jar with spout. Buff ware and cream slip, wheel-made.	"
23. Two-handled vessel. Orange-grey ware and slip; wheel-made. (? Pit.)	"
24. Pithos, grey buff ware. (Possibly belonged to Level IV.)	"
25. Pottery stand. Light-brown ware, buff slip burnished.	"
26. " " Light-red ware, roughly made.	"
27. " " Grey-buff ware, much burnt, wheel-made.	"

This selection is drawn from pls. liv-lvi in *L.A.A.* xxvi (1939).



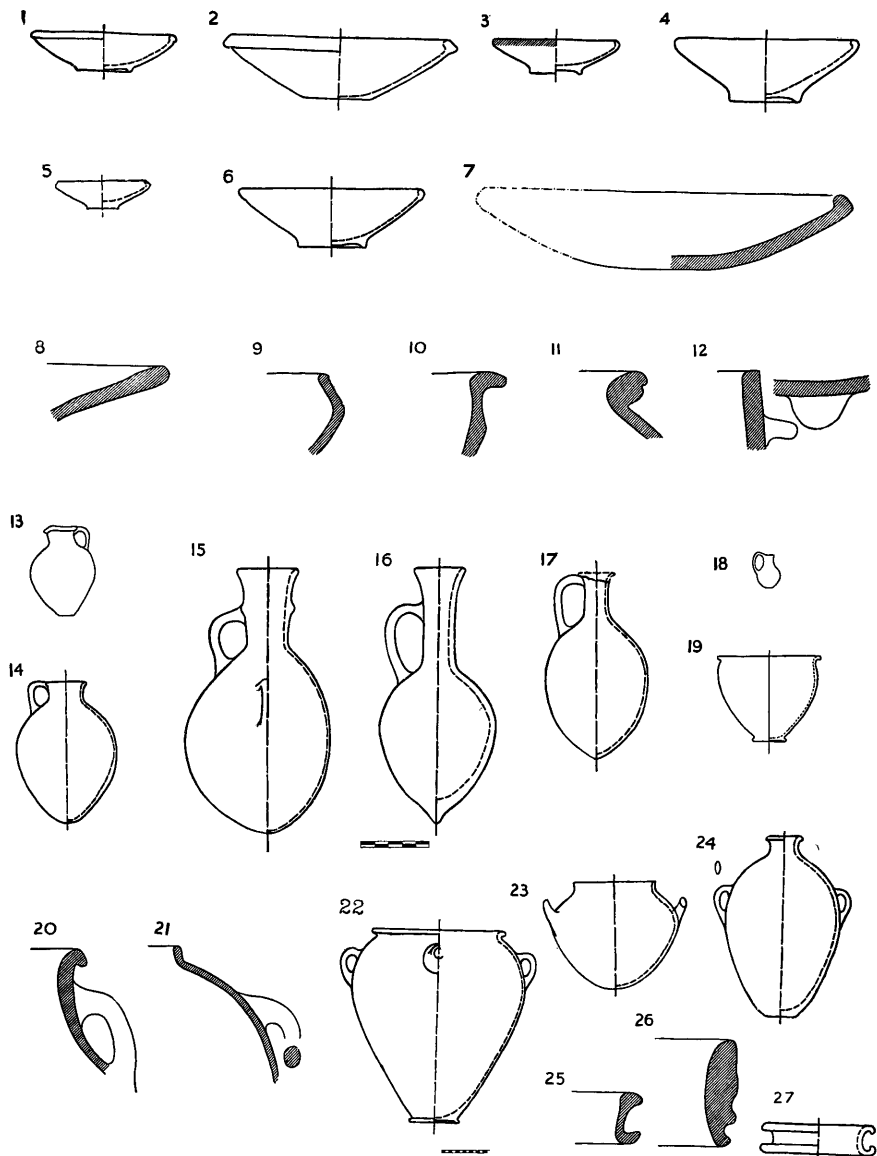


FIG. 157. MONOCHROME POTTERY FROM THE TOP LEVEL (V) INSIDE THE HITTITE FORTIFICATIONS

## METAL IMPLEMENTS FROM LEVELS VIII-V

		<i>Level</i>
1. Tool. (Hoe?)	R.N. 226. Rm. 44	V
2. Bronze clipper-like object.	R.N. 342. Rm. 68.	VII-VI
3. Spear-head.	R.N. 277 (from rail-track).	VI
4. Tweezer-like tool.	R.N. 311. Rm. 58.	VIII-VII
5. Pin.	R.N. 288. Rm. 63.	VII
6. Pin.	R.N. 308. Rm. 62.	VII
7. Bronze pin.	R.N. 195. Rm. 52.	VII
8. Spear-head.	— Rm. 58.	VIII-VII
9. Spear-head.	R.N. 312. Rm. 66.	VII
10. Chisel.	R.N. 279. Rm. 50.	V
11. Pin.	R.N. 319. Rm. 66.	VII
12. Sickle.	R.N. 296. Rm. 63.	VII

This figure is taken from *L.A.A.* xxvi, pl. lx.

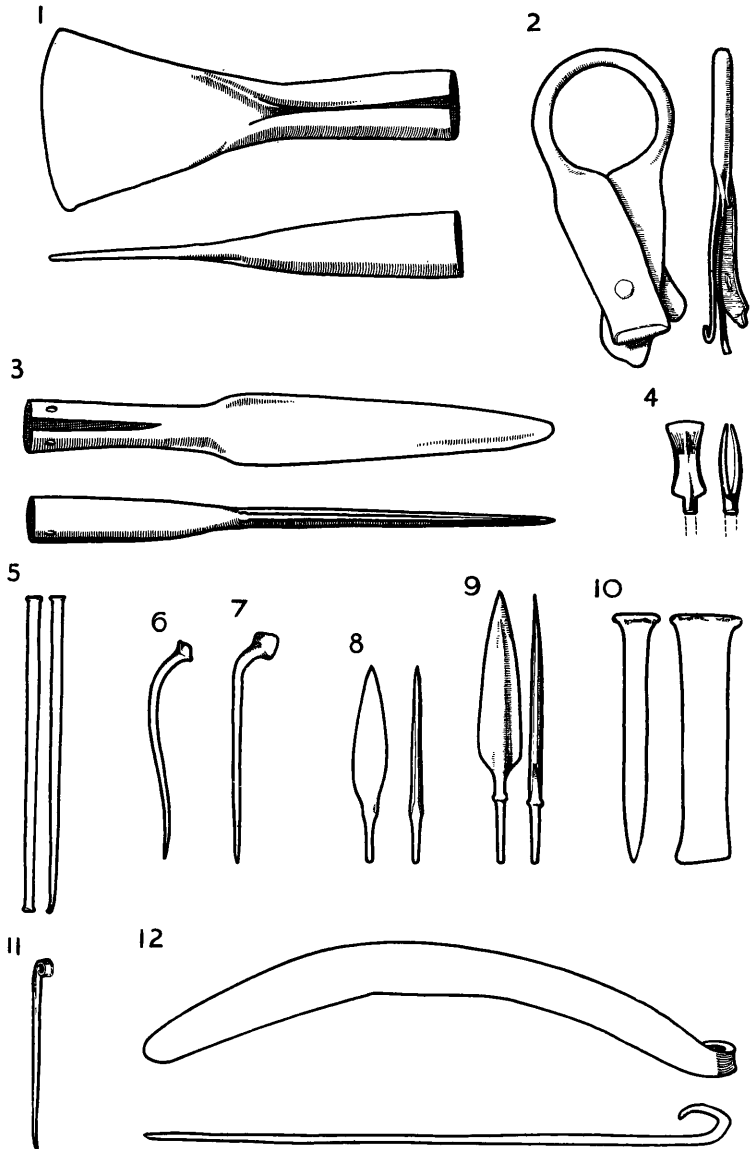


FIG. 158. METAL OBJECTS FROM WITHIN THE FORTIFICATIONS OF LEVELS VIII-V

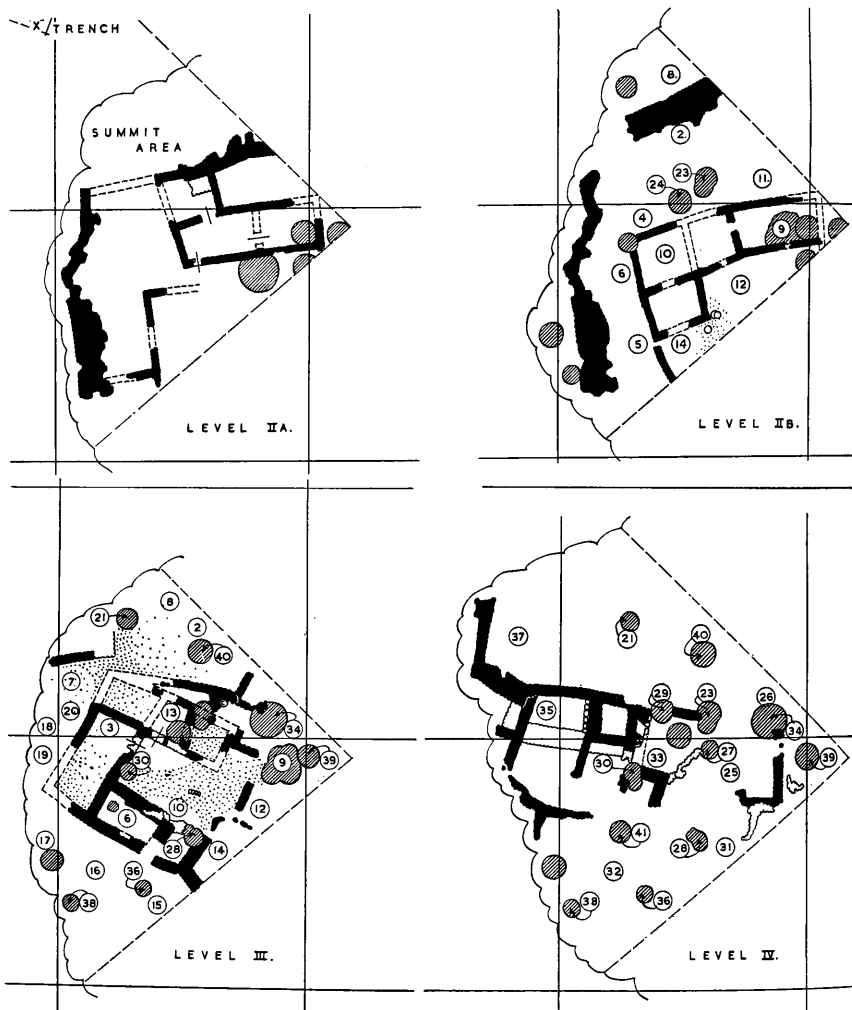


FIG. 159. PLANS OF LEVELS IV AND III (c. 1150-350 B.C.)  
 (Levels II B and II A A.D. 700-900 and A.D. 1200-1400)

## X

### PART III

#### EARLY GREEK SETTLEMENTS

*Iron Age Levels IV and III (c. 1150-500 B.C.)*

THE most notable feature of Level IV is the ruin of a small but substantial block-house. This was built upon foundations partly consisting of ashlar blocks, directly above the ruins of the old fortification. Owing to the accumulation of fallen debris it stood upon a slight eminence from which corresponding pavements sloped down on either side. The plan at this point begins to be penetrated and confused by a great number of circular rubbish shafts dug down into this part of the site at various later periods. The system of walls could, however, be traced to the north-west for a considerable distance beyond the line of the old fortification, suggesting that this was no longer the limit of the settlement.

At Level III we were able to recover almost the complete plan of a small private house consisting of a number of rooms grouped on three sides of a tiny courtyard (cf. Fig. 159). The south-east side appeared to have been open to the street, the narrow alley being paved, like the courtyard itself, with gravel. The house had also been destroyed by fire, and in certain cases the positions of doorways could be detected where burning timbers had lain upon the thresholds. Here, as before, the ruins were much broken into by rubbish shafts dating from later periods.

#### POTTERY

We are indebted to Mr. R. D. Barnett for the following study and classification of the East Greek pottery (first published in *L.A.A.* xxvi, pp. 98-130 with pls. xlvii-liii).

Mersin provides an interesting sequence apparently unbroken from the Mycenaean period to the late fifth or early fourth century B.C. although the sub-Mycenaean and proto-geometric periods are very sparsely represented. As it was found when only a relatively small area of the mound was dug, it hints at a much larger harvest to be gathered by extending the area in any future seasons. As might be expected, the seventh and sixth centuries B.C., which witnessed a tremendous expansion of trade with the eastern waters of the Mediterranean, are represented more fully than others. Rhodian, Cycladic, Lesbian, Cretan, Cypriote, proto-Corinthian and Corinthian, Samian, and other sources all contributed. Most noticeable by their comparatively rare appearance seem to have been the Athenians, for Attic sherds are scarce: nor is there any trace of contacts with the Phrygians of the interior, nor with Naucratis.

More pottery was imported than was made at home. Some of Cypriote type, however, may have been made in the factory discovered recently near by at Tarsus;<sup>1</sup> and the

<sup>1</sup> Cf. H. Goldman in *A.J.A.* xlii, 1938, p. 40.

sub-Mycenaean and protogeometric fragments look much like them in clay and paint; they also might be local fabrics.

The material is of interest in further ways. Firstly, the light, though scanty, which it sheds on the geometric periods in Asia Minor is quite new.<sup>1</sup> Secondly, a few unknown types and features may be noted: the one-handed Ionic bowls (Fig. 161, 6); a strange plain ware vase with *appliqué* and incision (Fig. 161, 14); certain shapes in the Ionic 'common ware' (Fig. 161, 5, 8, 9, 10) and the associated wares; a new potter's painted trade-mark and a curious geometric amphora (Fig. 160, 7); another strange vase, of later date, perhaps local (Fig. 161, 11); and certain bucchero features; all appear to be unrecorded elsewhere, as far as one can discover. The shapes are in general all those of vessels of home use, and this is in keeping with the architectural remains among which they were found—the corner of a dwelling-quarter.

It is not our purpose here to discuss the architectural features of the site. Unfortunately, the area cannot be regarded as regularly stratified; it was honeycombed with pits. A general analysis, however, suggests that the seventh–sixth-century material belongs to Level III. From this level much has found its way upwards into Level II B and down into Level IV. Level IV in its turn mostly contains material of the eighth century B.C. In keeping with these attributions is the fact that Level III was destroyed by fire, a circumstance which may have very easily happened in the troubled end of the sixth century, perhaps during the Ionic revolt or the Persian wars. Somewhere or other, however, settlers continued to live on the mound during the fifth–fourth centuries, as a few sherds testify; but they left no architectural traces in this corner. If they lived there, their remains must have been obliterated by the Byzantines. But the probability is that these fifth-century sherds come from a settlement elsewhere on the mound. The material from Levels II A and II B belongs to much later times.

In general the material gives one a rather different impression from most of the sites, such as Histria or Al-Mina or Samos, where much East Greek pottery has been found, but, on the other hand, bears a general similarity in many ways to that from Vroulia in Rhodes. The probability is that Mersin was a comparable but less important trading station, and was also within the sphere of Rhodes, in contrast to Daphnae and Histria, which belong to the orbit of Miletus. It is to be hoped that material will eventually be found which will enable the Greek name of Mersin to be identified, but it is probable that, over-shadowed by Soloi and Tarsus, it was not accounted then of great importance.

Greek pottery has not been hitherto recorded in any comparable quantity in Cilicia, except at Tarsus. Some was picked up at Misis (Gjerstad, 'Cilician Studies', *Rev. Arch.*, 1934); some was found at Sirkeli, near Adana, and Kazanlı, near Mersin (*L.A.A.*, 1937); some was picked up by me at the small mound of Tanuk (or Tömük?) Kale, west of Soloi.

More interesting still is the evidence suggested by the Late Mycenaean sherds. These are of two kinds. The first consists of two pieces found in Level V associated with the Hittite Empire. Mycenaean pottery, to be sure, has before now been found on the coasts of Asia Minor. But this is the first time, I believe, that it has occurred in definite connexion

<sup>1</sup> This information is particularly welcome as it gives an interesting clue to the extent to which Greek penetration was continued in Cilicia at least in the 8th century B.C.—a fact which has to be studied and weighed

in relation to the existence, now proved, of a half-native, half-Greek kingdom of Danunim ruled by the house of Mopsus, with its capital at Adana. (See *Iraq*, x, 1948, pp. 58–60.)

with the Hittites.<sup>1</sup> Is not this, then, a confirmation of that contact between Hittites and Achaeans, whose name scholars think can be recognized in the Hittite texts as *Aḫḫiava*? The second group consists of five pieces obviously resembling the latest Mycenaean style, but belonging to a late local variety found by Gjerstad in Cilicia. Here they come from the Level following the destruction, i.e. after about 1200 B.C. They certainly suggest that this catastrophe enabled a second later body of these foreigners to establish a foothold in this region.

The catalogue of these wares as published by Mr. Barnett in *L.A.A.* xxvi, p. 101, includes the following:

	<i>Page</i>
Thirteenth to twelfth centuries B.C.	
Mycenaean Style (Fig. 160, nos. 1, 2)	
Eleventh to eighth centuries B.C.	
Sub-Mycenaean Style (Fig. 160, no. 3)	} 256
Protogeometric Style (Fig. 160, no. 4)	
Geometric Style (Fig. 160, no. 5)	
I. Unattributed	
II. Local Wares (?)	
III. Cypriote (Fig. 160, no. 11)	
Orientalizing and Archaic Periods (seventh to six centuries B.C.)	
Proto-Corinthian Style	} 258
Corinthian Style	
Camiran Wild Goat Style	
'Fikellura' Style	
Cretan (?) Style	
Cypriote Style	
Ionian Bowls (Fig. 161, no. 1 ff.)	
Ionic 'Common Ware'	
Unattributed East Greek Fabrics	
Grey 'Bucchero' Ware	
Unpainted Ware	
Classical Period (fifth to fourth centuries B.C.)	
Attic	
East Greek	
Lamps	

<sup>1</sup> Since the above was written, Mycenaean pottery has been found in excavations at Tarsus (*A.ḡ.A.* xli, p. 282, with illustrations), and at Fraktin, N.E. of the Cilician Gates.

## POTTERY OF MYCENAEAN, GEOMETRIC, AND CYPRIOTE STYLES OF LEVELS VI-III

### MYCENAEAN STYLE

1. Part of the neck of a small jug, with small strap handle. Clay fine, hard pinkish. Paint fine, lustrous, light reddish-brown. The design consists in horizontal bands. Ht. 5 cm. From Rm. 55, Levels VI-V.
2. Fragment of the rim of an open cup with small rolled lip, below which are three raised lines. Design of geometrically arranged lines between horizontal bands. The clay is fine, hard, and pinkish with a fine, creamy-fawn slip. The paint lustrous red-brown. Ht. 4 cm. From Area 44, Levels VI-V.

### SUB-MYCENAEAN STYLE

3. Part of a spouted round-bellied pot. The clay is dirty buff with white grits. The design of rough loops, with a dot in the centre of each, in dull matt brown. Height 9 cm. Probably local ware. About eleventh century B.C. From Pit 34, Level III.

### PROTOGEOMETRIC STYLE

4. Two parts of a large cup. Clay brownish-buff in break, gritty, with a greenish slip on the outside. The design, concentric circles, in thin black matt paint. Inside a black line under the rim. Ht. 9 cm. Probably local ware. About ninth century B.C. Level III.

### GEOMETRIC STYLE

5. Deep cup with small offset rim, and design of concentric circles in panels. The clay finely levigated with mica specks, buff. The paint brown varying to reddish, faintly lustrous. The inside painted. Ht. 9 cm. From Area 11, Levels III-II B.

#### *Oenochoe*

6. Part of the neck probably of an oenochoe with bands of chevrons, lozenges, and a meander. The clay fine and pinkish-buff. The paint lightish brown, lustrous. Ht. 7.5 cm.

#### *Amphorae*

7. Amphora with broad and narrow bands on neck and body and latticed lozenges on shoulder. The handles apparently vertical. The clay coarse greenish. The paint almost matt, greenish-black. Ht. 20 cm. From Pit 34, Level III.
8. Upper part of a large amphora (?) with decoration in panels (restored). One contains checker patterns, another triangles with apices touching, painted a matt red, and the central one has a representation of a suspended kylix. The same device also occurred on the belly of the vase. The clay is coarse, sandy in colour, the paint matt purplish-black. Ht. about 5 cm. Pieces found in Pit 66 from Level VII; Pit 33, Levels IV-III; Pit 24, Level II B; and Pit 23 from Level III.

#### *Round-Bellied Oenochoe*

9. One of six parts of a round jug with a large design of concentric rings, of matt green-brown edged with black, the outermost containing rows of concentric circles. Buff clay. Ht. of piece 17 cm. From Area 17, Level III.

### CAMIRAN WILD GOAT STYLE

10. Part of the base of an oenochoe with part of a design of lotus flowers and buds and a frieze of animals, of one of which, probably a goat, the foot remains. The clay finely levigated, containing mica specks, and pinky-brownish. The slip cream and the paint lustrous black. Below the animal frieze a line of matt purplish-rebordered with black. Ht. 13 cms. Late seventh-sixth century B.C.

### CYPRIOTE STYLE

11. Large open cup with panels containing a star-pattern and a vertical zigzag. The clay pink, coarse; the paint thin matt black; a matt red band below rim. The base missing. Ht. 14 cm.



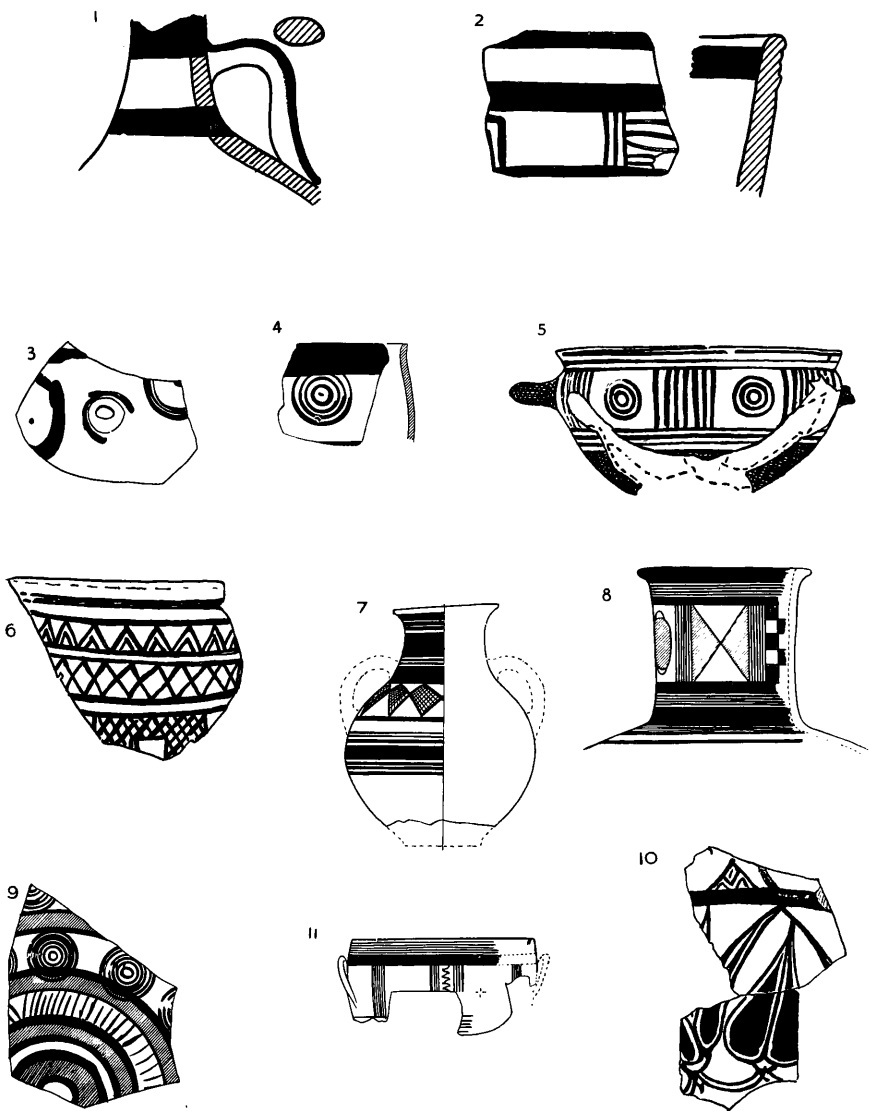


FIG. 160. POTTERY OF MYCENAEAN, GEOMETRIC, AND CYPRIOTE STYLES FROM LEVELS VI-III

SELECTED EXAMPLES OF IONIAN, EAST GREEK, AND ATTIC WARES:  
MOSTLY LEVEL III

'IONIAN' BOWLS

1. *Bird-bowls*. Fragments, with horizontal handles and a ring foot. The clay fine brownish, well smoothed. The paint is shiny black varying to brown. The interior painted black except a reserved circle at the centre containing a circular black line. Ht. 5 cm. From Area 11, Level II B-III.
2. *Bowls with a reserved band on a dark shoulder*. Part of a bowl of 'Bird-bowl' shape, painted dark on interior and on exterior, except a band reserved between the handles. The clay fine, pinkish. The paint lustrous reddish varying to brown. Ht. 5 cm. From Area 9, Level III.
3. 4. '*Vroulian*' *Bowls* (cups with incised decoration and red enhancement). Two parts from a bowl with oblique handles. The body dark except a band reserved on the shoulder containing two triangles point to point flanked by vertical lines. The rim incised with a double zigzag pattern, the upper resultant triangles painted red on brown. The clay fine light brown; the paint slightly lustrous dark brown. Ht. 3 cm. Sixth century.
5. *Open dishes with strap handles*. Part of an open dish with small strap handle forming a double loop. Inside painted dark; narrow painted bands on the outside. Clay fine, with mica, and pinkish; paint lustrous-reddish varying to brown. Width 5 cm., ht. 4.5 cm. Levels II B-III.
6. Part of a bowl. The paint is carried down into the interior from the rim without interruption. Clay fine pink. Red-brown paint. Ht. 4 cm. From Area 12.
7. Part of a bowl showing the handle. Clay and paint as last. Two pieces joined. From Areas 51 and 54. Levels V and VI.

IONIC COMMON WARE

8. Fragment of neck and body. Round the neck a horizontal zigzag line from which three other zigzag lines descend downwards to the shoulder. On shoulder and belly, four horizontal bands. On handle, several horizontal and one vertical stripe. The clay pinky-brown with grits; the paint matt brown. Ht. 27 cm. From Area 11. Level II B-III.
9. Part of neck with trefoil lip and with horizontal stripes on the handle. The clay pinkish, with grits and a buff wash; the paint matt, chocolate. Ht. 14 cm. From Pit 29, Level III.
10. Part of a krater with small horizontal handle. On the neck is a horizontal zigzag line between bands. On the shoulder is a pattern of S's, between bands. The clay is fine, smooth, and pinkish; the paint shiny brown. Ht. 20 cm. From Pit 29, Level III.

UNATTRIBUTED EAST GREEK

11. *Oenochoe*. Fragmentary example with a high triple-reeded handle with dark horizontal stripes and two loops at its base. Round the shoulder, a band of single white blobs between two of dark is placed between two broad bands of dark paint; the lower band is, to be more precise, edged with a narrow white band either side, which in turn is edged with dark paint. The under part of the vase is banded with a white line between two dark. The clay pink with fawn slip; the paint slightly lustrous brown; the white watery, laid direct on the slip. The walls rather thin. Ht. 17 cm. From Area 15, Level III.

*Unpainted Ware*

12. *Oenochoe* with two-reeded handle and trefoil mouth. Clay buff. Level IV.
13. *Amphora*. Red clay with buff slip. Level III.
14. *Uncertain shape*. Part of the neck of a jug (?) ornamented with straight and zigzag lines, partly in relief, marked by incised herring-bone patterns, those in relief suggesting snakes rising to the rim. It may perhaps be compared with the object published by Zahn in Kinch, *Vroulia*, p. 26, which has snakes represented on it. Ht. 10 cm. From Area 19, Level III.

ATTIC

15. *Kraters*. Fragment of the rim of a krater with a horizontal band with a design in red-figure, of laurel leaves. On the inside are two narrow reserved lines. Ht. 7.5 cm. Late fifth century B.C.
16. Fragment of the rim of a krater with a horizontal band, with a design in red-figure of laurel leaves. On the upper face of the rim is a 'running spiral' design. Ht. 3 cm. Late fifth century.

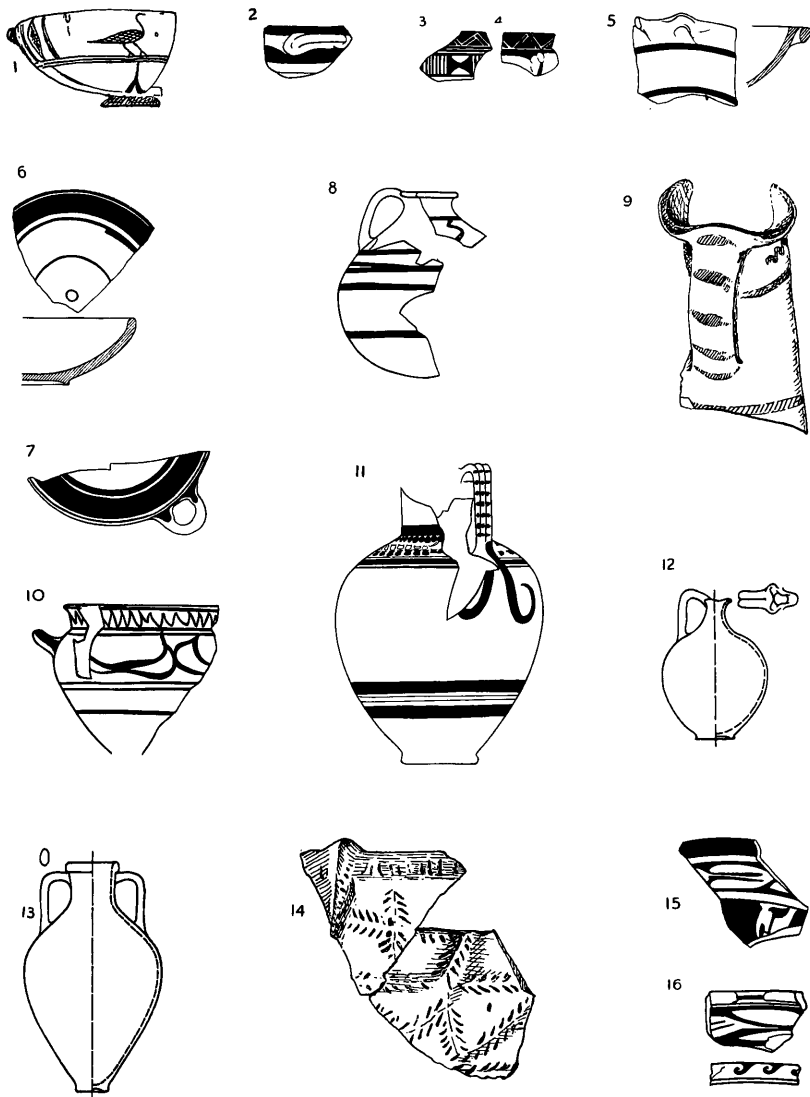


FIG. 161. EXAMPLES OF IONIAN, OTHER EAST GREEK, AND ATTIC WARES, MOSTLY FROM LEVEL III

X  
PART IV  
ISLAMIC REMAINS

*Medieval Levels II and I (A.D. 800-1500)*

THE buildings of the topmost Level I were superficial and too disturbed to give a connected plan. To judge by the surface finds, which included some tiles from Marseilles, they were relatively modern and bore no archaeological relation to the history of the site. After their removal two different building Levels were traced between 1.5 metres and 0.5 metres and may be regarded as representing the last phases of occupation, though bearing in our records the labels IIA and IIB. These traces are shown on Fig. 159. Owing to disturbance it was not possible to separate the deposits, but an analysis of these made for us with great care and skill by Miss Florence Day makes it clear that they must be related to two distinct medieval groups of Islamic pottery and other objects. Her catalogue reads as follows:

ISLAMIC POTTERY: EARLY PERIOD, *c.* EIGHTH TO NINTH CENTURY A.D. (LEVEL IIB)

*The Clay.* The pottery may be divided into three groups according to the clay:

1. *White clay*

- (a) Jars with reinforced rims on flat bases without handles.
- (b) Bowls and dishes of similar technique.
- (c) Pressed wares and jars, sometimes having two or three handles, and comprising some fine patterns usually executed in horizontal bands, but sometimes vertical around the neck.

2. *Red clay*

Cooking-pots, with ledge handles (see Sarre, *Die Keramik von Samarra*).

3. *Grey-black clay*

Heavy cooking-pots, burnished, cylindrical, ledge handles, wavy combed lines or comb points.

*Note.* One thick sherd shows design of stars and checks in bolder relief (for which cf. Sarre, 'Miletus Pottery of the Seljuk period', *Jnl. Or. Ceramic Soc.*, London).

*Lamps of the early period*

Specimens may be of the ninth century A.D. They are of two types:

- i. Made in a mould, as found also in Syria and Palestine. Of this class there are two fairly perfect examples in green glaze.
- ii. Wheel-made: One good specimen has a high loop handle, but the spout is broken.

*Bowls and Dishes*

- 1. Monochrome green: represented in chief by a large bowl with slightly incurving sides and plain rim; the base is ring-shaped.

2. Sgraffito, with running colours, ochre, green manganese, on cream. Imported (cf. Sarre, *Samarra*, and Hobson, *Brit. Mus. Guide*). Exterior broad bands of green, and burnt brown. Profile very much like green monochrome, above. Designs usually more delicate than in later sgraffito. Other examples comprise four sherds of one bowl, ochre and manganese, rather fine; and two sherds of a green base, which is solid and unusual, the ring foot being typical. There are also shown about twelve other sherds.
3. Running colours—green and brown on tan. Similar profile: five sherds probably belonging to one bowl.
4. Dark brown streaks on white, two sherds.
5. White glaze, turquoise splotches, on red clay (cf. Fostat).
6. Ochre or brown monochrome (rim only), two examples.
7. 'Tarsus local' green and yellow with brown outlines: one sherd.

## ISLAMIC GLASS: EARLY PERIOD

1. Cobalt blue bottle (?) is eighth to ninth century.
2. Colourless glass spoon (?) also eighth to ninth century, has a Kufi inscription 'Kasim made it'.  
*Note:* The first letter of the man's name has rather the form of Arabic 'mim'; but Masim does not sound like Arabic, while Kasim is a perfectly proper personal name. Further, in early Kufi inscriptions single letters sometimes take on unusual forms.
3. The remaining glass, having neither pattern nor definite colour nor particular shape, cannot be dated. Some of the twisted bracelets may be as early as eighth to ninth century, though, again, bracelets are not limited to one period.

## ISLAMIC POTTERY: LATE PERIOD (LEVEL IIA)

1. Sgraffito: clay buff to red; walls rather thick; potting less careful than with the earlier sgraffito. Glaze on exterior only partial. Found in Syria, Palestine, Cyprus, &c., i.e. Mediterranean shores. Bowls the commonest shape; ring foot; everted rim, often pie-crust edge, or short and vertical. One fairly complete dish with ring foot and plain everted rim has light green or cream ground, dark green and brown streaks.  
One complete bowl with rinceaux on rim, band with eleven compartments on side, and cross in centre.  
One bowl, one-quarter preserved, rinceaux on rim; animal in centre, faces left (head missing); two forelegs and one hind leg remain. Possibly a deer of some sort.  
One sherd from side of bowl which had vertical rim originally. Woman, head and shoulders, *tiraz* on turban and sleeves, dating thirteenth to fourteenth century (cf. Harold Ingholt, *Rapport Préliminaire, Hama*, pl. 2, and p. 36; also Hobson, in *Ars Islamica*, 1937, on similar ware found by Woolley at Soueidia, Syria).
2. Pottery of the same class as the above, shapes, slip, glaze &c.; colours green or tan, but having no decoration, and having a monochrome glaze.
3. A glazed lamp of the same class with pinched lip has a slip and pale glaze inside, while the exterior is unglazed.
4. Champlévé sgraffito—one sherd, apparently from a large bowl with pronounced everted rim. Entirely different from groups 1, 2, and 3; has thin walls, and is small in size. Decoration is in cream and brown; and within a circular band is a fragment of another Kufi inscription, of which only the last two letters are preserved.

5. Pottery partly painted and incised, partly painted alone. The fragment of a large dish or bowl with short vertical sides is made of red clay treated with white slip; the glaze is thin, and not of a fine quality. Other designs are chiefly spiral curls and cross-hatching. Colours green and brown. Since this class has some incised patterns it may begin as early as the late sgraffito (i.e. thirteenth century); but since the glaze is poorer and the shapes are less varied, it is evidently rather degenerate, and doubtless continues to a later date. Perhaps a local product.
6. Persian lustre—one example. Probably twelfth to thirteenth century. A jar with short narrowing neck and high round shoulder. Designs in a lustre partly greenish-gold and partly golden-brown, on white glaze.  
On the body a fine point was used to scratch away some of the lustre, in designs of small curls; the white glaze shows through.
7. Mamluk pottery; Egypt and Syria, thirteenth to fifteenth centuries. The clay of these types is dark red, hard, and heavy.

With these notes on the Islamic pottery of Levels II A and II B we conclude this account of the growth and history of Yümük Tepe. The presence of a Marseilles tile of red pottery at Level I tells of only a casual and local dwelling on the mound now 25 metres high, on the top of which Level I occupied only a limited area some 20 cm. deep, an anticlimax to a remarkable story of human activities and vicissitudes through seven thousand years.

# GENERAL INDEX INCLUDING OBJECTS

## ABBREVIATIONS USED IN THE INDEX

Neo.	= Neolithic
E.Neo.	= Early or Lower Neolithic
L.Neo.	= Late or Upper Neolithic
Proto-Ch.	= Proto-Chalcolithic
E.Ch.	= Early Chalcolithic including Hassuna period
M.Ch.	= Middle Chalcolithic including Halafian period
L.Ch.	= Late Chalcolithic including Ubaidian and Uruk periods
E.M.A.	= Early Metal (Copper) Age
M.B.A.	= Middle Bronze Age (of Syria)
Pre-Hit.	= Pre-Hittite
L.B.A.	= Late Bronze Age (Hittite period)
L.Hit.	= Late Hittite
Post-Hit.	= Post-Hittite
East Gk.	= East Greek

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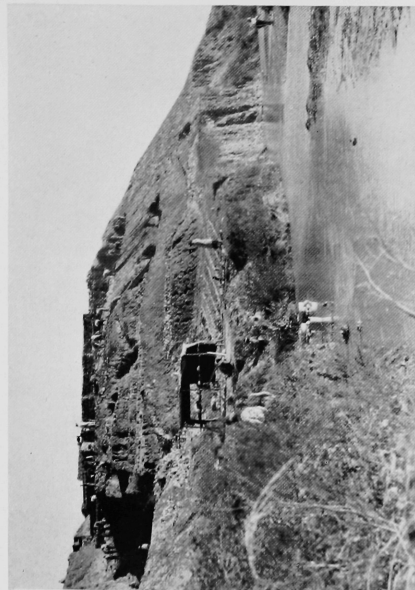
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a. Beginning work on broad Trench X



b. Clearing outside the Hitrite Fort at Level VIII. *Left*, Trench X being filled. *Right*, Deep cutting A visible in river bank. *Front*, Pottery dumps



c. Chalcolithic Level XV and (deeper *Right*) Neolithic Area B



d. Foundations of Halafian fortifications at Level XVII

YÜMÜK TEPE AT SUCCESSIVE STAGES OF EXCAVATION



*a.* Early and Mid. Neolithic walls in Trench A;  
cf. p. 14



*b.* Bottom of a deep Pit in Trench X; cf. p. 6



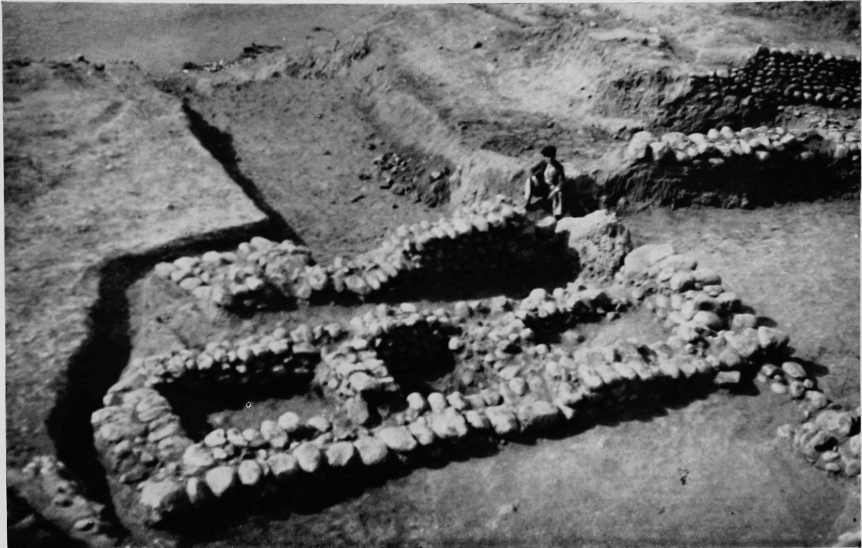
*c.* Chalcolithic Room-walls in Trench X



*d.* Silo-base and walls at bottom of Trench X



*e.* Pit and Slab Revetment at foot of mound in Trench X

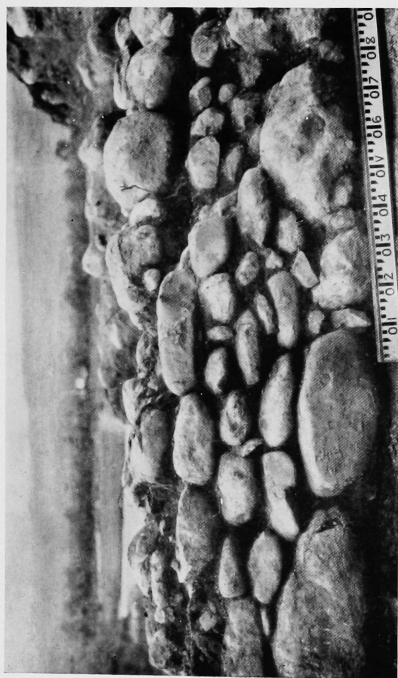


a. Rooms and corridor of group 300 at Level XXVI. *Beyond: Right, Wall of 289 at Level XXV. Left, Trench A filled up on river bank. Background: Right, Chalcolithic wall of 279 at Level XXIV*



b. Silo-bases of Level XXIV. *Beyond: Left, Rooms and Corridor 300. Right, Work in area 299 at XXV*

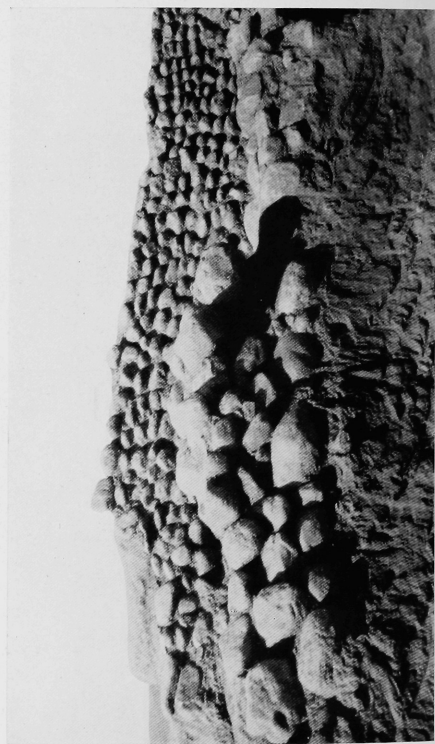
UPPER NEOLITHIC ROOMS OF LEVEL XXVI AND FEATURES OF LEVEL XXIV



*a.* Late Neolithic masonry, 298, of Level XXVB



*b.* NE. Corner-stones of L. Neo. enclosure 298, Level XXVB.



*c.* Remains of late Neo. Wall, 289, with early Chalco. wall (279) beyond



*d.* N. Corner-stones of proto-Chal enclosure 271, Level XXIV, p. 46





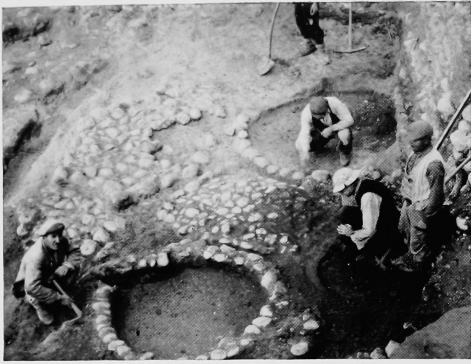
*a.* Early series of silo-bases and buildings in Area B



*b.* Later series of silo-bases and walls in the main area

PROTO-CHALCOLITHIC SILO-BASES AND BUILDINGS OF LEVEL XXIV

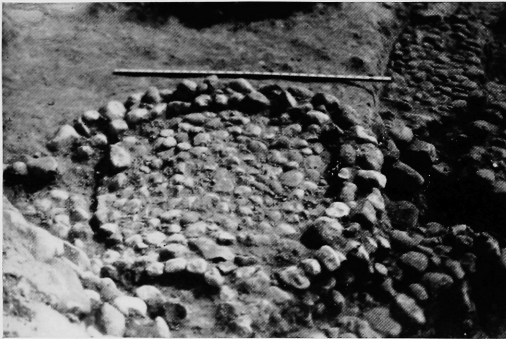
110-8728



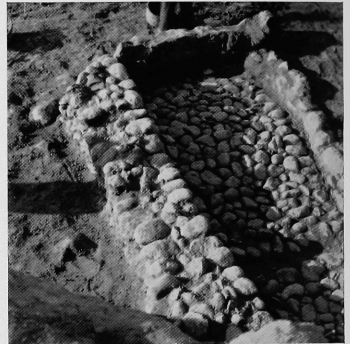
*a.* Silos in Area C uncovered by Professor Childe



*b.* Wall of Silo K constructed in mud; cf. Fig. 27, p. 48



*c.* Large silo-base in Area B at 10:33 m.



*d.* Floor and foundations of an oblong silo in Area B



*e.* Round silo-base 273 in Area C at 9:50 m.



*f.* Latest silo-base at 10:40 m.: Level XXIII/IV



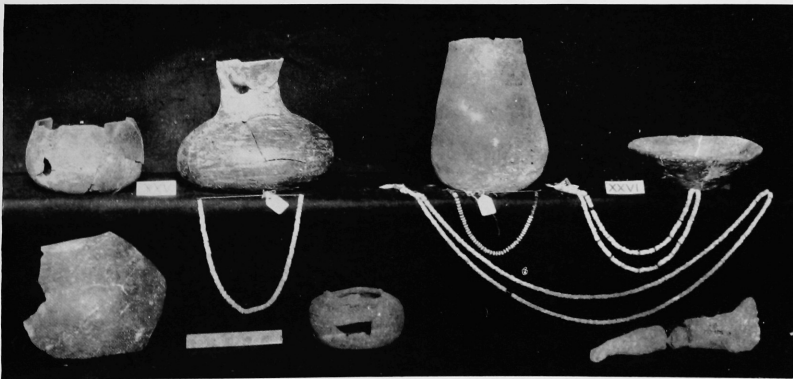
*a.* Headless burial in Room 289; cf. p. 54



*b.* Burial in Area 299; cf. p. 33



*c.* Pottery vessels and clay horn with burial *b*



*d.* Left: Group with burial *a*. Right, Group with clay horn from burial *b*

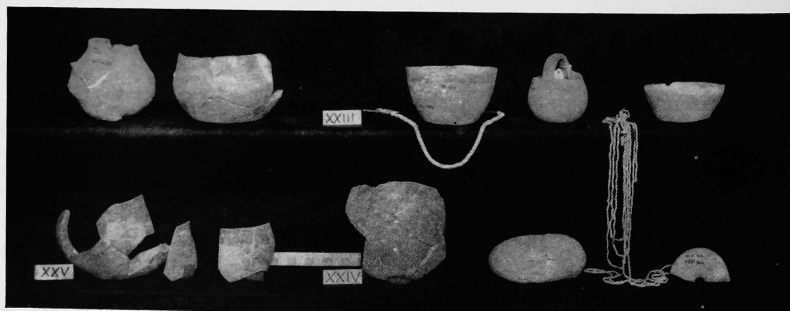
NEOLITHIC (?) AND PROTO-CHALCOLITHIC BURIALS AND OFFERINGS



a. Burial in corner of Room 271: Level XXIV; cf. p. 53



b. Child burial with offerings at Level XXIII; cf. p. 72 and Fig. 42



c. Funeral offerings from the three burials at Levels XXV-XXIII  
ADULT BURIAL (XXIV) AND CHILD BURIAL (XXIII)





1. 212. XVIII



2. 212. XVIII



3. 226. XIX



4. 226. XIX



5. 241. XXI



6. 245. XXI



7. 262. XXIII



8. XXIV



9. c. 10·20 m. XXIV



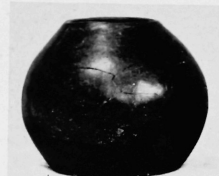
10. c. 9·40 m. XXIV



11. 271. XXIV



12. 272. XXVI



13. 10·20 m. XXIV



14. B. 6·80 m. Neo.



15. B. 7·80 m. Neo.



16. B. 8·00 m. XXVI



17. C. 9·15 m. XXV

SOME NEOLITHIC AND EARLY CHALCOLITHIC POTS RESTORED



a. Incised and painted sherds, Levels XXVI–XVIz  
 1. XVIz–XVII Mid-Chalcolithic. 2. XIX–XXIV Early Chalcolithic. 3. XXIV–XXVI Proto-Chal. & Neolithic



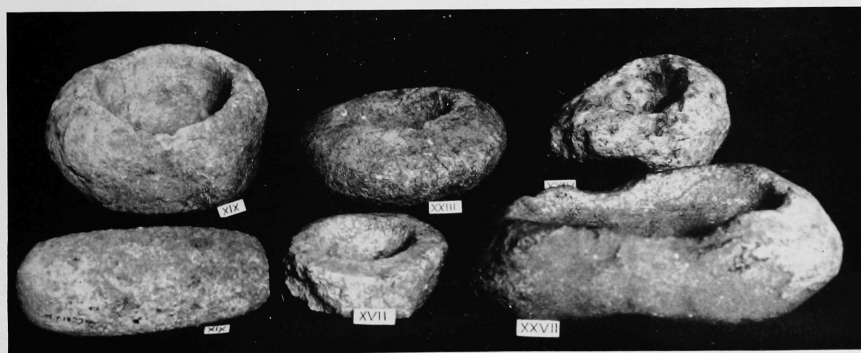
b. Miscellaneous objects from levels XXIV–XIX  
 1. Levels XX, XIX, XXIII (3), XXIV (4)  
 2. Fetish stones: Levels XVII, XXI (2), XXIII (4), XVII, XXIV. Cf. Figs. 45, 46  
 3. Cult object, Level XXIII (Fig. 39); Celt XIX; Chisel XXIV; Palette XVII (Fig. 66); Pestles XVIII and XXII  
 Mace XIX



*a.* Ceremonial dish with grip handle: Level XXI; cf. p. 80



*b.* Incised whitened chevrons on burnished black pottery; cf. p. 59

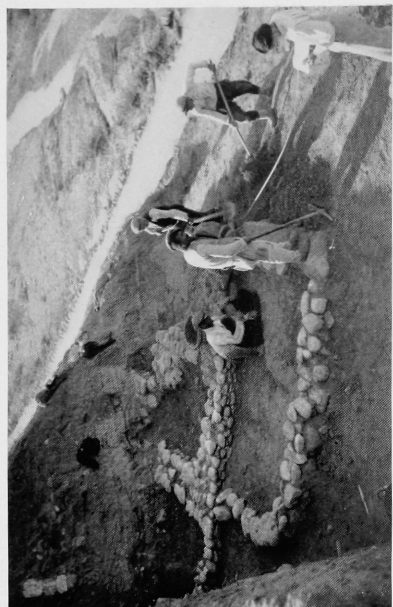


*c.* The oldest stone vessel (marked XXVII) was found below the floor of Room 310; cf. p. 16

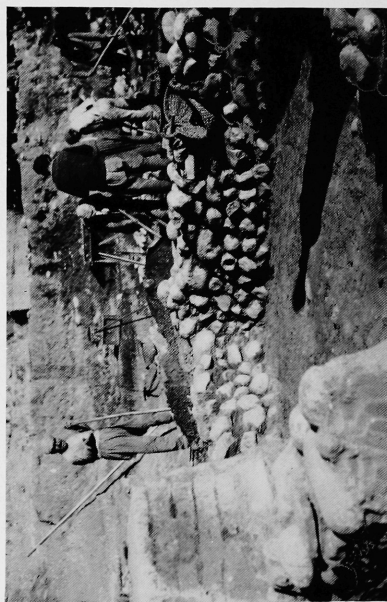
CEREMONIAL DISH (XXI), CHEVRONS, AND STONE OBJECTS (XXVII–XVII)



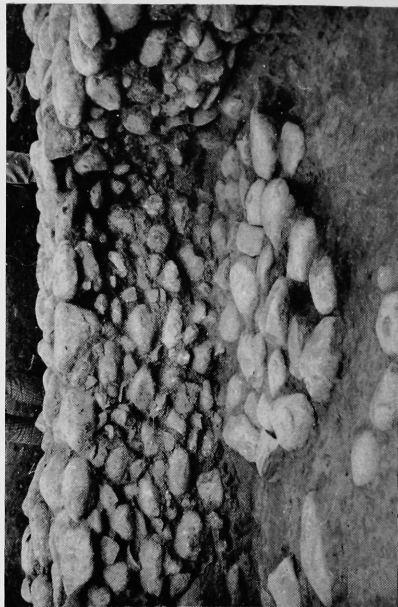
*a.* Threshing floor; boys collecting grain: Level XXII; cf. p. 73



*b.* Buildings in Area B at Level XXIII



*c.* Brick walling appears at Level XXIII; cf. p. 70



*d.* Room with stone wall at Level XXIII  
THRESHING FLOOR AND BUILDINGS: LEVELS XXIII-XXII



a. The farmer stands on the threshing sledge which is drawn endlessly around the area, separating the grain while chopping the straw



b. The threshing sledge is studded with flint blades as of old and the winnowing forks are made of wood

PRESENT-DAY THRESHING AND WINNOWING TOOLS

*Photographs by courtesy of Professor W. J. McCallien.*

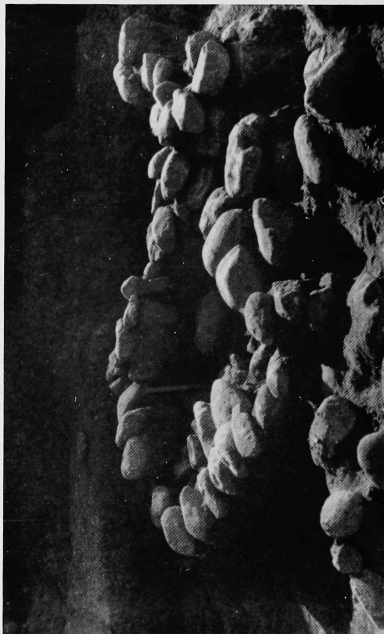




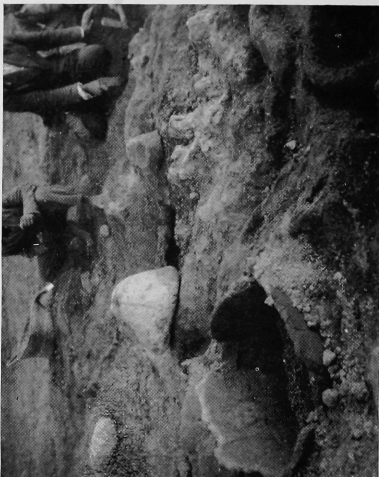
*a.* Open fire-place, broken bins and ruined huts at Level XVIII; cf. p. 104



*b.* Open fire-place at Level XVIII; cf. p. 105



*c.* Remains of guard-room at Level XIX, cf. p. 104



*d.* Grain-bin, oven-supports and clay cone: Level XVIII; cf. p. 105



a. Fragments of Halafian pottery, Level XIX; cf. p. 114



b. Black burnished pottery from Levels XXII-XX; cf. p. 78



c. Clay oven-supports and large clay cones of uncertain use. Level XVIII;  
cf. p. 105

SELECTED POTTERY AND CLAY OBJECTS: LEVELS XXII-XVII



a. Bone tools, alabaster bracelets, celts, and animal figurines, &c., from Level XVI and below



b. Flint and obsidian tools: for details cf. pp. 125-9

SMALL OBJECTS, ALSO TYPE SERIES OF FLINT AND OBSIDIAN TOOLS



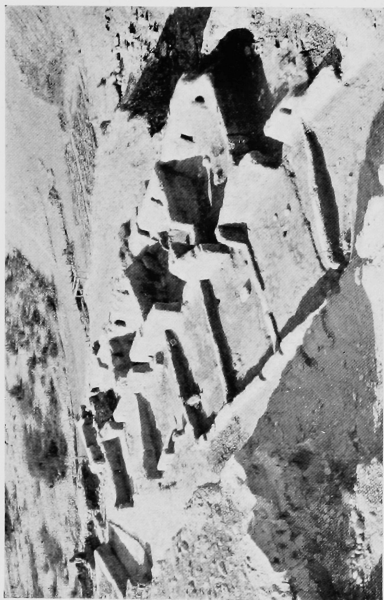


*a.* The 'residence' is on the left; the barrack rooms on the right, with the gateway between



*b.* The mounting block inside the gateway may be seen in the apex of the open space

BARRACK ROOMS AND 'RESIDENCE' (THE CENTRAL BUILDING) AT LEVEL XVII  
Cf. p. 132



*a.* The Barrack-Rooms of Level XVI seen from the Hittite Fort above



*b.* Mounting Block in the gateway to the fortification; cf. p. 133



*c.* The 'Residence', with Room 180 (Fig. 79) in the foreground; cf. p. 138



*d.* Near view of three barrack-rooms with their court-yards  
(THE CENTRAL HOUSE) OF LEVEL XVI  
BARRACK-ROOMS, GATEWAY, AND 'RESIDENCE'



*a.* Interior of room, showing slit windows, broken pitchers, and grindstone *in situ*; cf. p. 136



*b.* North-west corner of Room 176 as found; cf. p. 136

ROOM 176 DURING EXCAVATION: LEVEL XVI



*a.* Room 176 after clearance showing the windows; cf. p. 136



*b.* Native woman testing the quern: Room 176



*c.* Interior of Room 184 showing remains of an oven

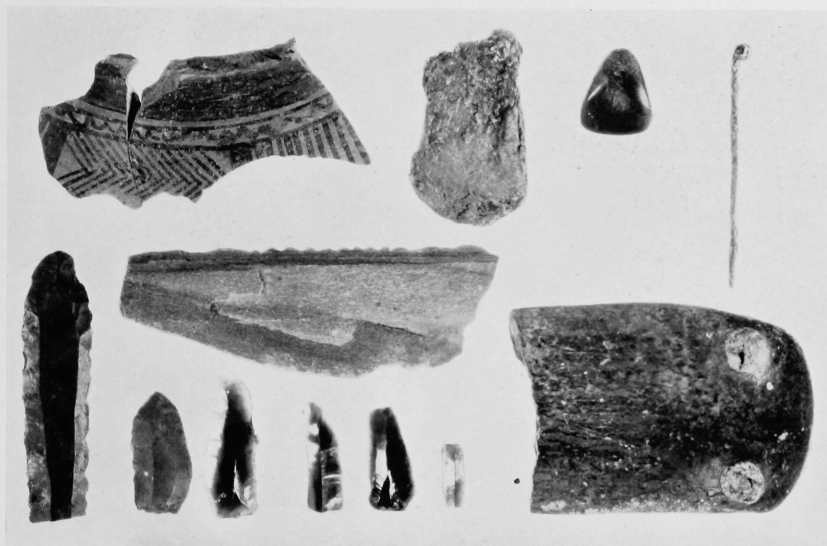


*d.* Room 169. Crushed pots amongst burnt debris;  
cf. p. 140



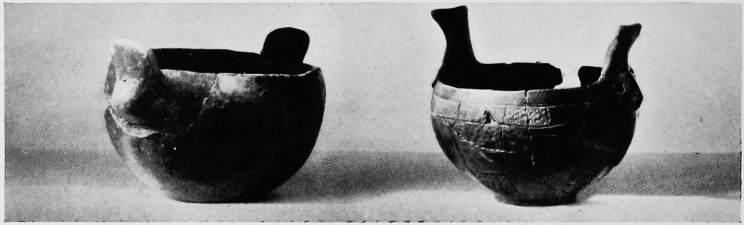


*a.* Three chisels: Levels XVb, XVI (two). Four roll-headed pins, four celts, and pierced stone palette: Level XVI

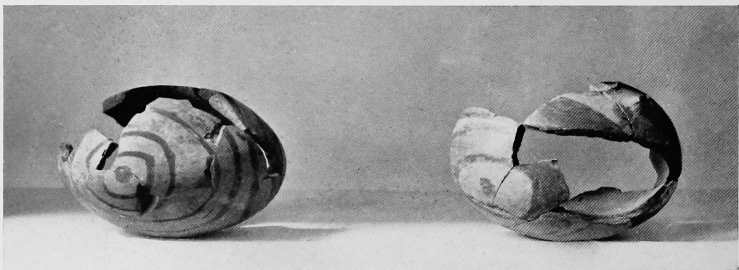
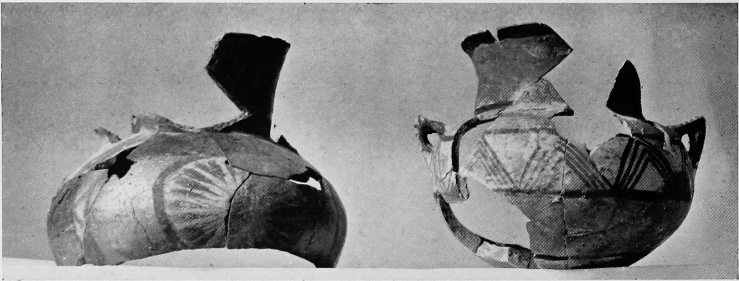


*b.* Pottery fragment (180) axe, celt, needle, obsidian flakes, and broken model couch: Level XVI

OBJECTS OF COPPER, STONE, OBSIDIAN, AND POTTERY: LEVELS XVI AND XVb



a. 1. R.N. 1289. 2. R.N. 1343 and 1295: all Level XVI. Cf. Fig. 93, nos. 7, 11, 18; cf. p. 151



b. 1. R.N. 1300, 1290. 2. R.N. 1301 from Level XVI; also R.N. 1232 from Level XVb;  
cf. Fig. 92, no. 6 and Fig. 93, no. 5; also Fig. 102, Nos. 11, 13

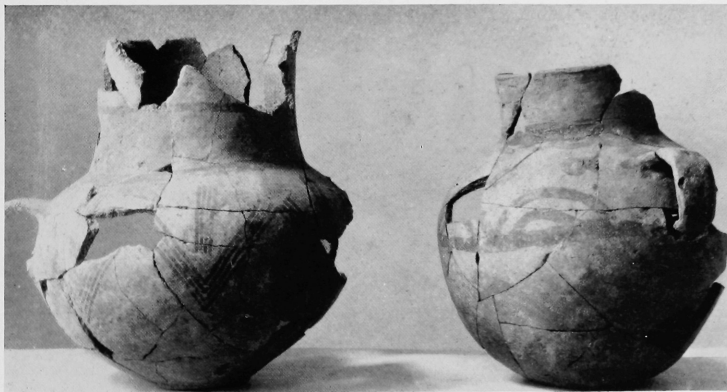
TAB-HANDLED AND POLYCHROME POTTERY: LEVELS XVI AND XVb



*a.* Two repaired jars and a bowl, Level XVI; cf. Fig. 153, nos. 9, 11



*b.* Two large pitchers after repair: R. Nos. 1307, 1306 from Level XVI



*c.* Two large pitchers repaired from fragments: 1304, 1305, Level XVI

PITCHERS AND LARGE POTS: LEVEL XVI



*a.* Development of buildings at Level XVb; cf. p. 155



*b.* Burning and destruction of buildings at Level XVIa under walls of XVb; cf. p. 134

DEVELOPMENT OF LEVEL XV AND ASH LAYER OVER XVI





*a.* Buildings of Level XII and development of pitted area at Level XIII; cf. Fig. 100, p. 158



*b.* Pitted area of Level XIV; cf. Fig. 100 and p. 160

PITTED AREAS AT LEVELS XIV AND XIII



a. Remains of weavers' workshop in Room 112 at Level XIIb; cf. Fig. 110, p. 173



b. South wall of Room 112 showing constructional features and Loom-weights *in situ*

REMAINS OF WEAVERS' WORKSHOP: LEVEL XIIb



*a.* Pottery from débris of Level XII ascribed to a late phase of the Early Metal Age; cf. pp. 189, 192, and Fig. 119



*b.* Pedestalled bowls of black burnished pottery decorated with white pigment; E.M.A., Level XIIA; cf. p. 183, Fig. 118

SPECIMENS OF GREY AND BLACK POTTERY: LEVEL XIII

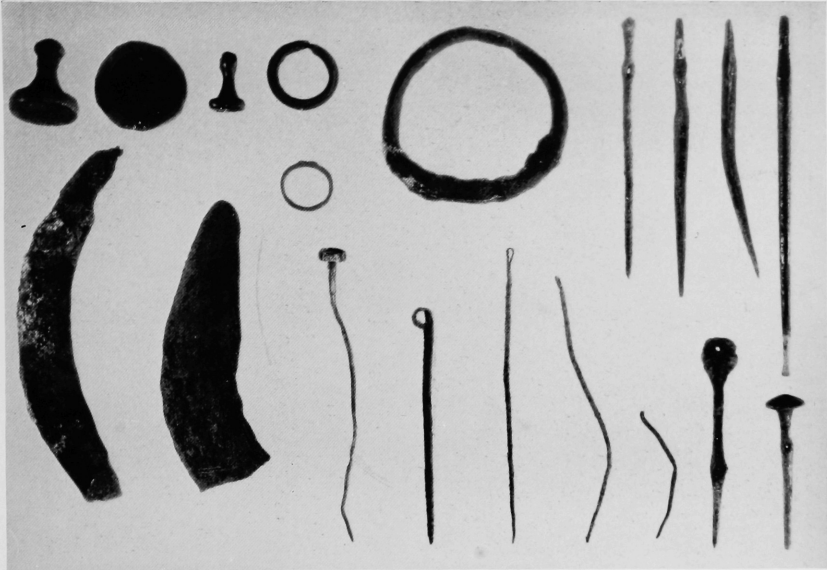


*a.* Stone walls of Level XI overlying débris and ruins of Level XII; cf. Fig. 117, p. 180

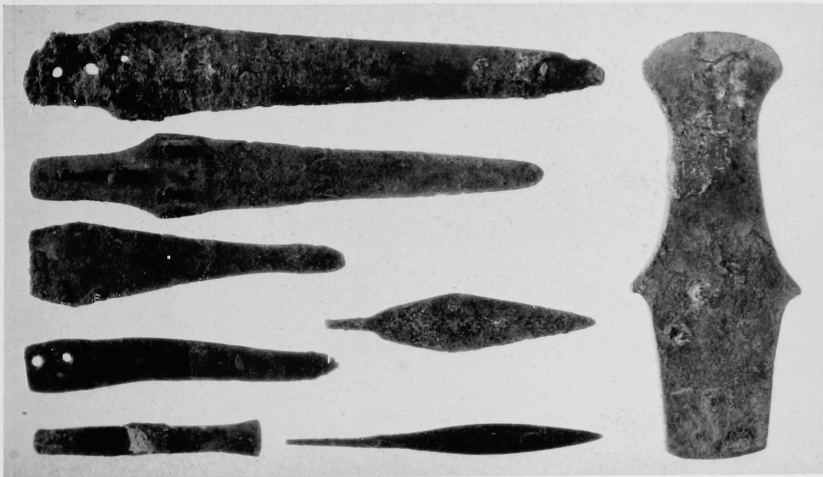


*b.* Solid brick walls of Level XIIIa overlying an oven and other features of Level XIIb; cf. p. 182

STONE WALLING OF LEVEL XI OVER BRICK WALLS OF LEVEL XIIIa



*a.* Bronze seals, blades, awls, toggle-pins, rings, and bracelets from Levels XI-X; cf. Fig. 149 and p. 232



*b.* Bronze chisel, spear-head, dagger, and lugged axe; cf. Fig. 149 and p. 232; also Fig. 129, p. 211

BRONZE WEAPONS AND OBJECTS FROM LEVELS XI-IX



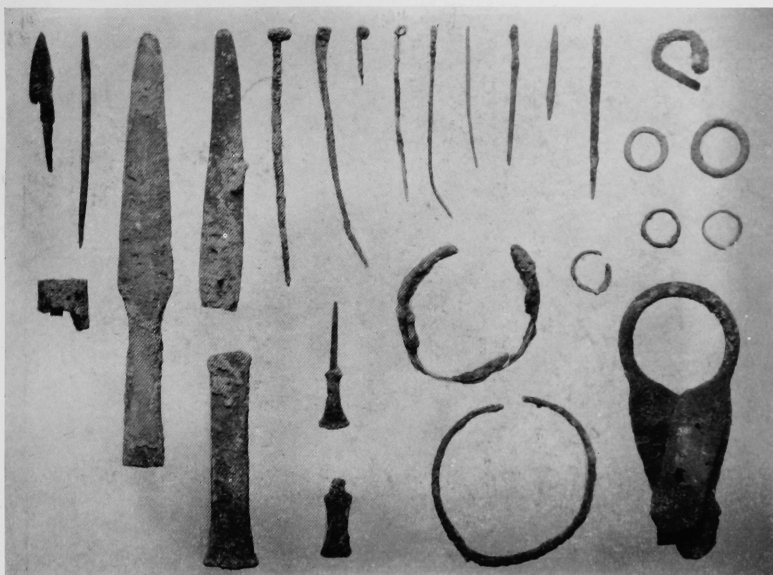


*a.* Sector of the Hittite fortifications; cf. Figs. 151-2, p. 237

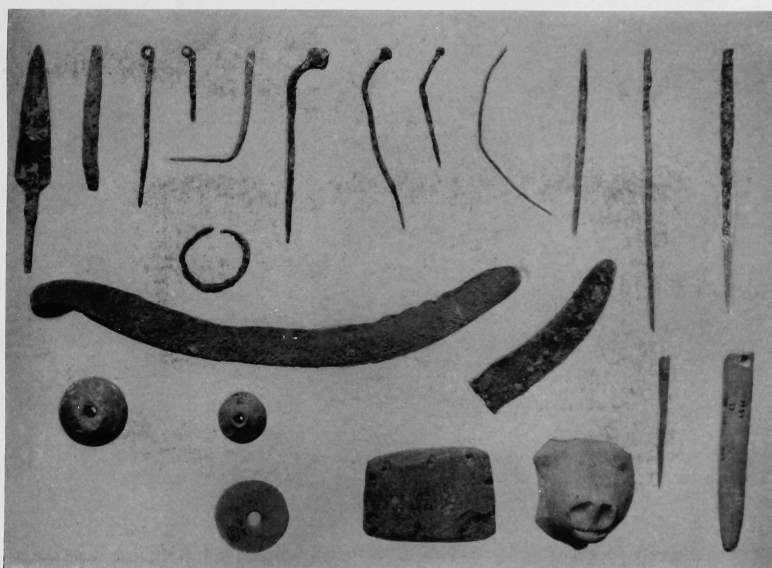


*b.* Hittite Fortifications and Buildings of Level VII; cf. Fig. 153, p. 239

FORTIFICATIONS OF HITTITE CHARACTER: LEVELS VII-V



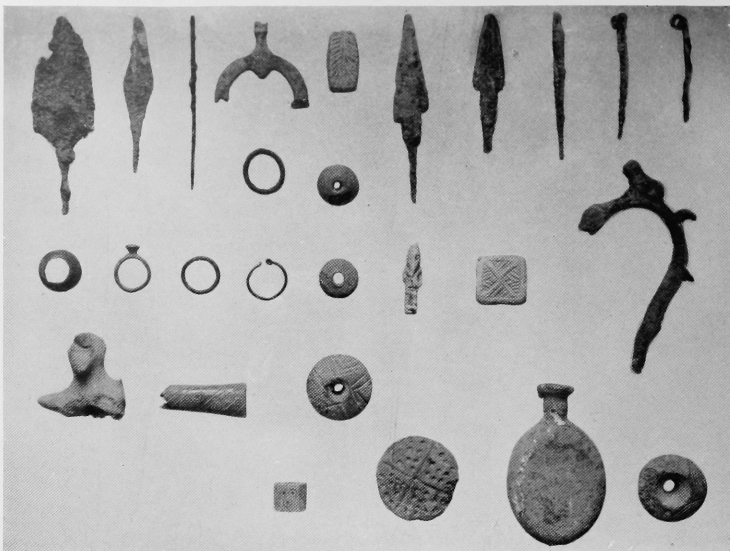
*a.* Metal objects from within the Hittite fortress at Levels VI-V



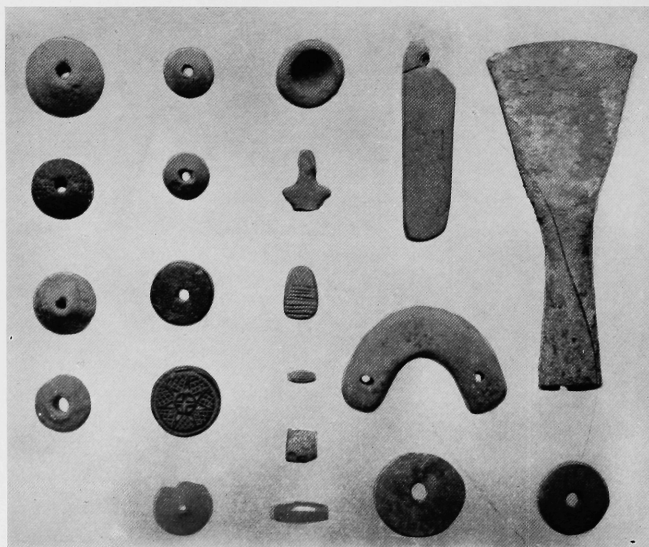
*b.* Metal and other small objects from the Hittite fortress at Levels VIII and VII

SMALL OBJECTS FROM HITTITE FORTRESS: LEVELS VIII-V

Cf. Fig. 158 and p. 250



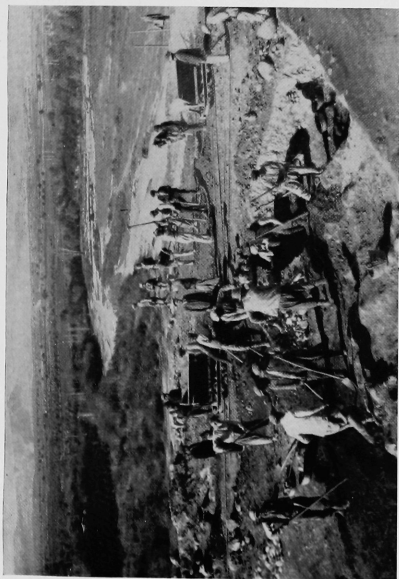
*a.* Iron age objects from post-Hittite Levels IV-II



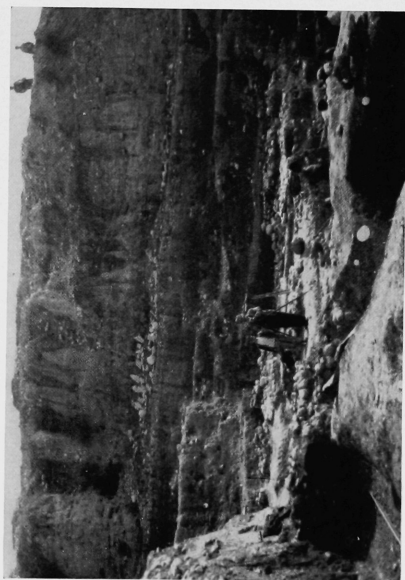
*b.* Objects from the upper Hittite Levels VI-V

SMALL OBJECTS FROM LEVELS VI-II

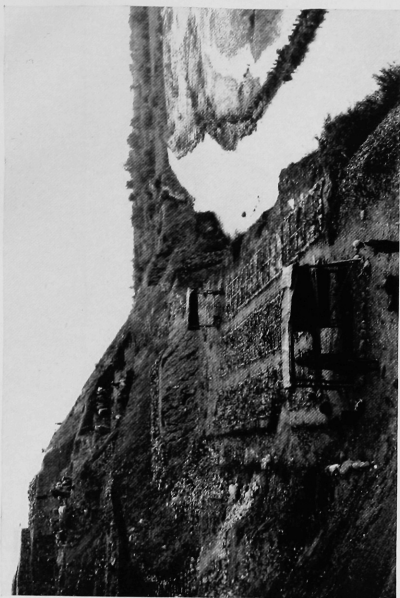




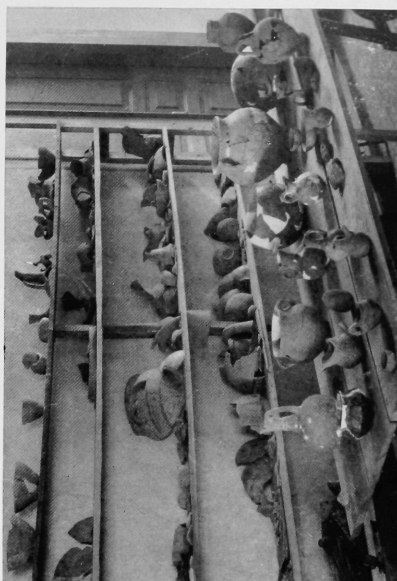
*a.* Beginning work, Nov. 1937



*c.* End of work, main area: Level XXIV; Feb. 1947



*b.* Pottery bench and sorting dumps



*d.* Mrs. Garstang's workroom with repaired pottery

THE EXCAVATION OF YÜMÜK TEPE: END OF WORK





MAP ILLUSTRATING THE RANGE OF ARCHAEOLOGICAL CONTACTS











