

PEDER MORTENSEN

TELL SHIMSHARA

THE HASSUNA PERIOD

With an Introduction

by

HARALD INGHOLT

and

Contributions by ANNE-TINNE and MOGENS LØNBORG FRIIS,
COLIN RENFREW, HENRIK TAUBER and others.

Det Kongelige Danske Videnskabernes Selskab
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PREFACE

The excavations at Tell Shimshara in 1957 were sponsored jointly by the Carlsberg Foundation and by the Danish Government Foundation for the Promotion of Research. I am highly indebted to these two Foundations for having entrusted to me the publication of the archaeological material from Tell Shimshara and for generous economic support during the preparation of this volume.

In 1961 I had the opportunity to study that part of the Shimshara material which is kept in the Iraqi Museum. My work in Baghdad was greatly encouraged by the hospitality of the Directorate General of Antiquities of Iraq, whose interest and cooperation facilitated my studies in many ways.

Most of this volume was written during my time as an Assistant Keeper in the Department of Oriental and Classical Antiquities at the National Museum in Copenhagen. I would like in this connection to thank Professor P. V. Glob, Director of the National Museum, for his stimulating interest in my work, and to express my appreciation to Dr. Marie-Louise Buhl, Keeper of the Department of Oriental and Classical Antiquities, for her never failing concern for my completion of this publication.

I owe a debt of gratitude to Professor P. J. Riis of the University of Copenhagen, to Mr. Aksel Rode of the Royal Academy of Fine Arts, and to many foreign colleagues for valuable information and suggestions. My cordial thanks are also tendered to Mr. Erik Brinch Petersen for his advice on the chapter about the chipped stone industry, and to my wife, Mrs. Inge Demant Mortensen, for encouragement and help during the writing of the manuscript.

Finally, I wish to express my gratitude to Professor Jørgen Læssøe, to Mr. Fleming Johansen, and to Anne-Tinne and Mogens Lønborg Friis, all members of the expedition staff. Not being a member of the expedition myself, the publication would have been an impossible task for me, if their valuable notes and verbal information had not been made available to me. Above all, however, I am indebted to Professor Harald Ingholt, who directed the excavations at Shimshara, for his kind criticism and for his generous advice and help in preparing this report.

The illustrations for this volume are based on photographs taken by Jørgen Læssøe (architecture and landscapes), Lennart Larsen (objects in the National Museum, Copenhagen), and Peder Mortensen (objects in the Iraqi Museum, Baghdad). The

drawings were made by Anne-Tinne and Mogens Lønborg Friis (architecture), Anette Brinch Madsen (objects of bone and stone), and Peder Mortensen (obsidian, flint, and pottery).

The objects excavated at Tell Shimshara have been divided between the Expedition and the Directorate General of Antiquities in Iraq. The pieces which were allotted to the Expedition are all marked with *TSH* numbers. They are now in the Department of Oriental and Classical Antiquities at the National Museum, Copenhagen. *IM* and *B* numbers indicate that the objects are kept in the Iraqi Museum in Baghdad, whereas *SH* numbers refer to the Expedition's field catalogue. The square in which an object was found (M 10, N 9 etc.) is indicated after the number of the object and the reference to the level from which it was recovered.

The spelling of Arabic and Kurdish names appearing in this report follows the transcription used in the latest edition of the *Archaeological Map of Iraq*, published by the Iraqi Directorate General of Antiquities (1959), and in *A. R. Al-Haik, Key Lists of Archaeological Excavations in Iraq 1842-1965* (Coconut Grove, Florida 1968). As mentioned below, the map Fig. 111 is based on information from the Iraqi Directorate General of Antiquities, which is also responsible for the transcription into English of the local names in the Dasht-i-Bitwain.

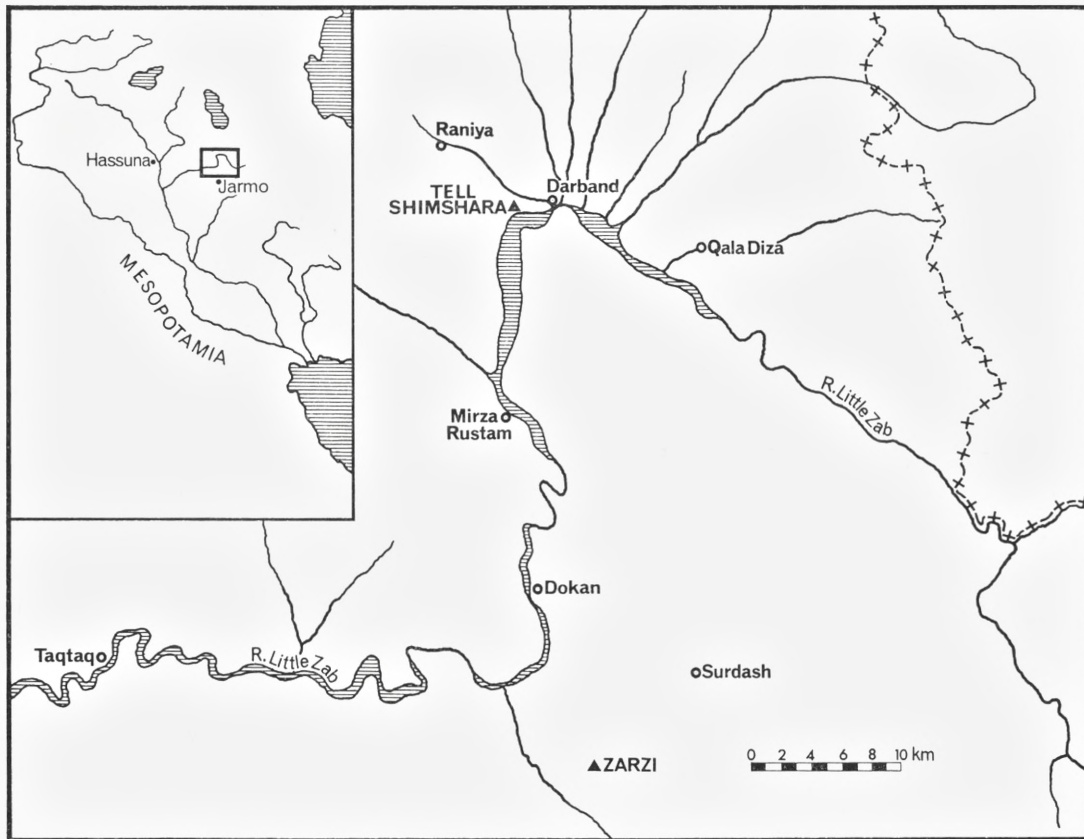


Fig. 1. Map showing the location of Shimshāra in Dasht-i-Bitwain, the plain south of Raniya.

INTRODUCTION

By Harald Ingholt

It happened in Baghdad in the spring of 1956 during a call which Dr. Jørgen Læssøe, Lecturer in Assyriology at the University of Copenhagen, made on Dr. Nadji Bey Al-Aṣīl, the Director General of the Department of Antiquities in Iraq. In the course of the conversation Dr. Nadji Bey mentioned the serious problems which at that time faced the Department. Several dams were actually being built in different places in the country, and the Department had been asked to make an archaeological survey of the several areas to be flooded and to report its findings. One of these dams was located near the village of Dokān in the north-eastern part of Iraq and the area to be flooded was a large part of the nearby Plain of Rāniya, in Kurdish Dasht-i-Bitwain (see map on p. 121). When finished the reservoir would cover some 230 sq. kilometers containing about forty ancient mounds, sixteen of them of considerable size. Dr. Nadji



Fig. 2. Shimshāra before excavation seen from the North. May 1957.

Bey then asked Dr. Læssøe if he thought there would be enough interest in Denmark to support an excavation of one of these sites before the flooding of the Plain.

Indefinite though Dr. Læssøe's answer had to be, once back in Copenhagen he lost no time working on the proposition. Already in May he submitted a plan of the enterprise to a small group of persons, likely to be actively interested in the project: Professor Johannes Pedersen, the former President of the Carlsberg Foundation, his successor as President, Professor Børge Jessen, Professors E. Hammershaimb and K. Barr, of Aarhus and Copenhagen Universities respectively, both on the board of directors of the Danish Government Foundation for the Promotion of Research, and Professor P. J. Riis, Director of the Institute of Classical and Near Eastern Archaeology at the University of Copenhagen. All were genuinely interested. With Dr. Riis he discussed the question of who might be the director of the proposed dig. According to the Antiquities Law of Iraq, No. 59 of 1936, the excavation director "shall be a well-known archaeologist with previous experience in archaeological excavations". Dr. Læssøe wanted Dr. Riis to take the post, a natural choice, but unfortunately the latter could not be free to go out as early as the spring of 1957, the time when the



Fig. 3. Shimshāra seen from South-East. May 1957.

excavation should begin. Dr. Læssøe then wrote to me on June 13: "Dr. Riis and I therefore have agreed that I should write to you and ask whether you would be interested, willing and able to be our *mudir*?" On July 10 I answered in the affirmative, on condition that Yale University would give the necessary leave, a proviso graciously met shortly afterwards. On August 25 Dr. Læssøe sent a carefully documented "Proposal for a Danish Archaeological Exploration in Dokan" to such Danish institutions and single individuals as might possibly give financial or other support to the plan. Among those now contacted were besides those already mentioned, Professor N. E. Nørlund, President of the Rask-Ørsted Foundation, and Dr. Johannes Brøndsted, Director of the National Museum of Denmark in Copenhagen. Apart from the funds needed for the actual excavation in Dokān, Dr. Læssøe applied to the Rask-Ørsted Foundation proposing also that Denmark participate in the excavation at Nimrud, near Mosul, carried on since 1949 by the British School of Archaeology in Iraq under the direction of Professor, now Sir Max Mallowan. In return for a financial contribution to the Nimrud Excavation Fund, Professor Mallowan would assist in the preliminary training and practical experience required of Dr.



Fig. 4. View from top of mound, facing East towards the Sungasur Gorge and Darband-i-Ramkan. May 1957.

Læssøe and two architect surveyors. After the Nimrud excavations were completed in May 1957, the three could use the Expedition House at Nimrud as a base before proceeding to the Dokān area. Furthermore, after the Nimrud dig was over, a selection of small finds of scientific interest, surplus to the requirements of the Nimrud Expedition would be assigned to the Danish sponsor. A formal application for funds was finally sent off early in October to the Carlsberg Foundation for support of the excavations in the Dokān area and to the Rask-Ørsted Foundation for the contribution

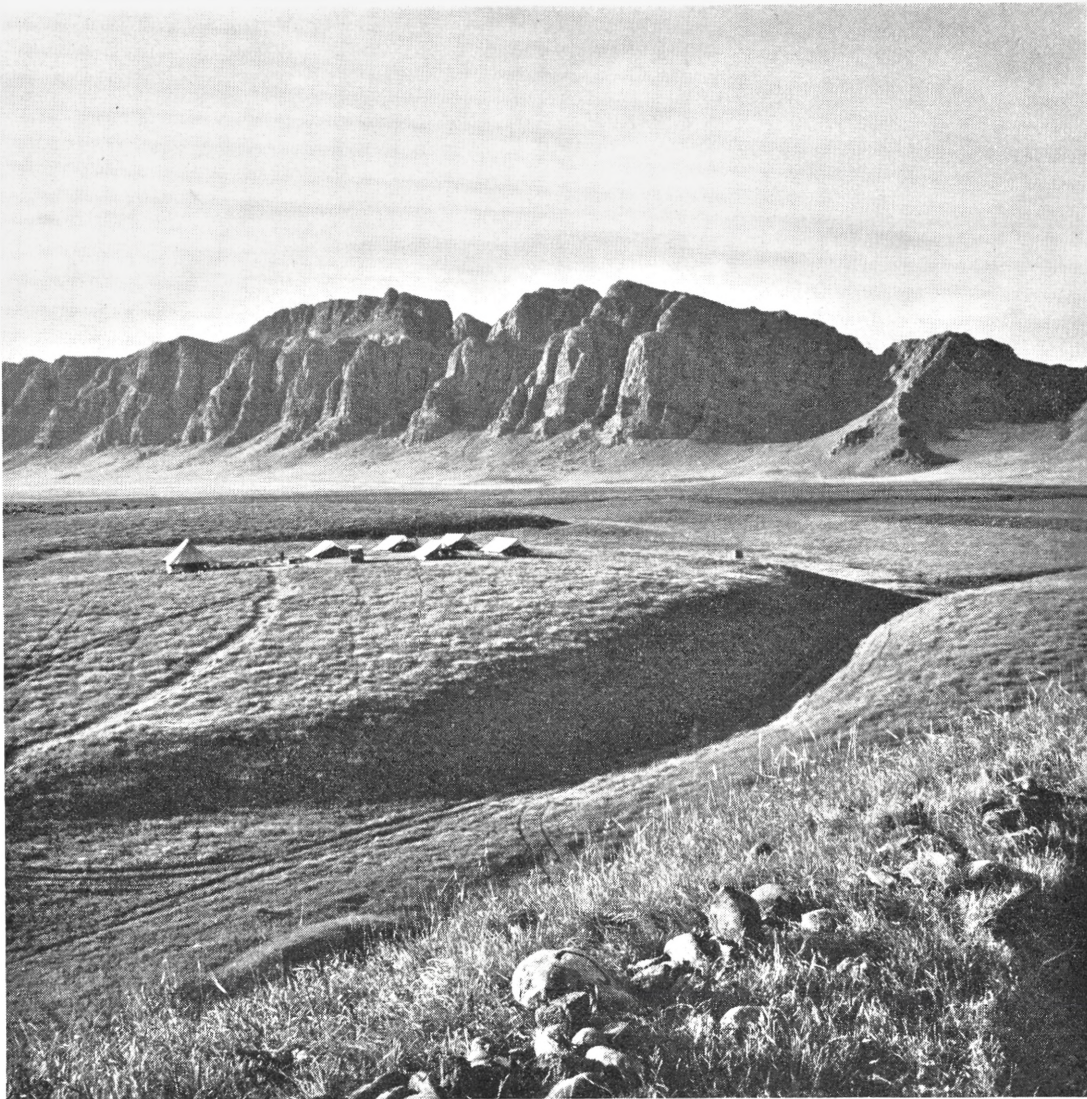


Fig. 5. View from top of mound, facing North towards the mountains behind the Rāniya road. May 1957.

to the Nimrud Excavation Fund. In December Dr. Læssøe was informed by Professor Børge Jessen, the President of the Carlsberg Foundation, that the Foundation was willing to pay half of the amount requested for the excavation, and that it was hopeful the remaining half might be secured from another source. The hope materialized and Dr. Læssøe cabled me on February 6: "Dokan Project approved". In a follow-up letter I was told that the second partner in the project was the Danish Government Foundation for the Promotion of Research under its President Professor Franz Blatt

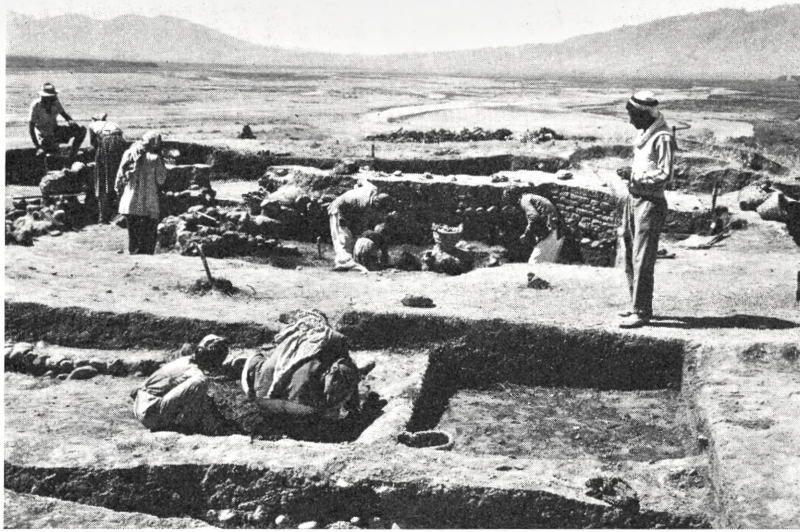


Fig. 6. View from top of mound, facing South. June 1957.

of Aarhus University. Welcome, too, was the news that the Rask-Ørsted Foundation had granted the amount necessary for the Danish participation in the Nimrud excavations scheduled for the spring of 1957. Before Dr. Læssøe's departure for Iraq he engaged a married couple as the two architects of the Expedition, Mogens and Anne-Tinne Friis, and as General Assistant a student of classical archaeology at the University of Copenhagen, Flemming Johansen, the latter not to join the Expedition until immediately before the start of the excavation. Both in Baghdad and in Nimrud Dr. Læssøe continued his efforts to prepare for the Expedition as fully as possible: an automobile, a land-rover, was bought second-hand in Baghdad, Petros, the chauffeur of the Nimrud Expedition was hired to perform the same function in Dokān and a group of Sherqātis, specially trained workmen from the village of Sherqāt, south of Mosul, were likewise signed up, together with their experienced foreman 'Abd el-Khalaf el-Ankūd. By the end of April I had word from Professor Jessen, that on the recommendation of Dr. K. Birket-Smith, Director of the Ethnographic Department of the National Museum of Denmark, and of Dr. Læssøe, the Foundation had voted a grant to mag. art. Henny Harald Hansen, cultural anthropologist at the Museum, to enable her to carry out field research on the life of the Kurdish woman in association with the Expedition.¹

The stage was now set for the beginning of the excavations. By May 12 the staff of the Expedition was assembled in Dokān for the first time, augmented now by the official representative of the Iraqi Directorate General of Antiquities Khālid Ahmad

¹ An account of the work, carried out in the village of Topzawa near Dokān, has been published in her monograph: *The Kurdish Woman's Life* (NM Skr. Etn. Ser. VII), Copenhagen 1961.



Fig. 7. Building of *kapra* on top of Camp Hill. May 1957.

Al-'Adami. Our Iraqi colleagues who had earlier conducted an archaeological survey of the mounds on the Rāniya Plain, readily placed their findings at our disposal, thus making it easier for us to decide which one of several attractive mounds should be chosen for the campaign.

Shimshāra² on the right bank of the Lower Zab, near the northeastern corner of the Rāniya Plain, was the natural choice, both on account of its size and its location. On all four sides, it was enclosed by mountains. To the West, trails across the ridges connected with the upper Tigris valley, and to the South there was a clear view at least as far as Mirza Rustam, the upstream terminus of navigation (see Figs. 6 and 7b). To the East of Shimshāra, only 5 kilometers away, was Darband-i-Ramkan (Fig. 4), the gap or opening which separates the southern Agos ridge from its northern Kēwarhesh counterpart (Figs. 5, 7a and 7d). Coming from the South-East, the Zab in a sharp hairpin curve changes its course at the Darband, now running due South (see the map Fig. 1).³ Shimshāra was thus in a position to watch over any hostile or peaceful movements, especially those coming from the North and the East.

After the Sherqātis had arrived with tents and other valuable equipment graciously lent to the Expedition by Professor Mallowan, the actual excavation began on the mound on May 21 and continued with an average number of forty workers up to and including August the 5th, except for a few days in which a wind of terrific force made work on the mound impossible.

² This was the spelling used in the survey of our Iraqi colleagues adopted by the Directorate General of Antiquities in its *Archaeological Map of Iraq*, 1959.

³ See also C. J. Edmonds, *Kurds, Turks and Arabs*, London 1957, pp. 18–19, 215–16 and 226.



Fig. 7a. Sungasur and the Lower Zab seen from Camp Hill. May 1957.

The Shimshāra mound was made up of a higher northern and a lower southern hill, the former being about 19 m. high and 60 m. wide at the bottom, the latter about 6 m. high, and the total length of the mound totaling more than 330 m. (see Figs. 2-3 on pp. 6-7). Three main levels were distinguishable.⁴ The top one (layers 1-3) was Islamic, datable to a time between the 12th and 14th centuries A.D.⁵ The next level was classified as Hurrian (layers 4-8), partly contemporary with the cuneiform tablets found in a building on the lower mound, that is about, 1800 B.C. (see below). Between this level and the next there is quite a time gap since the lowest layers so far found on the mound represent the neolithic occupation. Their description and interpretation forms the subject of this first volume of the final Shimshāra Publication, written by Peder Mortensen.

⁴ See my article in *Sumer XIII* (1957), pp. 214-15. For the location of the squares, see Pl. I, facing p. 16 below.

⁵ A coin from the mint of Wāsiṭ in southern Iraq had been struck in the year 120 (737/8 A.D.), see John Walker, *Catalogue of Muhammadan Coins*, II, London 1956, pp. XCII and 287, No. 941, Pl. XXXI. It was found in the northern hill and may possibly indicate an earlier Islamic settlement. Two fragments of Chinese porcelain, both with designs in blue under colorless glaze, were found in the same hill. One, SH151, is almost surely 16th century, the other, SH153, probably dates from the 16th or 17th century. I am indebted to Dr. George C. Miles for the numismatic information and to Dr. John A. Pope, Director, Freer Gallery of Art, Washington, D. C., for the approximate date of the two Chinese sherds.



Fig. 7b. View from Camp Hill, facing South towards Mirza Rustam and Dokān. May 1957.

As the excavation on the northern hill progressed, it became more and more clear to me that we here had to do with but a small part of the ancient Shimshāra, and that an attempt should be made through a sounding to find out what the southern extension might contain. I therefore decided to open up a series of squares in that lower hill. The first was located near the edge of the eastern bank, the others followed to the West of it toward the center. In the westernmost of these squares the historically most important find was made during the last four days of the campaign. In a small room 146 cuneiform tablets came to light which when deciphered and interpreted by Professor Læssøe proved to be the diplomatic archive of one Kuwari, local prince or governor of Shimshāra, or as its ancient name was, Shūsharrā. Kuwari was a contemporary of the Assyrian king Shamshi-Adad I (1815–1782 B.C.) and an essential part of the correspondence consisted of letters sent to Kuwari by this king and one of his sons, Ishmē-Dagan.⁶

⁶ Professor Læssøe first described his find in the article: "An Old-Babylonian Archive Discovered at Tell Shemshara", *Sumer*, XIII (1957), pp. 216–18, and published the *editio principis* of the archive under the title "The Shemshāra Tablets. A Preliminary Report", in *Arkaeol. Kunsthist. Medd. Dan. Vid. Selsk.*, 4, No. 3, Copenhagen 1959. In subsequent publications he has treated various further aspects of the archive, interspersed with sketches from modern Iraq and from the daily life of the Expedition: Akkadian Annakum, "Tin" or "Lead"?, *Acta Orientalia*, 24, (1959), pp. 83–94. *Fra Assyriens Arkiver*, Copenhagen 1960. *People of*

The Kuwari archive forms an important complement to another bigger diplomatic correspondence, that was found at Mari on the Middle-Euphrates by a French expedition under André Parrot. The kingdom of Mari was for a certain number of years ruled by Shamshi-Adad and his sons, one of whom, the above mentioned Ishmē-Dagan, was viceroy at Ekallātum, a city presumably situated near ancient Assur, but on the eastern bank of Tigris.⁷ The main task of Ishmē-Dagan evidently was to keep a watchful eye on tribes and principalities in that part of his father's empire that lay East of the Tigris, and the Shimshāra archive gives a vivid impression of both his military and diplomatic activity.

The division of the finds was made in Baghdad by Nadji Bey. The unique pieces like the obsidian dagger (see Figs. 30–31) and the collared shaft-hole axe (Fig. 7c),⁸ went to the Baghdad Museum, as could be expected, but a representative collection of the other finds was assigned to Denmark and there donated to the National Museum by the two sponsoring Funds. At the request of the Expedition the Department consented to delay the division of the tablets until they had been studied in detail, a process now accomplished.

As far as the climate was concerned the Shimshāra campaign was a hard one. In the early part it was cold and rainy with more than occasional thunder and lightning, the latter always seeming closer when looking at it from the door of one's tent. Later it became very warm, the temperature in the shade going as high as 58° centigrade. But the air was dry, pure, and due to the constant wind there were no mosquitoes and the nights were always cool.

In order to follow up the promising results of the first Shimshāra campaign a second Danish expedition was organized, sponsored by the same two Funds. However, the political situation in the early summer of 1958 prevented this expedition from even starting at Shimshāra. Later, toward the end of the summer the Directorate General of Antiquities undertook a campaign, directed by Messrs. 'Abd el-Qādir Tekrītī and Khālid Al-'Adami.⁹ Another hoard of tablets was found by them in a different part of the same building, from which the Kuwari archive had come. Among the new tablets there were no letters, they were all administrative texts. Their date was "perhaps around the middle of the second millennium B.C."¹⁰ No texts were found in a campaign conducted in the summer of 1959, also by the Directorate General of Antiquities.

We were greatly helped during our entire campaign by the Directorate General of Antiquities. To Dr. Nadji Bey we owe a great debt of gratitude for his always ready

Ancient Assyria, London 1963 (English translation of the preceding book). Det Første Assyriske Imperium. Et Aspekt, *Festskrift Københavns Universitets Årsfest*, Copenhagen 1966.

⁷ See W. W. Hallo, *Journal of Cuneiform Studies*, XVIII (1964), pp. 72 and 87, fig. 6. Læssøe, *Det Første Assyriske Imperium*, pp. 32–33, n. 25.

⁸ It belongs to a special group of shaft-hole axes from Western Iran, see Jean Deshayes, *Les Outils de Bronze de l'Indus au Danube*, I, Paris 1960, pp. 176–77, pl. XXII, 5, and II, Paris 1960, pp. 73–74, Nos. 1420–27: Axes of Type C. Another example of the same type was published by Peter Calmeyer, *Alliranische Bronzen der Sammlung Bröckelschen*, Berlin 1964, pp. 7 and 10, pl. 4, No. 7, provenance from around Kermanshah. See also Louis Vanden Berghe, *Het Archeologisch Onderzoek naar de Bronscultuur van Luristan*, Brussels 1968, p. 10, type 6, and p. 33, No. 8, and R. Dussaud, *Syria*, XI (1930), p. 256, fig. 18: map showing the principal trade routes from Luristan.



Fig. 7c. Middle Bronze axe from Hurrian burial (IM. 61196, SH. 87)

and sound advice, and we benefited greatly from the practical assistance given both in Baghdad and in Shimshāra of the Inspector of Excavations, Mr. Fuad Safar. Mr. Khālid Al-'Adami, the Government Representative, was much admired for the drawings in his Arabic translation of the Expedition's Catalogue of Finds, and on one memorable occasion by his swift intervention he undoubtedly saved Mr. Friis from more dangerous consequences when the latter was stung by an angry scorpion. Thanks are also due to our two nearest official neighbours, the Qaimaqām of Rāniya and Sheikh Husein of Bosakīn.

Two engineering firms were represented at Dokān: that of Dumez-Ballot of Paris, which was building the dam, and that of Binney, Deacon and Gourley of London, which functioned as the representative of the Iraqi Government. Without their constant helpfulness, the work of the Expedition would have been, if not impossible, at least very difficult. The local director of the Binney firm, Mr. J. G. Campbell, helped us in several critical situations and fully deserved the Knight's Cross of Dannebrog, presented to him in 1958. Mr. Lystø, the Danish Chargé d'Affaires in Baghdad had paved the way for the cordial attitude of the Dumez-Ballot firm toward us, and his successor, Fr. de Jonquières who even visited us at Shimshāra, earned our sincere gratitude for several subsequent kindnesses.

⁹ Læssøe, *Sumer*, XVI (1960), pp. 12-19.

¹⁰ Læssøe in *Det Første Assyriske Imperium*, p. 63.

The capable and authoritative direction of Abd el-Khalaf, the head of the Sherqātis was of great importance to the Expedition. As to my colleagues on the staff, the contribution of Dr. Læssøe to the Expedition was of the highest order. His was the original initiative, and his were the carefully executed preparations for the campaign. As Deputy Director he did outstanding work as photographer, assisted in the registration of objects, and in several other ways. The architects, too, deserve special thanks. The weather on the mound made the drawing very difficult at times, but they were able to finish all the plans necessary, as well as drawings of important objects. Mrs. Friis was particularly appreciated for the cheerful and efficient way in which she served as the cook of the expedition during the first difficult days of the campaign. In the planning and erection of the Expedition's combined social center, work- and storeroom, built in the manner of a Kurdish summer house, a *kapra* (see Figs. 7 and 7b), the Expedition profited much from the practical experience and skill of Mr. Friis. Mr. Flemming Johanse seemed to have an inexhaustible source of physical energy for his work which centered around the hundreds of sherds and minor objects. He was much esteemed by the workers who found him always ready to help in case of accidents, of which we luckily had but few, all minor.

Finally, last but not least, our sincere thanks go to the Carlsberg Foundation and to the Danish Government Foundation for the Promotion of Research, in the persons of their Presidents, Professors Børge Jessen, and Franz Blatt, for making the expedition possible and for their constant interest and neverfailing helpfulness, and to the Carlsberg Foundation for defraying the cost of the Shimshāra Final Publications, without which the scholarly importance of the Expedition would have been at least essentially curtailed.

Shimshāra, as we knew it, is no more, but all the members of the Expedition will, I think, every now and then, look back on its wild beauty by day, its colorful sunsets and its starry nights.

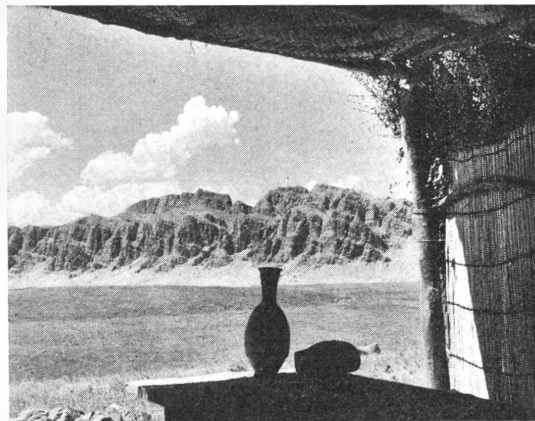
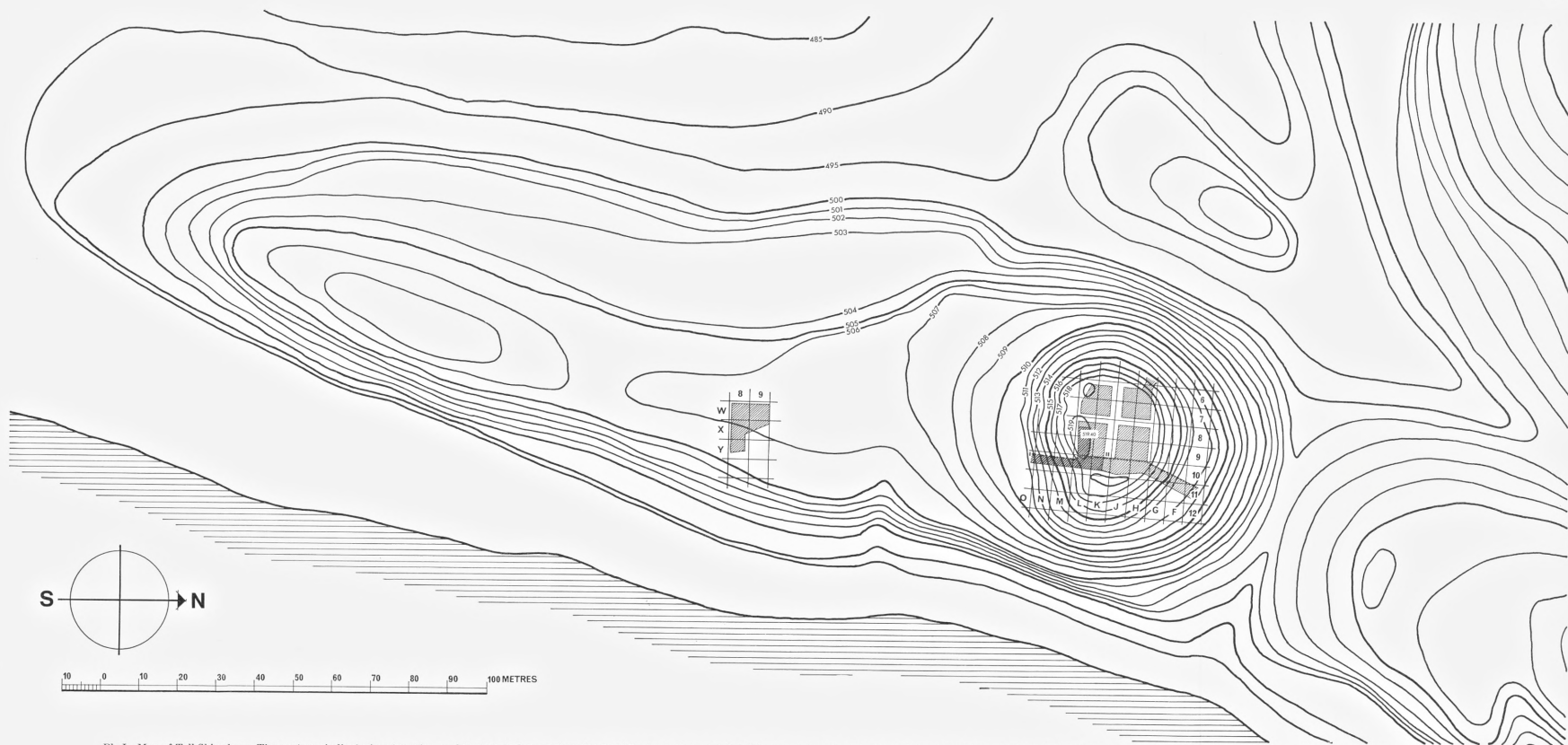


Fig. 7d. View from *Kapra* toward the North. June 1957.



Pl. I. Map of Tell Shimshara. The contours indicate 1 meter cotes, and the hatched areas show the Danish excavations of 1957. The map is based on tacheometric observations, made in July 1957 by J. M. Holt and D. N. Earp, civil engineers of the Dokan Dam Project.

ARCHITECTURE

By Anne-Tinne and Mogens Lønborg Friis

Tell Shimshara is a truncated conical mound situated on the hilly flanks of the right bank of the Lesser Zab (Fig. 2). It rises about 19 metres and is ca. 60 metres wide at the bottom and 25–30 metres in diameter at the flat top. A southern extension, only about 6 metres high, increases the total length of the *tell* to more than 330 metres. On Pl. I the contours of the mound are shown by 1 meter curves, indicating an elevation for the highest point of 519.40 metres above sea level.

The main excavation took place from the top of the northern mound. Here the investigations were carried down through sixteen occupation levels—labeled 1–16—to a depth of 8 metres below the top of the mound. On the lower extension a small area was opened. This sounding was excavated down to a depth of 1.65 meter, and six levels labeled I–VI were exposed. On the plan Pl. I, the two excavations are shown as hatched areas.

The investigations on the lower extension uncovered a few rooms of a monumental building, yielding an important hoard of tablets, mostly datable to the reign of Shamshi-Adad I of Assyria (LÆSSØE 1959a–b and 1965, LÆSSØE and KNUDSEN 1963). More of this building was exposed by excavations carried out by the Iraqi Directorate General of Antiquities in 1958–1959 (ALUSI 1959, and LÆSSØE 1960).

At the upper part of the *tell* the three top levels were Islamic, probably covering a span of time from the second part of the 12th century to the 14th century A.D. Levels 4–8 were classified as Hurrian (INGHOLT 1957, p. 214). They seem to be partly contemporary with the tablets found in the building on the lower extension. Levels 9–16 represented the Hassuna Period occupation¹ which forms the subject of this volume.

The sequence is illustrated by two sections I–II (Figs. 8–9). Their position is given on the plan Pl. I. In the sections Islamic and Hurrian levels are left open, whereas the Hassuna Period levels 9–16 are indicated by hatching. Virgin soil was not reached in either of the two soundings.

¹ The term *Hassuna Period* is used in this publication as a designation for the span of time covered by the sequence Ia–VI at Tell Hassuna.

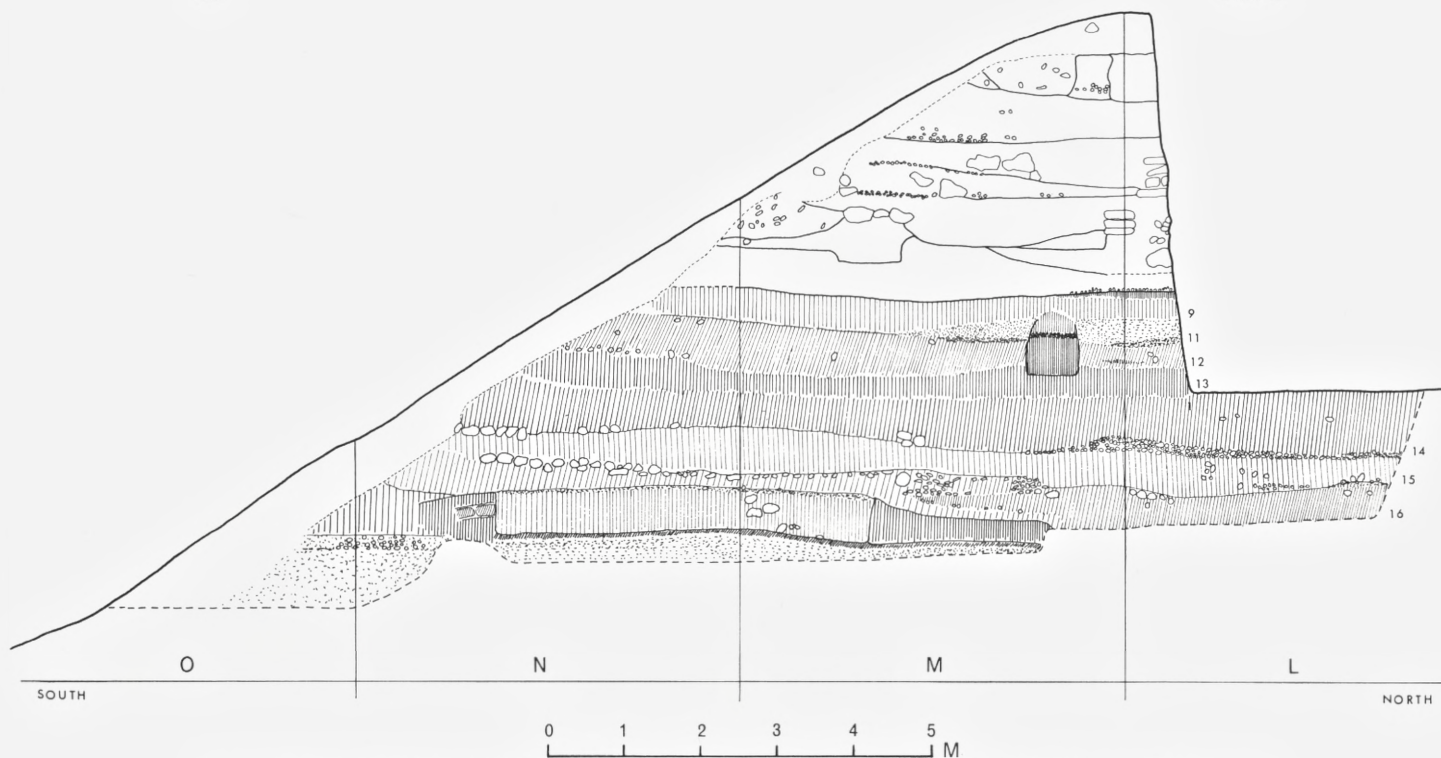


Fig. 8. Section showing the western cut of the trench L 10-O 10. The hatched levels 9-16 belong to the Hassuna Period.

Level 16. The remains of mud-walled architecture in level 16 are shown on Fig. 10 and in the section Fig. 8. In M 10 and N 10 a floor appeared, surrounded by fragmentary rectilinear walls on three sides and towards the north by a wall with two semi-circular buttresses. The floor had a thickness of 5-10 cm. It consisted of black-burnt clay which shaded to a lighter colour toward the bottom, perhaps indicating the gradual effect of a violent destruction by fire. Also the walls, preserved in a height of 55-60 cm., were heavily destroyed by fire, and the red-burnt clay was sometimes cindered. It is not quite certain, whether the walls were built of packed mud (*tauf*) or of mud bricks, but the latter is most likely, since traces of rectangular mud slabs were visible in the section (Fig. 8). The room was filled with red-burnt clay. Thin horizontal layers of grey ashes and erratic concentrations of small pebbles were found especially on top of the debris. The total thickness of the level varies from 80 to 100 cm. In the southern end of the trench a light-grey layer, containing a heavy concentration of water-worn pebbles came to light below floor 16 (Fig. 8).

Level 15. A concentration of boulders was visible in squares N 10 and M 10, placed in a straight line with an almost north-south direction (Fig. 11). An interruption seems to occur for about 1 m. a little north of the center of M 10, then—in the remaining part of M 10—the boulders resume their northerly direction for about 120 cm. A

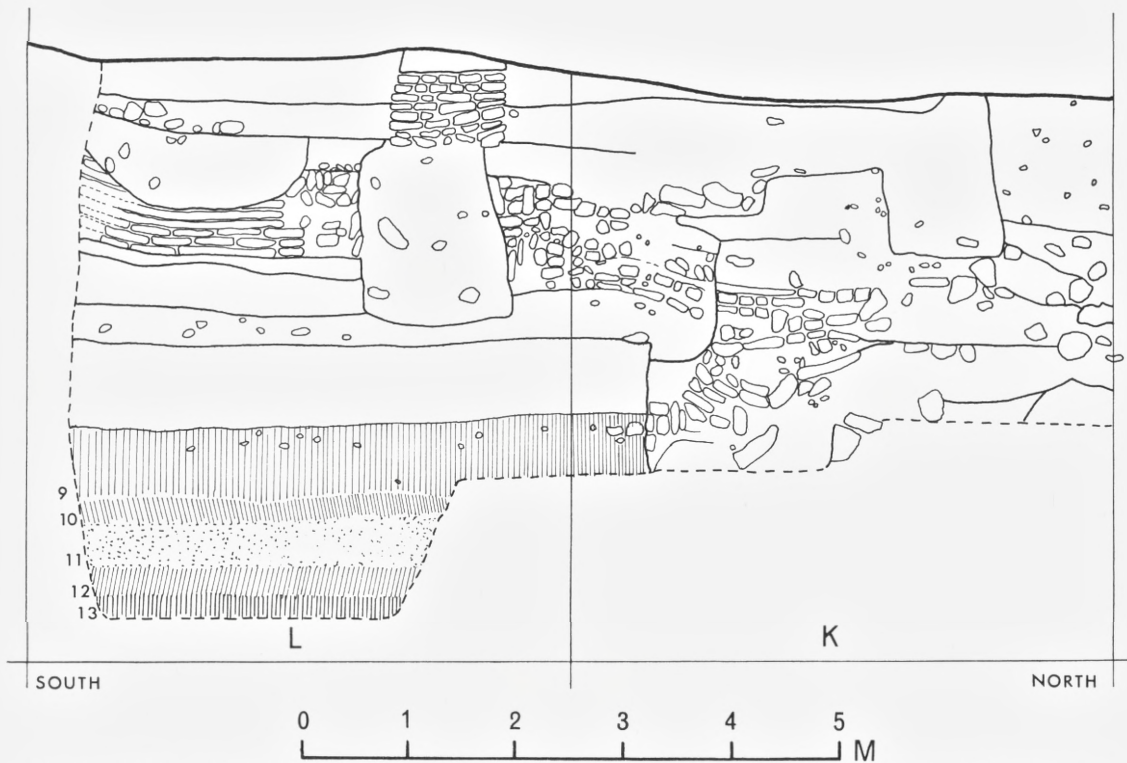


Fig. 9. Section showing the western cut of the squares K 8-L 8. The hatched levels 9-13 belong to the Hassuna Period.

concentration of big stones running west of the main row of boulders in the northernmost part of M 10 does clearly indicate a corner. Both concentrations have a width of 40-60 cm.

As far as the interpretation of these architectural features is concerned, we might point to four groups of pebbles, two of which came to light in square N 10 separated by a 40 cm. wide boulder. The third group, consisting of small sharp stones, was found in the northern part of M 10 in the space between the boulders. The fourth group appeared in L 10 and was the most extensive, apparently in the alignment of the western side of the main concentration of boulders. This last group may point to the presence of a floor, in which the pebbles were embedded, an interpretation supported by the finding of a quern for the grinding of cereals, found west of the alignment mentioned. Furthermore, an argument for the presence of a paved floor might reasonably be supported by the fact that none of the four groups of pebbles has been found under any part of the boulder concentrations. If this interpretation be correct the stone concentrations are most naturally to be identified as foundations for mud-walls and the concentrations of pebbles with fragmentary, paved floors. The thickness of level 15 varies from 25 to 65 cm. In L 10, in the northernmost part of the square

immediately above the floor, a burnt layer, about 1.5 cm. thick, appeared (Fig. 8). In N 10 the layer was cut into by a pit dug down from level 14.

Level 14. Three principal architectural features appeared in this level (Fig. 12). A foundation of boulders running approximately north-south was found in squares N 10 and M 10 (Fig. 13). In M 10 there is a corner and the foundation wall turns westward. In general this construction seems to correspond to a similar foundation in level 15. In N 10 two juxtaposed pits appeared (Fig. 14). They were about 2.30 m. in total length, 1.10 m. in maximal width and approximately 1.20 m. in depth. The pits were filled with water-worn stones, varying in size from about 5 to 8 cm. Finally, an assemblage of pebbles came to light in the northern part of M 10, continuing into L 10 (Figs. 8 and 12). The thickness of the level varied from ca. 40 to ca. 80 cm.

Level 13. In L 9 a child's skeleton was found in contracted position in a NNW-SSE direction, the face turned towards the SW (Fig. 15). About 40 cm. to the east two oval clay basins were unearthed (Figs. 15 and 16). The western basin was imbedded in the floor and was 78 cm. long, its maximum width was about 55 cm. and the depth ca. 14 cm. The eastern end was partly covered by a smaller basin of similar shape, 63 cm. long, 39 cm. wide and 8 cm. high, apparently without any integral connection with the former. In the north-western corner of the excavated area the level was broken by the floor of a Hurrian cistern, dug all the way down from level 4. Level 13's floor could be determined in squares L 8-9 only. In squares L 10, M 10 and N 10 the exact line of transition from level 14 to level 13 could not be established with certainty (Fig. 8), but the thickness of the level seems to vary from ca. 20 to 50 cm.

In L 8-9 the floor showed signs of a fire which must have been of an exceptional force, as evidenced by the damaged condition of objects found on the floor. Pieces of bone were petrified (Fig. 50), stone artefacts were seriously cracked (Fig. 44), and several obsidian blades and implements were partly melted (p. 33-34 and Fig. 31c). One of these obsidian pieces has been examined by Mrs. Ebba Jespersen of the Laboratory for Glass and Ceramics at the Technological Institute in Copenhagen. She has kindly provided us with the information that the obsidian has been heated to 1200-1260 degrees centigrade, its fusing point being 1340 degrees centigrade. The conclusion of this seems to be that the level 13 village was destroyed by a heavy fire. That the temperature became so high—1200-1300 degrees centigrade—may be due to a wind increasing the violence and the heat of the fire.

Level 12. No architectural remains have been recognized in this level. However, on the border line between squares L 10 and M 10, 15 cm. above floor 12, a burnt layer about 40 cm. wide showed up (Fig. 8). On another borderline—that between squares L 8 and L 9, in the southern part—a curious vessel with double bottom, apparently of very coarse ware, made its appearance. It protruded about 50 cm. from the cut, and the largest measurable dimension was 73 cm. On account of the friable character of the ware it was decided to leave the vessel *in situ*, to be extricated during the campaign which at that time was expected to follow in 1958. The level had a thickness of 25-70 cm.

Level 11. In square M 10 in its western section (Fig. 8) a 6 cm. layer of water-

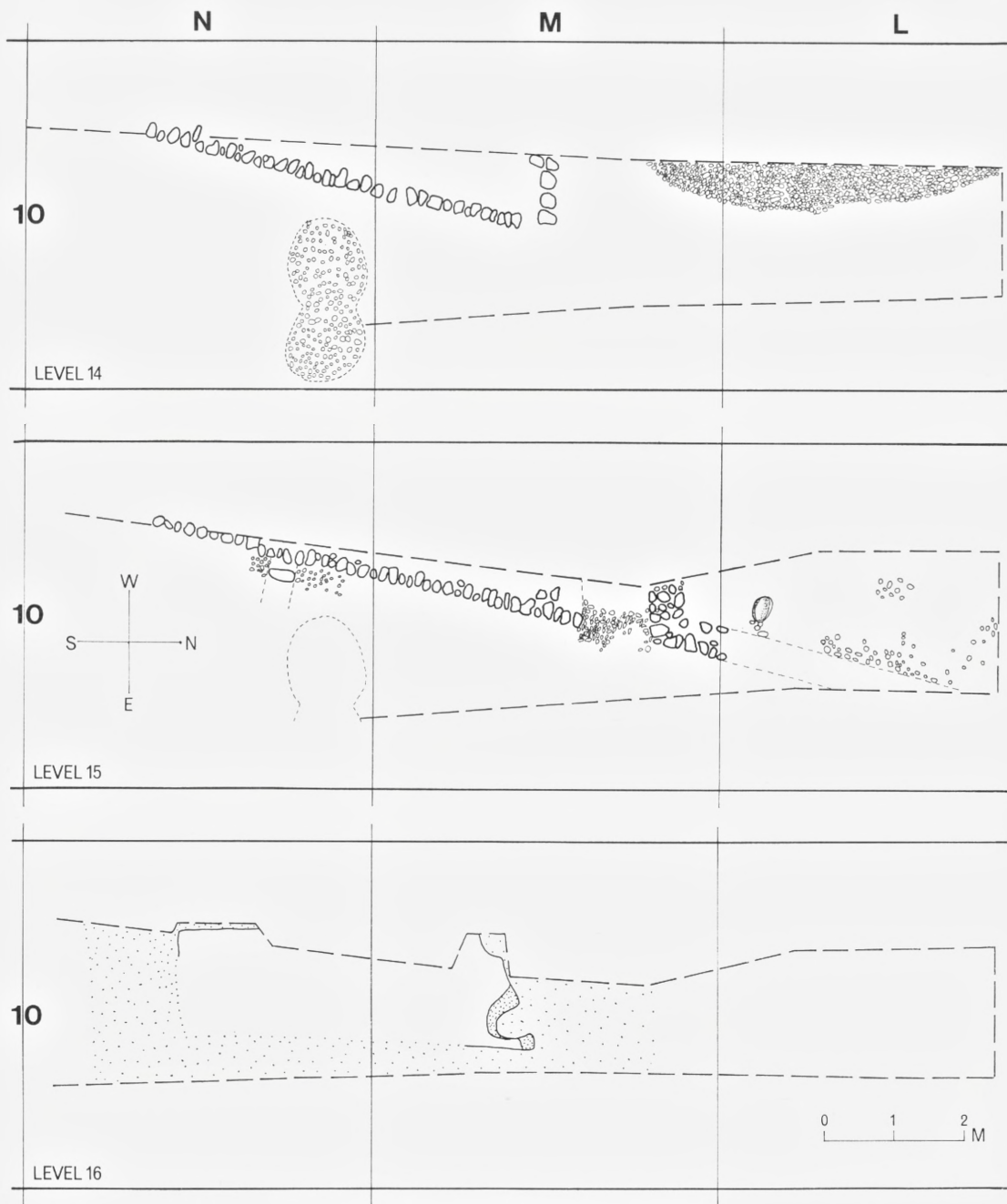


Fig. 10-12. Plans showing levels 16, 15 and 14.



Fig. 13. Level 14: foundations of boulders for mud-wall, running approximately North-South in squares N 10 and M 10.

worn, flat stones came to light for about a meter. On the floor itself a burnt layer was found, 6–10 cm. thick, beginning in the eastern section and continuing into the western section of L 10. The maximal thickness of the level was 70 cm., the minimal 35 cm.

Level 10. This level is represented only in squares L 8 and L 9 (Figs. 9 and 17). In the eastern part of L 8 an erratic assembly of pebbles and some bigger stones appeared (Fig. 18). Still further to the east was a minor concentration of small pebbles covering a number of painted sherds, and to the north were found a few stones. Between these two assemblages an oblong disturbance has been caused by a Hurrian burial dug down from level 8. The thickness of the level in the western section varies from 15 to 20 cm.

Level 9. A big pottery basin was found in the eastern part of this level (Fig. 20). In the west cut in the square of M 10 a circular pit had been dug down about 70 cm.



Fig. 14. Level 14: juxtaposed pits filled with water-worn stones in N 10. The western pit has been almost emptied.

through levels 10–12 into the top of level 13 (Fig. 8). The pit was filled with burnt material on the top of which a layer of stamped clay with pebbles could be seen (Fig. 19). Above this a domed structure ca. 25 cm. high is visible in the section Fig. 8. It is possible, that the pit with the paved floor on top can be interpreted as the lower part of a domed oven similar to those found in several contemporary and earlier villages in Northern Mesopotamia and the Zagros area, e.g. at Jarmo and Tepe Guran (BRAIDWOOD and HOWE 1960, p. 42 and MELDGAARD, MORTENSEN and THRANE 1964, p. 107, Fig. 7 and p. 111–112).

In squares M 10 and L 10 in the western section, a 15 cm. layer of grey-black clay appeared, on the top of which was found a heap of snail shells (*Helix salomonica*). In the western part of L 10 the layer had a thickness of 60–70 cm., decreasing towards the south in M 10 and N 10 to 40–50 cm.

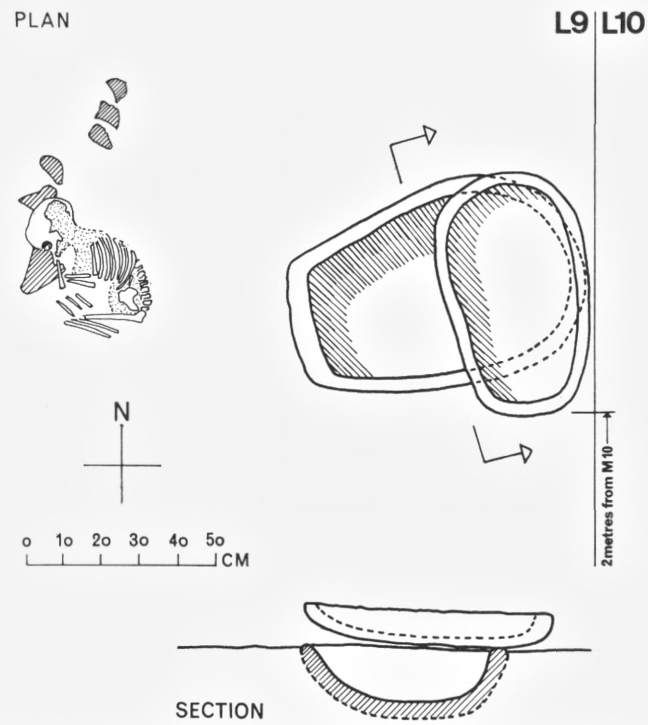


Fig. 15. Level 13: plan showing child's burial and clay basins in L 9.



Fig. 16. Level 13: clay basins in L 9.

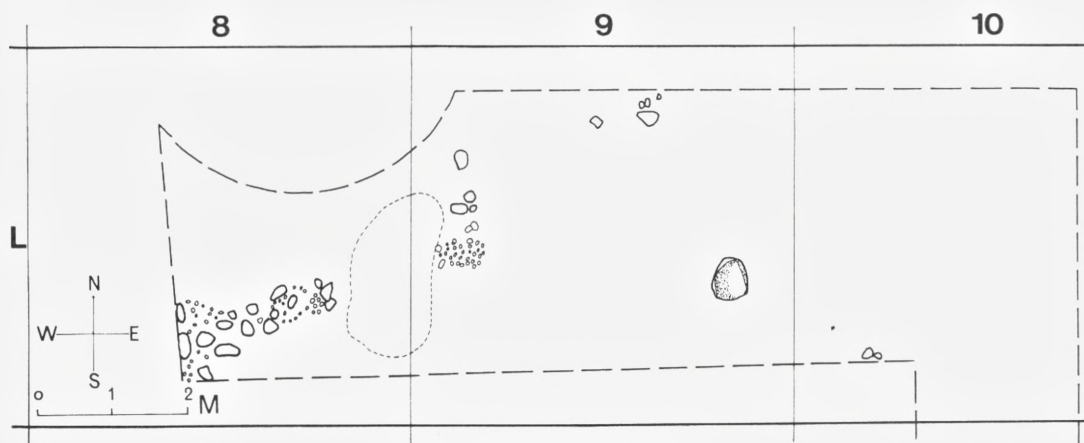


Fig. 17. Plan showing level 10.

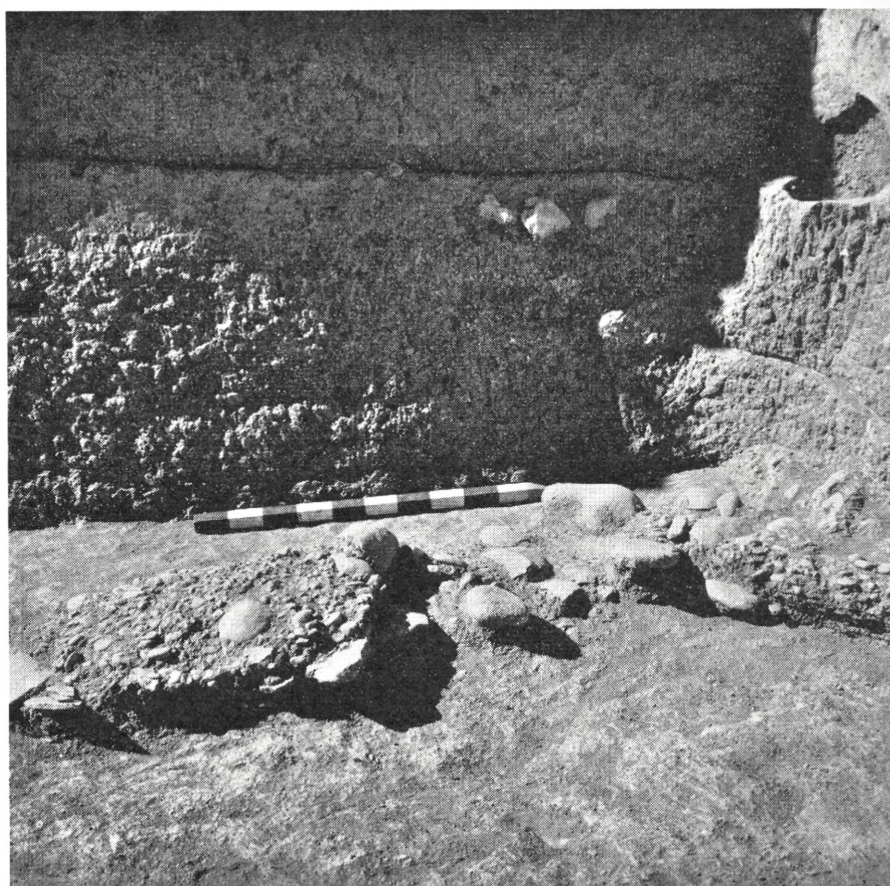


Fig. 18. Level 10: assemblage of pebbles and bigger stones in the eastern part of L 8.

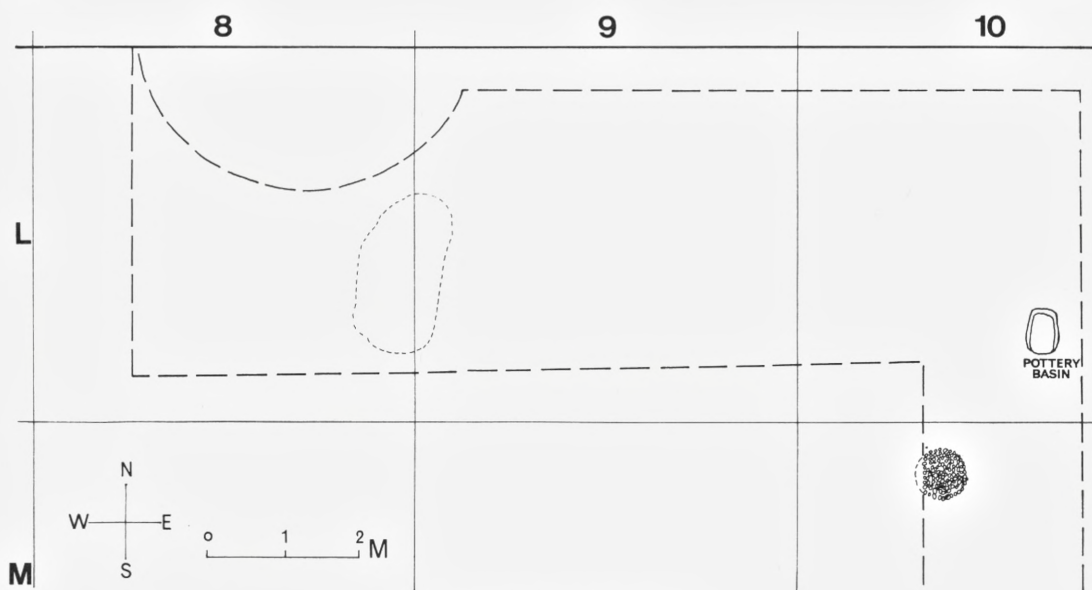


Fig. 19. Plan showing level 9.

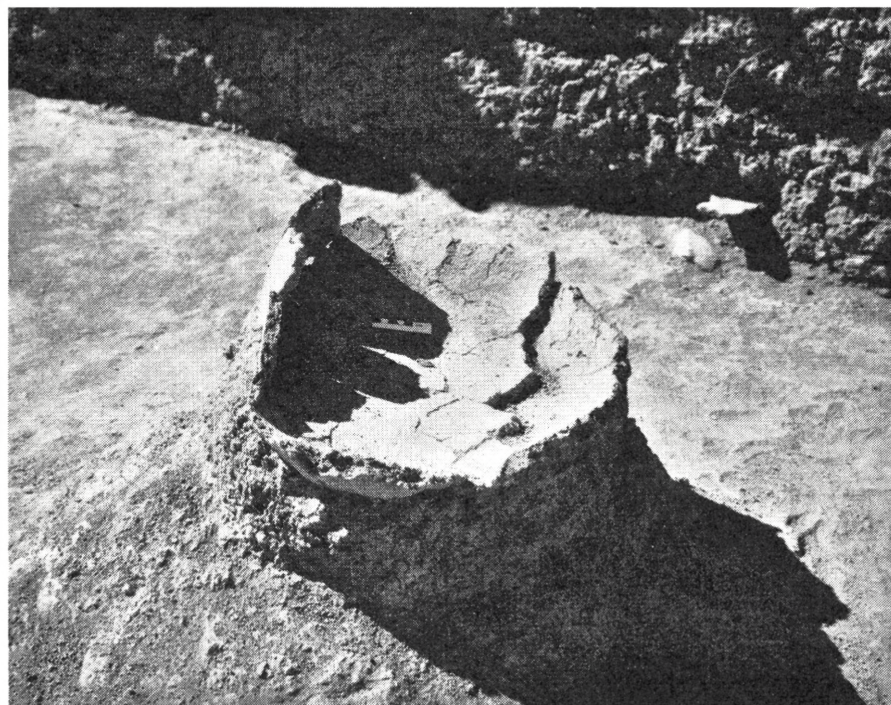


Fig. 20. Level 9: big pottery basin in the eastern part of L 10.

THE CHIPPED STONE INDUSTRY

Although only a small collection of flint and obsidian was found during the excavation in 1957, the material has proved to be sufficient for a general description and definition of the chipped stone industry represented at Shimshara. The following examination is based on 910 pieces, 850 of which appeared in levels 9–16. The remaining 60 pieces were found apart from their original context: unstratified, or carried off to Hurrian or Islamic levels.

As shown in the diagram Fig. 21 most of the material used for flaking was obsidian and less than 15% was flint. It is notable that with minor oscillations this proportion is constant throughout the levels. The variation in level 9, showing 50% flint, is probably an accident provoked by the general lack of material from this level, which revealed only four pieces of chipped stone.

The origin of the obsidian is considered by Colin Renfrew on p. 139. It appears that it has been brought from two different sources, one in Eastern Anatolia, which has not yet been precisely located, the other the volcanic crater of Nemrut Dağ on Lake Van more than 300 km. northwest of Shimshara. Contrary to this, the flint seems to be local. 52% of the flint is light-grey, 9% is grey with green veins, 5% is green, 1% is green with brown veins, 24% is brown, and 9% is brown with grey veins. The structure of the grey flint favoured by the users is slightly finer than that of the green and brown material, but it is most likely that it all comes from one source of tabular grey flint with layers of brown and green material incorporated.

In the following description of the type inventory the terms “ventral side” and “reverse” have been used synonymously to denote the bulbar flaking plane of blades and flakes in contrast to the “dorsal side” or “obverse” signifying the upper surface showing scars from previous flaking.

Blade core and core fragments. Conical microblade core with oval striking platform and fairly regular scars all the way round (Fig. 22a). Height 2.5 cm., width of platform 1.6–1.9 cm.

Fragments of blade cores in the shape either of tablets removed from the core by a horizontal blow in order to get a new striking platform (Fig. 22b), or of fragmentary longitudinal pieces with scars from previous flaking, probably resulting from

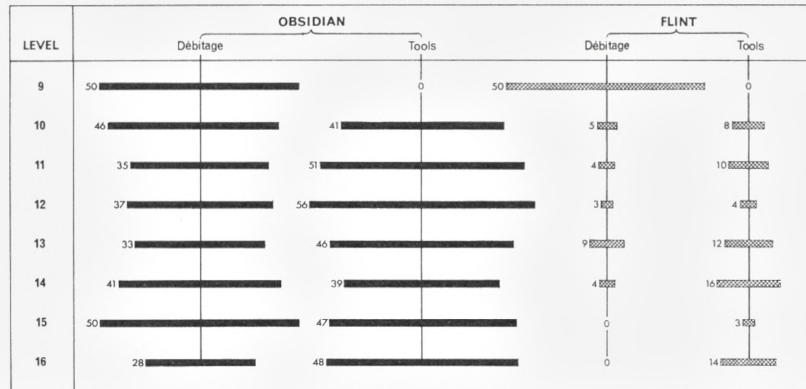


Fig. 21. Diagram showing the relative amounts of obsidian and flint, and the quantity throughout the levels of retouched obsidian and flint compared to unretouched materials. The horizontal bars are percentage indicators, comprising for each level one hundred per cent.

an unsuccessful attempt to produce a blade (Fig. 22c). The height ranges from 0.9 to 3.0 cm., the width from 1.3 to 2.1 cm.

Flakes. Included in this group is a wide range of ordinary flakes, flake-blades and small chips left over from the preparation of tools. Generally the flakes are irregularly shaped and the majority are relatively wide (i.e. that the width equals more than half of the length measured along the longitudinal axis). The ventral side is formed by one continuous plane which at one end has the bulb of percussion. The dorsal side is covered by several scars from earlier flaking and cortex is sometimes preserved on flakes struck off the raw block during the preparation of flake and blade cores (Fig. 22i). A few flakes are strong and regularly shaped (Fig. 22k), but most pieces give the impression of being waste material left over from the preparation of cores or from the manufacture of other implements (Fig. 22d–g and j). Small chips like Fig. 22h are probably débitage from the surface treatment of larger tools. The length ranges from 1.0 to 4.5 cm. with an average between 2.0 and 3.5 cm. The width varies from 0.8 to 4.6 cm. with an average between 1.0 and 2.5 cm.

Blades. Most of the blades are thin and narrow with almost parallel sides and two or more often three scars from previous flaking running parallel to the edges on the dorsal side. The ventral side forms one plane with the bulb of percussion at the end. The blades are usually 3 to 5 times longer than wide. This description applies especially to blades made of obsidian (Fig. 23a–c, g and i–j). In general blades of flint are shorter compared to the length, the scars on the dorsal side may be more numerous and they are rarely parallel to the edges. This irregularity, combined with a greater thickness, endows the flint blades with a more clumsy appearance (Fig. 23e, f and h).

More than a third of the blades are so short and narrow that according for example to Malmer's definition they can be classified as microblades (MALMER 1962, p. 53), i.e. that they are less than 5 cm. long and that the width is less than one fifth of the length (Fig. 23a–b).

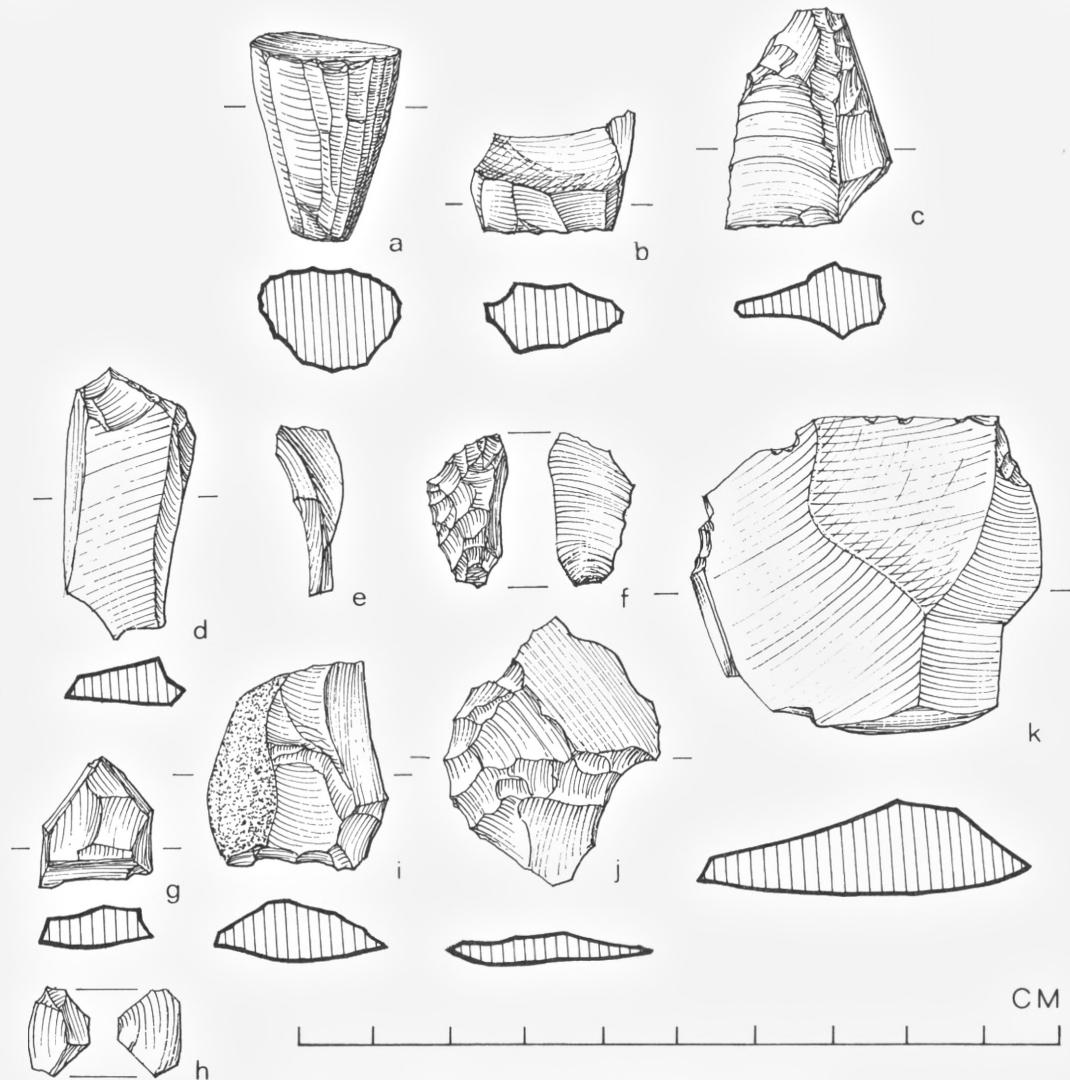


Fig. 22. *a-c* blade core and core fragments, *d-k* flakes:
a: TSH. 7 (SH. 686). Floor 14, M 10. Flint
b: TSH. 135. Level 10, N 10. } Obsidian
c: TSH. 96. Level 10, N 10. }
d: TSH. 168b. Level 10, N 10. Flint
e: B. 103. Floor 10, N 10. } Obsidian
f: B. 104. Floor 10, N 10. }
g: TSH. 168c. Level 10, N 10. Flint
h: TSH. 136a Level 10, N 10. Obsidian
i: TSH. 168a. Level 10, N 10. Flint
j: TSH. 136b. Level 10, N 10. } Obsidian
k: B. 256. Level 8, L 9/10. }

A few blades and blade fragments are so short compared to the width that they might as well have been described as flakes (e.g. Fig. 23d). Their classification here as blades is due to their almost parallel edges and scars on the dorsal side.

The longest unworked blades of flint and obsidian measure respectively 7.5 cm. and 9.4 cm., but the average length varies from 3.0 to 5.5 cm., the width of the blades from 0.4 to 1.2 cm. The thickness of the obsidian blades lies around 0.2 cm. The thickness of the flint blades varies in most cases from 0.3 to 0.5 cm.

Flake scrapers. Flake scrapers were produced on small circular or triangular flakes by a steep or semi-steep retouch along more than half of the total edge (Fig. 24a-c). The width of the flake scrapers varies from 3.3 to 3.6 cm., the thickness from 0.5 to 1.1 cm.

End-of-blade scrapers. On the basis of the shape of the scraper edge the end-of-blade scrapers from Shimshara can be divided into four groups. Approximately two thirds of the implements have convex edges (Fig. 24d-i). The other types, mentioned according to the frequency in which they occur, show straight (Fig. 24n-p), oblique (Fig. 24l-m) or concave edges (Fig. 24j-k).

Most scraper edges are produced by a semi-steep, regular retouch which has partly cut off the bulb of percussion. Consequently, these scrapers are curved towards the edge, as shown in the section Fig. 24i. The side edges are often blunted by retouch, and in a few cases a tang has been made at the lower end indicating that some end-of-blade scrapers may have been inserted in a handle (Fig. 24m and p.) A couple of scrapers with edges at both ends (Fig. 24f) have probably never been shafted.

The majority of the scrapers are made on blades with regular, parallel sides. In most cases their length varies between 2.0 and 4.0 cm., their width between 1.0 and 1.5 cm., and their thickness between 0.2 and 0.3 cm. The longest implement is 7.6×1.5 cm. A couple of scrapers are made on narrow microblades (Fig. 24h and n).

Flake borer. A single borer was made from a triangular flake, irregularly retouched along all edges (Fig. 25a). Length 5.6 cm., width 2.7 cm.

Blade borers with semi-steep retouch. Several borers were made on blades one end of which had an oblique retouch producing a point (Fig. 25b-d). Some of the implements are blunted by retouch along one or both side edges. One borer has two strong drill points—one at each end of the blade—produced by retouch on the ventral side (Fig. 25e). The length varies from 2.2 to 4.4 cm., the width from 0.9 to 1.5 cm.

Blade borers with steep retouch. Blades with a steep, obverse retouch along both side edges forming a point at one end (Fig. 25f-h). The edges are usually parallel to the axis of the blade curving out towards the bulbar end, which is but slightly trimmed by chipping to form a short, convenient handle. The point which shows a polygonal section is very long and often broken off at the end. Length as preserved 3.9 to 5.7 cm.

Burins. The burins, made on blades or small flakes, constitute a small heterogeneous group. Most of the pieces are produced by the intersection at one end of two flaking surfaces (Fig. 26a-d) or by a retouched plane cut by a burin blow (Fig. 26e-f). Two specimens have been formed by several blows struck against a broken transversal

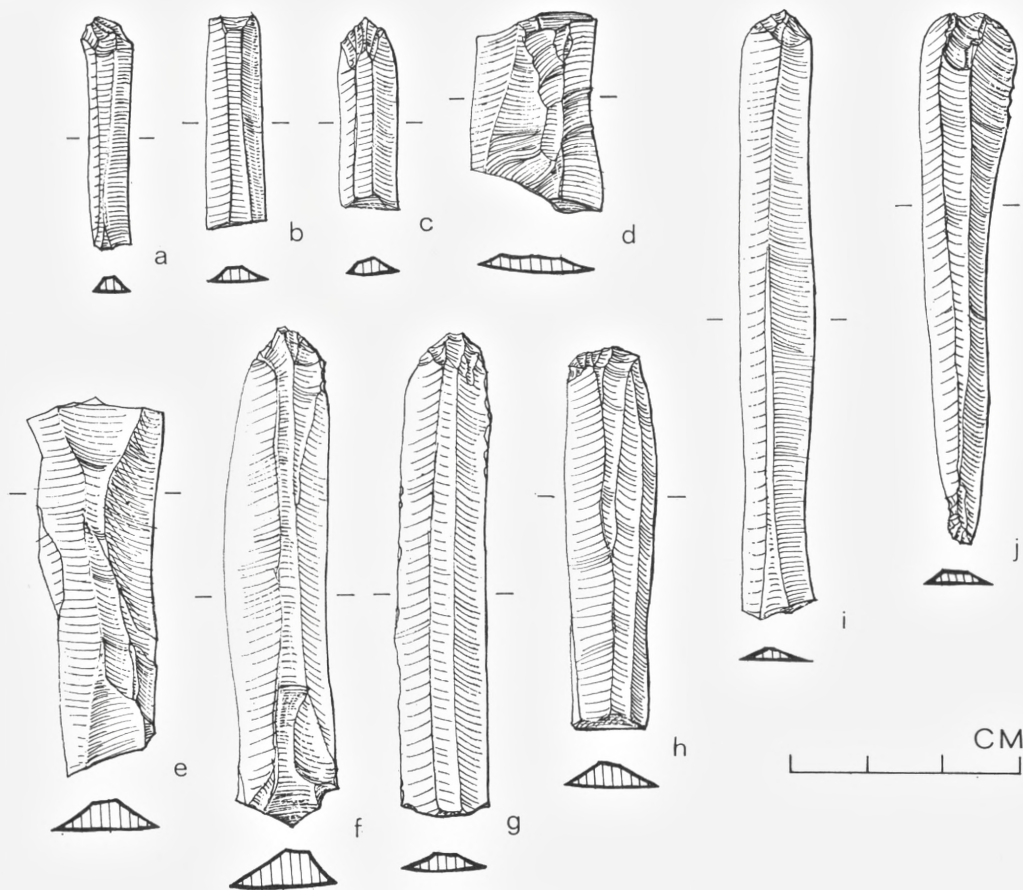


Fig. 23. a-j blades:
 a: TSH. 122B. Level I-II, W 8. }
 b: B. 9. Level 12, N 10. } Obsidian
 c: B. 7. Level 12, N 10. }
 d: B. 26. Level 12, N 10. }
 e: TSH. 137b. Level 10, N 10. } Flint
 f: SH. 678. Floor 11, M 10. }
 g: SH. 670. Floor 10, N 10. } Obsidian
 h: SH. 667B. Unstratified. Flint
 i: SH. 628. Level 16, M 10. } Obsidian
 j: SH. 679. Level 13, N 10. }

edge (Fig. 26g). The burins may or may not be partially trimmed by obverse chipping along the edges. Length 1.9 to 5.1 cm.

Plain blades with gloss. Blades or blade sections with sheen on one or both edges are generally made from regular blades (Fig. 27a-e). Some of them are slightly trimmed by a fine chipping along the side edges, but the snapped ends of the blade sections are never retouched. The average length of these blades lies between 1.6 and 4.0 cm. The longest blade is 5.7 cm.

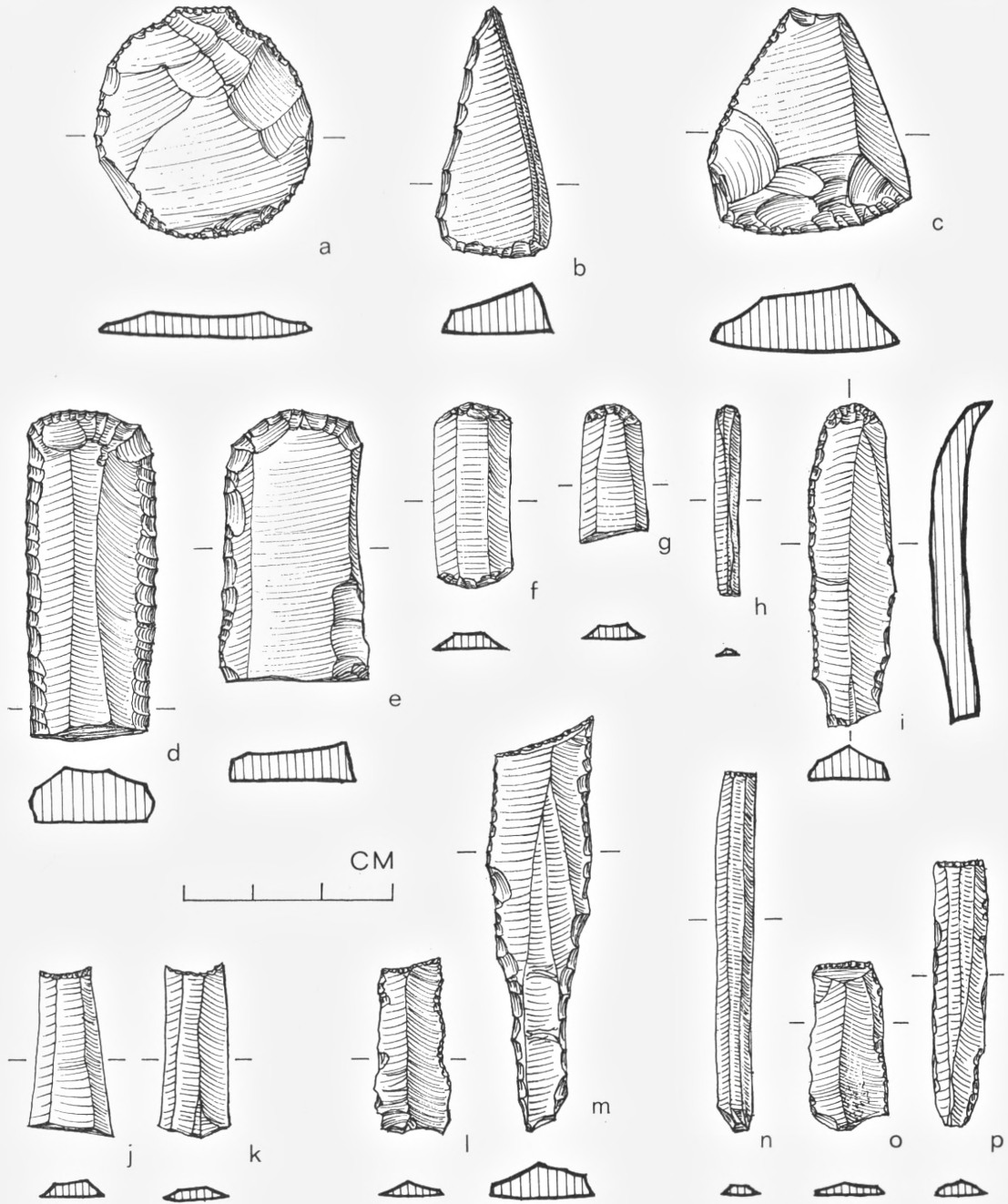


Fig. 24.

Serrated blades with gloss. On a small group of blades the glossy cutting edge has been further developed by retouch producing a slight serration (Fig. 27f–g). The length of these blades varies from 2.1 to 5.3 cm.

Serrated blades without gloss. Blades or blade sections serrated along one side edge occur quite often (Fig. 27h–j). It is notable that on such pieces the serration is always produced by an obverse retouch. Some of the blades are blunted along the right edge by irregular chipping. The length varies from 2.5 to 5.1 cm.

It is most likely that plain or serrated blades with gloss along the edge (Fig. 27a–g) have been used as sickleblades inserted in a handle of wood or bone. Serrated blades without gloss (Fig. 27h–j) may have been used in the same way, but since nearly all of them are made of obsidian, which does not show any sheen as a result of wear, this cannot be verified.

Notched blades. Irregularly chipped blades with retouched notches occur in a number of varieties (Fig. 28a–e). The notches may be on one or both edges, and there may be one or several notches on one edge. On a few blades two notches are situated opposite each other as if they have been used for shafting the blade (Figs. 28b and e). It is remarkable that all the notches are retouched on the obverse face. Length 2.3 to 5.0 cm.

Geometric microliths. Trapezoid blade segments with an oblique, semi-steep terminal retouch at both ends were chipped along one or both side edges, the retouch being directed from either the dorsal or the ventral face (Fig. 28f–g). Length 2.4 to 3.4 cm.

Beaked blades. Blades with an obverse, semi-steep or steep retouch along one or both edges, producing a short, strong beak at one end by the intersection of the broken end of the blade and the outcurving side retouch (Figs. 29a–e). The implements are made from rather thick blades, and the lower end is usually snapped off. One piece has a beak at both ends (Fig. 29f). Length 1.5 to 6.1 cm., with an average of 3.0 to 3.5 cm.

Dagger (?). Four fragments were found of what seems to have been a unique dagger (Fig. 30). Unfortunately, the piece, found in level 13, was badly damaged by

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- Fig. 24. *a–c* flake scrapers, *d–p* end-of-blade scrapers:
- | | | |
|--|---|----------|
| a: TSH. 26. Floor 14, M 10. Flint | } | Obsidian |
| b: TSH. 103. Level 10, N 10. | | |
| c: TSH. 102. Level 10, N 10. | | |
| d: TSH. 122D. (SH. 652). Below floor V, X 8. | | |
| e: B. 248. Level 12, N 10. Flint | | |
| f: B. 273. Level 8, L 7/10. | } | Obsidian |
| g: TSH. 219. Level 11, M 10. | | |
| h: TSH. 226. Level 11, M 10. | | |
| i: TSH. 140. Level 10, N 10. | } | Flint |
| j: TSH. 64. Floor 14, M 10. | | |
| k: B. 88. Floor 10, N 10. | | |
| l: TSH. 206. Level 13, N 10. | } | Obsidian |
| m: B. 270. Level 8, L 7/10. | | |
| n: TSH. 20. (SH. 668). Unstratified. | | |
| o: B. 62. Level 12, N 10. | | |
| p: TSH. 13. (SH. 681). Level 16, M 10. | | |

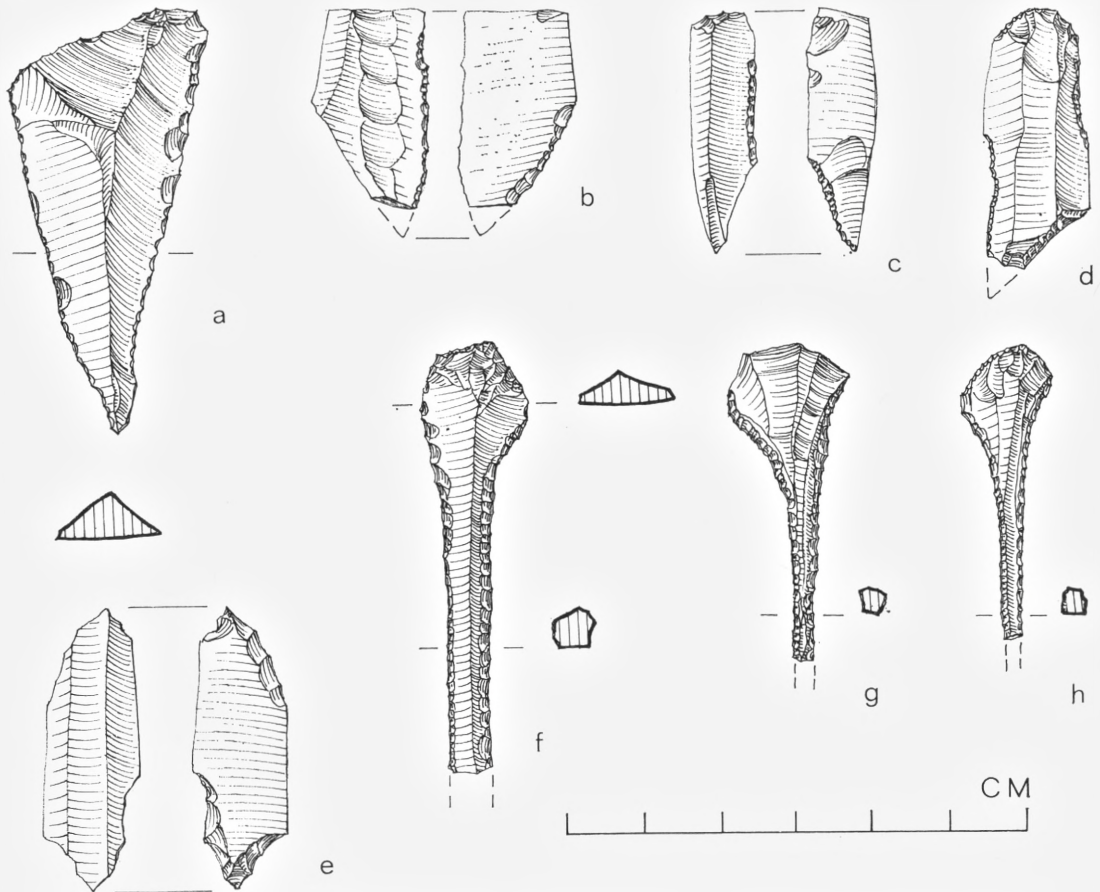


Fig. 25. *a* flake borer, *b-e* blade borers with semi-steep retouch, *f-h* blade borers with steep retouch:

- a: B. 182. Floor 16, M 10.
- b: B. 303. Floor 11, M 10.
- c: B. 304. Floor 11, M 10.
- d: B. 324. Floor 10, M 10.
- e: TSH. 100. Level 10, N 10.
- f: SH. 672. Floor 12, L 9.
- g: IM. 60848. (SH. 632). Level 16, M 10.
- h: TSH. 122C. Unstratified.

} Obsidian

fire. As mentioned above on p. 20 the heat from this fire had been so strong that several obsidian blades and implements had partly melted, showing a cindery structure, sometimes with faint traces of the original scars from flaking visible on the surface (Fig. 31c). Only the upper part of the dagger was undamaged by the fire (Fig. 31a-b). It showed a strong, regular obsidian blade, blunted by a steep retouch along both edges. Near the upper end the retouch curved out at both sides producing a fan-shaped terminal widening of the blade, on the ventral face of which the bulb of percussion had been chipped away.

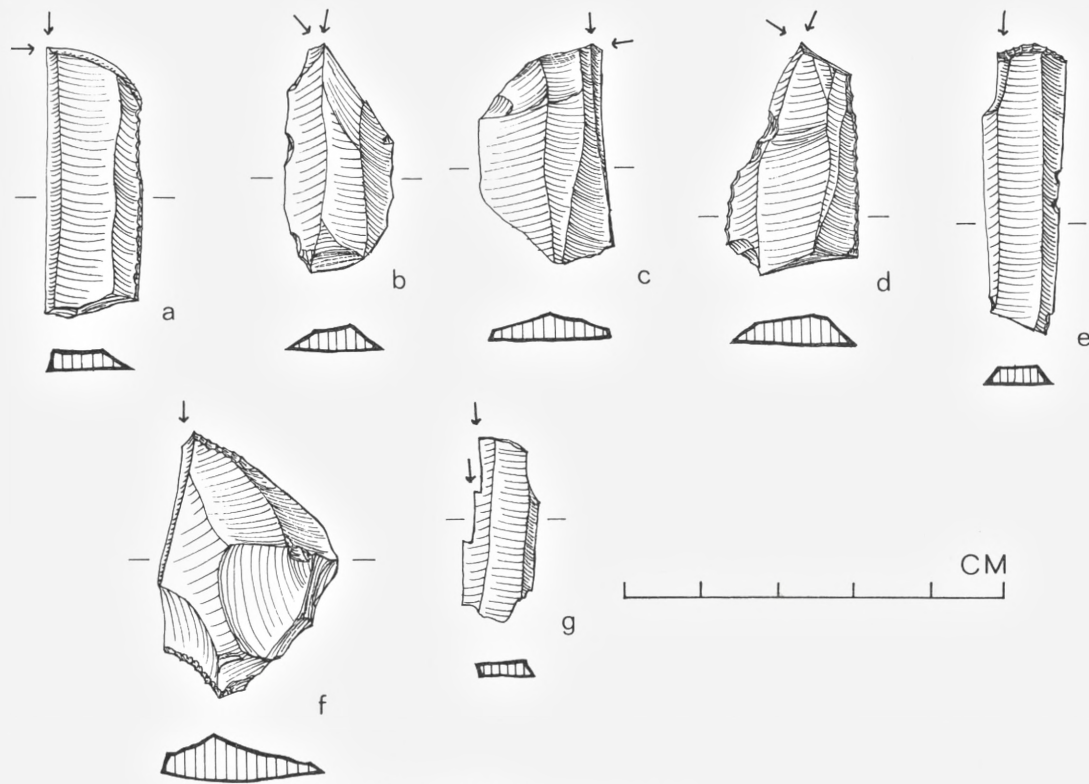


Fig. 26. a-g burins:
 a: TSH. 41. Floor 14, M 10.
 b: TSH. 46. Floor 14, M 10.
 c: TSH. 98. Level 10, N 10.
 d: TSH. 99. Level 10, N 10.
 e: TSH. 223. Level 11, M 10.
 f: TSH. 233. Level 11, M 10.
 g: TSH. 101. Level 10, N 10. } Obsidian

The fragments, three of which fit together, indicate that the original length of the weapon extended 35.5 cm.

Cores with secondary retouch. A few blade cores and core fragments are retouched secondarily along one or both side edges, either by a steep, regular retouch or by an irregular, squamous retouch. Usually, the retouch emphasizes the tapering shape of the cores (Fig. 32a-b). Length 2.2 to 8.6 cm., width 1.2 to 1.9 cm.

Flakes with partial retouch. Flakes with partial irregular retouch along the edges. The chipping is usually restricted to the dorsal side (Fig. 32c-d). Dimension varying from 1.2×1.3 cm. to 3.9×3.8 cm.

Blades with partial retouch. A great number and variety of blades and blade segments occur with partial retouch or chipping along one or both side edges (Fig. 32e-j). Length 1.6 to 7.5 cm.

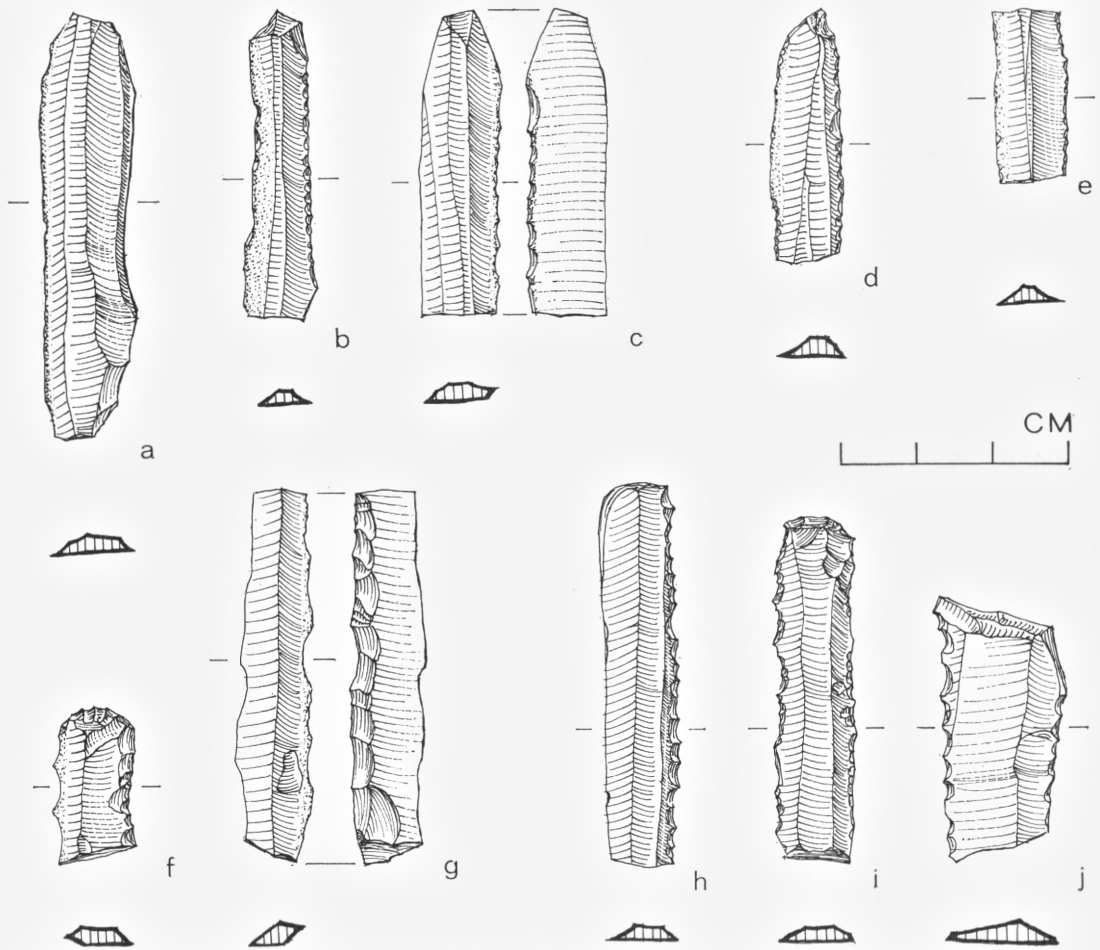


Fig. 27. *a-e* plain blades with gloss, *f-g* serrated blades with gloss, *h-j* serrated blades without gloss:

- | | |
|------------------------------|------------|
| a: B. 176. Floor 16, M 10. | } Flint |
| b: B. 177. Floor 16, M 10. | |
| c: TSH. 142. Level 10, N 10. | |
| d: TSH. 145. Level 10, N 10. | |
| e: TSH. 34. Floor 14, M 10. | |
| f: B. 174. Floor 16, M 10. | } Obsidian |
| g: B. 331. Floor 11, M 10. | |
| h: TSH. 202. Level 13, N 10. | |
| i: B. 68. Level 12, N 10. | |
| j: B. 302. Floor 11, M 10. | |

Unidentifiable fragments of blade tools. A few blade implements with steep regular retouch along both side edges were so fragmentary that they could not be classified with certainty.

It appears from Fig. 33, which shows the number and distribution throughout the levels of the types described above, that the type range represents an unbroken tradition for the chipped stone industry. End-of-blade scrapers and plain blades with

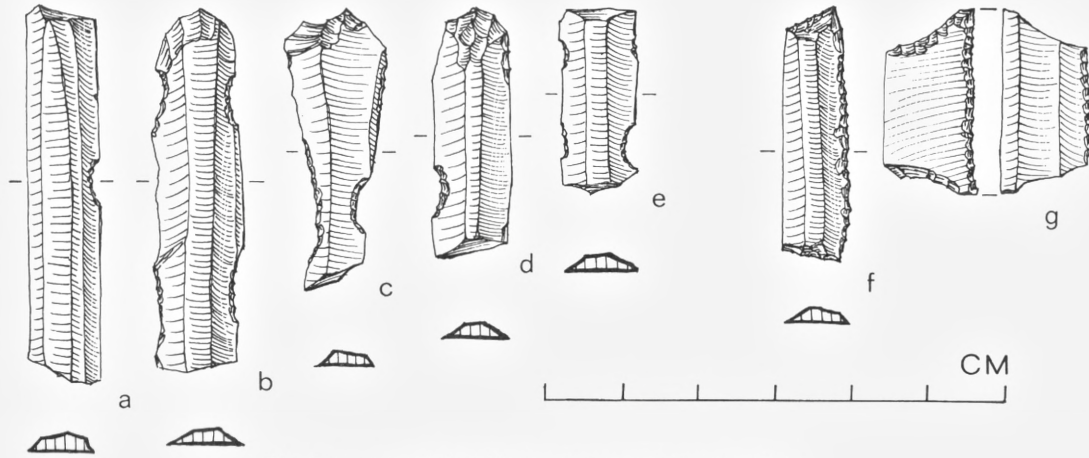


Fig. 28. *a-e* notched blades, *f-g* geometric microliths:
 a: TSH. 132c. Level 10, N 10. Obsidian
 b: TSH. 30. Floor 14, M 10. Flint
 c: TSH. 123. Level 10, N 10.
 d: B. 155. Floor 10, N 10.
 e: TSH. 132ar. Level 10, N 10. } Obsidian
 f: B. 183. Floor 16, M 10.
 g: B. 276. Level 8, L 7/10. }

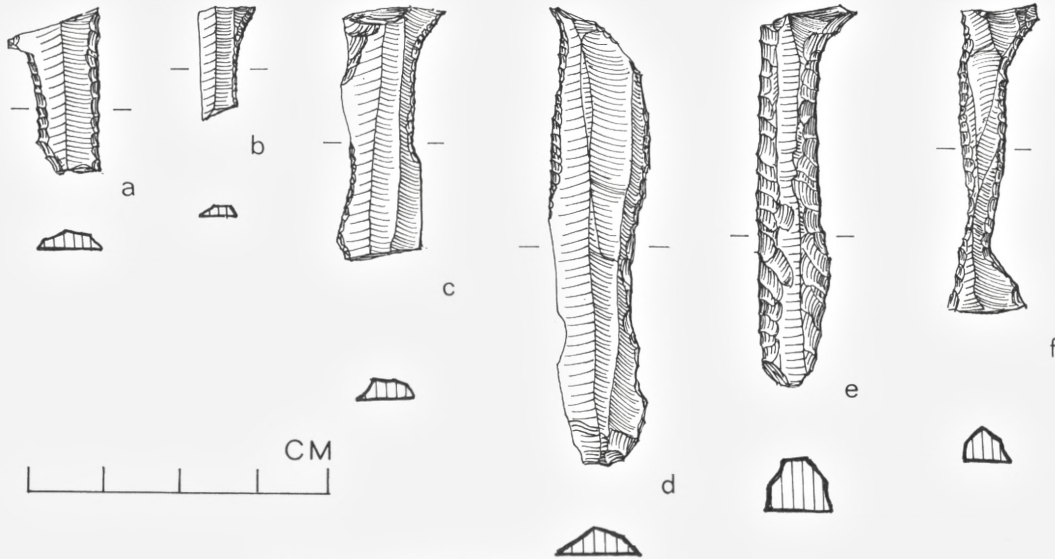


Fig. 29. *a-f* beaked blades:
 a: B. 325. Floor 10, M 10. } Obsidian
 b: TSH. 126. Level 10, N 10. }
 c: TSH. 210. Level 11, M 10. } Flint
 d: TSH. 139. Level 10, N 10. }
 e: TSH. 203. Level 13, N 10. } Obsidian
 f: TSH. 188. (SH. 685). Floor 10, N 10. }

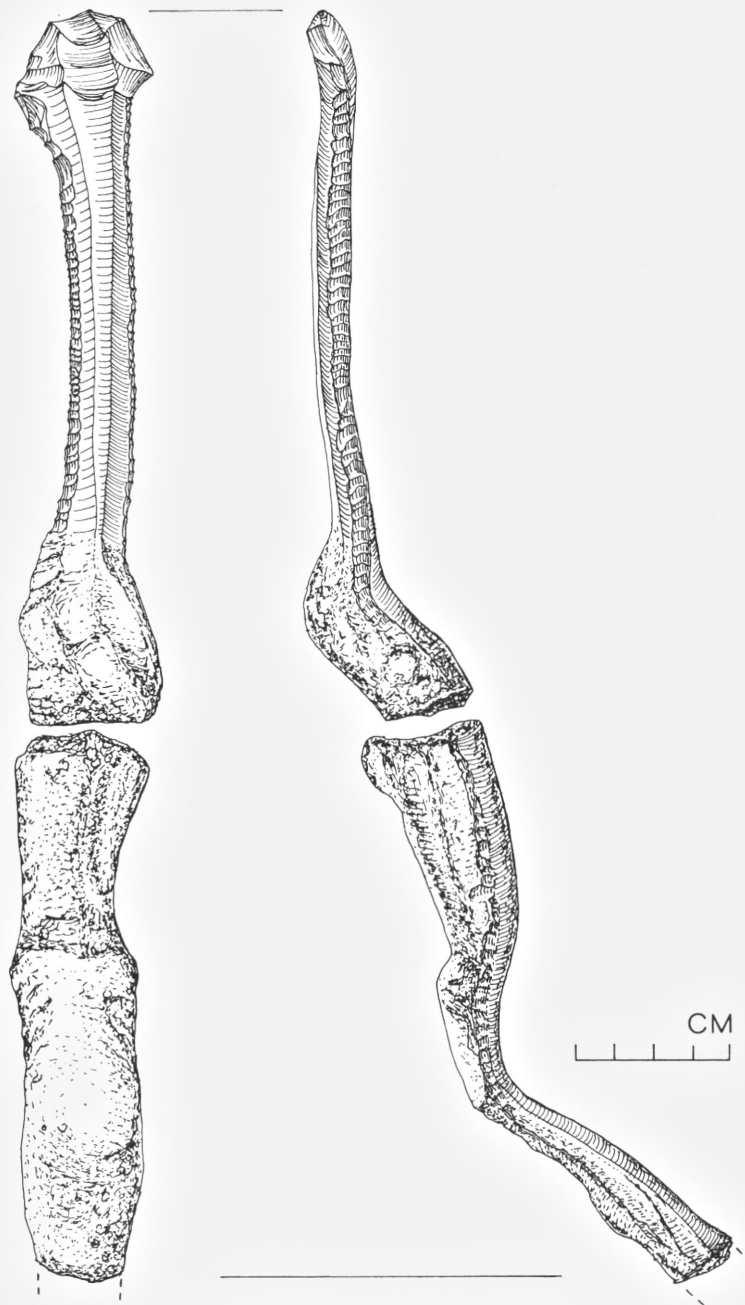


Fig. 30. Fragmentary dagger(?) of obsidian:
IM. 61197 (SH. 664). Floor 13, N 10.



Fig. 31. *a-b* upper and *c* lower part of dagger(?). Natural size.

gloss (sickleblades) are common in all levels. The occurrence in level 16 of a single flake borer and a geometric microlith may be incidental. But the increasing quantity in the younger levels of blade borers with steep retouch, burins, notched blades, and serrated blades with and without gloss, and the appearance in levels 13–10 of beaked blades and blade borers with semi-steep retouch may reflect a gradual development and change in the type inventory.

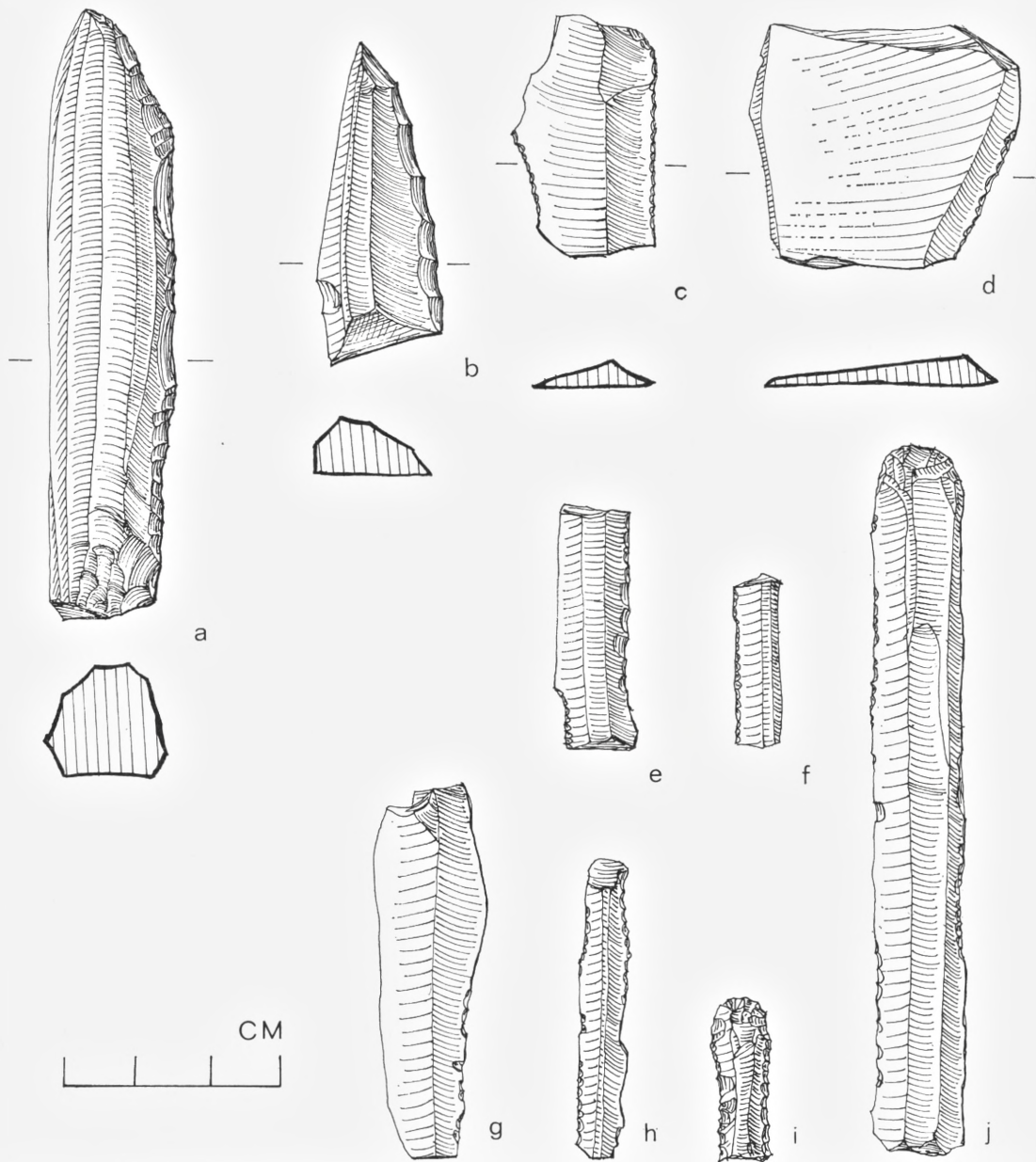


Fig. 32. *a-b* cores with secondary retouch, *c-d* flakes with partial retouch, *e-j* blades with partial retouch:

- a: SH. 632. Level 16, M 10.
- b: B. 170. Floor 16, M 10.
- c: B. 85. Level 12, N 10.
- d: TSH. 133f. Level 10, N 10.
- e: B. 34. Level 12, N 10.
- f: B. 44. Level 12, N 10.
- g: B. 47. Level 12, N 10.
- h: B. 52. Level 12, N 10.
- i: B. 60. Level 12, N 10.
- j: IM. 60846. (SH. 629). Level 16, M 10.

} Obsidian

Type	Level								Unstratified	Total number
	16	15	14	13	12	11	10	9		
Blade cores and core fragments			1				5			6
Flakes	1	2	8		8	3	41	1	5	69
Blades	13	16	24	14	32	38	187	3	21	348
Flake scrapers			1				2			3
End-of-blade scrapers	3	4	3	4	8	5	12		6	45
Flake borer	1									1
Blade borers with semi-steep retouch						4	3			7
Blade borers with steep retouch . . .	1				1		2		1	5
Burins			2			4	6			12
Plain blades with gloss	4	1	6			4	20		1	36
Serrated blades with gloss	1					2	3			6
Serrated blades without gloss	1	2	1	2	2	10	9		1	28
Notched blades	1		2		1	1	8			13
Geometric microliths	1								1	2
Beaked blades				1		2	9			12
Dagger(?)				1						1
Cores with secondary retouch	2		1		2					5
Flakes with partial retouch			1	1	5	9	10			26
Blades with partial retouch	15	11	23	10	39	23	139		24	284
Unidentifiable fragments	1		1		2		1			5
Total number	45	36	73	33	99	105	455	4	60	910

Fig. 33. Table showing the distribution throughout the levels of obsidian and flint.

As mentioned on p. 27 there was a considerable domination of obsidian compared to flint in all levels. The diagram, Fig. 21, shows that throughout the sequence roughly half of the obsidian was *débitage*, i.e. cores, core fragments, flakes, and blades without any signs of deliberate retouch. In contrast to this, more than two thirds of the flint material had been utilized for making tools, a fact testifying to a more economic use of flint than of obsidian. This circumstance, combined with the abundance of obsidian at Shimshara and at other contemporary sites in Dasht-i-Bitwain (MORTENSEN 1962, p. 78) seems to suggest that in the second part of the 6th millenium B.C. the obsidian trade in this area was better organized than the exploitation of local tabular flint.

In the diagram, Fig. 34, is represented the relative amount of obsidian and flint used for preparing different types of tools. Since gloss is only visible on flint, it is obvious that all plain and serrated blades with gloss appearing in the diagram are made of flint. All other types were predominantly made from obsidian, and several implements, including blade borers with steep retouch, burins, and geometric microliths, did exclusively occur in this material. Since the total quantity of these tools is small it would be hazardous to conclude on the evidence available that there were special material traditions at Shimshara for the preparation of the types mentioned. But it is noteworthy that such specialization had been developed at other contemporary

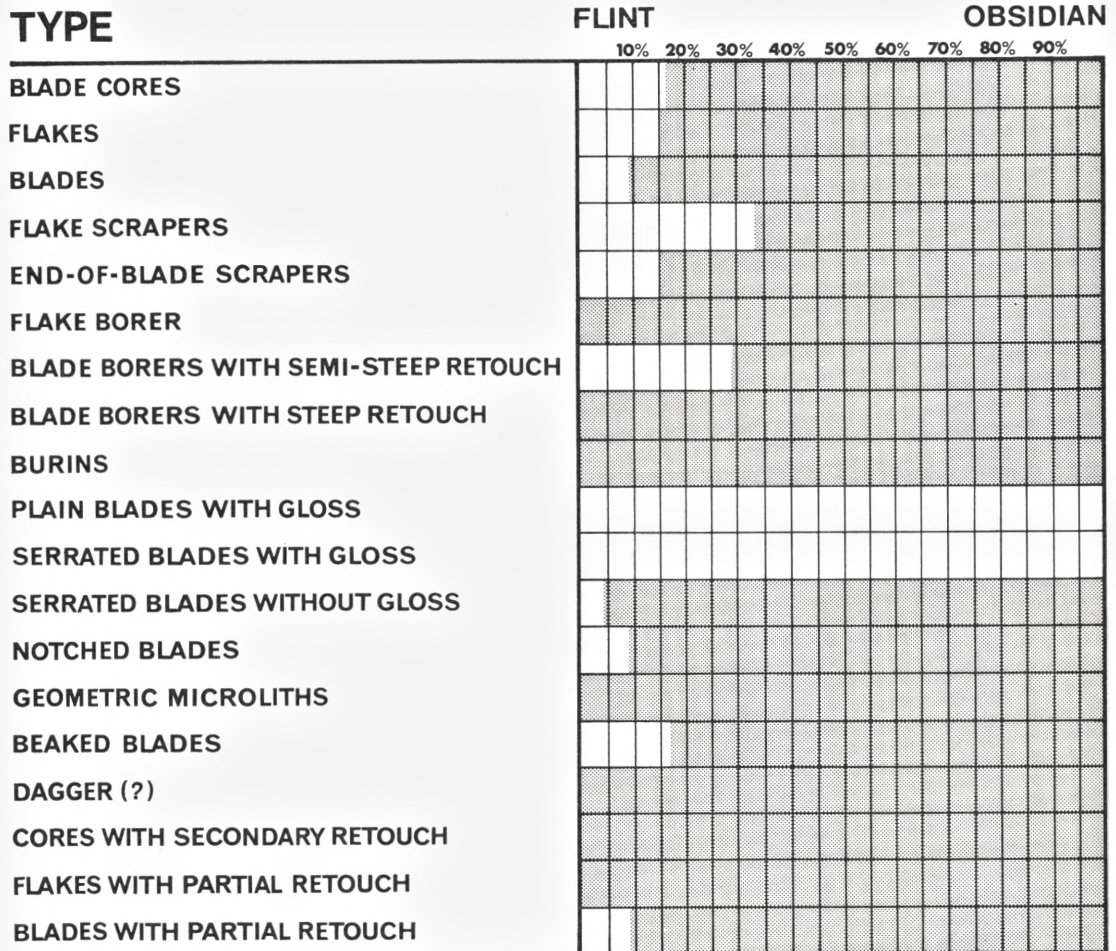


Fig. 34. Diagram showing the relative amount of obsidian and flint used for the preparation of different types of tools.

sites, e.g. at Çatal Hüyük in Anatolia where all burins, chisels and projectile points were made of obsidian, whereas flint was the only material used for daggers, shafted knives and some types of scrapers (MORTENSEN, unpublished data).

Fig. 35 illustrates the relative proportions throughout the sequence of cores, flakes and blades. It appears from the diagram that the chipped stone industry is based almost entirely on blades, constituting more than 85% of the total bulk of material. It seems that most cores, core fragments, flakes and small chips are débris left over from the preparation of blades and blade implements. Only very few tools were deliberately made from flakes: 1 borer, 3 scrapers and 9 out of 12 burins. All other implements were based on an excellent blade technique characterized by a preponderance of thin and narrow blades with almost parallel sides. More than a third of the blades are microblades (cf. p. 28), but since geometric microliths were

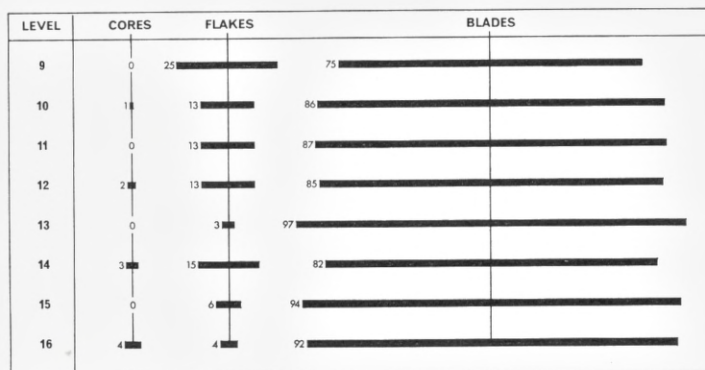


Fig. 35. Diagram showing the relative proportions throughout the sequence of cores, flakes and blades.

rare at Shimshara (Fig. 33) the industry can hardly be described as microlithic. On the contrary, several implements were prepared on very long blades. Most remarkable among these is the object, presumably a dagger (Fig. 30–31), which was made from a strong and regular obsidian blade, more than 35.5 cm. long.

A series of blade tools is characterized by a very distinctive chipping technique: a steep, regular, lamellar retouch, struck from the ventral plane of the blades, visible along the sides and on the obverse, as illustrated in detail on Fig. 36–37. The technique is used on the dagger mentioned above (Fig. 30–31), on all blade borers with steep retouch (Fig. 25f–h), some beaked blades (Fig. 28a and e–f), on one end-of-blade scraper (Fig. 36), one core with secondary retouch and on several unidentifiable fragments of blade tools. It is restricted to implements made of obsidian. A somewhat similar but more squamous retouch appears on a few pieces of flint (e.g. on Fig. 24e). The steep lamellar retouch occurs throughout the sequence at Shimshara, but it is most common in levels 12–10.

The only known blade industries, which are closely related to Shimshara occur within a distance of 20 km. in the Dasht-i-Bitwain on contemporary and slightly later sites excavated by the Iraqi Directorate General of Antiquities: Girdi Boskin, Bazmusian, Kandū, Mulla-Shal, Kamarian, and Tell ed-Dem. The chipped stone industries of these villages are all based on blades, obsidian is dominating, and the steep lamellar retouch, which is perhaps the most distinctive technical feature of the Shimshara industry, is common.

Unfortunately, it is very difficult at the moment to fit the Shimshara chipped stone industry into a wider context.

Since the pottery from Shimshara is related to the pottery found at contemporary Hassuna/Samarra sites, we might also have expected certain similarities with the chipped stone industries. But the type series of flint and obsidian implements as they are known to us from Hassuna (LLOYD and SAFAR 1945, Fig. 19–26), Matarrah (BRAIDWOOD *et al.* 1952, p. 19–20 and Pl. X), Baghouz (BRAIDWOOD 1944, p. 54–57 and Pl. VIII–IX and BUISSON 1948, p. 16–17 and Pl. XVII–XVIII), Nineveh (MAL-

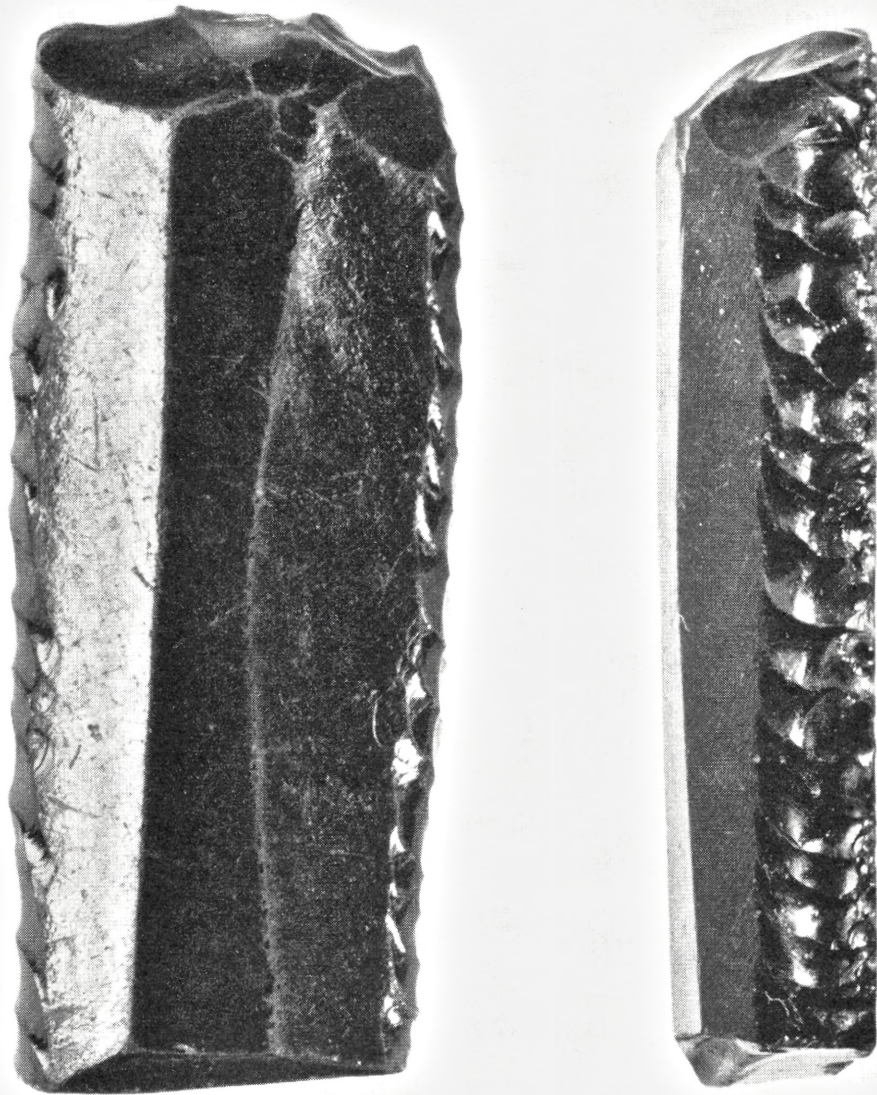


Fig. 36. Obsidian scraper with a regular steep, lamellar retouch along both side edges (Ca. 3:1):
TSH. 122D. (SH. 652). Below floor V, X 8.



THE GROUND AND POLISHED STONE INDUSTRIES

The excavation at Shimshara revealed 70 ground or polished stone objects, representing three functional main groups: vessels, ornaments (bracelets, beads, studs, and pendants) and domestic utensils (celts, circular stone discs, polishers, querns, a piecer, a rubbing stone(?), a pestle and a hammer stone). The types can be described as follows.

Vessels. The material used for the manufacture of vessels is a carefully polished pink or cream coloured marble, often with red veins. Five shapes of bowls could be distinguished:

1. Half-globular bowls with thick walls, slightly inverted rims, and rounded lips (Fig. 38h). Diam. 19.0 to 20.0 cm.
2. A bowl with curved, thinwalled sides, irregularly pointed lip, and rounded base (Fig. 38a and 39). Diam. 16.0 cm., height 4.2 cm.
3. Bowls with oblique, thickwalled sides, rounded lips, and flat bases (Fig. 38b and i). Diam. indicated by one fragment 19.5 cm., height 5.6 cm. Another fragment, apparently from a very wide bowl or dish, has a diam. of ca. 35 cm. at the base. The upper part is not preserved.
4. Bowls of inverted, truncated, conical shapes with slightly flaring lips and with thinwalled, sometimes curved sides (Fig. 38c-f). Bases from this shape are not preserved, but similar bowls from other sites suggest a flat base (cf. BRAIDWOOD and HOWE 1960, Pl. 21,14). Diam. 23.2 to 30.0 cm.
5. One fragment represents a bowl with curved sides, narrowing a little towards the rim. The lip is faceted and slightly flaring (Fig. 38g). Diam. 16.2 cm.

Two fragments of thickwalled bowls are decorated with respectively one and three horizontal grooves cut into the sides (Fig. 38j-k). Two other fragments are perforated by mending holes (Fig. 40).

Bracelets. The bracelets are all made of white marble (Fig. 41). The surface is usually slightly polished, but two fragments with angular sections are rather coarse, as if the surface treatment had not been completed. Three types are represented in the material:

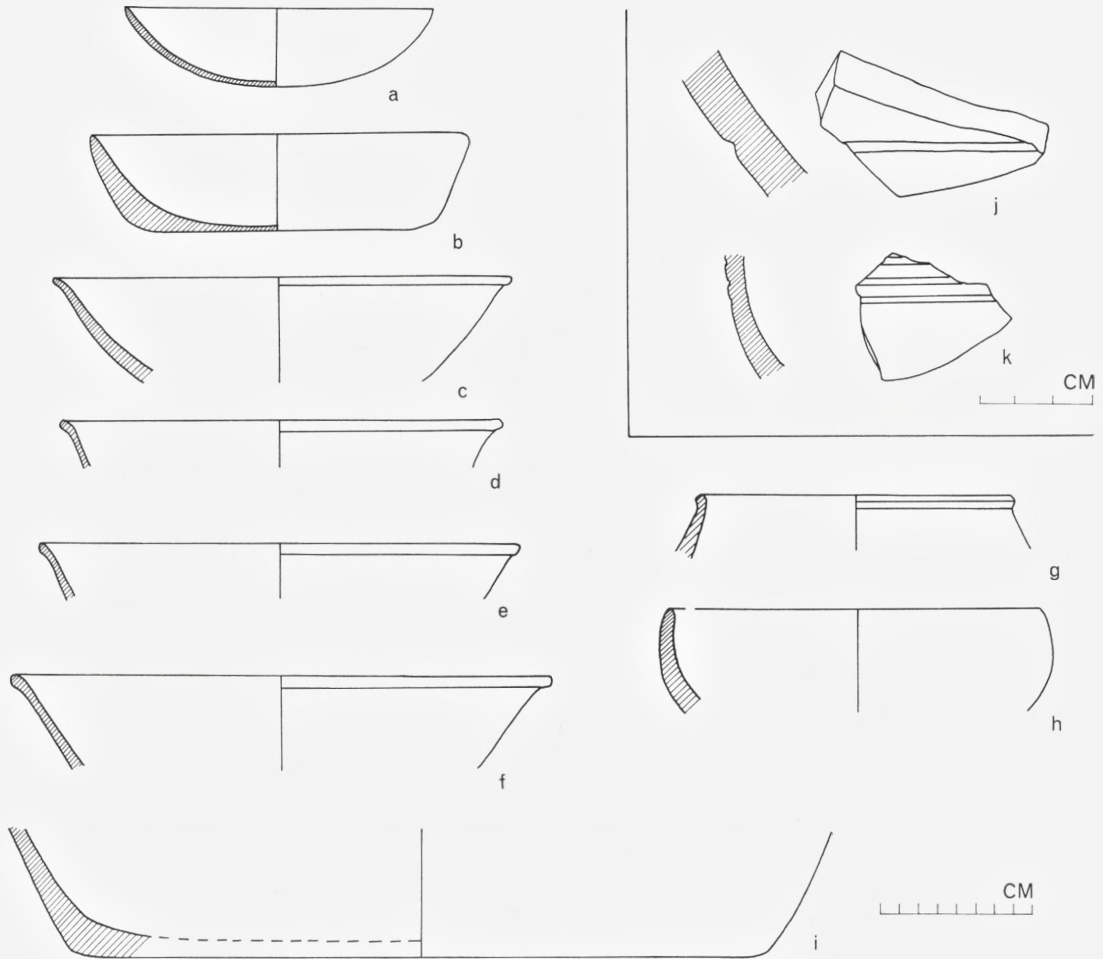


Fig. 38. Fragmentary bowls of polished marble:

- a: IM. 60928. (SH. 178). Level 10, M 10.
- b: TSH. 1. (SH. 640). Floor 15, M 10.
- c: SH. 643b. Level 10, M 10.
- d: SH. 643f. Level 11, M 10.
- e: TSH. 176. (SH. 643r). Level 10, M 10.
- f: TSH. 182. (SH. 643m). Level 10, M 10.
- g: TSH. 122j. Level 12, M 10.
- h: TSH. 179. (SH. 643n). Level 11, M 10.
- i: TSH. 181. (SH. 643a). Level 10, M 10.
- j: SH. 643c. Unstratified, L 7.
- k: SH. 643d. Unstratified, K 9.

1. Bracelets with oval or ovoid section, sometimes almost flat on the inner side (Fig. 42i–k). Estimated diam. 7.0 to 9.9 cm., thickness 0.8 to 1.0 cm. A single bracelet, probably for a child, has a diam. of only 5.4 cm. (Fig. 42i).
2. Bracelets with circular section (Fig. 42m). Estimated diam. 7.6 to 9.0 cm., thickness 0.8 to 1.0 cm.

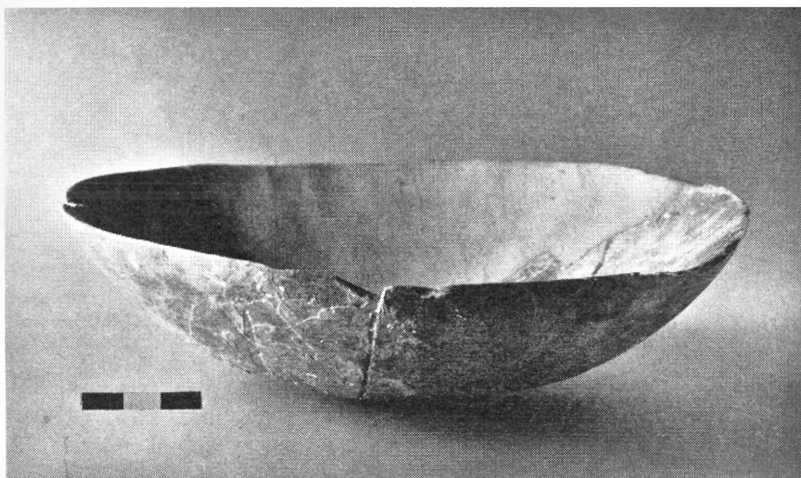


Fig. 39. Bowl of polished marble:
IM. 60928. (SH. 178). Level 10, M 10.

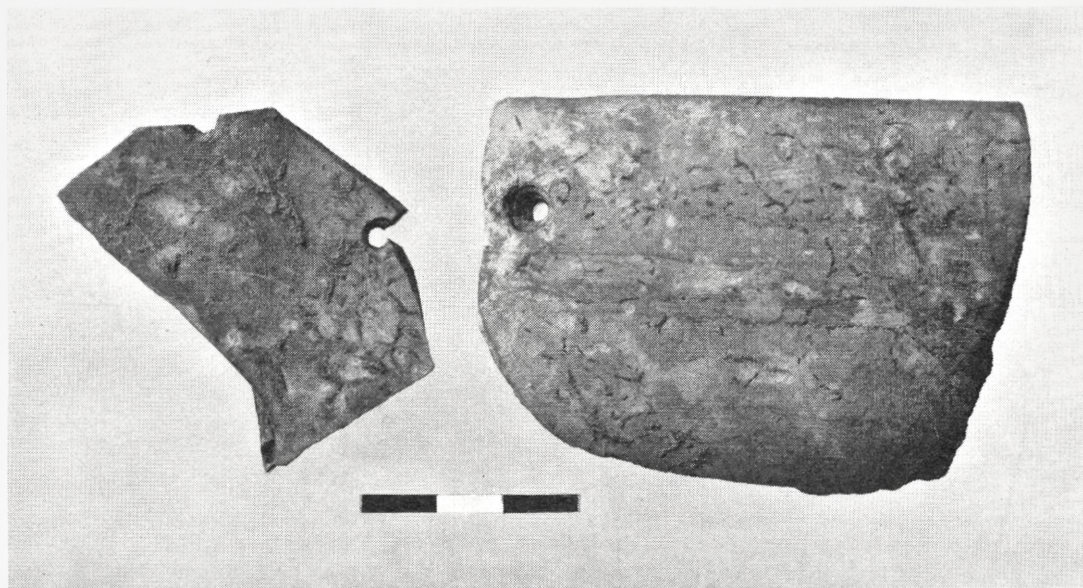


Fig. 40. Fragments of marble bowls with mending holes:
TSH. 179. (SH. 643n). Level 11, M 10.
TSH. 180. (SH. 643o). Level 11, M 10.

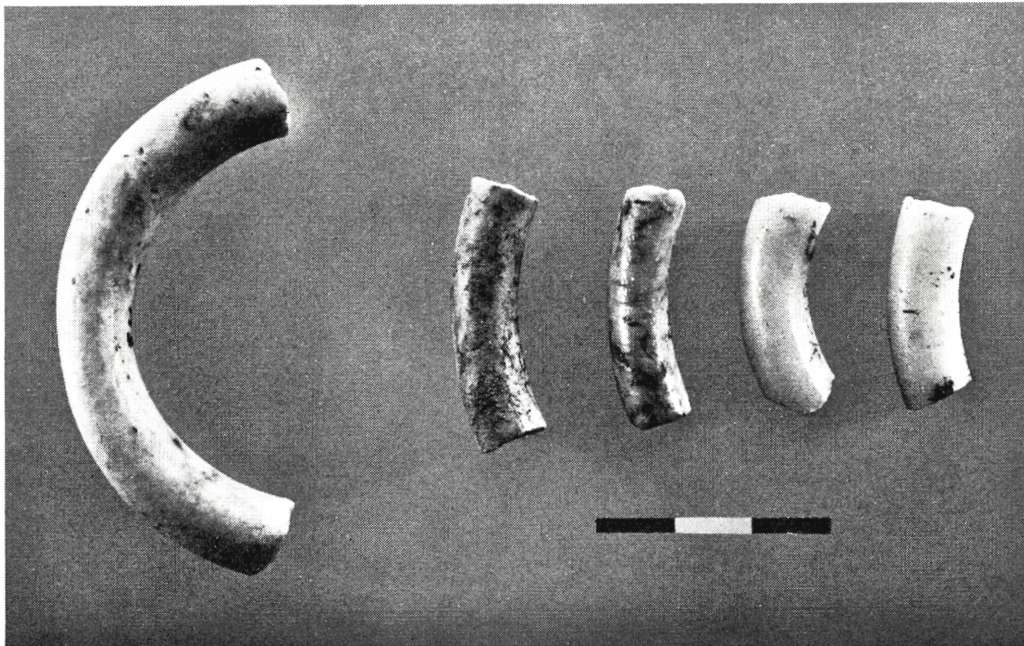


Fig. 41. Fragments of marble bracelets:
 SH. 643h. Level 10, M 10.
 SH. 643i. Level 10, M 10.
 SH. 643j. Level 10, M 10.
 SH. 643k. Level 10, M 10.
 SH. 643l. Level 10, M 10.

3. Bracelets with an irregular, angular section (Fig. 42l). Estimated diam. 8.1 to 10.0 cm., thickness 1.3 to 1.7 cm.

Beads. A couple of cylindrical beads with slightly convex sides occurred. They were made of pinkish marble, polished and penetrated by a drilled hole (Figs. 42n-o and 43g). Diam. 0.7 to 1.0 cm., height 0.5 to 0.6 cm.

Studs. A small group of studs were made of polished stone (one of obsidian, two of white or grey marble, three of serpentine). Five of the pieces have a circular or slightly faceted section, and the heads are conical, rounded or flat (Figs. 42e-h and 43h-i). They vary in length from 2.1 to 2.8 cm. One stud is somewhat different (Fig. 42d). Its section is circular, but at the point there are two flat, polished facettes, and the head is big, shaped like a barrel with convex sides and a flat top. It is 4.7 cm. long.

Studs or nails, apparently similar to those found at Shimshara, occur at a number of contemporary sites in Northern Iraq and Western Iran. Two pieces with flat heads, made of brown stone, were found at Hassuna (LLOYD and SAFAR 1945, Fig. 26,8 and 16), six pieces of white marble at Matarrah (BRAIDWOOD *et al.* 1952, p. 21-22 and Pl. XII, 19), one "chipped obsidian pin" is illustrated from Nineveh (MALLOWAN 1933, Pl. LXVIII), several pieces are reported from Jarmo and Ali Kosh

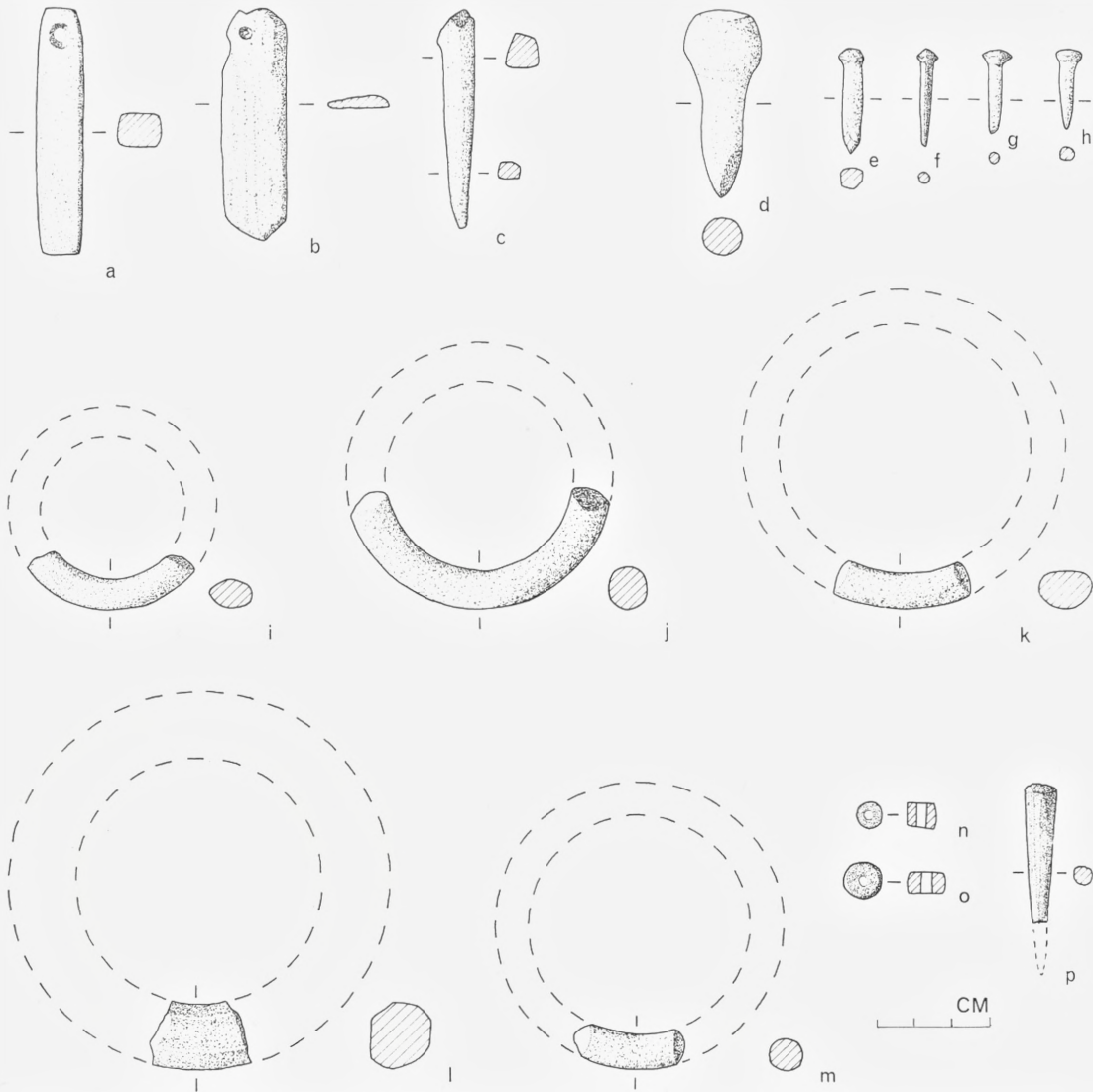


Fig. 42. *a-c* stone pendants, *d-h* stone studs, *i-m* marble bracelets, *n-o* marble beads, and *p* stone piercer:
a: IM. 60844. (SH. 578). Unstratified, J 8.
b: SH. 667A. Unstratified.
c: TSH. 164. (SH. 418). Level 11, M 10.
d: IM. 60929. (SH. 574). Floor 11, L 10.
e: TSH. 165. (SH. 601). Floor 8, J 8.
f: TSH. 166. (SH. 419). Level 8, M 10.
g: IM. 60904. (SH. 576). Floor 10, M 10.
h: IM. 60903. (SH. 575). Level 9, L 8.
i: TSH. 175. (SH. 643u). Floor 12, M 10.
j: SH. 643h. Level 10, M 10.
k: SH. 654. Floor 16, M 10.
l: TSH. 122H. Floor 9.
m: SH. 643k. Level 10, M 10.
n: TSH. 213. (SH. 443). Unstratified, H 10.
o: TSH. 6. (SH. 638). Floor 15, M 10.
p: TSH. 22. Floor 13.

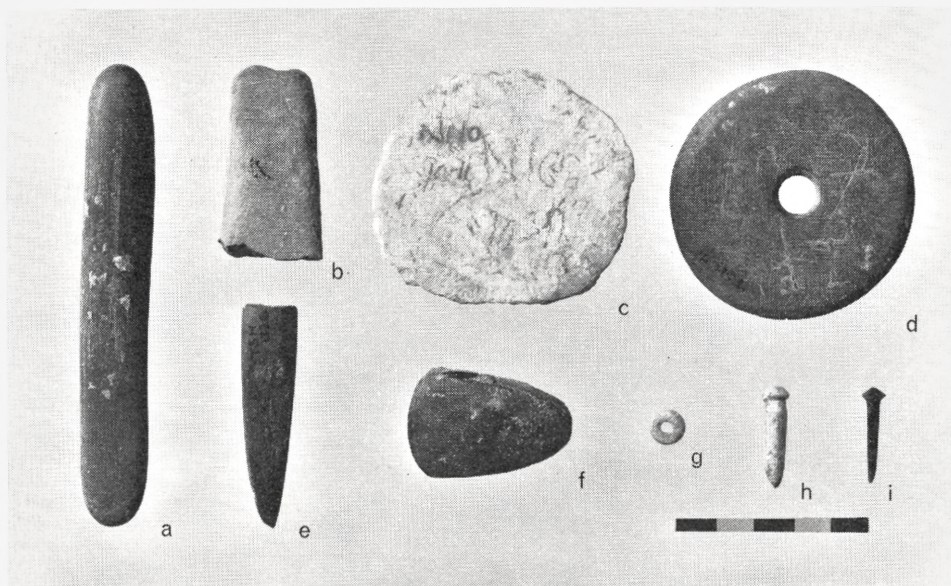


Fig. 43. *a-b* polishers, *c* rubbing stone(?), *d* perforated stone disc, *e* fragmentary pendant, *f* celt, *g* cylindrical bead, and *h-i* stone studs:

- a: TSH. 10. (SH. 635). Floor 14, M 10.
- b: TSH. 5. (SH. 634). Floor 15, N 10.
- c: TSH. 169. Level 11, N 10.
- d: TSH. 4. (SH. 625). Level 16, M 10.
- e: TSH. 122G. Floor 9, L 8.
- f: TSH. 15. (SH. 566). Floor 13, N 10.
- g: TSH. 6. (SH. 638). Floor 15, M 10.
- h: TSH. 165. (SH. 601). Floor 8, J 8.
- i: TSH. 166. (SH. 419). Level 8, M 10.

(BRAIDWOOD and HOWE 1960, p. 46, and HOLE and FLANNERY 1967, Fig. 9), and at Sialk I a series of terra cotta nails with flat heads came to light (GHIRSHMAN 1938, Pl. LII, 26–31). However, although the type is well known, its function has not been finally determined. The terra cotta nails from Sialk have been classified as pestles and associated with small mortars found in the same levels (GHIRSHMAN 1938, p. 130), and the studs from Ali Kosh have been interpreted as labrets because some of them were found on skeletons in the graves (FRANK HOLE, personal communication). It is most likely that the latter interpretation should be applied on the smaller studs from Shimshara, an assumption supported by the material used for these pieces (serpentine, marble, and obsidian). But the big stud from Shimshara can hardly have been used in this way. It may rather have functioned as a pestle or a rubbing stone.

Pendants. Polished pieces of grey or greenish slate, pierced at one end. The stones are rectangular (Fig. 42a–b), and two are tapering at the lower end (Fig. 42c and 43e), apparently because they have been used as whetstones. Length 5.7 to 6.5 cm.

Piecer. A small, faceted implement made of greyish stone in a tapering shape is

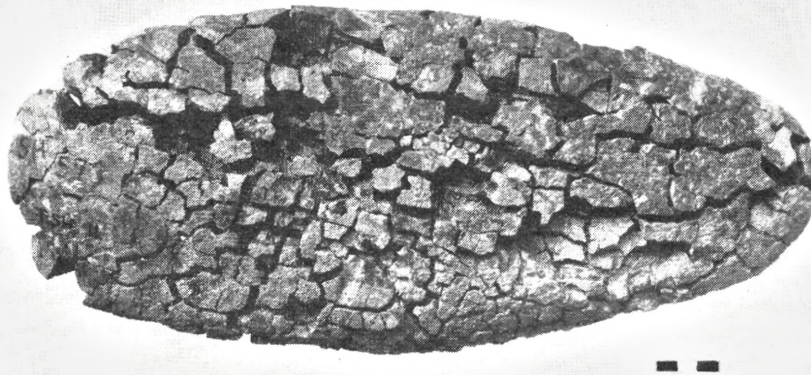


Fig. 44. Adze of brown stone, cracked by fire:
TSH. 11. (SH. 573). Floor 13, N 10.

probably meant to be a kind of piecer (Fig. 42p). Its section is approximately circular, and the upper end is irregularly rounded. The point is broken. Length as preserved 3.6 cm.

Celts. Axes and adzes were made of greenish or dark brown stone. Two main types of celts were represented in the material:

1. Axes with a rounded butt and slightly curved sides. The edge is symmetrical in relation to the axis, and the surface is polished (Figs. 43f and 45e). Length varying from 4.4 to 5.7 cm., width at the edge 3.1 to 3.2 cm.
2. Adzes with a rounded butt, irregularly curved sides, and slightly curved or straight edge, the position of which is asymmetrical in relation to the axis (Fig. 45b–d). The surface is usually polished all over, but in one adze the pecked surface is combined with a polished edge. Apart from one piece, measuring 19.0×7.9 cm. (Figs. 44 and 45a), the adzes are small, varying in length from 4.8 to 5.3 cm. and in width at the edge from 3.4 to 4.0 cm.

It is possible, that the big adze may have functioned as a hoe, but owing to a serious fire in level 13 the surface of the celt is cracked and so badly damaged that it is impossible to recognize any traces of wear or hafting.

Circular stone discs. Three circular discs are made of greyish or greenish slate. The surface is polished, the edges rounded or slightly pointed, and the center of two of the discs is pierced by a hole drilled from both sides (Figs. 43d and 45f–h). Perforated stone discs of this type are often interpreted as spindle whorls. Diam. 6.0 to 8.0 cm., thickness 0.6 to 0.9 cm.

Polishers. Whetstones or polishers are made of oblong pebbles the surface of

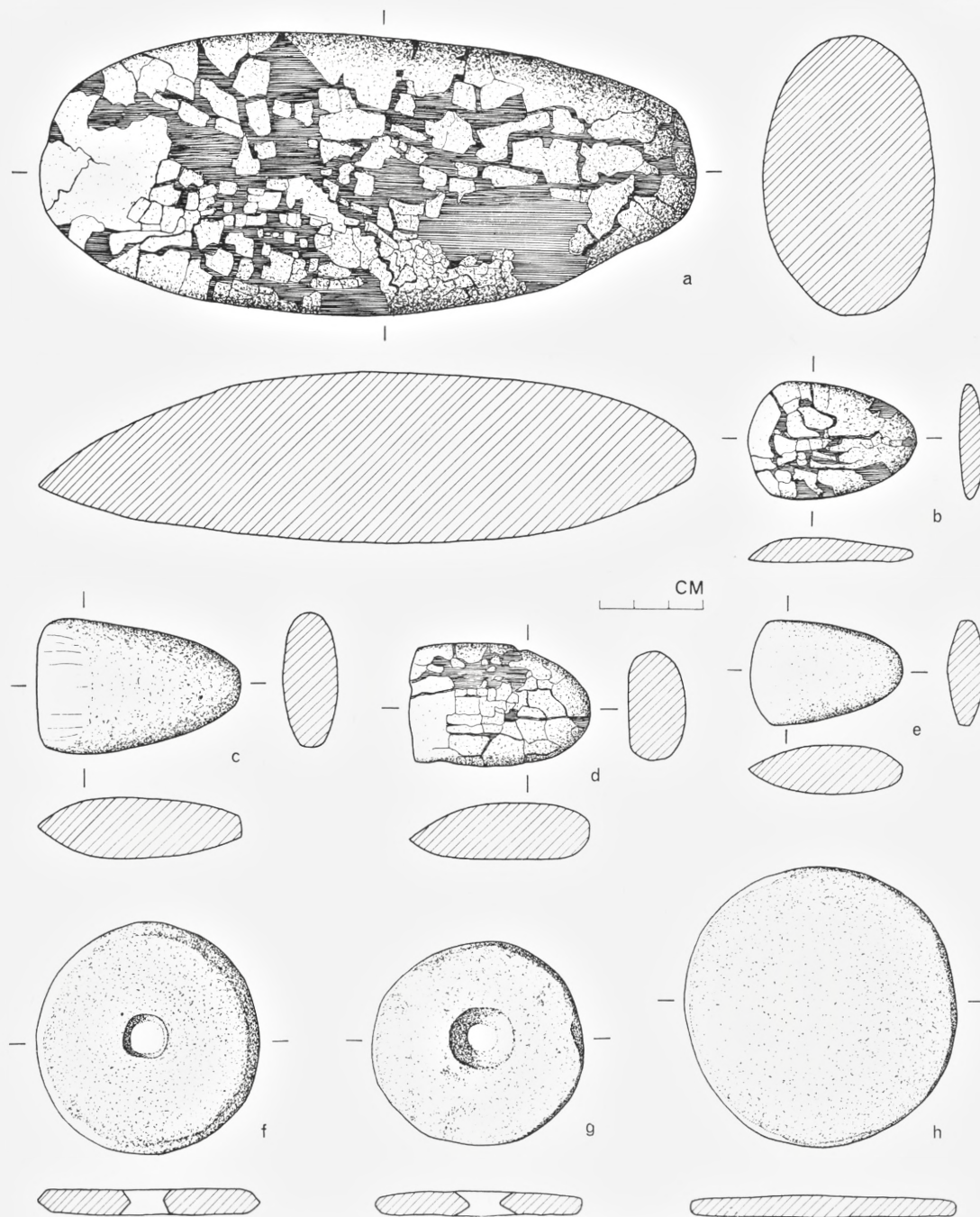


Fig. 45. *a-e* stone celts, *f-h* circular stone discs:
a: TSH. 11. (SH. 573). Floor 13, N 10.
b: TSH. 12. (SH. 568). Floor 13, N 10.
c: IM. 60849. (SH. 636). Unstratified.
d: SH. 565. Floor 13, N 10.
e: TSH. 15. (SH. 566). Floor 13, N 10.
f: TSH. 4. (SH. 625). Level 16, M 10.
g: IM. 60905. (SH. 626). Level 16, M 10.
h: IM. 60906. (SH. 627). Level 16, M 10.

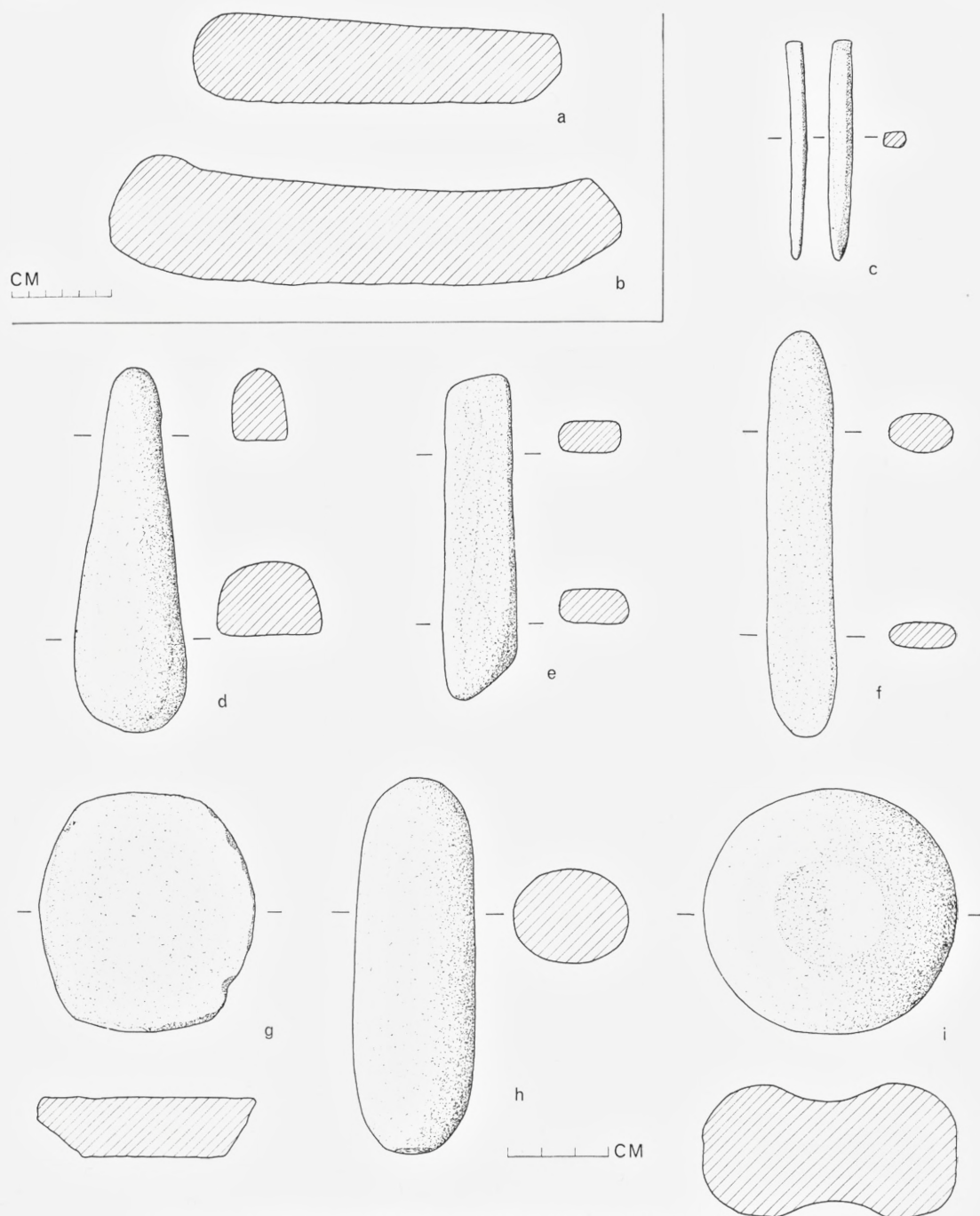


Fig. 46. *a-b* querns, *c-f* polishers, *g* rubbing stone or lid, and *h-i* hammer stones:

- a: IM. 60902/b. (SH. 693). Level 16, M 10.
- b: IM. 60902/a. (SH. 692). Level 16, M 10.
- c: IM. 60845. (SH. 604). Floor 13, N 10.
- d: IM. 60842. (SH. 79). Unstratified, K 8.
- e: SH. 78. Unstratified, K 8.
- f: TSH. 10. (SH. 635). Floor 14, M 10.
- g: TSH. 169. Level 11, N 10.
- h: TSH. 122L. Level 10.
- i: TSH. 17. Floor 13, L 9.

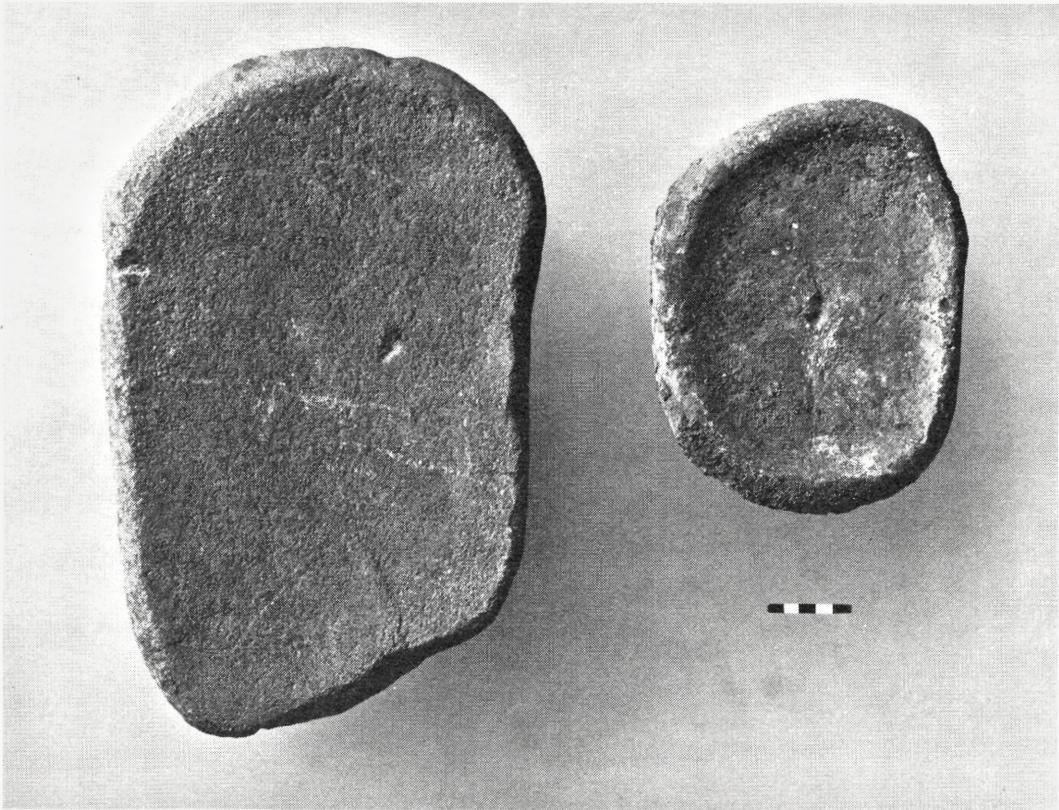


Fig. 47. Stone querns:
 TSH. 23. (SH. 694). Floor 16, M 10.
 TSH. 24. (SH. 690). Floor 16, M 10.

which is partially smoothed as a result of rubbing (Figs. 43a–b and 46d–f). A single faceted piece is made of obsidian (Fig. 46c). Length 6.5 to 13.2 cm.

Rubbing stone(?). An oval disc made of quartz, chipped along the edge and ground on one face, may have been used as a rubbing stone or a lid (Figs. 43c and 46g). Diam. 6.2 to 7.0 cm., thickness 1.7 cm.

Querns. Three oval querns with shallow central troughs (Figs. 46b and 47a–b), and one oval grinding slab with two flatsmoothed surfaces (Fig. 46a) were found. The working faces of all four pieces were originally pecked, but had been heavily worn by grinding. Length 22.0 to 39.0 cm.

Pestle. A small oblong pebble had traces of wear at both ends, as if it had been used as a pestle for pounding (Fig. 46h). Length 11.1 cm.

Hammer stone. An almost circular stone with ovoid section and concave, circular depressions on the upper and lower sides was covered with marks from battering along the edges (Fig. 46i). Diam. 7.0 to 7.2 cm., thickness 3.8 cm.

The number and distribution throughout the levels of the stone objects described

Type	Level								Unstratified	Total number
	16	15	14	13	12	11	10	9		
Vessels Type 1						1			1	2
Type 2							1			1
Type 3		1					1		1	3
Type 4			1			1	4		1	7
Type 5					1					1
Unidentifiable fragments ..				1		1	3		3	8
Bracelets Type 1	1				1		5			7
Type 2							4			4
Type 3				1				1		2
Beads		1							1	2
Studs						1	1	1	3	6
Pendants						1		1	2	4
Piecer				1						1
Celts Axes				2						2
Adzes				3					1	4
Circular stone discs	3									3
Polishers		1	1	1					3	6
Rubbing stone(?)						1				1
Querns	4									4
Pestle							1			1
Hammer stone				1						1
Total Number	8	3	2	10	2	6	20	3	16	70

Fig. 48. Table showing the distribution throughout the levels of ground and polished stone objects.

above are shown in the table Fig. 48. Unfortunately, the occurrence of most types is so scattered that we cannot base any chronological conclusions on the presence or absence of a type in earlier or later contexts. It is notable, however, that all studs and more than 90% of the marble bracelets and vessels came from ceramic levels, showing a culmination in level 10.

Contrary to the domestic utensils and some of the ornaments, which have a wide distribution in space and time, the marble bracelets and bowls show a close relationship to similar types at earlier and contemporary sites in the Zagros area: e.g. Karim Shahir (BRAIDWOOD and HOWE 1960, p. 53), Jarmo (BRAIDWOOD and HOWE 1960, p. 45 and Pl. 21), Tepe Guran (MELDGAARD, MORTENSEN and THRANE 1964, p. 19 and Fig. 19), and the Mohammad Jaffar and Ali Kosh phases at Ali Kosh (HOLE and FLANNERY 1967, p. 176 and Fig. 9). On the Mesopotamian plain marble bracelets do not occur, and marble vessels, showing a greater variety of shapes, do not make their appearance until the second half of the Hassuna Period, where they are represented e.g. at Samarra (HERZFELD 1930, p. 2 Abb. b) and Tell as-Sawwan (WAILLY and SOOF 1965, Pl. XXVIII and XXXIV).

BONE ARTEFACTS

Only 11 artefacts of bone¹ were recovered from the Hassuna Period occupation:

Lancet-shaped handles. Three handles were made of *metacarpus* or *metatarsus* of red deer (Figs. 49a–c and 50). The pieces have a slightly curved back, raised in the center, and decorated with irregularly incised notches. V-shaped grooves have been cut into both ends of the lower edge, the central part of which is penetrated by one or two drilled holes. The grooves are 5.6 to 7.0 cm. long, and 0.4 to 0.5 cm. deep. It is most likely that they have been used for insertion of flint or obsidian blades, and that the implements have been lancet-shaped knives with two cutting edges, one at each end.

Bone handles with grooves for insertion of blades are known from several Neolithic sites in Northern Iraq, Western Iran, and Turkmenia (cf. SOLECKI 1963, p. 58ff. and Pl. VI., GHIRSHMAN 1938, Pl. LIV, CHLOPIN 1964, p. 101, and MASSON 1964, p. 109, Fig. 18), but none of the pieces previously found have two edges.

The handles were found in N 10 on floor 13. Like other artefacts found on this floor, they were badly damaged by fire. Length 18.3 cm., 19.8 cm., and 20.4 cm.

Spatula. A fragmentary implement, probably a spatula, made from the lower part of a rib either of an ox or a big red deer, was found together with the handles described above (Fig. 49d). The bone is rounded and perforated at one end, the sides are parallel, and the section is approximately lancet-shaped. The lower end is broken. Length as preserved 13.8 cm.

Awls. Four bone points, illustrated on Fig. 49e–h, have been classified as awls:

The awl Fig. 49e is made from the upper part of a split *radius*, presumably of red deer. The articular end is partly preserved, forming a handle, and the point is rounded. Length 7.6 cm.

The awl Fig. 49f is made from a tubular bone. Its surface is highly polished, and it is tapered at both ends. Length 9.0 cm.

The awl Fig. 49g is made from a split tubular bone, probably of a young sheep or goat (the *epiphysis* has not yet been developed). The point is broken off. Length as preserved 6.3 cm.

The awl Fig. 49h is made from a split tubular bone. The surface is partly polished, and the upper end is slightly rounded. Length 5.4 cm.

¹ I am most grateful to Professor Magnus Degerbøl, who has examined the animal bones from Shimshara, for permission to include his identifications in this text.

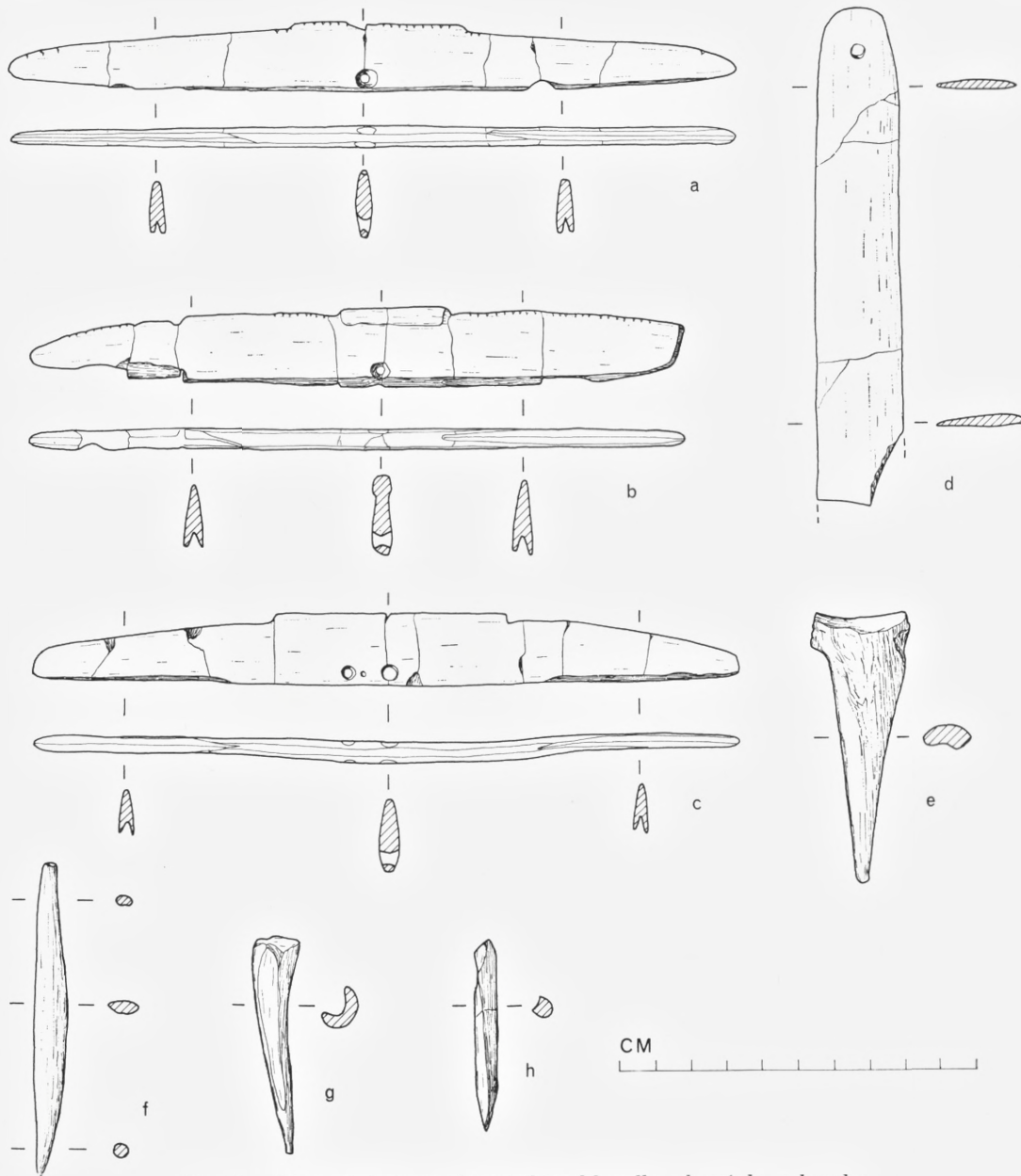


Fig. 49. Bone artefacts. *a-c* lancet-shaped handles, *d* spatula, *e-h* awls:
 a: IM. 63504. (SH. 570). Floor 13, N 10.
 b: SH. 571. Floor 13, N 10.
 c: TSH. 21. (SH. 569). Floor 13, N 10.
 d: TSH. 9. (SH. 572). Floor 13, N 10.
 e: TSH. 3. (SH. 711). Floor 16, M 10.
 f: SH. 603. Floor 10, L 9.
 g: SH. 653. Floor 12, L 9.
 h: TSH. 185. (SH. 416). Floor 11, M 10.



Fig. 50. Lance-shaped bone handles:
IM. 63504. (SH. 570). Floor 13, N 10.
SH. 571. Floor 13, N 10.

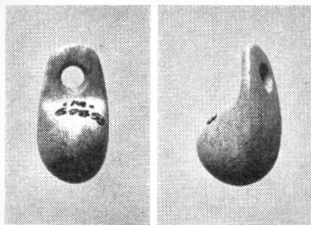


Fig. 51. Pendant of polished bone:
IM. 60853. (SH. 414). Floor 8, L 9.

Type	Level								Unstratified	Total number
	16	15	14	13	12	11	10	9		
Lancet-shaped handles				3						3
Spatula.....				1						1
Awls	1				1	1	1			4
Pins			1				1			2
Pendant									1	1
Total number	1	0	1	4	1	1	2	0	1	11

Fig. 52. Table showing the distribution throughout the levels of bone artefacts.

Pins. Two small bone fragments with a circular section do probably represent pins. They are polished, and one of them, which is now lost, had a small ovoid perforation through the upper end. Diam. 0.3 to 0.5 cm.

Pendant. A highly polished pendant with a flat, pierced extension above a conical bulb (Fig. 51) was found apart from its original context, on the lowest Hurrian floor (L 9, floor 8). There is no doubt, however, that it has been brought up from one of the Hassuna Period habitations. The type is known from Jarmo (BRAIDWOOD and HOWE 1960, p. 46), and more commonly from Natufian sites in Palestine (cf. e.g. GARROD and BATE 1937, Pl. XII 2:2). Height 1.8 cm.

With the exception of the lancet-shaped handles and the pendant, the bone artefacts described above are common types, known from most contemporary sites in the Near East.

The distribution of the pieces throughout the levels at Shimshara is shown on Fig. 52. Unfortunately, the occurrence of the different types is so scattered that it does not allow for further conclusions.

POTTERY

With the exception of one sherd from level 14 no pottery was found in the earliest levels (16–14) at Tell Shimshara. In contrast to this, a diversity of ceramic types appeared in the succeeding levels (13–9) which produced most of the pottery described below. A minor part of the material occurred in Hurrian levels, brought out of its original context by a cistern dug down into the Hassuna Period levels from level 4.

The pottery from Shimshara is, in general, related to that known from other contemporary habitations on the North Mesopotamian plain: Hassuna, Matarrah, Tell as-Sawwan etc. Typical of the period is a great variety of different sorts of pottery, including several undecorated, painted, and incised categories, but the quality, occurrence, combination and relative dominance of these ceramic wares differ from site to site, due to their varying geographical and chronological distribution.

This heterogeneity has complicated the classification and nomenclature of Late Neolithic and Early Chalcolithic pottery in Northern Mesopotamia. Most often a descriptive terminology has been attempted: Archaic Painted Ware, Standard Painted-and-Incised Ware (Hassuna), Fine Simple Ware (Matarrah) etc. But interpretative names, such as Derivative Hassuna Ware (DABBAGH 1965, p. 93ff.), and names referring to a site where a certain category was first discovered, as e.g. Samarra Ware, do also occur.

Since the establishment of a new uniform terminology for North Mesopotamian pottery would require a thorough technological and morphological study of all the material involved, I have preferred in this context to describe the pottery from Shimshara in relation to one of the systems which is already well established in the archaeological literature. With a primary regard to technological criteria, supported by the observation of differences in vessel shapes and decoration, Seton Lloyd and Fuad Safar have divided the pottery from Hassuna I–IV into four main categories (LLOYD and SAFAR 1945, p. 264–67 and 276ff.). These are: Hassuna Archaic, comprising a coarse ware, a burnished ware and a painted ware; Hassuna Standard, including painted, incised and painted-and-incised wares; and two fine wares, Halaf Ware and Samarran Ware, comprising a painted and a painted-and-incised category.

With a few modifications and additions this classification is also applicable on the material from Shimshara. The approximate correspondence between the termin-

	Tell Hassuna Levels I–VI	Tell Shimshara Levels 9–13
Fine wares	Halaf Ware	
	Samarran Painted Ware	Samarra Painted Fine Ware
	Samarran Painted-and-incised Ware	
		Undecorated Fine Ware
Standard wares	Hassuna Standard Painted Ware	Hassuna Painted Standard Ware
	Hassuna Standard Incised Ware	Hassuna Incised Standard Ware
	Hassuna Standard Painted-and-incised Ware	Hassuna Painted-and-incised Standard Ware
		Samarra Painted Standard Ware
		Samarra Painted-and-incised Standard Ware
		Undecorated Standard Ware
Coarse wares	Hassuna Archaic Painted Ware	Archaic Painted Coarse Ware
	Hassuna Archaic Burnished Ware	Burnished Coarse Ware
	Hassuna Archaic Coarse Ware	Undecorated Coarse Ware

Fig. 53. Table indicating the approximate terminological correspondence between ceramic wares at Tell Hassuna and Tell Shimshara.

ologies used is shown schematically in Fig. 53. The table does not, however, indicate a definite equivalent relationship between corresponding ceramic wares at Hassuna and Shimshara. A more elaborate consideration of the interrelations of ceramic groups in the North Mesopotamian Hassuna Period follows on pp. 113–122 and 126 ff.

Fine Wares

215 sherds of handmade plates, bowls, collared jars and tall vessels with curved sides have been classified as Fine Wares. They are made of a fine paste, tempered with sand and with sparse contents of lime and black mineral particles. With the exception of one sherd,¹ straw tempering has not been observed, but superficial impressions of chaff may be seen in the slip (e.g. on Figs. 57d, and 60b and d). The inner faces of tall vessels and globular jars are abraded and sometimes wet-smoothed, but all other surfaces are covered with a rather thick slip. The slip may be slightly burnished, but usually it has a mat finish. The pottery is well fired with cream, greenish or orange-buff surfaces and a greenish or orange-buff core. It has been subdivided into two categories, Samarra Painted Fine Ware and Undecorated Fine Ware.

¹ One sherd of a large collared, globular jar, found in level 12, was tempered with straw, slipped, slightly burnished and decorated with Indian red paint. The sherd, depicted on Fig. 54 m, comes from an unusually high collar. Its attribution to the Samarra Painted Fine Ware is questionable.

The decoration of the Samarra Painted Fine Ware is always monochrome, but it seems as if three types of paint have been used: an ivory black (Pl. II, 1st row to the left), a dark violet brown (Pl. II, 2nd row to the right), and a medium chocolate brown (Pl. II, 2nd row in the middle). Circumstances of firing and variations in the concentration of the paint have caused colour changes, so that for example an oxidizing firing of vessels painted with ivory black has produced an Indian red colour (like OPPENHEIM 1943, Taf. XCII, F. 46–49).² A diluted ivory black paint may appear as a light brownish ochre (like OPPENHEIM 1943, Taf. XCII, F. 44), changing by stronger firing to a light greenish grey (like BRAIDWOOD and BRAIDWOOD 1960, Pl. 83,2). Furthermore diluted dark violet brown and medium chocolate brown paints appear as light violet brown/plum red (Pl. II, 1st row in the middle and to the right) and light greenish brown (Pl. II, 2nd row to the left).³ Changes of this kind also affect the surface colour of a vessel so that, for example, the slip of a jar with an Indian red decoration may be orange-buff. A heterogeneous firing of a vessel, as seen e.g. on the bowl Fig. 58z, whose paint changes from black to Indian red, may give an impression of polychromy. This effect, however, is never consciously utilized in the Hassuna Period pottery found at Tell Shimshara.

Samarra Painted Fine Ware is represented by four vessel shapes:

- a. Plates, comparable with Type a1 of Herzfeld's "Schüsseln" from Samarra (HERZFELD 1930, p. 10ff.). One rim sherd is from a plate with curved sides and a slightly flaring lip (Fig. 54a), and one sherd represents a rounded base (Fig. 54b). Fragments of interior decoration are visible on both pieces. The diam. indicated by the rim sherd is ca. 22.0 cm. The second sherd comes from a larger plate.
- b. Wide bowls, comparable with Type 1 of Herzfeld's "Flache Töpfe" (HERZFELD 1930, p. 57ff.). Generally the curving sides narrow towards the opening of the bowls. The rims are usually rounded or slightly tapering (Fig. 54c–d, and f), but in contrast to the bowls found at Samarra, three rim sherds have a thick, flattened lip (Fig. 54e). This feature is also known from a few bowls of Samarra type found at Tell Hassuna and Matarrah (LLOYD and SAFAR 1945, Figs. 16:6, 16:18 and 17:20, and BRAIDWOOD *et al.* 1952, Figs. 12:19 and 13:12). No sherds of bases were recognized. The rim diameters measured from sherds of nine different bowls, vary from ca. 17.0 to ca. 26.0 cm. One sherd (Fig. 54f) comes from a smaller bowl the diam. of which was ca. 12.0 cm.

² References are made to colour plates in the Halaf and Amuq publications (OPPENHEIM 1943, and BRAIDWOOD and BRAIDWOOD 1960) in order to give a more accurate idea of the colours mentioned.

³ The frequency in which each colour occurs on sherds of Samarra Painted Fine Ware is as follows:

Ivory black: 13 sherds.

Light brownish ochre (ivory black, diluted): 4 sherds.

Indian red (ivory black, fired in an oxidizing atmosphere): 14 sherds.

Light greenish grey (ivory black, diluted and more strongly fired): 5 sherds.

Dark violet brown: 7 sherds.

Light violet brown/plum red (dark violet brown, diluted): 4 sherds.

Medium chocolate brown: 15 sherds.

Light greyish brown (chocolate brown, diluted): 3 sherds.

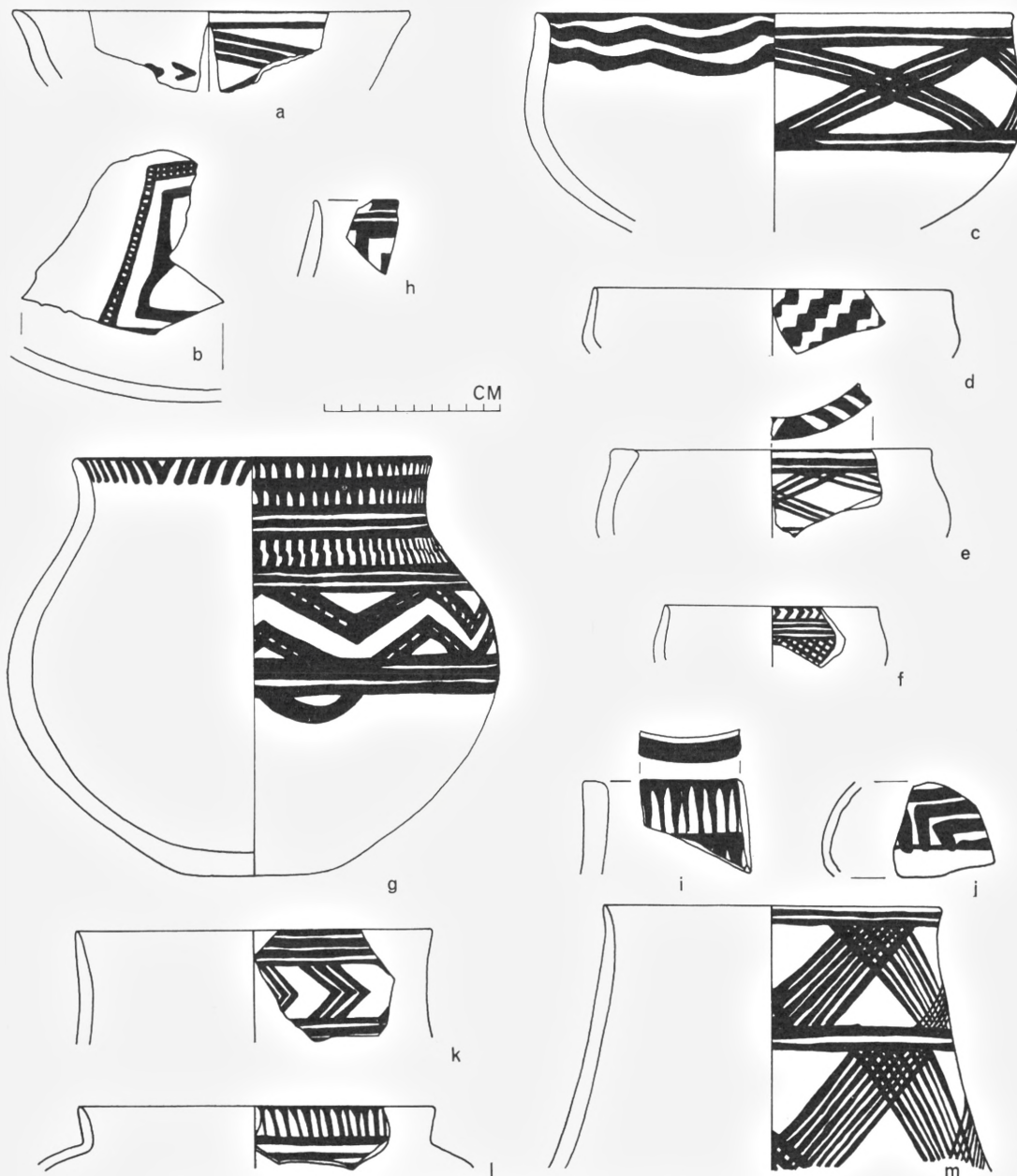


Fig. 54. Samarra Painted Fine Ware, selection of typical vessel shapes:

- a: TSH. 871. Level 10, N 10.
- b: TSH. 1241. Unstratified.
- c: TSH. 664. (SH. 166). Level 11, N 10.
- d: SH. 511. Floor 5, J 9.
- e: TSH. 491. Level 13.
- f: TSH. 1205. (SH. 505). Unstratified, K 9.
- g: TSH. 503a-b and B. 415. (SH. 702). Level 12, L 8/9.
- h: TSH. 1040. (SH. 527). Level 8.
- i: TSH. 1199. (SH. 184). Unstratified, L 10.
- j: TSH. 1177. Level 10.
- k: IM. 60868. (SH. 161). Unstratified, M 6.
- l: IM. 60895. (SH. 688). Floor 5.
- m: TSH. 502. (SH. 699). Level 12, L 8/9.

Type	Level									Total number
	16	15	14	13	12	11	10	9	Unstratified	
Plates							1		1	2
Wide bowls				1		1	2	2	4	10
Deep bowls					1		1		4	6
Collared globular jars				4	3	3	3	1	8	22
Indeterminable shapes				4	9	3	5		4	25
Total number				9	13	7	12	3	21	65

Fig. 55. Table showing the number and distribution of Samarra Painted Fine Ware sherds throughout the sequence.

- c. Deep bowls, comparable with Type 2 of Herzfeld's "Tiefe Töpfe" (HERZFELD 1930, p. 64ff.). The profiles of these bowls resemble those described above, but the walls are somewhat higher (Fig. 54g-h). The lips are tapering and slightly flaring. One bowl with a flat base was found (Fig. 54g). The rim diameter indicated by three sherds varies from 14.0 cm. to ca. 20.0 cm. The only reconstructable deep bowl is 23.5 cm. high.
- d. Collared globular jars, comparable with Herzfeld's "Töpfe mit kurzem Hals" and "Flaschen mit hohem Hals" (HERZFELD 1930, p. 80ff.). In this context Herzfeld's two types are treated as one group because several sherds from Shimshara cannot with certainty be referred to a low- or a high-collared jar. Furthermore, the distinction between the two types is not quite clear at Samarra either (cf. e.g. HERZFELD 1930, Abb. 183 nr. 249 with Abb. 195 nr. 261). The collars of the jars are outturned or straight with a slightly concave profile (Fig. 54i and k-l), and with a tapering, rounded or flattened lip. Only one atypical sherd (see p. 63, Note 1) represents a high collar narrowing toward the opening (Fig. 54m). The globular bodies are often a little flattened near the base (Fig. 54j). The collars vary in height from 1.2 to 13.4 cm., and the rimdiam. indicated by eleven sherds range from ca. 15.0 to ca. 20.0 cm. One sherd comes from a small vessel with a rim diameter of ca. 9.0 cm.

25 sherds cannot be assigned to any distinct vessel shape. But most of them are side sherds of rounded bodies which seem to belong either to deep bowls with curved walls or to collared globular jars.

The number and distribution throughout the sequence of sherds classified as Samarra Painted Fine Ware are shown in the table, Fig. 55. It is notable that more than 50% of the determinable sherds represent collared globular jars.

The designs of the Samarra Painted Fine Ware all belong to the classical Samarran style repertoire as it is known from many sites in Northern Mesopotamia. In the publication of one of these sites (Baghouz), Edna Tulane has presented a survey of the "Samarran painted pottery style" (BRAIDWOOD *et al.* 1944, p. 57ff.). Her system for classification of Samarra motifs is mainly followed in the subsequent description of the motifs occurring at Tell Shimshara.

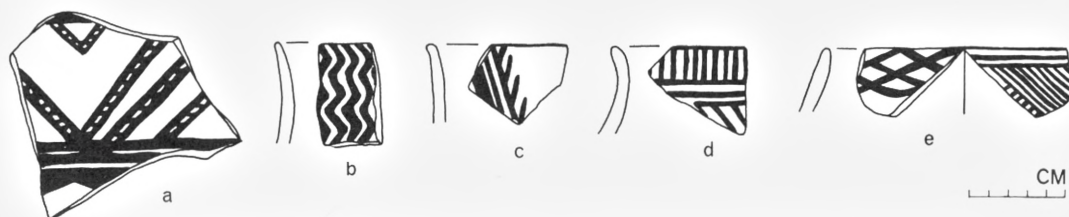


Fig. 56. Samarra Painted Fine Ware, selection of sherds with typical ornamental motifs:

- a: B. 409. Level 12, L 9.
- b: TSH. 256. Level 13.
- c: TSH. 1132. (SH. 532). Level 7, J 10.
- d: TSH. 1067. Level 8, N 10.
- e: SH. 525. Level 7, L 8.

Outside rim motifs, bands:

1. Narrow horizontal zones filled in with vertical bars (Fig. 56d). A combination of three adjacent horizontal zones is shown in Fig. 57a. The motif is known only from sherds found in Hurrian levels apart from their original context. It is probably a late, simple deviation of one of the most characteristic Samarra designs, the zone of vertical wedges (motif no. 2).
2. Narrow horizontal zones of vertical wedges or pegs, pointing downwards (Fig. 54g, i and l, and Fig. 57b). Most often the motif occurs in double tiers.
3. Narrow horizontal zones filled in with oblique rows of small squares ("stairway" design) (Fig. 57c).
4. Narrow horizontal zone filled in with a "step" design (Figs. 54g and 57b).
5. Wide horizontal zone with spaced groups, each comprising three chevrons pointing right (Fig. 54k).
6. Narrow horizontal zones filled in with chevrons pointing right (Figs. 54f and 57d). The motif may occur in three successive tiers.
7. Wide horizontal zones with zigzags composed of groups of parallel lines (Fig. 54m). The motif occurs in one or two rows.
8. Wide horizontal zone with zigzags consisting of double lines the space between which has been filled in with short dashes (Fig. 54g).
9. Wide horizontal zones with V-shaped designs combined with zigzags. The motif is composed of double lines connected with short horizontal dashes (Fig. 56a).
10. Wide horizontal zone filled in with a basket braid design (Fig. 56e).
11. Narrow horizontal zone filled in with triangles every other one of which is divided into four smaller triangles, three of which are hatched (Fig. 57c).
12. Wide horizontal zone with latticework composed of oblique lines (Fig. 57a).
13. Wide horizontal zone with latticework composed of oblique double lines (Fig. 57e).
14. Wide horizontal zones filled in with spaced cross-hatching, composed of groups of three or four parallel lines (Fig. 54a, c and e, and Fig. 58a).
15. Narrow horizontal zone with a close cross-hatching pattern (Fig. 54f).
16. Narrow horizontal zones filled in with double wavy lines (Fig. 57d), possibly painted with a multiple-brush (cf. p. 79). The motif occurs in two adjacent tiers.

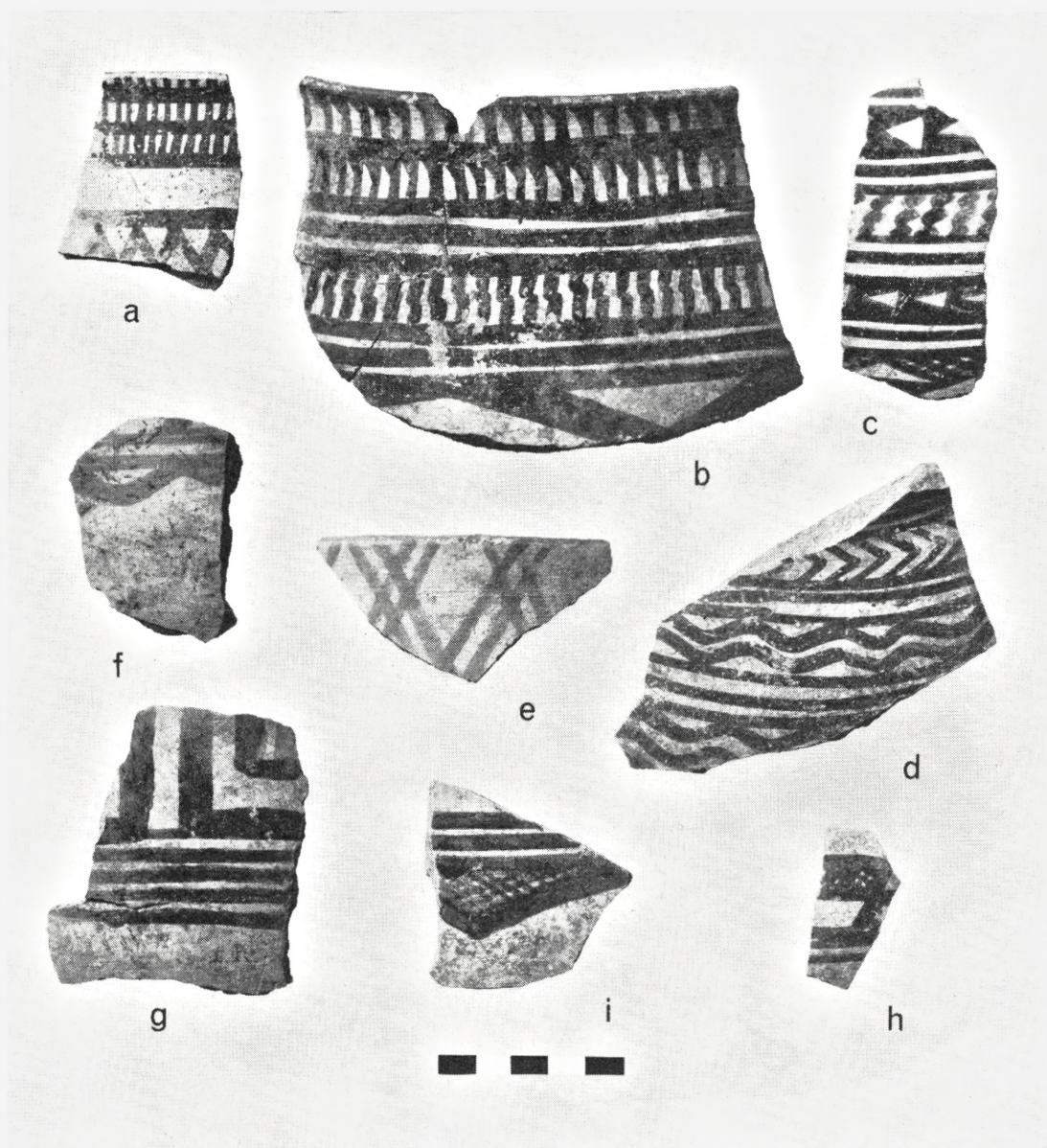


Fig. 57. Samarra Painted Fine Ware, selection of sherds with typical ornamental motifs:

- a: TSH. 1201. (SH. 159). Unstratified, M 10.
- b: TSH. 503a. (SH. 702). Level 12, L 8/9.
- c: TSH. 600. (SH. 179). Level 11, M 10.
- d: TSH. 303. Level 13.
- e: TSH. 599. Level 11, M 10.
- f: TSH. 644. Level 11.
- g: TSH. 552. Level 12, L 8/9.
- h: TSH. 1188. (SH. 515). Floor 5, J 9.
- i: TSH. 647. Level 11, L 9.

17. Wide horizontal zone filled in with a meander design (Fig. 54j).
18. Wide horizontal zones with regularly spaced "double-windows" (Figs. 54h and 57g). The design is obviously related to the meander motif.
19. Narrow horizontal zone filled in with two horizontal rows of irregular rectangles, every other one of which is cross-hatched (Fig. 57h).
20. Narrow horizontal zones with left-pointing triangles left open on a painted background (Fig. 57c). This motif is the only example of "negative design" found at Shimshara.

Outside rim motifs, suspended elements:

21. Horizontal row of triangles filled in with paint (Fig. 56a).
22. Horizontal row of triangles filled in with cross-hatching (Fig. 57i).
23. A single arc (Fig. 54g) or a horizontal row of arcs (Fig. 57f).

Outside rim motifs, surface-covering:

24. Oblique rows of small squares ("stairway" design) descending from the rim (Fig. 54d).
25. Group of vertical wavy lines descending from the rim (Fig. 56d). The evidence from Shimshara does not with certainty indicate that the motif covers the surface.
26. Group of oblique lines with short vertical fringes attached to the right (Fig. 56c).

Decoration on top of rim:

27. Row of short oblique lines spaced by filled-in triangles (Fig. 54e).

Inside rim motifs, suspended elements:

28. Short oblique lines criss-crossing each other, creating three horizontal rows of lozenges (Fig. 56e).
29. Two horizontal wavy lines (Fig. 54c).
30. Horizontal row of triangles filled in with paint (Fig. 58b).
31. Horizontal row of short oblique fringes, spaced by triangles (Fig. 54g).

Inside rim motifs, surface-covering:

32. One or several horizontal rows of spaced chevrons (Fig. 54a).
33. Horizontal rows of *bucrania*,⁴ alternating rows pointing left and right (Fig. 58b).
34. Fig. 54b shows two fragmentary squares belonging to the central design of a plate.

⁴ A great variety of *bucrania* is visible on Halafian pottery, but the motif appears occasionally on other kinds of pottery, for instance at Tell Hassuna on a Standard Painted-and-incised jar from level V (LLOYD and SAFAR 1945, Fig. 3:2). In this context (Tell Shimshara, level 10) the motif occurs on a wide bowl with curved sides, comparable with Type 1 of Herzfeld's "Flache Töpfe" (HERZFELD 1930, p. 57 ff.). It is combined with a typical Samarra design, namely a wide horizontal zone filled in with spaced cross-hatching (motif no. 14).

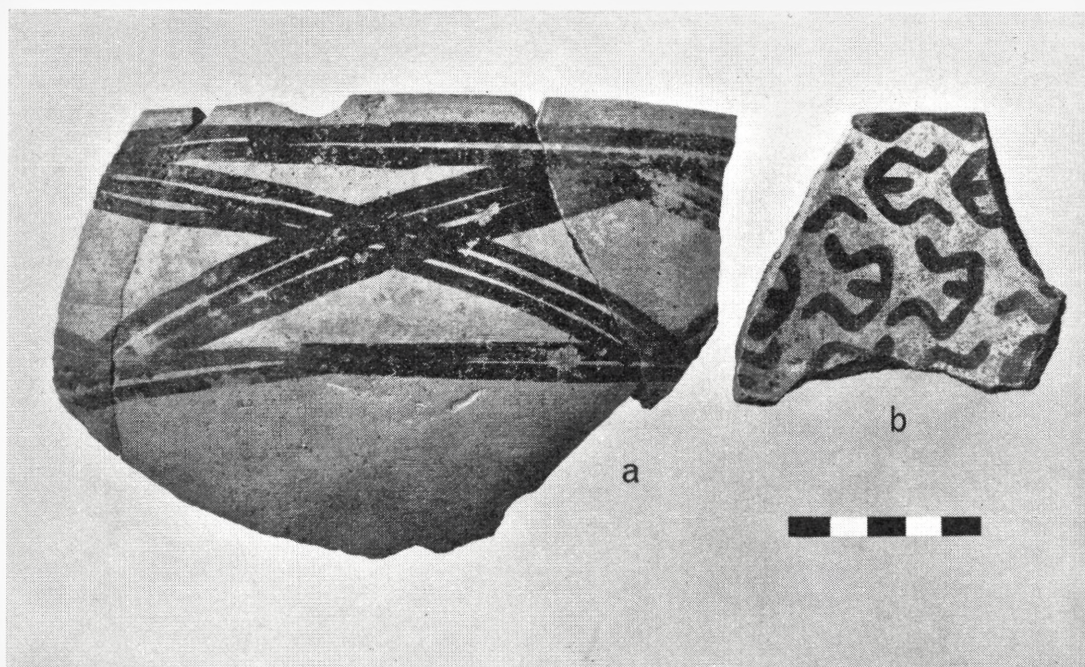


Fig. 58. Samarra Painted Fine Ware, selection of sherds with typical ornamental motifs:
 a: TSH. 664. Floor 11, N 10.
 b: TSH. 996. (SH. 158). Floor 10.

In general, the designs of the Samarra Painted Fine Ware are carefully painted. Occasionally, however, parallel lines approach or diverge slightly, and the thickness of some lines varies, apparently due to the use of a soft painting-brush. The outside rim motifs are spaced and limited by groups of horizontal lines. Three to five lines are most common, but two lines are not unusual, and a single line does often appear just below the rim. It is characteristic that parallel lines are grouped so closely together that the spaces between the lines are narrower than the lines themselves. In most cases the exterior decoration is confined to the upper part of the vessels extending just below the point of greatest diameter. Interior decoration is rare. Only seven examples have been noticed.

The Samarra Painted Fine Ware from Shimshara exhibits a great diversity in combination and motifs. Only twice do we find an identical constellation of two designs. Two sherds show the double wavy line motif (No. 16) associated with a narrow horizontal zone of right-pointing chevrons (motif no. 6) as seen on the sherd depicted Fig. 57d, and two sherds have a wide horizontal zone with spaced cross-hatching (motif no. 14) combined with groups of short oblique lines spaced by filled-in triangles (motif no. 27) on the top of the rim (ex. Fig. 54e). One motif is sometimes repeated in two or three tiers (Figs. 54g and i, and 57 a-b). This applies to three of the

Motif	Level									Total number of occurrences
	16	15	14	13	12	11	10	9	Unstratified	
1									3	3
2					2		1	1	2	6
3						1			2	3
4					1					1
5									1	1
6				1	3			2	2	8
7					1			2	1	4
8					1					1
9					3			2	1	6
10									1	1
11						1				1
12									1	1
13							1			1
14				1		1	1	1	1	5
15									1	1
16				1		1				2
17							1			1
18					2	1	1	1	2	7
19									1	1
20						1				1
21					1					1
22							1			1
23					1	1				2
24									1	1
25				1						1
26									1	1
27				2			1	1	1	5
28									1	1
29						1				1
30							1			1
31					1					1
32							1			1
33							1			1
34									1	1

Fig. 59. Table showing the distribution of ornamental motifs on Samarra Painted Fine Ware throughout the sequence.

favorite designs: narrow horizontal zones filled in with vertical bars (motif no. 1), vertical wedges (motif no. 2), and right-pointing chevrons (motif no. 6).

The material is not large enough to give a reliable idea of the combinations of motifs and vessel shapes, but a few obvious relationships deserve mentioning. Narrow horizontal zones filled in with vertical bars or wedges (motifs no. 1 and 2) are always placed just below the rim of deep bowls or collared globular jars. Wide horizontal zones with various zigzags (motifs no. 7 and 9) are confined to collared globular jars,

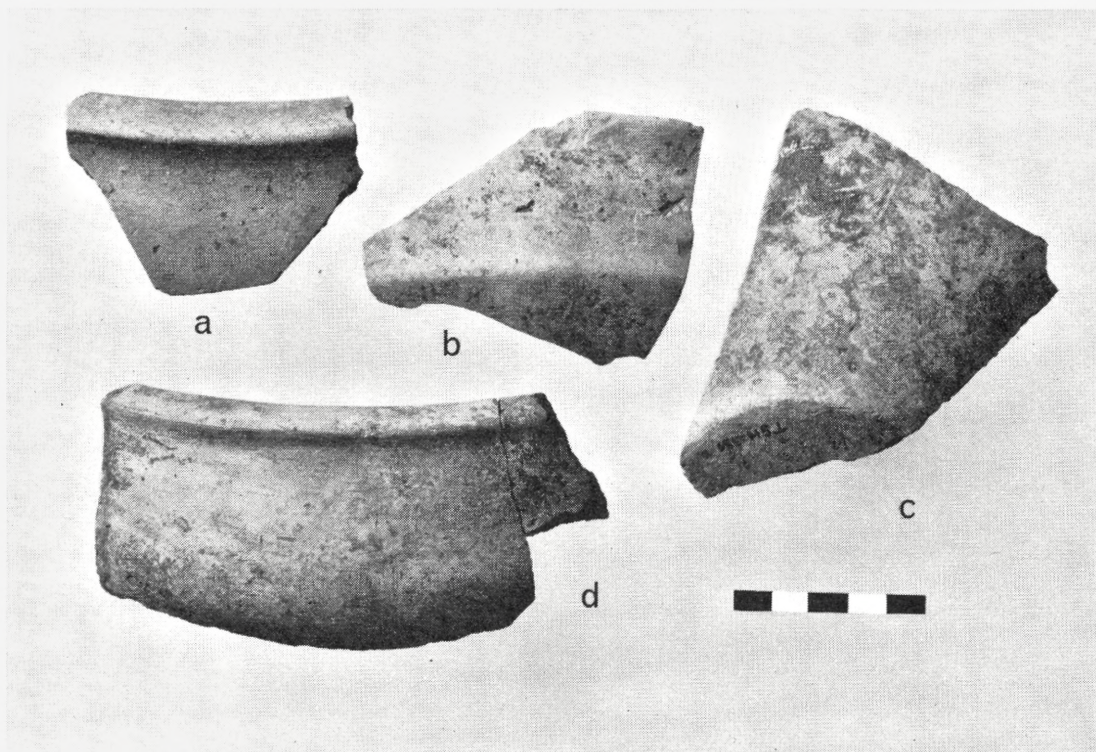


Fig. 60. Undecorated Fine Ware sherds:
 a: TSH. 365. Level 13.
 b: TSH. 1145. Level 7, K 9.
 c: TSH. 389. Level 13.
 d: TSH. 1269. (SH. 662). Level 13.

wide horizontal zones filled in with spaced cross-hatching (motif no. 14) to plates and wide bowls, and regularly spaced “double-windows” (motif no. 18) are restricted to deep bowls.

The distribution and number of occurrences throughout the levels of ornamental motifs on Samarra Painted Fine Ware sherds are shown on Fig. 59.

Undecorated Fine Ware is represented by six vessel shapes:

- a. Bowls with curved sides, slightly flaring rim and a tapering lip (Figs. 60b and 61a–j). The rim diam. is usually smaller than the greatest diam. of the body. One complete bowl shows a slightly concave base (Fig. 61d). The rim diameter, measured on sherds from thirteen different bowls, varies from ca. 14.0 cm. to ca. 28.0 cm. The height of one bowl is 9.8 cm.
- b. Bowls with curved sides, flaring rim and a thick, flattened lip (Figs. 60a and d, and 61k–r). Bowls of this type always narrow slightly towards the opening. One bowl has a flat base (Fig. 61o). The diam. indicated by eleven rim sherds varies from ca. 17.5 cm. to ca. 23.0 cm. One bowl is 9.0 cm. high.

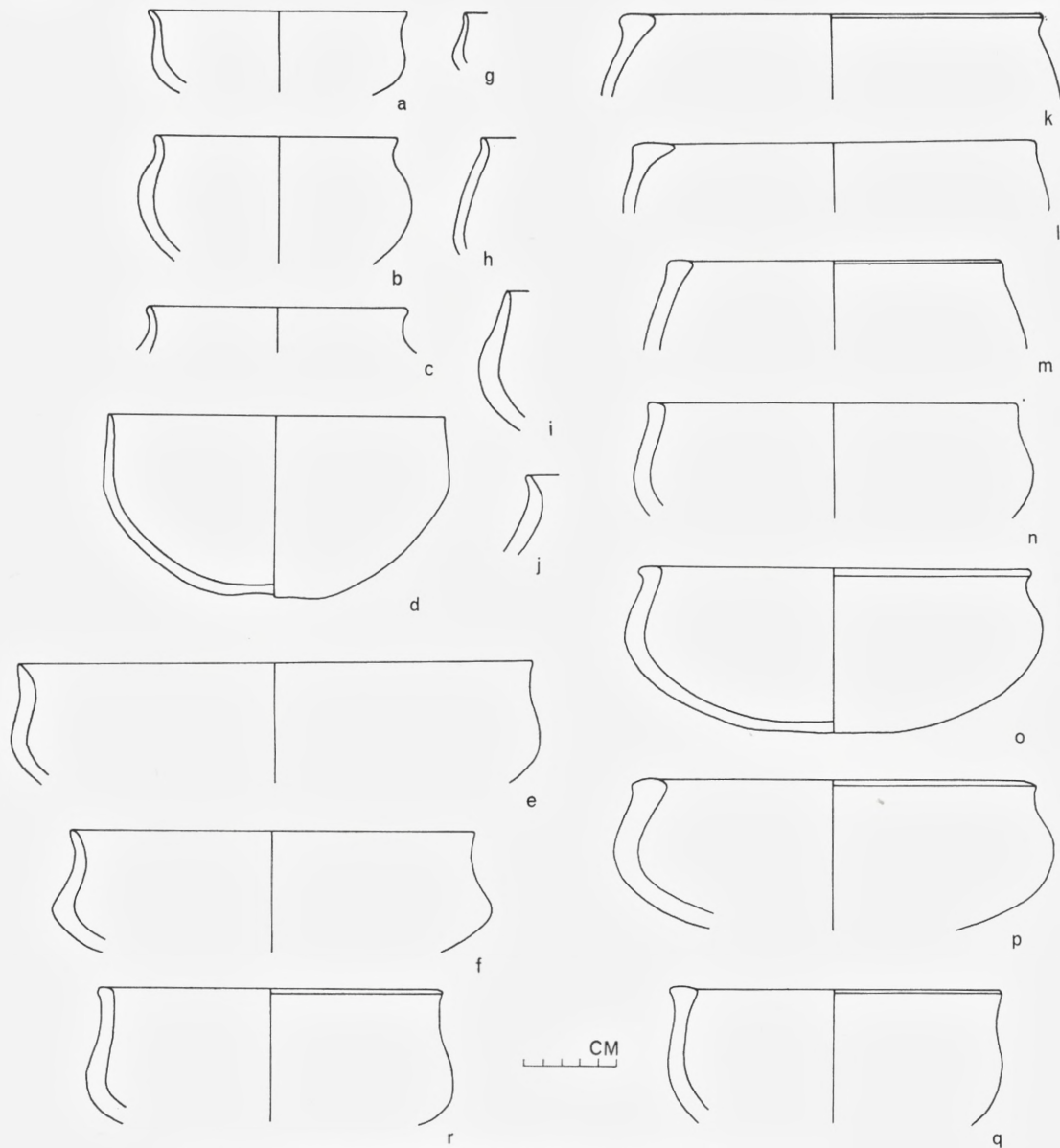


Fig. 61. Undecorated Fine Ware, selection of typical vessel shapes:

- a: TSH. 444. Level 12, L 9.
- b: TSH. 371. Floor 13, L 9.
- c: TSH. 373. Floor 13, L 9.
- d: IM. 60867. (SH. 147). Below floor 10, M 10.
- e: TSH. 710. Level 11, L 9.
- f: TSH. 1145. Level 7, K 9.
- g: TSH. 484. Level 13.
- h: TSH. 368. Floor 13, L 9.
- i: TSH. 683. Level 11.
- j: TSH. 813. Level 10, L 9.
- k: TSH. 365. Floor 13, L 9.
- l: TSH. 1115. Level 9, M 10.
- m: TSH. 786. Level 10.
- n: TSH. 367. Floor 13, L 9.
- o: TSH. 797. (SH. 167). Level 10, N 10.
- p: TSH. 1269. (SH. 662). Level 13.
- q: B. 437. Level 12, L 9.
- r: TSH. 1142. Level 7, L 10.



Fig. 62. Undecorated Fine Ware, selection of typical vessel shapes:

- a: TSH. 810. Level 10, L 9.
- b: SH. 293. Unstratified.
- c: TSH. 1036. Level 9, K 6.
- d: TSH. 838. (SH. 491). Level 10, N 10.
- e: B. 446. Level 12, L 9.
- f: B. 445. Level 12, L 9.
- g: TSH. 720. Level 11, L 9.
- h: TSH. 721. Level 11, L 9.
- i: TSH. 688. Level 11.
- j: TSH. 389. Level 13.
- k: TSH. 761 and 763. Level 10, L 9.
- l: TSH. 748. Level 10, M 10.
- m: TSH. 713. Level 11, L 9.
- n: TSH. 682. Level 11.
- o: TSH. 765. Level 10, L 9.
- p: TSH. 358. Level 13.
- q: TSH. 819. Level 10.

Type	Level									Total number
	16	15	14	13	12	11	10	9	Unstratified	
Bowls, type a				8	4	4	3		1	20
Bowls, type b				5	4		4	1	1	15
Bowls, type c					1	3	9			13
Bowls, type d				1		1	2			4
Tall vessel						1				1
Collared, globular jars					4	4	6	1	2	17
Indeterminable shapes				72	4	2	2			80
Total number				86	17	15	26	2	4	150

Fig. 63. Table showing the number and distribution of Undecorated Fine Ware sherds throughout the sequence.

- c. Bowls or cups with straight or slightly convex sides, tapering lips, and rounded bases (Fig. 62k–n). The diam. indicated by six rim sherds varies from ca. 11.0 cm. to ca. 15.0 cm. Two bowls are respectively 5.0 cm. and 8.4 cm. high.
- d. Half-globular bowls with a thick flattened rim (Fig. 62o–q). No sherds of bases were found. The diam. indicated by two rim sherds is respectively 16.0 cm. and 21.0 cm.
- e. Tall vessels with curved sides and a slightly flaring rim (Fig. 62h). The base is not preserved. Diam. at the edge of rim ca. 22.0 cm.
- f. Collared globular jars. The collars usually have a concave profile with a slightly flaring lip (Fig. 62a–g). Two flat bases are preserved (Fig. 60c and Fig. 62i–j). The diam. of those are respectively 9.0 cm. and 12.0 cm. The height of the collars varies from 5.4 cm. to 11.8 cm., and the rim diameter indicated by seven sherds ranges from ca. 8.0 cm. to ca. 20.0 cm.

80 sherds cannot with certainty be assigned to any of the above mentioned vessel shapes.

The number and distribution throughout the levels of Undecorated Fine Ware sherds is shown on Fig. 63. It should be noted that more than 70% of the determinable sherds belong to different types of bowls.

A comparison between the two categories of Fine Ware shows a technical identity between the Samarra Painted Ware and the Undecorated Ware. Also the shapes are very closely related (cf. Fig. 54c–d with Fig. 61d–e, Fig. 54e with Fig. 61k–q, Fig. 54a with Fig. 62n, Fig. 54g with Fig. 62h, and Fig. 54k and m with Fig. 62b and e–g). On the other hand the Undecorated Fine Ware exhibits a greater variety of vessel shapes, and it has a greater proportion of bowls than the Samarra Painted Fine Ware. Bowls with curved sides and a thick flattened lip are mostly undecorated. Only three sherds of this particular shape were painted, and as mentioned above (p. 64), the type is rare among Samarra pottery at other Hassuna Period sites.

The diagram Fig. 64, based on the tables Figs. 55 and 63, shows the relative

distribution throughout the levels of Undecorated Fine Ware compared with Samarra Painted Fine Ware. It appears that the latter becomes more common in the late layers, and that it dominates in level 9. It should be remembered, however, that there is a potential source of error in our material, since sherds belonging to the lower, undecorated part of a decorated vessel would be classified as undecorated. This circumstance may cause a slight displacement in the statistical balance between decorated and undecorated pottery in favour of undecorated wares.

Standard Wares

The Standard Wares are represented by 887 sherds of handmade plates, bowls and collared globular jars. They are made of a clay containing much lime and quartz, and with sparse red and black mineral inclusions. The paste is tempered with sand and chaff, but the plant particles are so fine—most of them shorter than one millimetre—that it is most likely that the clay has been tempered with dung incorporating the plant material. The vessels are wet-smoothed or covered with a thin slip, sometimes with superficial impressions of straw (Figs. 67h and 87a). It seems to be a rule that all decorated surfaces are slipped. In general the pottery is hard fired. The predominant colours are greenish and orange-buff, and with the exception of a few thick sherds with a greyish brown core, the cores have the same colour as the inner surfaces of the vessels.

It has been possible to distinguish six categories of Standard Wares: two painted wares (Hassuna Painted Standard Ware and Samarra Painted Standard Ware), one incised ware (Hassuna Incised Standard Ware), two painted-and-incised wares (Hassuna Painted-and-incised Standard Ware and Samarra Painted-and-incised Standard Ware), and one undecorated ware (Undecorated Standard Ware).

In contrast to the Samarra Painted Fine Ware, the painted Standard Wares are characterized by paint of a poor quality and by a limited colour scale. The paint is granular and often peeling (Pl. II., 3rd and 4th row). That the paint peels off the vessel surface so easily may perhaps be due to the use of an organic vehicle or medium mixed with a mineral paint, which has been fired at a temperature so high that the organic matter has burnt out during the firing process, leaving only the mineral pigments. Although colour changes appear as a result of inconsistent firing circumstances, the decoration is monochrome, and apparently only one type of paint has been used. 82% of the sherds show the paint as a thick, mat, often peeling greyish black, 12% as a thick Indian red, 4% as a thin greenish grey, and 2% as a thin brownish grey.⁵

⁵ The frequency in which each colour appears on Standard Painted sherds is as follows:

	Greyish black	Indian red	Greenish grey	Brownish grey
Hassuna Painted Standard Ware	44	2	12	11
Hassuna Painted-and-incised Standard Ware	14	5	1	0
Samarra Painted Standard Ware	278	43	5	0
Samarra Painted-and-incised Standard Ware	53	2	0	0

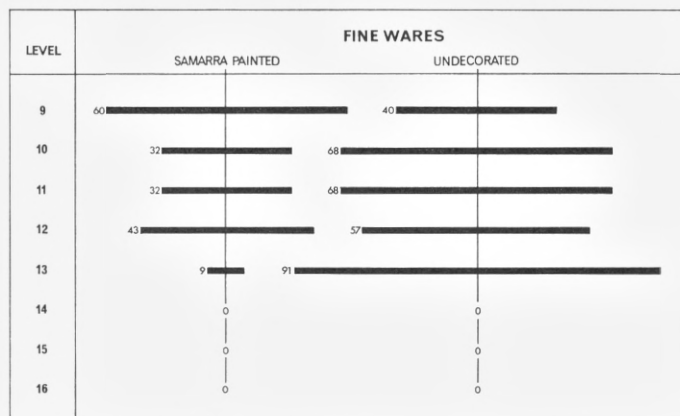


Fig. 64. Seriation diagram showing the relative distribution of Samarra Painted Fine Ware compared with Undecorated Fine Ware throughout the levels.

A minor part of the sherds are decorated by incision (Hassuna Incised Standard Ware) or by incision combined with a painted decoration (Hassuna Painted-and-incised Standard Ware and Samarra Painted-and-incised Standard Ware). Most of the linear designs on the Hassuna Incised Standard Ware are drawn with a fine point, possibly a sharp flint or obsidian blade (Fig. 69a). But a few sherds of larger storage jars and all fragments of Hassuna Painted-and-incised Ware and decorated by a blunt tool, probably a bone or wooden stylus (Fig. 69b and Fig. 75a–d). As at Tell Hassuna, the incised decoration had been executed while the slip was still wet, and in some cases the liquid slip has closed the incisions after the point had passed (cf. LLOYD and SAFAR 1945, p. 279). The Samarra Painted-and-incised Standard Ware has been decorated in a different way. The ornamentation is not linear, but consists of dots, dashes and grooves, produced in a characteristic jabbing technique (Fig. 85).

Six sherds of Undecorated and Samarra Painted Standard Ware vessels from levels 13–10 show signs of riveting or mending with bitumen,⁶ a feature not rarely seen at Hassuna Period villages in Northern Mesopotamia (cf. HERZFELD 1930, pp. 6 and 80, p. 81 Abb. 183, and Taf. XXXVIII, LLOYD and SAFAR 1945, pp. 266 and 282, and MALLOWAN 1947, p. 246).

Hassuna Painted Standard Ware is represented by two vessel shapes:

- a. Half-globular bowls, often slightly narrowing towards the opening. With one exception the rim profiles are tapering or rounded (Fig. 65a–c). Fig. 65d represents a bowl with a flattened rim. No complete vessels were found, but similar bowls from Tell Hassuna suggest a rounded base (cf. LLOYD and SAFAR 1945, Fig. 2:8 and 11). The rim diameter indicated by three sherds ranges from ca. 9.0 cm. to ca. 23.0 cm.
- b. Globular jars with a vertical or inward sloping collar, the height of which varies

⁶ Undecorated Standard Ware sherds from levels 12 (TSH. 438) and 10 (TSH. 803 and 804), and Samarra Painted Standard Ware sherds from levels 13 (TSH. 271 and 291) and 10 (TSH. 923).

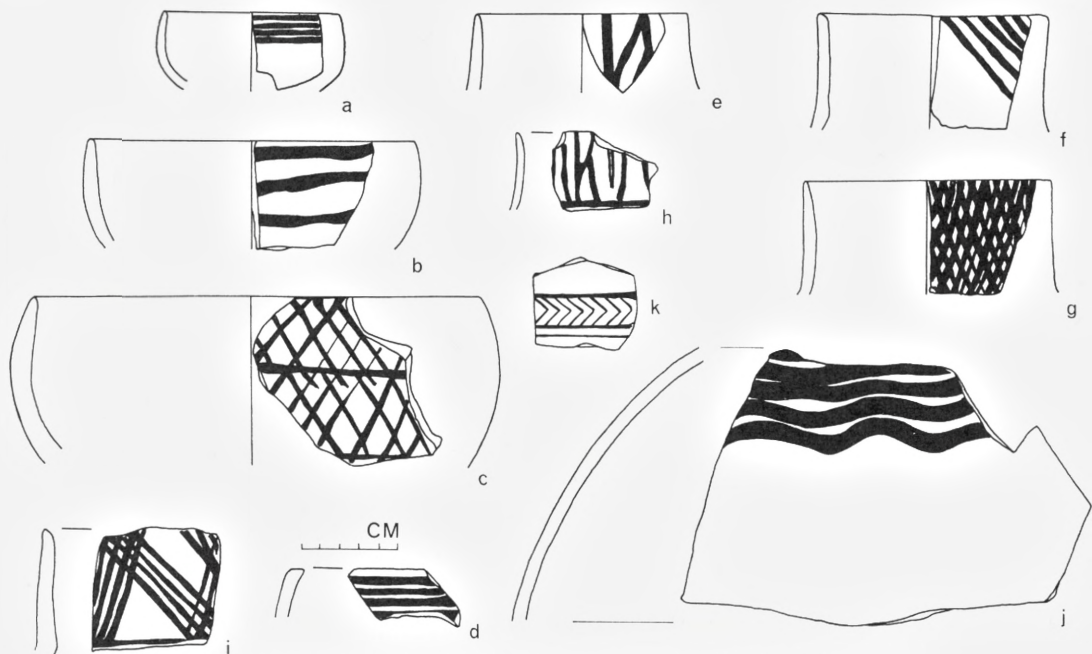


Fig. 65. Hassuna Painted Standard Ware, selection of typical vessel shapes:

- a: SH. 520. Floor 8, M 10.
- b: TSH. 501. Level 13, L 9.
- c: TSH. 250. Level 13, L 9.
- d: TSH. 1075. Level 8, L 8.
- e: TSH. 1042. Floor 8, L 10.
- f: SH. 509. Unstratified, L 10.
- g: TSH. 927. Level 10, L 9.
- h: B. 455. Level 12, L 9.
- i: TSH. 945. Level 10, M 10.
- j: TSH. 870. (SH. 196). Level 9, M 10.
- k: TSH. 969. Level 10, L 9.

from 4.4 cm. to 6.5 cm. (Fig. 65e-i). The rim diameter indicated by three sherds ranges from ca. 11.0 cm. to ca. 13.0 cm. A large sherd from a globular jar suggests a body diameter of 50.0 cm. to 55.0 cm. (Fig. 65j).

29 sherds cannot with certainty be classified under either of the two vessel shapes described above. The number and distribution throughout the sequence of Hassuna Painted Standard Ware sherds is illustrated in the table Fig. 66. It shows that more than 70% of the determinable sherds derive from collared globular jars.

With one or two exceptions the simple linear designs of the Hassuna Painted Standard Ware are familiar from Tell Hassuna. But in contrast to the Standard Ware from Tell Hassuna interior decoration on bowls does not occur at Tell Shimshara. The following designs have been distinguished:

1. Horizontal bands consisting of three to five parallel lines (Fig. 65a, b and d).

Type	Level									Total number
	16	15	14	13	12	11	10	9	Unstratified	
Bowls				3	7	1			2	13
Collared, globular jars				8	12	1	5	2	5	33
Indeterminable shapes				1	12	1	4	5	6	29
Total number				12	31	3	9	7	13	75

Fig. 66. Table showing the number and distribution of Hassuna Painted Standard Ware sherds throughout the sequence.

2. Oblique groups of three to five parallel lines composing a zigzag (Fig. 67a–b).
3. Oblique groups of four to seven lines forming a zigzag. The ends of the linear groups cross each other irregularly (Figs. 65i and 67c).
4. All-over pattern of cross-hatching (Figs. 65c and g and 67 d–e).
5. Irregular combination of oblique and vertical lines (Fig. 65e and h).
6. Horizontal zone filled in with chevrons pointing right (Fig. 65k).
7. Horizontal group of five festoons arranged one below the other. The only known example of this motif at Shimshara is painted with a multiple brush (Fig. 67h).
8. Horizontal groups of two to five wavy lines arranged one below the other (Figs. 65j and 67f–g).

Compared with the compact decoration typical of the Samarra Painted Wares the designs of the Hassuna Painted Standard Ware are simple and uncomplicated. Combinations of two or three motifs do not occur. The painting is careless and the lines and spaces are uneven. It is notable that motif no. 1 (horizontal bands consisting of three to five parallel lines) always occurs on half-globular bowls below the rim, and that motif no. 8 (horizontal groups of wavy lines) is confined to globular jars.

It is surprising in this context to find an example of multiple brush painting technique on a sherd from level 13 (Fig. 67h). Samarra pottery with wavy line motifs presumably painted with a multiple brush has previously been noticed at Baghouz (BRAIDWOOD *et al.* 1944, p. 58, and Pl. VII:2–3), but like the Samarra Painted Fine Ware sherd from Shimshara mentioned on p. 67, the evidence in neither case has been conclusive.⁷

The distribution and number of occurrences throughout the levels of ornamental motifs on Hassuna Painted Standard Ware sherds are shown on Fig. 68.

⁷ Although several of the early pottery styles obviously invite the use of such a device, the multiple brush does not make its general appearance in Mesopotamia until the Ubaid Period. From here it spread to Northern Syria, where the “Ubaidlike Monochrome Painted Ware” of the Amuq E-phase is partly dependent on the multiple brush (BRAIDWOOD and BRAIDWOOD 1960, p. 186 and Pl. 20). In the Amuq-phases G-H it becomes a characteristic feature of North Syrian pottery (BRAIDWOOD and BRAIDWOOD 1960, p. 281, p. 284 ff., and p. 356), and at the same time it appears in Egypt in the Gerzean Period on vases of the “Decorated Class” (BOARDMAN 1960, p. 85).

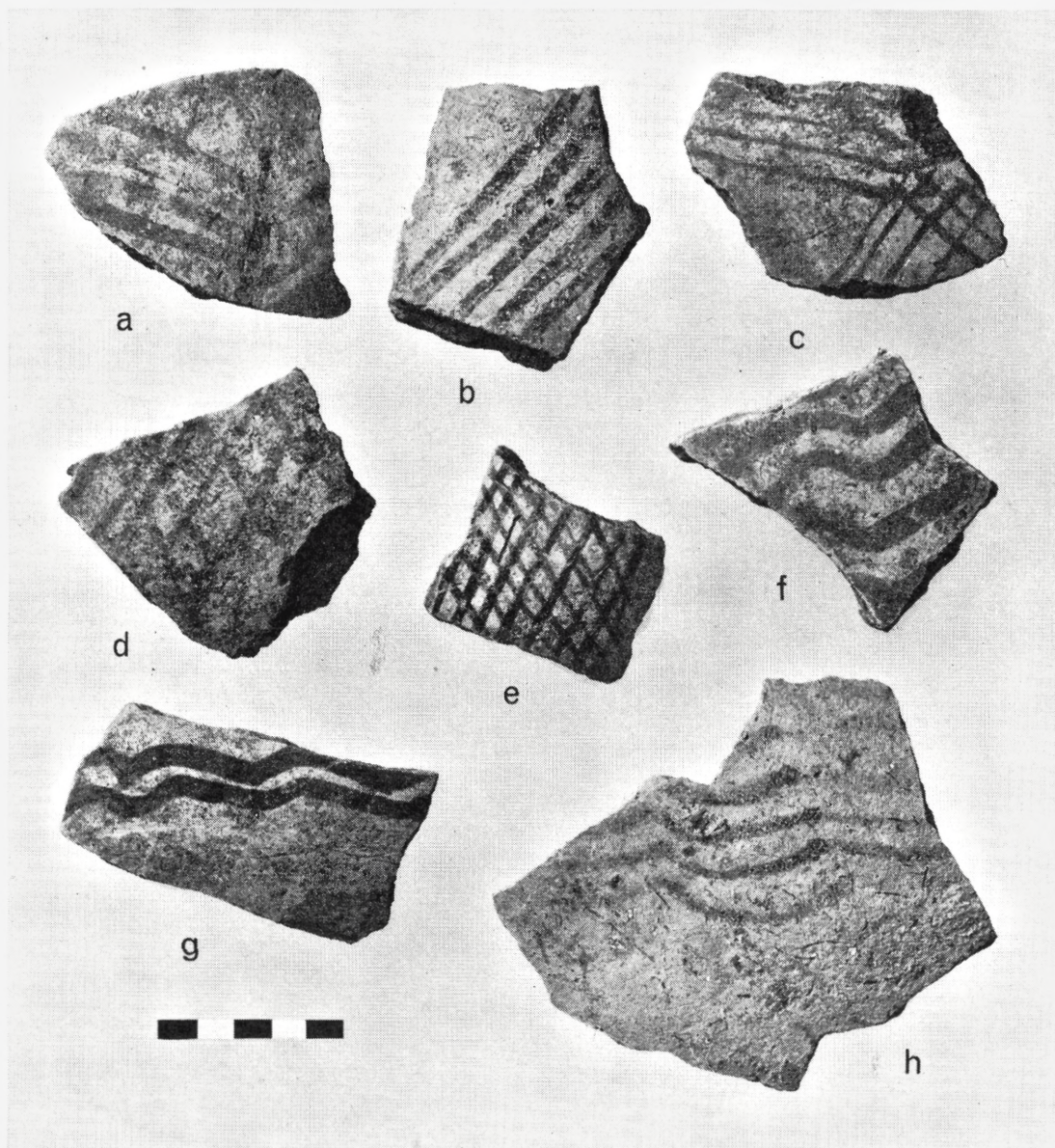


Fig. 67. Hassuna Painted Standard Ware, selection of sherds with typical ornamental motifs:

- a: TSH. 275. Level 13.
- b: TSH. 1147. Level 6, L 8.
- c: TSH. 287. Level 13.
- d: TSH. 598. Level 11.
- e: TSH. 286c. Level 13.
- f: TSH. 276. Level 13.
- g: TSH. 539. Level 12, L 9.
- h: TSH. 280. Level 13.

Motif	Level									Total number of occurrences
	16	15	14	13	12	11	10	9	Unstratified	
1				1	3				3	7
2				2	2		2		2	8
3				2	1		2	1	2	8
4				3		2	1			6
5					1				1	2
6							1			1
7				1						1
8				2	3	1	1	2	2	11

Fig. 68. Table showing the distribution of ornamental motifs on Hassuna Painted Standard Ware throughout the sequence.

Hassuna Incised Standard Ware is represented by two vessel shapes:

- a. Bowls with straight or curved sides, often of half-globular shape (Fig. 70a–c). The rim sherds suggest a rounded or slightly pointed lip, and a single, almost complete bowl shows a rounded base. The rim diam. indicated by ten sherds varies from ca. 12.0 cm. to ca. 19.0 cm. One bowl is 6.8 cm. high.
- b. Globular jars with a low collar and usually with a slightly flaring rim and rounded lip (Figs. 70d and 71a–c). The height of the collars varies from ca. 2.0 cm. to ca. 3.2 cm. and the rim diameter indicated by seven sherds ranges from ca. 10.0 cm.

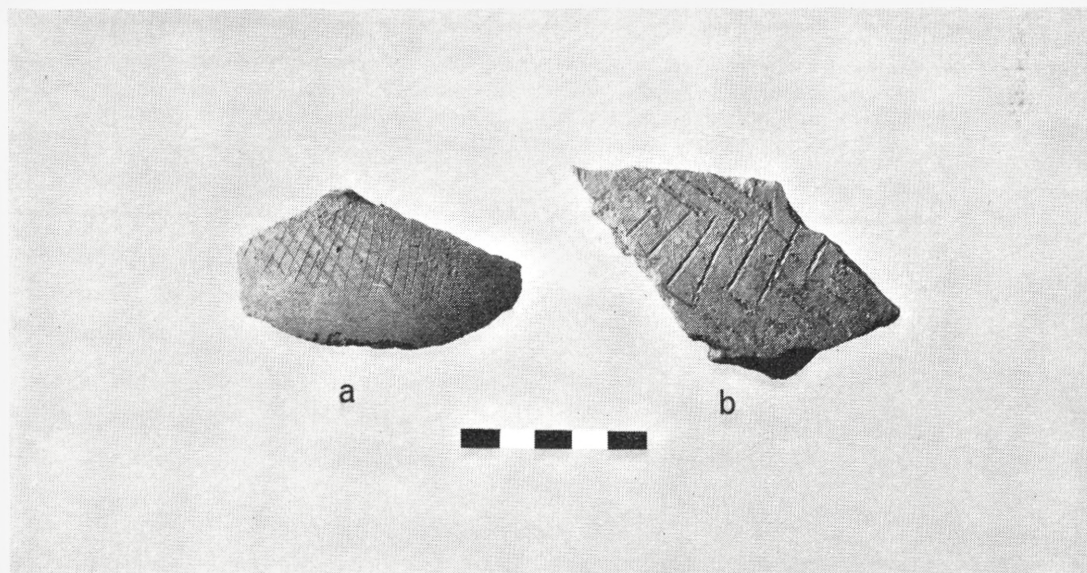


Fig. 69. Hassuna Incised Standard Ware sherds:
 a: TSH. 655. Unstratified.
 b: TSH. 1008. Unstratified.

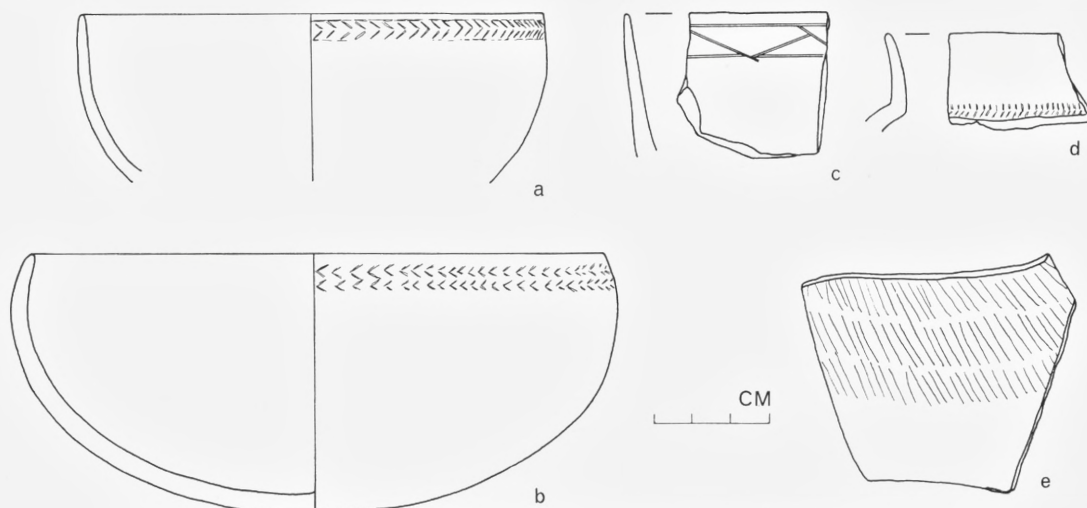


Fig. 70. Hassuna Incised Standard Ware, selection of typical vessel shapes and designs:

- a: TSH. 236a-b. Level 14, M 10.
- b: TSH. 237. (SH. 661). Floor 13, N 10.
- c: TSH. 999. Level 9, L 8.
- d: B. 452. Level 12, L 9.
- e: B. 419. Level 12, L 9.

to ca. 16.0 cm. These sherds, however, all represent small or medium-sized vessels, but more than half of the material is sidesherds from larger globular jars with a body diameter of 40.0 to 60.0 cm. (Fig. 71d and f).

The table, Fig. 72, shows that more than 80% of the sherds represent globular jars.

As mentioned above, the incised decoration is simple and linear. The following motifs occur:

1. A narrow horizontal zone filled in with a finely incised zigzag (Fig. 70c).
2. A horizontal row of finely incised chevrons pointing right limited by dotted lines (Fig. 70a).
3. Narrow horizontal zone of finely incised chevrons pointing left arranged in a double row (Fig. 70b).
4. Wide zone consisting of tiers of finely incised oblique lines (Fig. 70e).
5. Wide horizontal zone consisting of finely incised oblique lines crossing each other (Figs. 69a and 71e).
6. Two or three horizontal rows of irregular chevrons pointing left (Figs. 69b and 71d).
7. Two horizontal rows or irregular chevrons pointing right (Fig. 71c).
8. Groups of deeply incised vertical or oblique lines (Fig. 71f).

The distribution and number of occurrences of these designs throughout the levels are shown on Fig. 73. It seems to be a rule that the incised decoration on bowls

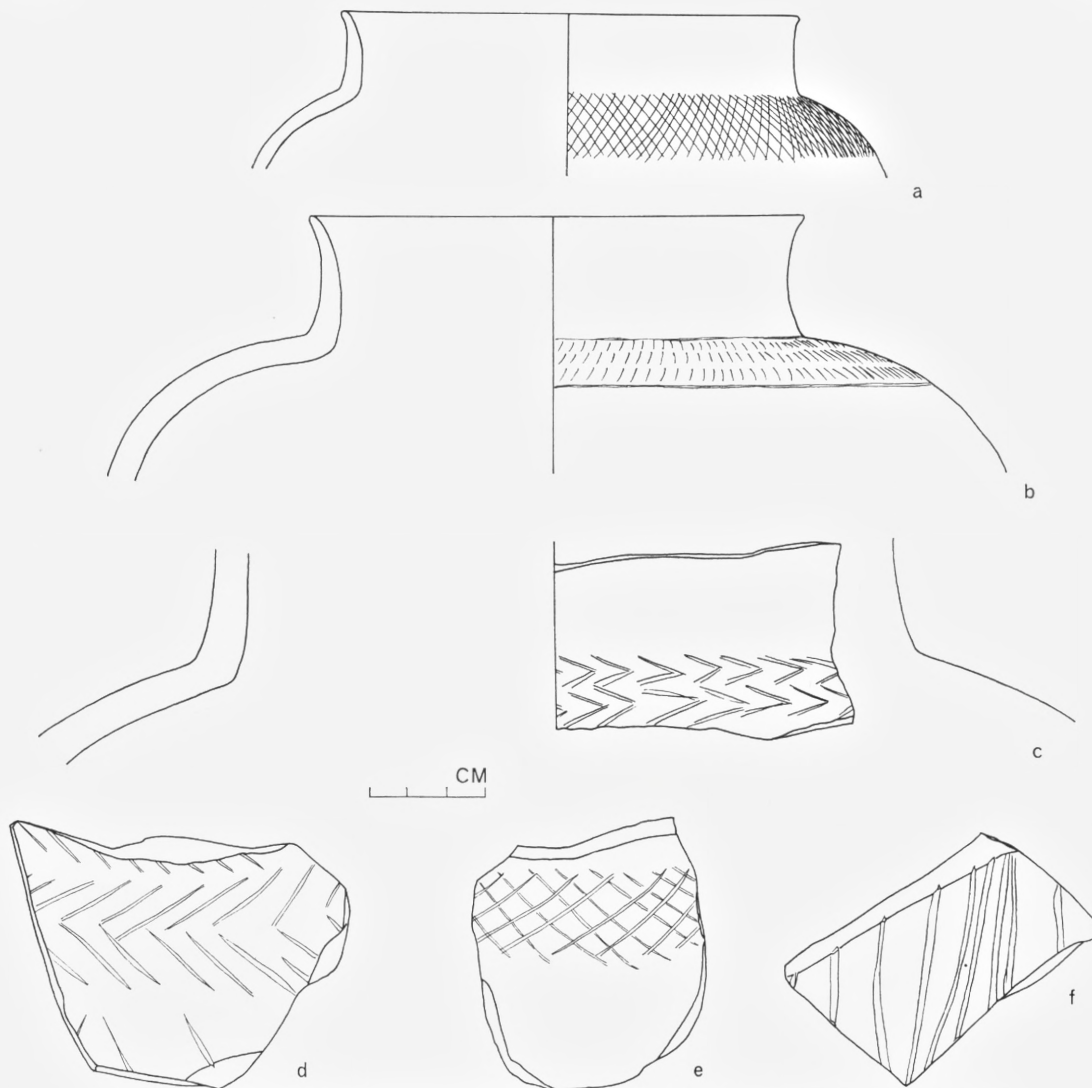


Fig. 71. Hassuna Incised Standard Ware, selection of typical vessel shapes and designs:

- a: TSH. 798. Level 10, M 10.
- b: TSH. 936. Level 10, M 10.
- c: TSH. 1146. Floor 6, J 8.
- d: TSH. 1245. Unstratified.
- e: B. 418. Level 12, L 9.
- f: TSH. 1108. Floor 7, L 8.

is restricted to a narrow zone just below the rim and on globular jars is placed on the upper part of the body below the collar. The finely incised motifs (nos. 1–5) are only found on bowls and smaller globular jars, whereas the deeply incised decoration is reserved for medium-sized and large globular jars. We do not have any examples of combined motifs.

Type	Level									Total number
	16	15	14	13	12	11	10	9	Unstratified	
Bowls			1	3		1		3	2	10
Collared, globular jars				1	8	5	11	3	14	42
Total number			1	4	8	6	11	6	16	52

Fig. 72. Table showing the number and distribution of Hassuna Incised Standard Ware sherds throughout the sequence.

Motif	Level									Total number of occurrences
	16	15	14	13	12	11	10	9	Unstratified	
1								1		1
2			1							1
3				1	1			2		4
4				2	1	2	5		2	12
5					5	3	3	1	2	14
6						1	3	1	5	10
7					1			1	4	6
8				1					1	2

Fig. 73. Table showing the distribution of ornamental motifs on Hassuna Incised Standard Ware throughout the sequence.

Shapes as well as designs of the Hassuna Incised Standard Ware from Shimshara are related to the incised pottery found at Tell Hassuna and at Matarrah. But in general it seems that the incised decoration at Tell Hassuna is coarser and has more of an all-over pattern than at Shimshara (cf. LLOYD and SAFAR 1945, Figs. 3:5-6, 4:1-7, 10:1-20, and 15:1-21). The finely incised chevrons, zigzags and dotted lines are paralleled on Fine Simple Ware bowls from Matarrah (BRAIDWOOD *et al.* 1952, Fig. 16:8-9), and within the same group of pottery we find some globular collared jars with a slightly flaring lip similar to those from Shimshara (BRAIDWOOD *et al.* 1952, Figs. 8:7-10 and 16:10). Deeply incised chevrons and groups of parallel lines occur at Matarrah on large globular jars of Coarse Simple Ware (BRAIDWOOD *et al.* 1952, Fig. 11:11-13).

Hassuna Painted-and-incised Standard Ware is represented by only a small collection of sherds, all from globular collared jars (Fig. 74-75). No rim sherds were found, but two sherds suggest tall, straight-sided collars, higher than 7.4 cm. and 8.0 cm. The distribution of the sherds is as follows:

Level									Total number
16	15	14	13	12	11	10	9	Unstratified	
0	0	0	7	0	2	3	2	6	20

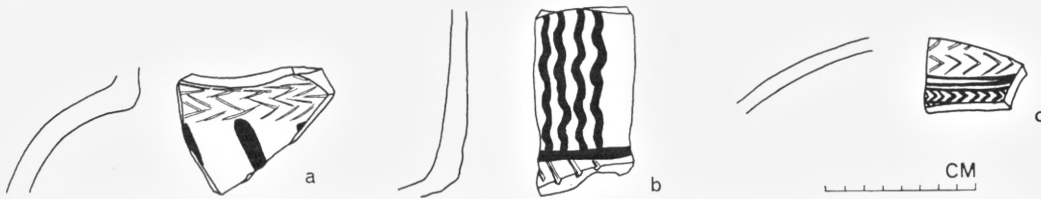


Fig. 74. Hassuna Painted-and-incised Standard Ware, selection of typical vessel shapes and designs:

- a: TSH. 308. Floor 13, L 9.
 b: TSH. 302. Level 13, L 9.
 c: TSH. 1151. Level 6.

Since most of the sherds are very small and the paint on the Standard Wares peels off so easily, it has been difficult to distinguish more than a few painted motifs on painted-and-incised sherds of this group. On collar sherds occur a combined zigzag design (level 13), an all-over pattern of cross-hatching (level 10), three horizontal wavy lines (unstratified), and a group of four vertical wavy lines (Fig. 74b, level 13). On a body sherd appears a horizontal zone filled in with chevrons pointing right (Fig. 74c, level 6), and on other body sherds are seen fragments of linear designs.

The incised decoration is the same on all sherds: a 2.5 to 3.6 cm. wide zone with one or two horizontal rows of zigzags pointing right, placed just below the collar on the upper part of the body (Fig. 74–75).

The Hassuna Painted-and-incised Ware from Shimshara is closely related to the Standard Painted-and-incised Ware from Tell Hassuna (cf. LLOYD and SAFAR 1945, Figs. 3:1–4, 9:18–28, 13, and 14), but at Shimshara no sherds of bowls were found.

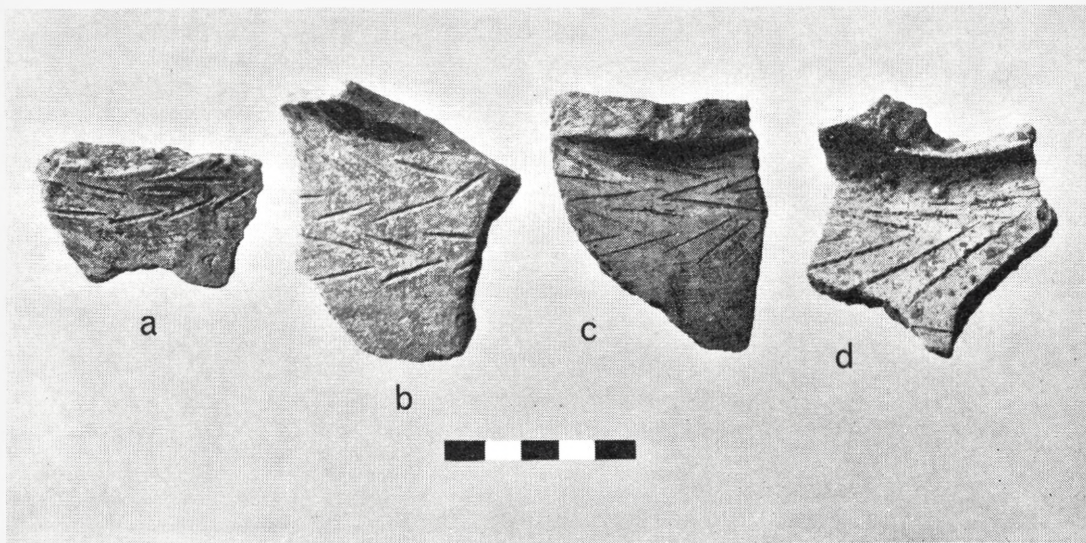


Fig. 75. Hassuna Painted-and-incised Standard Ware sherds:

- a: TSH. 882. Level 10, L 8.
 b: TSH. 1046. Level 8, M 10.
 c: TSH. 493. Level 13, L 8.
 d: TSH. 272a. Level 13, L 9.

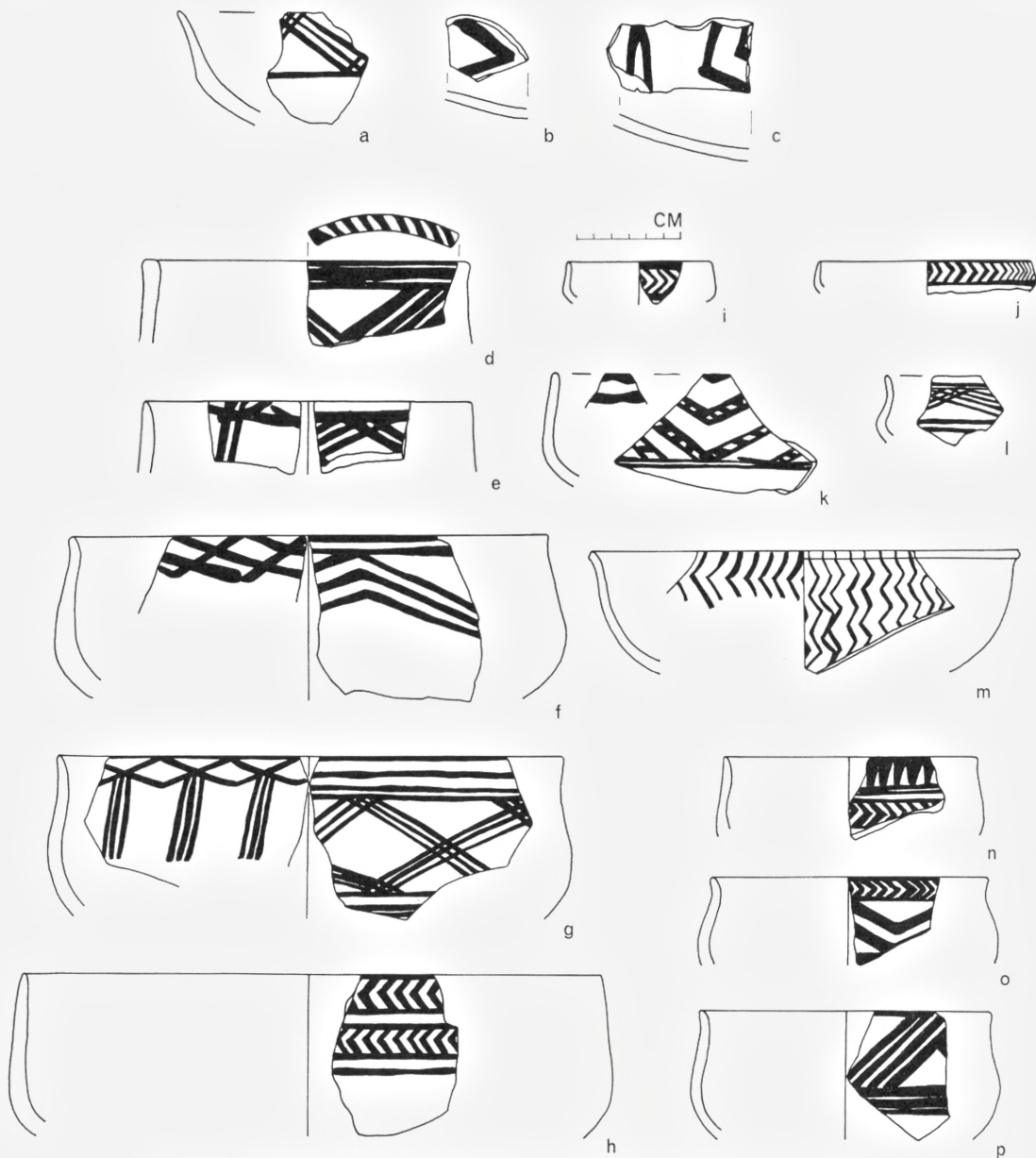


Fig. 76. Samarra Painted Standard Ware, selection of typical vessel shapes:

- a: TSH. 1148. Floor 6, K 7.
- b: TSH. 586. Level 11.
- c: TSH. 1230 and 1232. Level 10.
- d: TSH. 268. Floor 13, L 9.
- e: TSH. 630. Level 11, L 9.
- f: TSH. 254. Floor 13, L 9.
- g: TSH. 609. Level 11, L 9.
- h: TSH. 255. Floor 13, L 9.
- i: TSH. 265. Floor 13, L 9.
- j: TSH. 487. Level 13.
- k: B. 448. Level 12, L 9.
- l: TSH. 574. Level 12, L 9.
- m: B. 447. Level 12, L 9.
- n: TSH. 267. Floor 13, L 9.
- o: TSH. 260. Floor 13, L 9.
- p: TSH. 271. Floor 13, L 9.

This may perhaps be due to the small number of painted-and-incised sherds found there. At Tell Hassuna the bowl sherds constitute less than 20% of the material.

Samarra Painted Standard Ware is, like the *Samarra Painted Fine Ware*, represented by four vessel shapes:

- a. Plates, comparable to Type a1-2 of Herzfeld's "Schüsseln" from Samarra (HERZFELD 1930, p. 10 ff.). One rim sherd is from a carinated plate with a slightly flaring lip (Fig. 76 a), and two sherds represent rounded bases with interior decoration (Fig. 76b-c). The sherds are too fragmentary to indicate the size of the plates.
- b. Wide bowls, comparable to Type 1 of Herzfeld's "Flache Töpfe" (HERZFELD 1930, p. 57ff.). Most sides are curved, narrowing towards the opening of the bowls, and with flaring rim profiles (Fig. 76f-g, l, and n-p), but unlike the *Samarra Painted Fine Ware*, bowls with straight sides are not uncommon (Fig. 76d-e, and h-k). The lips are usually rounded or pointed, but a couple of sherds show a flattened rim (Fig. 76d). The unusual shape of an open bowl with curved sides and a splayed, faceted rim (Fig. 76m) is reminiscent of marble bowls found at Tell Shimshara (cf. Fig. 38c). The diameter indicated by 41 rim sherds vary between 8.0 cm and 28.5 cm., but more than half of the sherds come from bowls with a diameter of 14.0 to 20.0 cm.
- c. Deep bowls comparable to Type 1-2 of Herzfeld's "Tiefe Töpfe" (HERZFELD 1930, p. 64ff.). The sides are curved and the rim profiles are rounded or tapering and slightly flaring (Fig. 77a, and c-e). The rim diameter indicated by nine sherds ranges from ca. 9.0 cm. to ca. 25.0 cm. One small bowl with a flat base, 8.3 cm. high and 8.0 cm. wide at the rim (Fig. 77b), is rather closely related to Herzfeld's "Becher" (HERZFELD 1930, p. 78ff.).
- d. Collared, globular jars, comparable with Herzfeld's "Töpfe mit kurzem Hals" and "Flaschen mit hohem Hals" (HERZFELD 1930, p. 80ff.). With one exception (Fig. 77k) the collars are straight (Fig. 77f-h, j and l) or outturned (Fig. 77i), often with a slightly concave profile. The rim profiles are tapering, rounded or flattened, and the height of 15 collars varies from 1.4 cm. to 9.6 cm. 20 sherds indicate a rim diameter varying from ca. 6.0 cm. to ca. 18.0 cm. Two shers from very large globular jars suggest a diameter at the edge of rim of ca. 25.0 cm. and ca. 27.0 cm.

167 sherds cannot be assigned to any distinct vessel shape, but most of them are side sherds of rounded bodies belonging either to deep bowls with curved walls or to collared globular jars. The number and distribution throughout the sequence of *Samarra Painted Standard Ware* sherds are shown on the table Fig. 79.

The following painted motifs occur on *Samarra Painted Standard Ware* sherds from Shimshara:

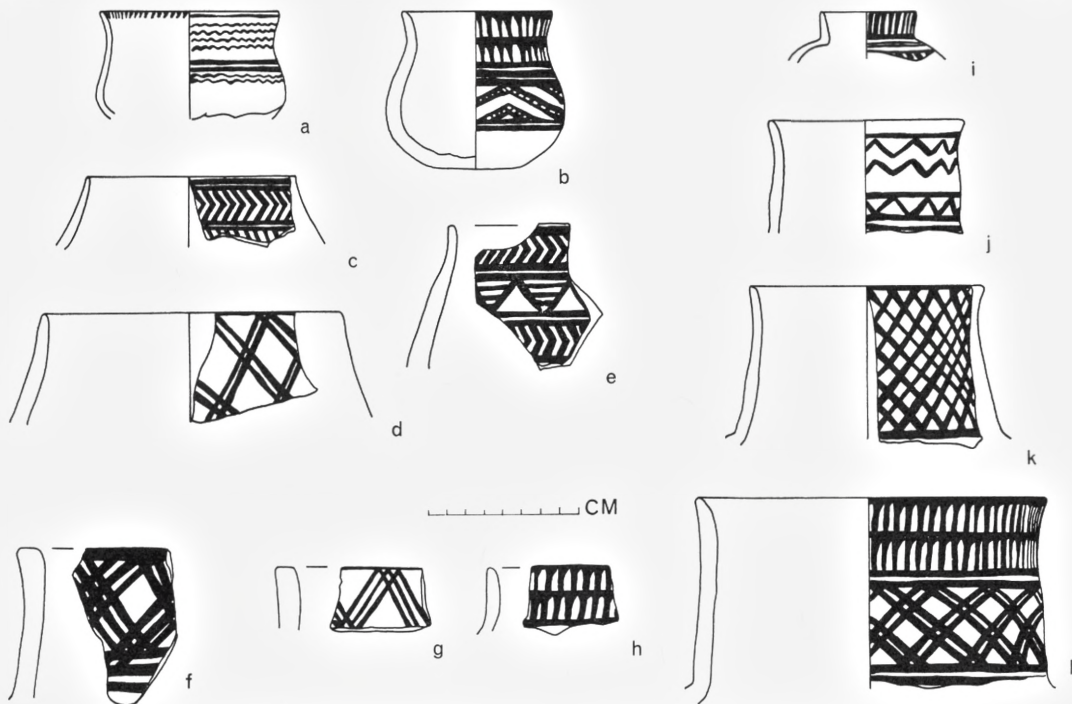


Fig. 77. Samarra Painted Standard Ware, selection of typical vessel shapes:

- a: SH. 522. Floor 6, L 10.
- b: IM. 60893. (SH. 659). Floor 12, L 9.
- c: SH. 524. Level 8, N 10.
- d: IM. 60886. (SH. 535). Level 8, K 7.
- e: B. 457. Level 12, L 9.
- f: TSH. 990. Level 10.
- g: TSH. 1032. Level 8.
- h: TSH. 605. Level 11, L 9.
- i: TSH. 251. Level 13.
- j: TSH. 1156. (SH. 508). Level 6, L 10.
- k: TSH. 992. Level 10, L 9.
- l: TSH. 1000. Level 9, L 9.



Fig. 78. Samarra Painted Standard Ware, selection of sherds with typical ornamental motifs:

- a: B. 425. Level 12, L 9.
- b: SH. 510. Level 8, N 10.
- c: SH. 164. Level 8, N 10.
- d: B. 394. Floor 12, L 10.
- e: B. 392. Floor 12, L 10.

Type	Level									Total number
	16	15	14	13	12	11	10	9	Unstratified	
Plates						1	1		1	3
Wide bowls				21	12	9	16	5	25	87
Deep bowls				2	4	2	5	3	7	23
Collared, globular jars				4	8	5	14	4	13	48
Indeterminable shapes				17	16	33	41	8	52	167
Total number				44	39	50	77	20	98	328

Fig. 79. Table showing the number and distribution of Samarra Painted Standard Ware sherds throughout the sequence.

Outside rim motifs, bands:

1. Narrow horizontal zones filled in with vertical bars (Figs. 77i and 80a–b). The motif most often appears in two or three tiers.
2. Narrow horizontal zones filled in with oblique bars (Fig. 80c).
3. Narrow horizontal zones of vertical wedges or pegs, pointing downwards (Figs. 76n, 77b, h and l, and 80d). Usually the motif occurs in double tiers.
4. Narrow horizontal zones filled in with oblique rows of small squares (“stairway” design) (Fig. 78b).
5. Narrow horizontal zones filled in with a row of double chevrons pointing left (Fig. 78a).
6. Narrow horizontal zones filled in with chevrons pointing right (Figs. 76i–j and n–o, 77c and e, 78d, and 80d–e, g and i). The motif often occurs in a single zone, but two or three tiers do also occur.
7. Narrow horizontal zone filled in with chevrons pointing left (Figs. 76h and 80f).
8. Narrow horizontal zones filled in with oblique bars, combined into a herringbone pattern (Fig. 80h).
9. Wide horizontal zones with oblique groups of six to eight parallel lines combined into a zigzag pattern (80i).
10. Wide horizontal zones with zigzags composed of groups of three to four parallel lines, the ends of which cross one another (Fig. 76a, d and l).
11. Wide horizontal zones with zigzags composed of two parallel lines (Fig. 76o).
12. Wide horizontal zones with zigzags consisting of double lines the space between them filled in with short dashes (Fig. 80j).
13. Wide horizontal zones with zigzags consisting of triple lines the space between them filled in with short dashes (Fig. 81a).
14. Wide horizontal zones with V-shaped designs combined to zigzags. The motif is composed of double lines connected with short horizontal dashes (Figs. 76k and 77b).
15. Wide horizontal zones with V-shaped designs combined into zigzags (Fig. 78d).

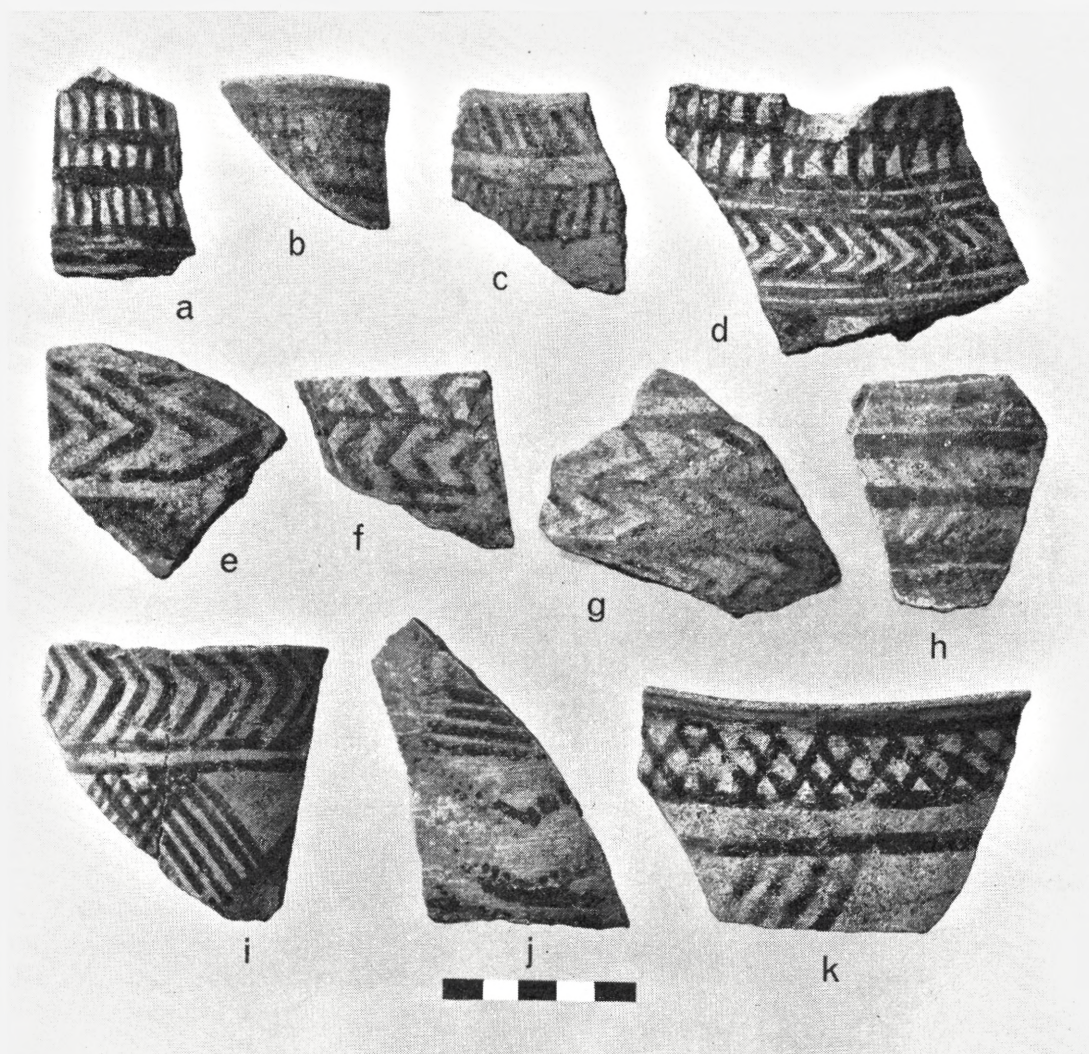


Fig. 80. Samarra Painted Standard Ware, selection of sherds with typical ornamental motifs:

- a: TSH. 1249. Unstratified.
- b: TSH. 991. Level 10.
- c: TSH. 993. (SH. 530). Level 10, N 10.
- d: TSH. 1187a. (SH. 513). Floor 5, J 9.
- e: TSH. 281. Level 13.
- f: TSH. 1038. Floor 9.
- g: TSH. 1091. Floor 8, M 10.
- h: TSH. 912. Level 10.
- i: TSH. 1155. Floor 6, K 9/10.
- j: TSH. 1096. Floor 8, M 10.
- k: TSH. 994. Floor 9, M 10.

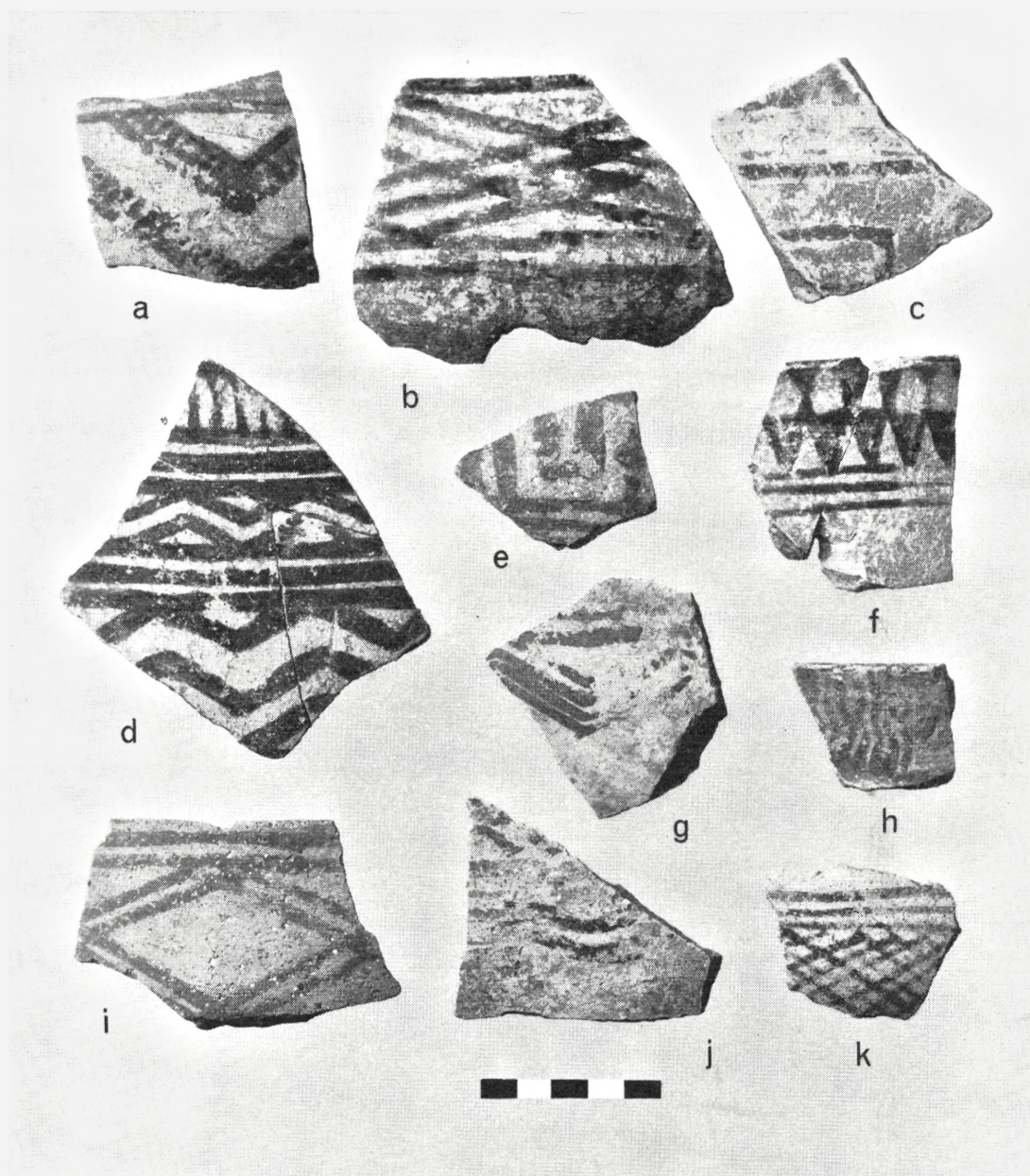


Fig. 81. Sammara Painted Standard Ware, selection of sherds with typical ornamental motifs:

- a: TSH. 944. Level 10, M 10.
- b: TSH. 889. Level 10, L 8.
- c: TSH. 615. Level 11, L 9.
- d: TSH. 1010 (SH. 526). Level 9, L 10.
- e: TSH. 524. Level 12, L 9.
- f: TSH. 931. Level 10.
- g: TSH. 1204. (SH. 507). Unstratified, K 9.
- h: TSH. 246. Level 13.
- i: TSH. 1202. Level 11.
- j: TSH. 282. Level 13.
- k: TSH. 1165. Level 6.

16. Narrow horizontal zone with triangles every other one of which is filled in with horizontal lines (Fig. 77e).
17. Wide horizontal zones with latticework composed of oblique lines (Fig. 80k).
18. Wide horizontal zones with latticework composed of double lines (Fig. 77l).
19. Wide horizontal zones filled in with spaced cross-hatching, composed of groups of three or four parallel lines (Figs. 76e and g, and 91b and i).
20. Narrow horizontal zones with a single wavy line (Figs. 77j and 78c).
21. Narrow horizontal zones with a double wavy line (Figs. 77j and 81d).
22. Wide horizontal zones filled in with a meander design (Figs. 81c and e).
23. Wide horizontal zones with spaced groups of vertical wavy lines (Fig. 81h).
24. Narrow horizontal zone filled in with a chess-board pattern (Fig. 78b).
25. Horizontal double row of filled-in triangles pointing downwards (Fig. 81f).

Outside rim motifs, suspended elements:

26. Two horizontal wavy lines (Figs. 77a and 81j).
27. Horizontal zigzags composed of groups of three to four parallel lines (Figs. 76f and 81g).
28. Three to four horizontal wavy lines (Figs. 77a and 81d).

Outside rim motifs, surface covering:

29. Horizontal rows of chevrons pointing left (Fig. 78e).
30. Oblique rows of small squares ("stairway" design) descending from the rim.
31. Groups of vertical zigzaglines descending from the rim (Fig. 76m).
32. Latticework composed of oblique double lines (Fig. 77d).
33. Cross-hatching composed of oblique lines (Fig. 77k).

Decoration on top of rim:

34. Row of short oblique lines spaced by filled-in triangles (Fig. 76d).

Inside rim motifs, suspended elements:

35. Short oblique lines crossing one another, creating two to three horizontal rows of lozenges (Fig. 76f).
36. Two horizontal wavy lines (Fig. 76k).
37. Horizontal rows of short oblique fringes, spaced by triangles (Fig. 77a).
38. Festoon pattern with suspended double fringes (Fig. 76e).
39. Double zigzag pattern with triple fringes suspended where the points of the zigzags join one another (Fig. 76g).

Inside rim motifs, surface-covering:

40. Groups of vertical zigzaglines descending from the rim (Fig. 76m).
41. Fragmentary design, probably representing one or several rows of spaced chevrons (Fig. 76b).

42. Fragments of two squares and a chevron (?) belonging to the central design of a plate (Fig. 76c).

The distribution and number of occurrences throughout the levels of ornamental motifs on Samarra Painted Standard Ware sherds are shown on Fig. 82. Although a fair number of motifs have been recognized, the sequence does not reveal any definite development or change within the painted decoration. It seems, however, that a few characteristic Samarra motifs (no. 3: zones of vertical wedges, nos. 6–7: zones filled in with chevrons pointing right or left, and no. 35: horizontal rows of lozenges, suspended on the inside rim) prevail in the earlier levels. Other Samarra designs (no. 1: zones filled in with vertical bars, and no. 37: rows of short, oblique fringes spaced by triangles, suspended on the inside rim) are common in the younger part of the sequence. It was suggested under the description of the Samarra Painted Fine Ware decoration that horizontal zones filled in with vertical bars might be a late derivation of the zone of vertical wedges, one of the most typical Samarra designs (cf. p. 67). This assumption is supported by the distribution of these two motifs on Samarra Painted Standard Ware sherds.

Compared with the Samarra Painted Fine Ware, the decoration on Samarra Painted Standard Ware sherds seems to be a little less compact. There is a preference for spaced linear motifs, the open area between parallel lines are usually wider than the thickness of the lines, and horizontal zones are limited by two, or more infrequently by one, three or four parallel lines. A single line does often appear just below the rim. The exterior ornamentation is usually confined to the upper part of the vessels, often extending just below the point of greatest diameter. Less than 10% of the sherds are painted on the inside, and the interior decoration is—with one exception (Fig. 77a)—restricted to sherds of plates and of wide bowls.

It is surprising that only two out of 328 sherds show the same combination of two designs: a horizontal zone of chevrons pointing right (motif no. 6) below one or two rows of vertical wedges (motif no. 3). A similar lack of uniformity can be recognized in the relation of design and vessel shape. On the Samarra Painted Fine Ware, horizontal zones with vertical bars or wedges were always placed just below the rim of deep bowls or collared globular jars, various zigzag motifs were confined to collared globular jars, and wide horizontal zones filled in with spaced cross-hatching were only found on plates and wide bowls. On sherds of Samarra Painted Standard Ware there are no such principles for the combination of a certain motif with particular vessel shapes. It seems, however, that wide horizontal zones with spaced cross-hatching (motif no. 19) preferably occur on wide bowls.

Samarra Painted-and-incised Standard Ware is represented by a minor collection of sherds, all from collared globular jars (Fig. 83–84). The collars are straight or sloping outward with a slightly flaring rim and a rounded or pointed lip. They vary in height from 1.4 cm. to 9.5 cm., but nine out of twelve collars are less than 4.0 cm. high. The rim diameter indicated by nine sherds ranges from ca. 10.0 cm. to ca. 18.5

Motif	Level									Total number of occurrences
	16	15	14	13	12	11	10	9	Unstratified	
1				1	3	3	9	3	2	21
2							1			1
3				4	5	1	3	2	7	22
4							1		1	2
5					1				1	2
6				11	7	2	6	3	9	38
7				2					1	3
8				1			1	1	1	4
9				1			1		1	3
10				2	1		1		2	6
11				1		1				2
12					1				1	2
13				1		1	2		1	5
14					3	1	1		1	6
15					3				2	5
16					1					1
17					1			1		2
18				1			2		4	7
19				5		4	3		6	18
20									2	2
21				1	1			1	1	4
22					3	2		1		6
23				1						1
24									2	2
25				1			1			2
26					1				1	2
27				2			1		1	4
28								1	1	2
29					1					1
30							1			1
31					2					2
32									1	1
33							2	1	1	4
34				1						1
35				6		1			2	9
36					1				1	2
37					1	1	4	1	4	11
38						1				1
39						1				1
40					1					1
41							1			1
42							1			1

Fig. 82. Table showing the distribution of ornamental motifs on Samarra Painted Standard Ware throughout the sequence.

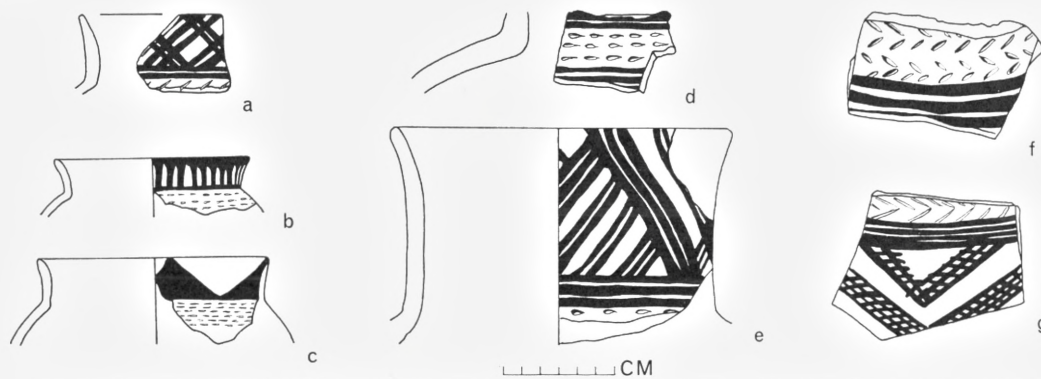


Fig. 83. Samarra Painted-and-incised Standard Ware, selection of typical vessel shapes and designs:

- a: TSH. 508. Level 12, L 8/9.
- b: TSH. 607. Level 11, L 9.
- c: TSH. 252. Level 13, L 9.
- d: TSH. 1189. Level 5, J 10.
- e: B. 456. Level 12, L 9.
- f: IM. 60879. (SH. 220). K 6.
- g: B. 405. Level 12, L 9.

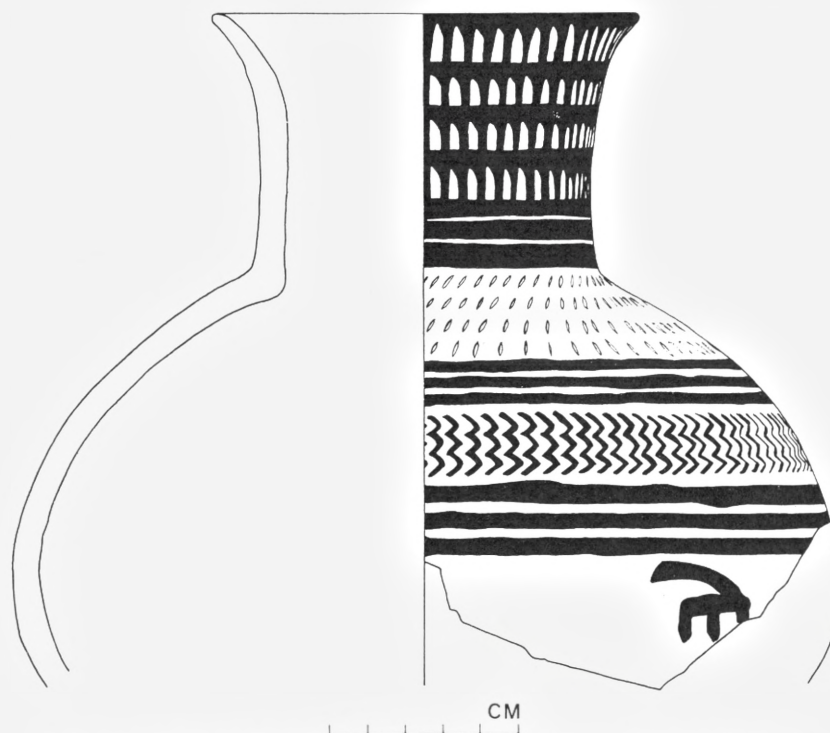


Fig. 84. Samarra Painted-and-incised Standard Ware, collared globular jar:
IM. 60918. (SH. 700). Floor 12, N 10.

cm. The distribution throughout the sequence of Samarra Painted-and-incised Standard Ware sherds is as follows:

Level									Total number
16	15	14	13	12	11	10	9	Unstratified	
			3	17	6	11	4	14	55

The painted designs are often difficult to reconstruct when greater areas of the paint have peeled off (e.g. Figs. 85a, b and h). Still, the following motifs can be distinguished:

1. A fragmentary horizontal zone filled in with vertical bars.
2. Narrow horizontal zones of vertical wedges pointing downwards (Fig. 83b). A single collar with four tiers of this motif occurs (Fig. 84).
3. Wide horizontal zone filled in with a row of vertical zigzags (Fig. 84).
4. Narrow horizontal zones with chevrons pointing left.
5. A fragmentary horizontal zone with a zigzag composed of two parallel lines.
6. Wide horizontal zones with zigzags consisting of triple lines the space between which has been filled in with short dashes (Fig. 83g).
7. Wide horizontal zones with latticework composed of double lines (Fig. 83a).
8. Two fragmentary horizontal wavy lines.
9. A horizontal zone with wide filled-in triangles pointing upwards (Fig. 83c).
10. A wide horizontal zone with a fragmentary meander or "double-window" design (Fig. 85h).
11. A wide horizontal zone filled in with a fragmentary basket-braid design (Fig. 83e).
12. A single isolated animal design, presumably representing a goat (Fig. 84).

Incised designs:

13. Zones with three horizontal rows of square dots (Fig. 85a).
14. Zones with three to four horizontal rows of large grain-shaped jabs (Figs. 83d-e, and 85b-c).
15. A fragmentary zone with seven horizontal rows of small grain-shaped jabs (Fig. 85f).
16. Zones with three to six horizontal rows of narrow dashes (Figs. 83b-c, and 85d-e).
17. Zones with three to six horizontal rows of oblique, triangular jabs (Fig. 85g).
18. Zones with four to six horizontal rows of oblique, grain-shaped jabs (Fig. 83a, 84, and 85i).
19. Zones with five horizontal rows of narrow, oblique slashes (Fig. 85h).
20. Zones with two to four horizontal tiers of an open herringbone pattern composed of short, oblique, grain-shaped jabs (Figs. 83f and 85j).

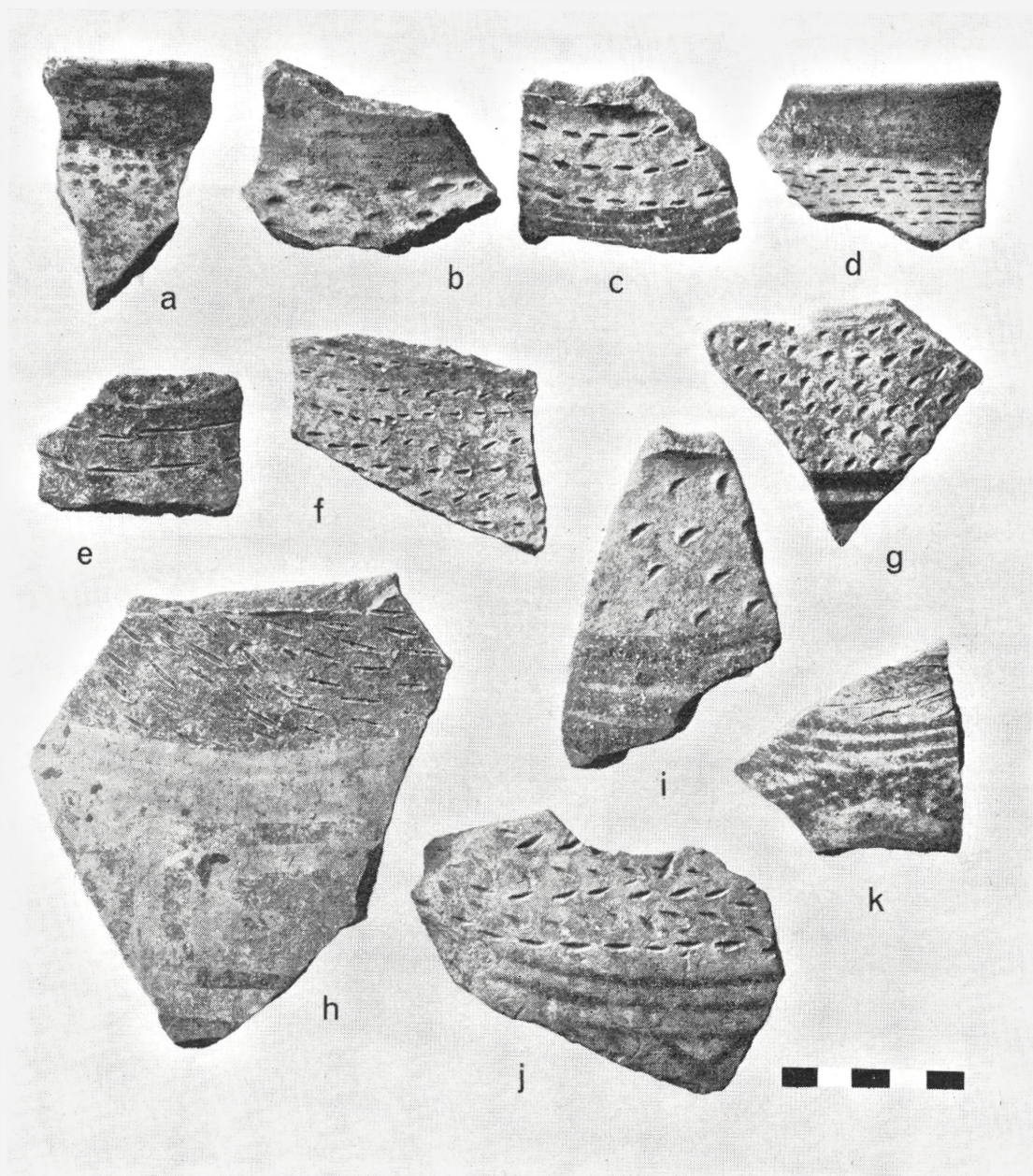


Fig. 85. Samarra Painted-and-incised Standard Ware, selection of sherds with typical ornamental motifs:

- a: TSH. 1252. Unstratified.
- b: TSH. 567. Level 12, L 9.
- c: TSH. 836. Level 10, L 9.
- d: TSH. 252. Level 13, L 9.
- e: TSH. 883. Level 10, L 8.
- f: TSH. 1029. Level 9, L 6.
- g: TSH. 649. Level 10, L 9.
- h: TSH. 629b. Level 11, L 9.
- i: TSH. 1052. Unstratified.
- j: TSH. 1163. Level 6.
- k: TSH. 526. Level 12, L 9.

Motif	Level									Total number of occurrences
	16	15	14	13	12	11	10	9	Unstratified	
1					1					1
2					4	1				5
3					1					1
4					3					3
5								1		1
6					2					2
7					1				1	2
8					2					2
9				1						1
10						1				1
11					1					1
12					1					1
13					1		1	1	1	4
14				1	8	3	4	1	3	20
15								1		1
16				1	2	1	4		4	12
17					1		4		1	6
18				1	3		1		1	6
19						1	1			2
20						2			5	7
21				1	6				1	8

Fig. 86. Table showing the distribution of ornamental motifs on Samarra Painted-and-incised Standard Ware throughout the sequence.

21. Fragmentary zones with one or two horizontal lines of herringbone pattern, composed of long narrow grooves (Figs. 83g and 85k).

The distribution and number of occurrences throughout the sequence of ornamental motifs on Samarra Painted-and-incised Ware sherds are shown on Fig. 86. It is notable that all motifs—with the exception of nos. 8 and 12—are horizontal zone designs. The incised decoration is always restricted to an area just below the collar on top of the globular body, and it is framed by painted ornamentation on the collar and on the upper part of the body. As at Tell Hassuna the group consists exclusively of collared globular jars. At Samarra itself the combined painted-and-incised decoration is also found on a couple of deep bowls (HERZFELD 1930, Abb. 164 and 175).

Undecorated Standard Ware is represented by five vessel shapes:

- a. Bowls with straight or slightly convex sides and usually with tapering or rounded lips (Figs. 87c and 88a–k). A single sherd has a flattened rim (Fig. 88l), and one complete bowl shows a rounded base (Fig. 88m). The height of this bowl is 4.4 cm., but most sherds derive from larger vessels. The rim diameter indicated by

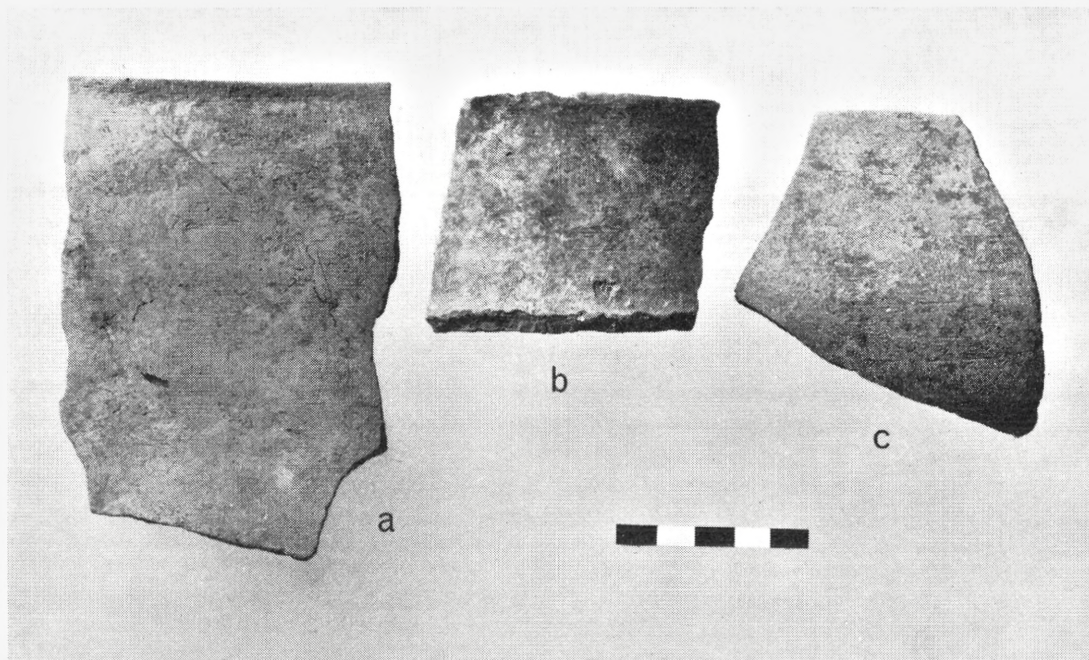


Fig. 87. Undecorated Standard Ware sherds:

- a: TSH. 362. Level 13.
- b: TSH. 746. Level 10.
- c: TSH. 711. Unstratified.

eleven sherds varies from 8.4 cm. to ca. 24.0 cm. One sherd is from a large bowl with an estimated diameter of ca. 36.0 cm. (Fig. 88f).

- b. Bowls with curved sides and a slightly flaring rim (Fig. 88n–z and ab). Most of the vessels have the greatest diameter at the edge of rim, but on a few bowls the rim has developed into a low collar, so that the vessels narrow toward the opening (Fig. 88y–ab). One 6.4 cm. high bowl has a flat base (Fig. 88o). The diameter indicated by fourteen rim sherds ranges from ca. 6.0 cm. to ca. 22.0 cm.
- c. Bowls with a slight carination, a tapering rim and a rounded or flattened base (Fig. 88ac–ah). The diameter indicated by six rim sherds varies from ca. 9.0 cm. to ca. 24.0 cm.
- d. A simple half-globular bowl, standing on four small feet, shaped like truncated cones (Fig. 88aa). Diam. at the edge of rim 7.2 cm. Height 4.4 cm.
- e. Collared globular jars. The collars usually have a concave profile with a flaring rim (Figs. 87a–b, and 89a–f). The lip is rounded or tapering. Sherds of four flat bases were preserved (Fig. 89i–l). The diameter at the bases varies from 9.2 cm. to 12.5 cm. and the height of the collars from 2.6 cm. to 4.6 cm., but several sherds derive from large jars with the collar exceeding 12.0 cm. in height (e.g. Fig. 89g). The rim diameter indicated by eleven sherds ranges from ca. 9.0 cm. to ca. 24.0 cm.

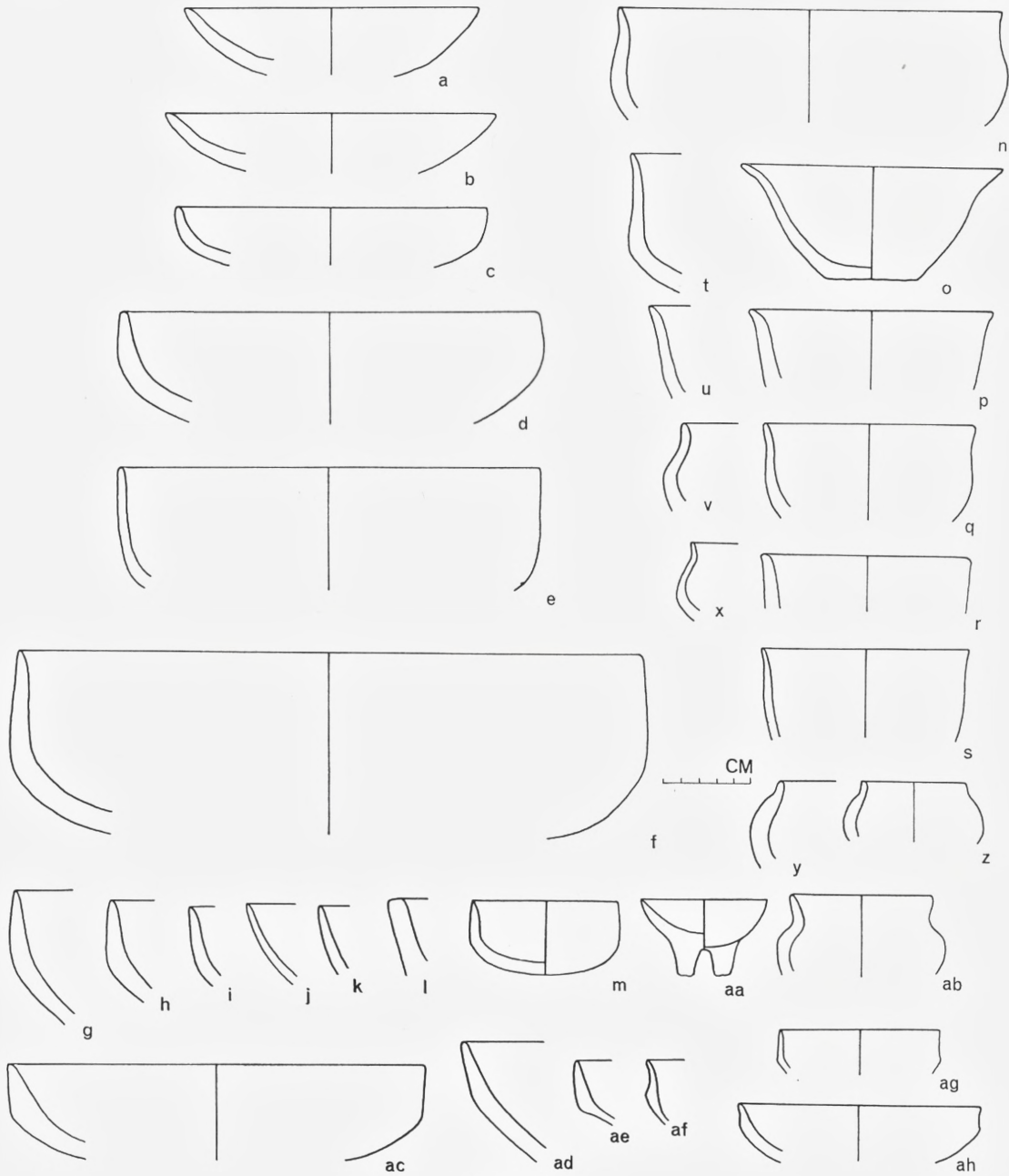


Fig. 88.

From the illustration Fig. 88 it is clear that there is a great variety of bowls in regard of shape and size, and that there are obvious transitions between the three shapes (a-c) described above. The table, Fig. 90 shows that more than 75% of the determinable sherds belong to different types of bowls.

Although the six Standard Wares are closely related in terms of technique there are—apart from the designs—certain features in the shapes, which are distinct to one or several categories of Standard Ware. Special kinds of half-globular bowls are characteristic for the Hassuna Painted and the Hassuna Incised Wares, in contrast to the Samarra Painted bowls which reproduce the curved shapes known from the Samarra Painted Fine Ware. Collared globular jars of the Hassuna Incised, Hassuna Painted-and-incised, Samarra Painted, Samarra Painted-and-incised and of the Undecorated classes are all variants on the same shape with a flaring rim, but the Hassuna Painted Ware jars are more simple, usually with a straight collar. It is notable that more than 80% of the Hassuna Ware sherds represent collared globular jars, whereas various types of bowls constitute more than 70% of the Samarra Painted and Undecorated sherds.

Fig. 88. Undecorated Standard Ware, selection of typical vessel shapes:

- a: B. 399. Floor 12.
- b: TSH. 408. Floor 13, L 8.
- c: TSH. 1001. Level 9.
- d: TSH. 472. Level 12, L 8/9.
- e: TSH. 353. Floor 13, L 9.
- f: TSH. 793. Floor 10, L 10.
- g: TSH. 349. Level 13.
- h: TSH. 1098. Level 8.
- i: TSH. 673. Level 12.
- j: TSH. 680. Level 11.
- k: TSH. 676. Level 12, L 10.
- l: TSH. 764. Level 10.
- m: TSH. 867. (SH. 557). Level 9.
- n: TSH. 1084. (SH. 143). Floor 8, M 10.
- o: TSH. 445. Level 12, L 9.
- p: TSH. 440. Level 10, L 9.
- q: TSH. 827. Level 10, L 9.
- r: TSH. 363. Floor 13, L 9.
- s: TSH. 815. Level 10, L 9.
- t: TSH. 711. Level 11.
- u: TSH. 777. Level 10.
- v: TSH. 490. Level 13.
- x: TSH. 442. Level 12, L 9.
- y: TSH. 375. Floor 13, L 9.
- z: TSH. 374. Floor 13, L 9.
- aa: TSH. 712. Level 11, L 9.
- ab: TSH. 1027. (SH. 665). Level 9, J 9.
- ac: TSH. 760. Level 10.
- ad: TSH. 384. Floor 13, L 9.
- ae: TSH. 329. Floor 13, L 9.
- af: TSH. 452. Level 12, L 8/9.
- ag: TSH. 565. Level 12, L 9.
- ah: TSH. 833. Level 10.



Fig. 89. Undecorated Standard Ware, selection of typical vessel shapes:

- a: TSH. 746. Level 10.
- b: TSH. 432. Level 12.
- c: TSH. 750. Level 10, M 10.
- d: TSH. 729. Level 11.
- e: TSH. 1024. Level 9.
- f: TSH. 742. Level 10.
- g: TSH. 362. Floor 13, L 9.
- h: TSH. 672. Level 12.
- i: TSH. 386. Floor 13, L 9.
- j: TSH. 749. Level 10.
- k: TSH. 451. Level 12, L 9.
- l: TSH. 692. Level 11.

The diagram, Fig. 91 based on the tables, Fig. 66, 72, 79 and 90, illustrates the relative distribution throughout the levels of the six Standard Wares. It shows a dominance in level 13 of Undecorated Ware, and a slight increase of Samarra Painted Ware, which altogether amounts to more than 50% of the decorated sherds. The decrease of undecorated pottery combined with the growth of the Samarra pottery group from level 13 to level 9 is parallel to the statistical shift shown by the Undecorated and Samarra Painted Fine Wares (cf. p. 76 and p. 77 Fig. 64).

Type	Level									Total number
	16	15	14	13	12	11	10	9	Unstratified	
Bowls, type a				7	8	3	4	2	3	27
Bowls, type b				5	5	4	11		3	28
Bowls, type c				3	3		3			9
Bowl, type d								1		1
Collared, globular jars				4	3	3	7	2		19
Indeterminable shapes				116	46	74	98	7	32	373
Total number				135	65	84	123	12	38	457

Fig. 90. Table showing the number and distribution of Undecorated Standard Ware sherds throughout the sequence.

Coarse Wares

378 sherds have been classified as Coarse Ware. They are all from coarse, handmade pottery, and most of the sherds represent very thick-walled vessels. But although they have many properties in common, the sherds can be subdivided into three groups each of which exhibits certain technical differences.

The Archaic Painted Coarse Ware is made of a clay tempered with chaff and with a medium concentration of small stones, black mineral particles, lime and mica. The face is covered by a thin slip, which in most cases is slightly burnished. By this treatment impressions of straw and mineral inclusions have become visible through the slip (Figs. 95b, e and g, and 96a–b). The pottery, being fired at a low temperature, is usually red or orange-buff with a greyish or black core. Most often the decoration has been done in a mat paint after the surface of the vessel has been burnished, but examples where slip and paint have been burnished together occur, and a very few

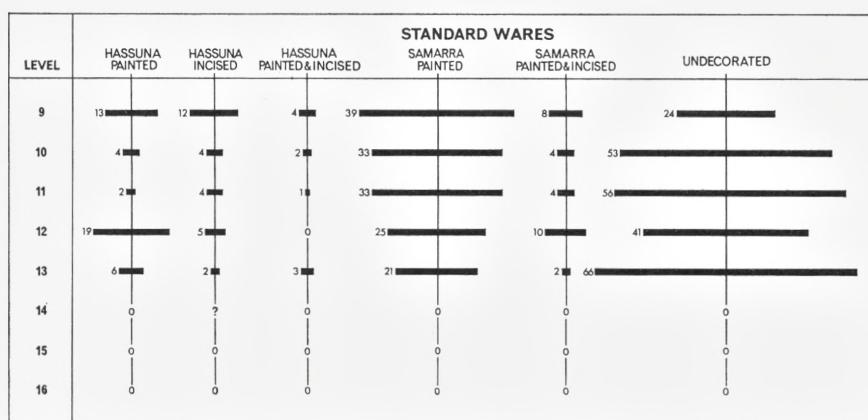


Fig. 91. Seriation diagram showing the relative distribution throughout the levels of the six Standard Wares.

sherds have a lustrous paint on a mat slip. The colour of the paint is usually Indian red, but on a few sherds the decoration is dark brownish red.

Sherds of Burnished Coarse Ware are very rare at Shimshara. They are heavily tempered with quartz and flint which has been ground to a medium grain size, lime and black mineral particles are also visible in the paste. A thin burnished slip has been applied to the faces, the colour of which varies from redish brown to grey. The cores are orange-buff or grey.

Undecorated Coarse Ware is heavily tempered with chaff, and the clay shows a medium concentration of mineral inclusions. The face is wet-smoothed and uneven with impressions of burnt-out straw, mottled with tiny cracks and pits from grainy inclusions, which have disappeared (Figs. 100a–c, and 101a). The colour varies from red to orange-buff or greenish on the surface. The core is usually grey or black.

Archaic Painted Coarse Ware is represented by three vessel shapes:

- a. Half-globular bowls with a pointed or flattened rim (Fig. 92a–c). No bases were preserved. The diameters indicated by seven rim sherds vary from ca. 20.0 cm. to ca. 25.0 cm.
- b. Wide carinated bowls or plates with a tapering rim profile (Fig. 92d–e). No bases were preserved. The diameters indicated by three rim sherds range from ca. 28.0 cm. to ca. 34.0 cm.
- c. Collared globular jars (Fig. 92g–h). Two sherds suggest a diameter of collars of ca. 12.0 cm. and 14.0 cm. Sherds from globular bodies in two instances indicate a diameter greater than 30.0 cm. One of these sherds (Fig. 96a) is from a very large and coarse vessel with 2.2 cm. thick walls. One body sherd of a globular jar had been chipped along the edge to the shape of an almost circular disc, probably used as a lid (Fig. 96e). Diam. 5.5 to 5.9 cm.

The number and distribution throughout the sequence of Archaic Painted Coarse Ware sherds are shown in the table Fig. 93.

Most of the painted decoration is linear, composed of groups of parallel lines of an uneven thickness. The following designs have been distinguished:

1. Groups of vertical—or almost vertical—lines, sometimes spaced by arrangements of oblique lines (Figs. 92b–c, and 95c).
2. Horizontal zigzags composed of four to eight parallel lines (Fig. 95b).
3. Groups of oblique lines forming a basket-braid motif (Fig. 92f).
4. Groups of opposing oblique lines forming a sort of overlapping zigzag pattern (Figs. 95a and d).
5. Horizontal or vertical rows of irregular chevrons confined between lines or wide painted bands (Figs. 92a and d–e, and 95e–f).
6. Zones filled in with irregular cross-hatching (Fig. 95g).
7. An all-over arc design (Fig. 96a–b).
8. Groups of oblique lines, bounded by a wavy line (Figs. 92g and 96c).

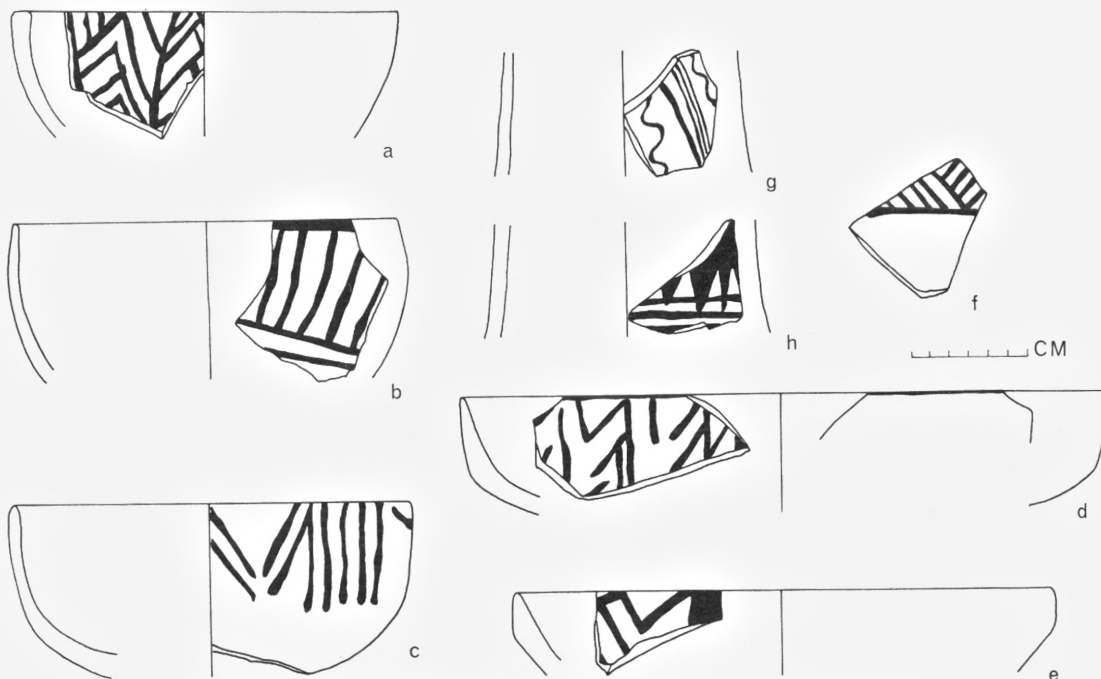


Fig. 92. Archaic Painted Coarse Ware, selection of typical vessel shapes:

- a: TSH. 1184. Level 5.
- b: TSH. 241. Floor 13, L 9.
- c: B. 396. Floor 12.
- d: SH. 186. L 9.
- e: TSH. 242. Floor 13, L 9.
- f: TSH. 298. Floor 13, L 9.
- g: TSH. 488. Level 13.
- h: TSH. 538. Level 12.

- 9. A horizontal band filled in with vertical pegs pointing downwards (Fig. 92h). This motif is strikingly reminiscent of one of the most characteristic Samarra designs (cf. Figs. 54i and 76n).
- 10. A horizontal line with suspended triangles, the lower point of which is extended by a hook (Fig. 96d).

Type	Level									Total number
	16	15	14	13	12	11	10	9	Unstratified	
Bowls, type a				7	2	2	1		3	15
Bowls, type b				3	2	1			2	8
Collared, globular jars				4	2			1	7	14
Indeterminable shapes				14	8	1	1	3	11	38
Total number				28	14	4	2	4	23	75

Fig. 93. Table showing the number and distribution of Archaic Painted Coarse Ware sherds throughout the sequence.

Motif	Level									Total number of occurrences
	16	15	14	13	12	11	10	9	Unstratified	
1				3	1	1		1	1	7
2				1					2	3
3				1	1	1			1	4
4				4	4			1	5	14
5				2	1				3	6
6				3	1				1	5
7				2						2
8				1		1			1	3
9					1					1
10				1						1

Fig. 94. Table showing the distribution of ornamental motifs on Archaic Painted Coarse Ware throughout the sequence.

It is notable that on half-globular bowls the decoration is restricted either to the exterior (Fig. 92b–c) or the interior (Fig. 92a) of the vessels, and that carinated bowls are painted only on the inside (Fig. 92d–e). A painted band often occurs just below the rim (Fig. 92b and d, and 95f). The distribution and number of occurrences throughout the levels of ornamental motifs on Archaic Painted Coarse Ware are shown in the table Fig. 94.

The Archaic Painted Coarse Ware from Tell Shimshara is related to the Archaic Painted Ware at Tell Hassuna, technically and in regard of shapes and decoration. Red paint on a burnished slip or a total burnishing of paint and slip are typical for both wares (cf. LLOYD and SAFAR 1945, p. 278–79), and the half-globular bowls and sherds of collared jars from Shimshara are easily comparable to Archaic Painted Ware sherds from Hassuna (cf. LLOYD and SAFAR 1945, Figs. 7:30–31, 8:1–32, and 9:1–17).

Burnished Coarse Ware is represented only by an almost complete bowl found in level 10, and by two sherds of large collared jars found in levels 11 and 9.

The bowl (Fig. 97a) has a rounded base, curving sides and a thick faceted rim profile. The shape is slightly reminiscent of wide Samarra bowls, but it is more clumsy and the walls are much thicker. Diam. at the edge of rim 17.5 cm., height 10.2 cm.

One of the two sherds represents a jar with a wide, short collar, ca. 16.0 cm. wide at the edge of rim (Fig. 97b). The other sherd is from the body of a very large globular jar.

Undecorated Coarse Ware is represented by twelve vessel shapes:

- a. Large, heavy dishes with flat bottoms and slightly outward sloping sides (Fig. 98a–f). Most of the sherds represent oval shapes with a maximum diam. between 35.0 cm. and 50.0 cm. The height, indicated by eighteen sherds, varies from 9.8 cm. to 15.3 cm. Two sherds (Fig. 99a–b) belong to small oval dishes with low sides, the height of which is respectively 2.7 cm. and 1.2 cm.

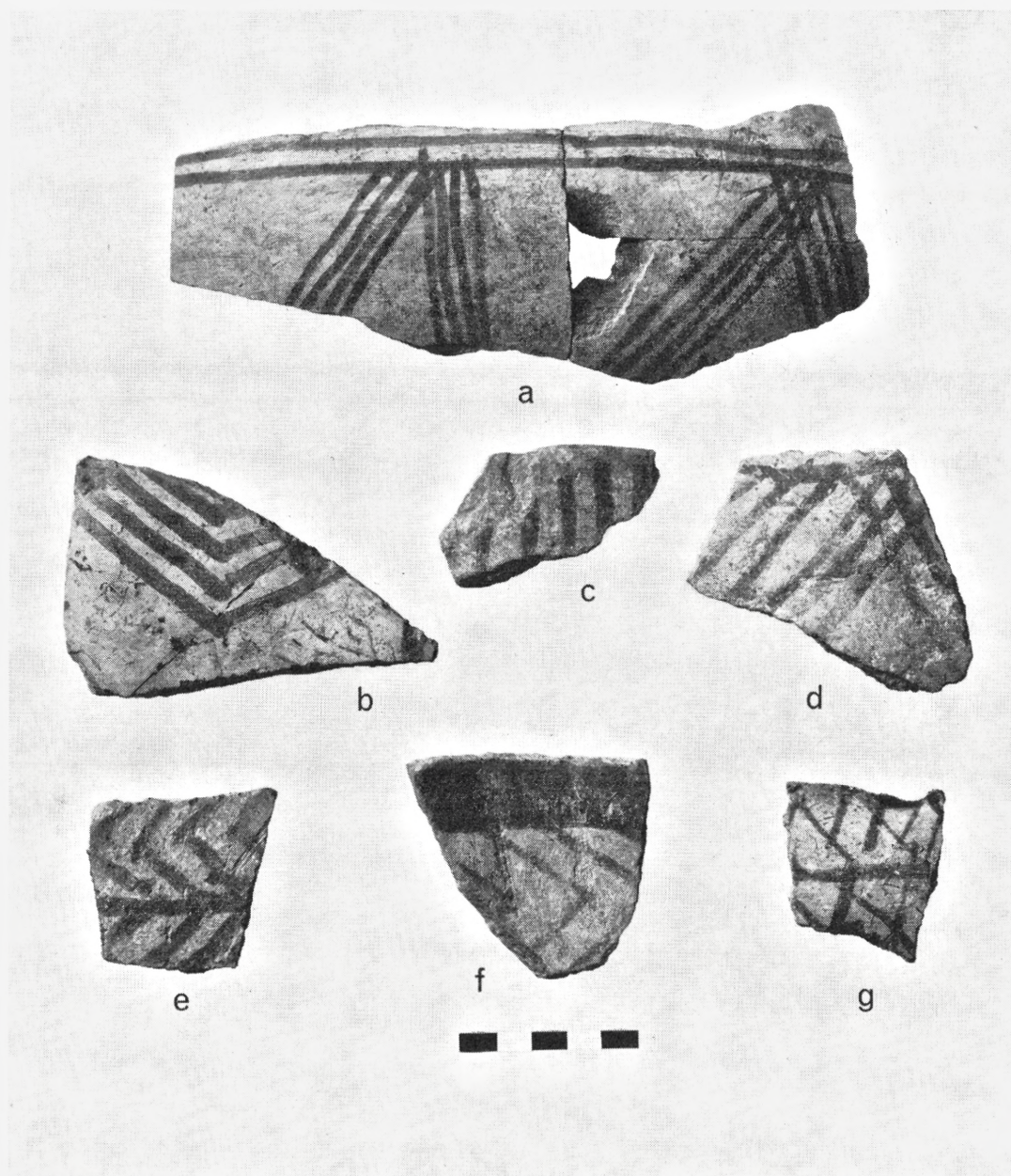


Fig. 95. Archaic Painted Coarse Ware, selection of sherds with typical ornamental motifs:

- a: TSH. 314. Level 13.
- b: TSH. 1212. Level 13, K 9.
- c: TSH. 580. Level 11.
- d: TSH. 1078. Level 8, K 10.
- e: TSH. 1107. Level 7.
- f: TSH. 516. Level 12, L 9.
- g: TSH. 243. Level 13.

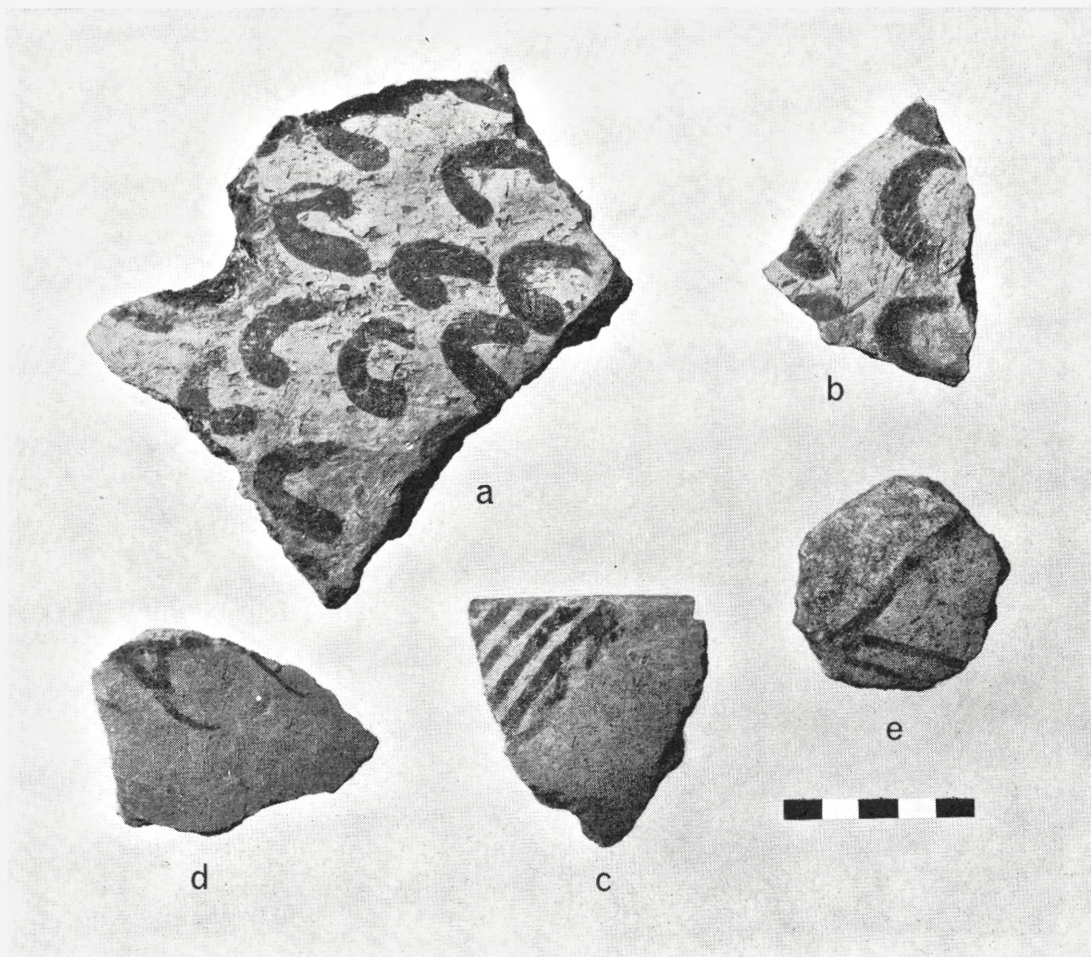


Fig. 96. Archaic Painted Coarse Ware, selection of sherds with typical ornamental motifs:

- a: TSH. 310. Level 13.
- b: TSH. 299. Level 13.
- c: TSH. 602. Level 11, N 10.
- d: TSH. 297. Level 13.
- e: TSH. 1112. Floor 7, L 8.

- b. "Husking trays", i.e. large oval dishes with flat bottoms and slightly outturned sides, the interior grooved by parallel or criss-cross incisions (Figs. 99c, and 101a-c and e) or by stamped circles (Fig. 101d). The incisions are 1-2 mm. deep on the sides and 4-5 mm. on the bottoms. The "husking trays" are 10.6 to 11.5 cm. high, as indicated by five sherds. It is notable that the incisions on "husking trays" from Shimshara are more shallow than those on "husking trays" from Tell Hassuna and Matarrah (cf. LLOYD and SAFAR 1945, Fig. 3:8-10 and Pl. XVIII:1, and BRAIDWOOD *et al.* 1952, Figs. 8:12-15, 9:1-7 and Pl. IV:1).

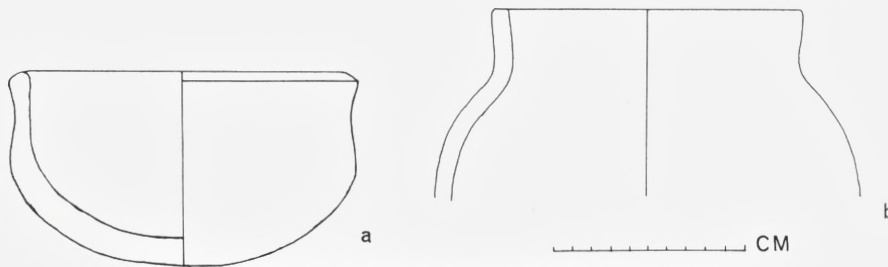


Fig. 97. Burnished Coarse Ware, reconstructed vessel shapes:

a: IM. 60894. (SH. 660). Level 10, L 10.

b: TSH. 733. (SH. 494). Level 11, N 10.

- c. Wide open bowls, often with slightly convex sides, and presumably with flat bases (Fig. 103a–c and e–g). The rim profiles are tapering or flattened. The diam. indicated by eleven rim sherds varies from ca. 27.0 cm. to ca. 36.0 cm. One sherd shows a rectangular ledge handle with circular holes stamped on top of it (Figs. 102 and 103 l).
- d. Half-globular bowls the walls of which are often curved slightly inward towards the opening (Fig. 103i–k). The rim profiles are tapering or flattened. The rim diameters indicated by seven sherds range from ca. 18.0 cm. to ca. 22.0 cm.
- e. Deep bowls with curved walls narrowing towards the opening (Fig. 103d and h). Four sherds with flattened rim profiles indicate a diameter varying from ca. 24.0 cm. to ca. 35.0 cm.
- f. Wide carinated bowls with tapering rim profiles (Fig. 104a–d). Rim diameter indicated by two sherds ca. 26.0 cm. and ca. 29.0 cm.
- g. Vessels on pedestal bases, represented by a variation of types ranging from dimple-based jars (Fig. 104f–g) to bowls on genuine pedestal bases (Fig. 104h–j). The diam. of these bases varies from 8.0 cm. to ca. 16.0 cm., the height from 1.2 cm. to 6.5 cm.
- h. Vessels on tripod feet, shaped like cylinders or truncated cones (Fig. 104k–n). Their height varies from 3.0 cm. to 9.6 cm.
- i. Lower part of a cup with flat base (Fig. 104e). Diam. 6.4 cm.
- j. Tall jars with straight or slightly curved sides, and with a rounded or flattened rim profile (Figs. 100a–b, and 104o–r). Apparently some of the jars are sack-shaped (Fig. 104o–p), but since no bases are preserved the exact form escapes us. The rim sherds are so fragmentary and irregular that they do not justify any estimates of the rim diameter.
- k. Tall carinated jars, represented by two side sherds (Fig. 104s–t).
- l. Collared globular jars, usually with straight collars (Figs. 100c and 105a–k) and with flat bases (Fig. 105 l–n). The rim profiles are rounded or flattened, and the height of the collars, indicated by thirteen sherds ranges from 1.4 cm. to 9.6 cm. with an average of ca. 5.0 cm. The diameter indicated by sixteen rim sherds varies between ca. 10.0 cm. and ca. 26.0 cm. The bases are 8.0 to 17.5 cm. wide. A

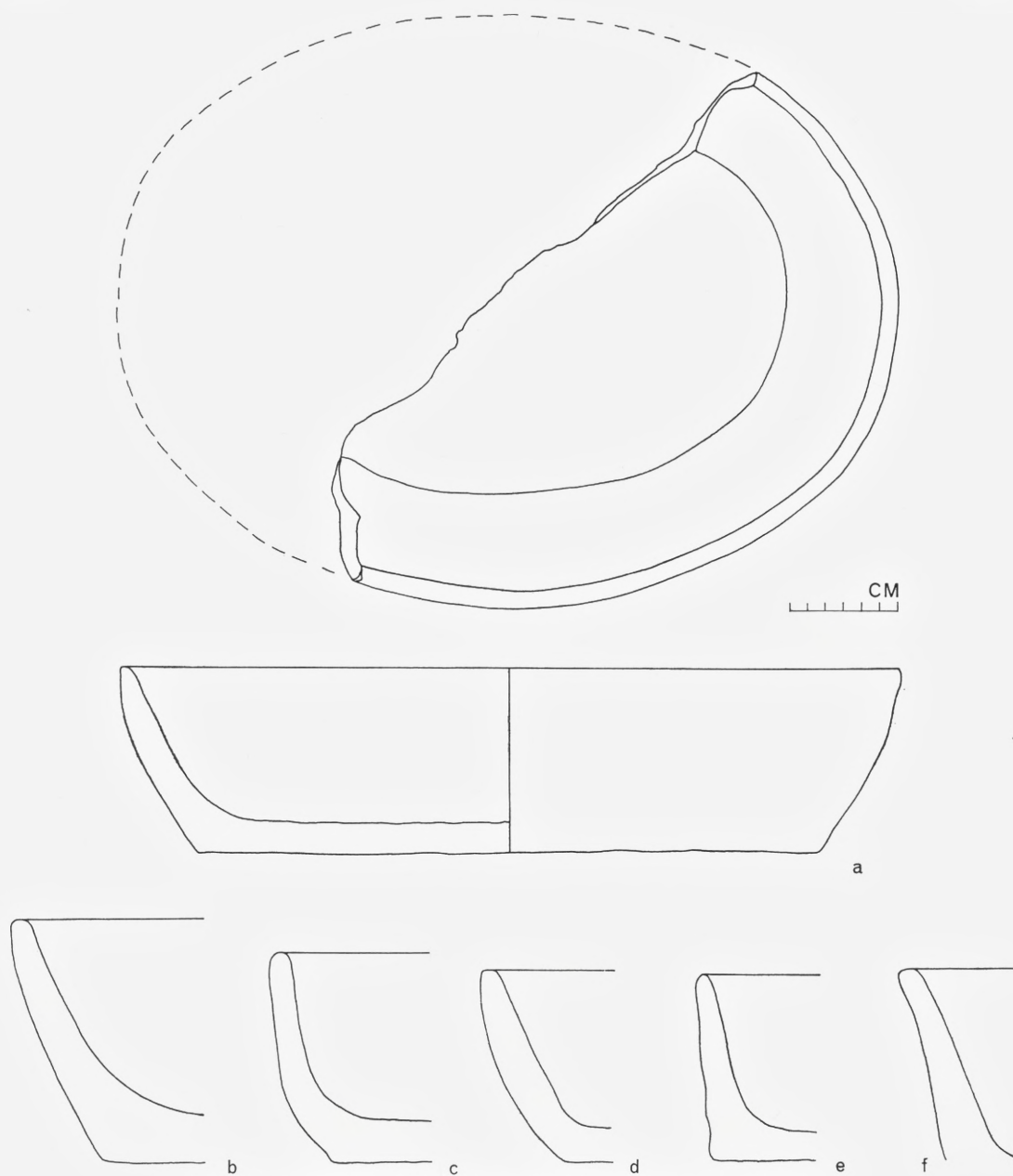


Fig. 98. Undecorated Coarse Ware, selection of typical vessel shapes:

- a: TSH. 473. (SH. 696). Level 12, L 8/9.
- b: TSH. 736. (SH. 551). Level 10, M 10.
- c: TSH. 454. Level 12, L 8/9.
- d: TSH. 344. Level 13.
- e: TSH. 839. Level 10.
- f: TSH. 790. Floor 10, L 10.

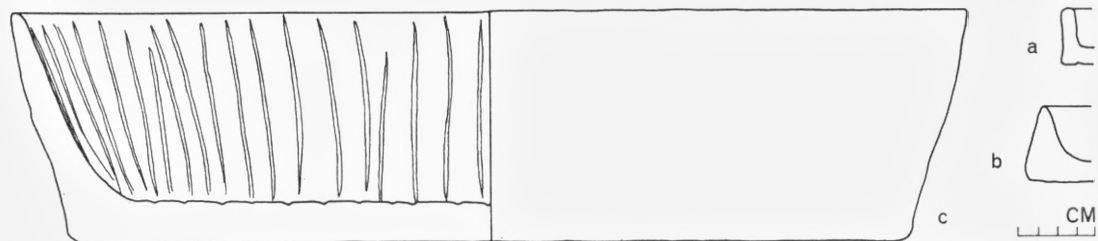


Fig. 99. Undecorated Coarse Ware, "husking tray" and sherds of two small oval dishes:

- a: TSH. 425. Level 12.
- b: TSH. 740. Level 10.
- c: B. 454. Level 12, L 8/9.

single Coarse Ware sherd, the section of which is shown on Fig. 105 o, has a cylindrical spout emerging from the globular side of a jar. The spout is 5.5 cm. long, and its interior diameter is 0.7 cm. at the opening.

The number and distribution throughout the sequence of Undecorated Coarse Ware sherds are shown in the table Fig. 106. It appears that about 50% of the determinable sherds come from large dishes and trays, almost 30% from bowls and about 20% from various types of tall jars.

In general, the Undecorated Coarse Ware from Shimshara is similar to the Coarse Ware from Tell Hassuna (cf. LLOYD and SAFAR 1945, Figs. 3:7-10 and 7:2-29) and especially to the Coarse Simple Ware from Matarrah (cf. BRAIDWOOD *et al.* 1952, Figs. 8:12-15, 9, 10 and 11:1).

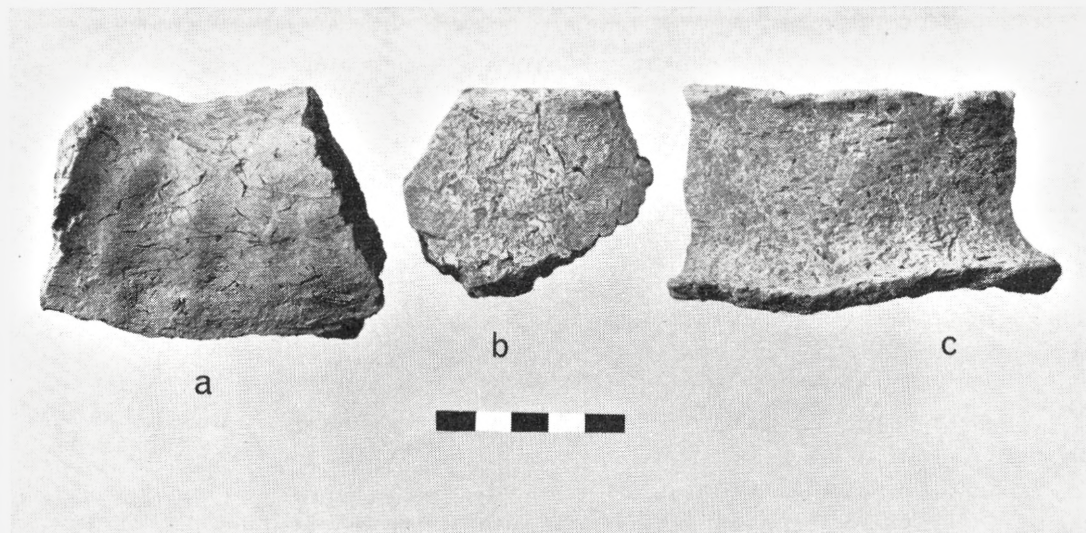


Fig. 100. Undecorated Coarse Ware sherds:

- a: TSH. 393. Level 13.
- b: TSH. 778. Level 10.
- c: TSH. 361. Level 13.

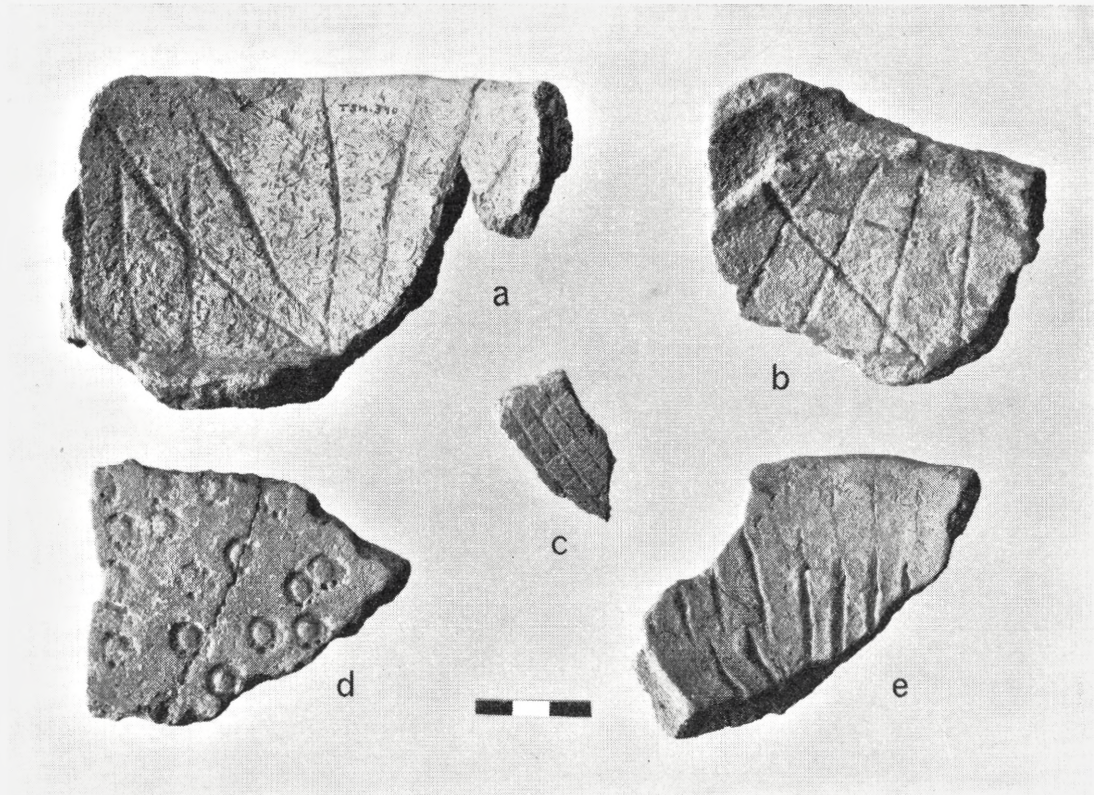


Fig. 101. Undecorated Coarse Ware, sherds of "husking trays":

- a: TSH. 340. Level 13.
- b: TSH. 725. Level 11.
- c: TSH. 1127. Level 7.
- d: TSH. 1109. Level 7, L 8.
- e: TSH. 727. Level 11.

In contrast to the Archaic Painted and Undecorated Wares which correspond to similar wares at Tell Hassuna and Matarrah, it has not been possible to relate the Burnished Coarse Ware, sparsely represented at Tell Shimshara, with any other materials. Its technical qualities (e.g. a heavy tempering with ground quartz and flint) are peculiar to Shimshara. The sherds do not resemble any of the burnished wares previously found in Northern Mesopotamia and Syria (as published e.g. by WILLIAMS 1948, p. 34ff.), and neither are they related to the early red-slipped wares occurring at a number of sites in Western Iran (cf. YOUNG 1966, p. 230-31).

The diagram, Fig. 107 based on the tables, Figs. 93 and 106, illustrates the relative distribution throughout the levels of the three Coarse Wares. It shows that Undecorated Coarse Ware dominates in all levels. Furthermore, it is important to note that the apparent increase of Archaic Painted Ware in level 9 is due to the very limited material available from this layer. Actually, there is a clear decrease in the

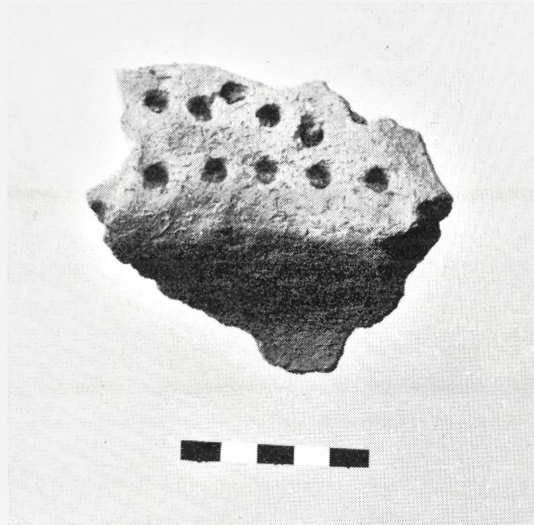


Fig. 102. Undecorated Coarse Ware, ledge handle with stamped holes on upper side:
TSH. 1026. Level 9.

number of Archaic Painted Coarse Ware sherds from level 13 to level 9 (cf. the table Fig. 93).

An examination of the ceramic materials found at Tell Shimshara has revealed the existence of three contemporaneous kinds of pottery, which from a technical point of view are distinctly different. Their diagnostic features can be summarized as follows:⁸

1. Fine Wares, made of a paste, tempered with fine sand. The exterior surfaces are covered by a thick slip, and the painted decoration is rich, including plum red, indian red, violet brown, chocolate brown, brownish ochre and black.
2. Standard Wares, tempered with sand and with very fine chaff. The vessels are wet-smoothed or slipped, and painted decoration is usually greyish black. It is characteristic that the paint peels off easily.
3. Coarse Wares, often heavily tempered with chaff. The vessels are wet-smoothed or covered by a thin slip, and decoration is predominantly carried out in red paint.

It is tempting to interpret these three ceramic wares as being a result of functional specialization, i.e. to assume that all pottery at Shimshara was made by a group of potters who mastered several ceramic techniques, which would enable them for example to use a fine sand-tempered paste for minor vessels and a straw-tempered clay for large thick-walled storage jars and "husking-trays." It appears, however,

⁸ As mentioned above the characterization does not apply to a peculiar sherd, classified with some reservation as Samarra Painted Fine Ware (p. 63, note 1), and to three sherds of Burnished Coarse Ware, which are heavily tempered with ground quartz and flint (cf. p. 104).

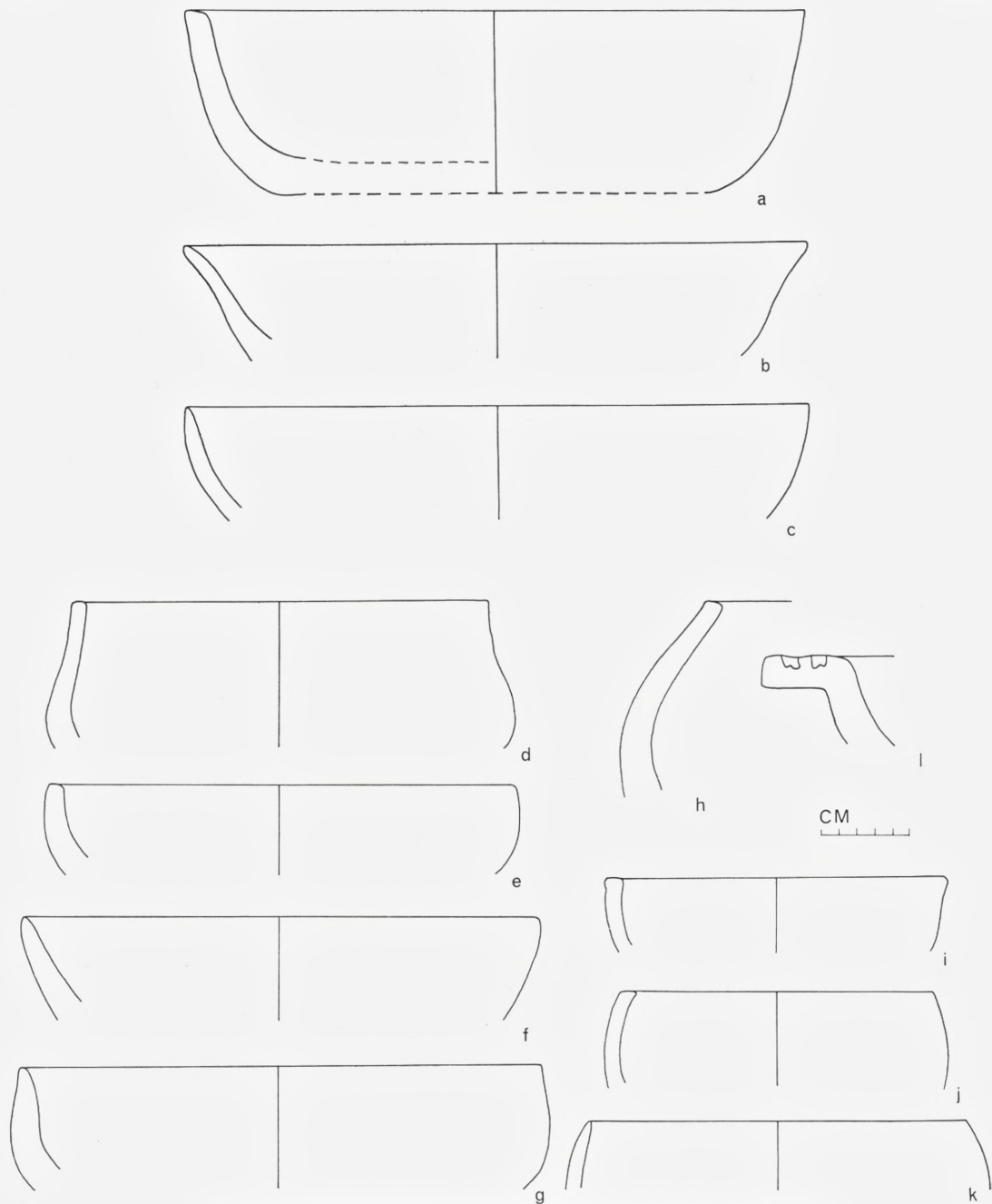


Fig. 103. Undecorated Coarse Ware, selection of typical vessel shapes:

- a: TSH. 344. Floor 13, L 9.
- b: TSH. 343. Floor 13, L 9.
- c: TSH. 345. Floor 13, L 9.
- d: TSH. 1210. Level 1.
- e: TSH. 406. Floor 13, L 8.
- f: TSH. 352. Floor 13, L 9.
- g: TSH. 346. Floor 13, L 9.
- h: TSH. 737. Level 10.
- i: B. 397. Floor 12.
- j: TSH. 448. Level 12, L 9.
- k: TSH. 469. Level 12, L 8/9.
- l: TSH. 1026. Level 9.

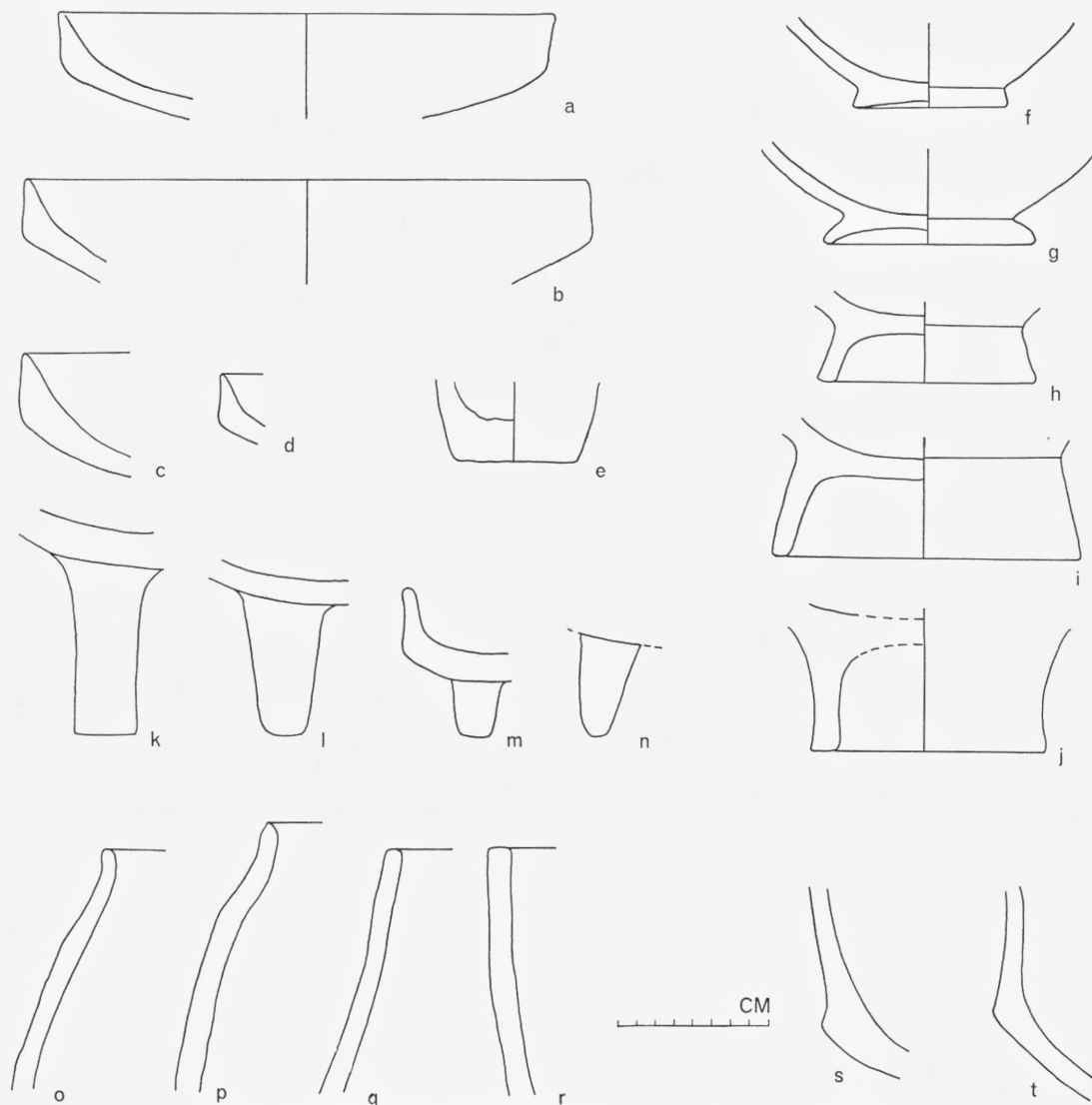


Fig. 104. Undecorated Coarse Ware, selection of typical vessel shapes:

- a: TSH. 336. Floor 13, L 9.
- b: TSH. 470. Level 12.
- c: TSH. 1031. Level 7, J/H 7.
- d: TSH. 383. Level 13.
- e: TSH. 866. Level 9.
- f: TSH. 666. Level 12.
- g: TSH. 419. Level 13.
- h: TSH. 795. Floor 10, N 10.
- i: TSH. 869. (SH. 697). Level 10.
- j: TSH. 865. Level 9.
- k: TSH. 796. Level 10.
- l: TSH. 758. Level 10.
- m: TSH. 771. Level 10.
- n: TSH. 390. Floor 13.
- o: TSH. 341. Floor 13.
- p: TSH. 757. Level 10.
- q: TSH. 784. Level 10.
- r: TSH. 447. Level 12.
- s: TSH. 774. Level 10.
- t: TSH. 773. Level 10.

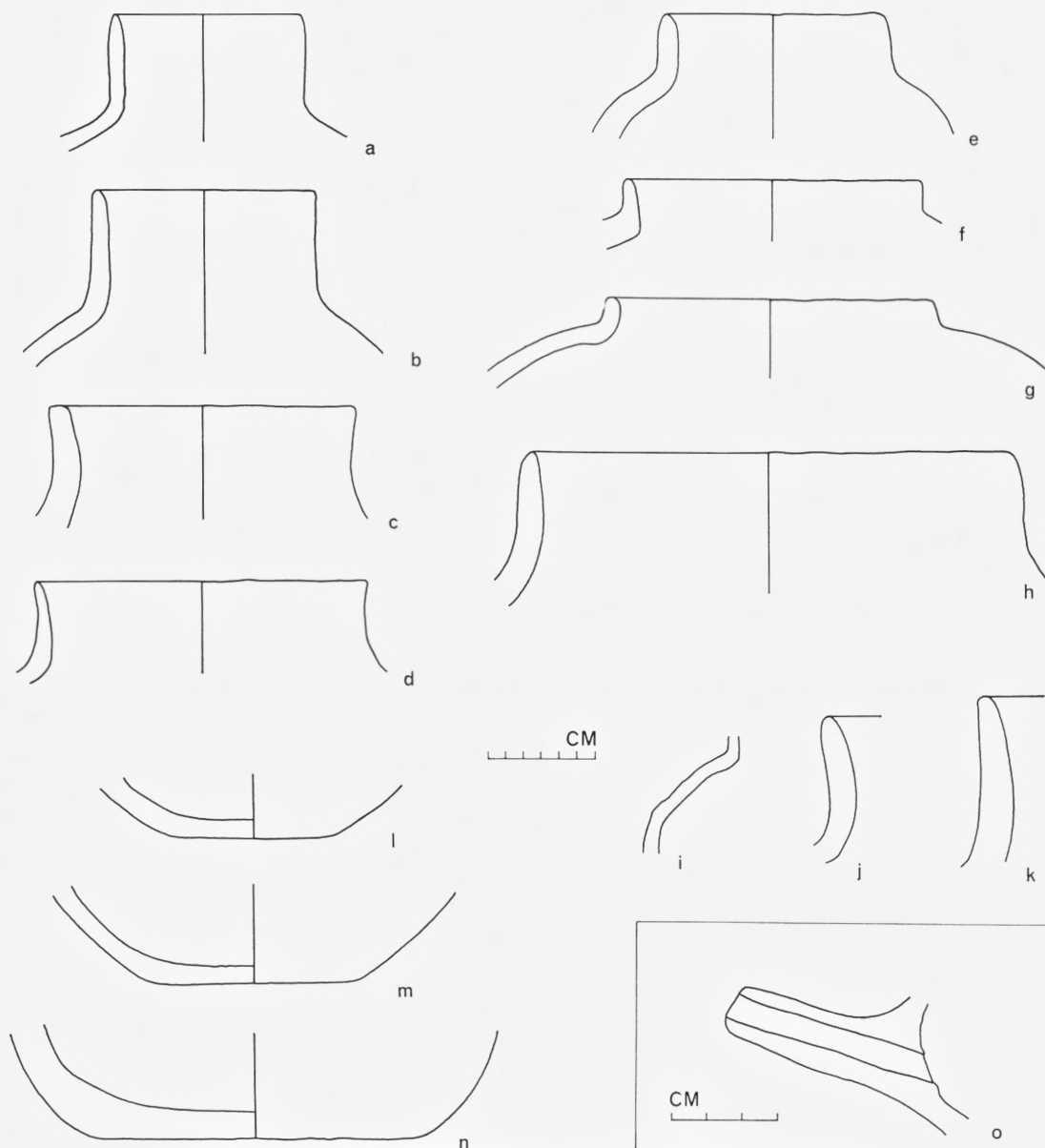


Fig. 105. Undecorated Coarse Ware, selection of typical vessel shapes:

- a: TSH. 674. Level 12.
- b: TSH. 360. Floor 13, L 9.
- c: TSH. 376. Floor 13, L 9.
- d: TSH. 361. Floor 13, L 9.
- e: SH. 493. Level 7, J 10.
- f: TSH. 756. Level 10.
- g: TSH. 1216. Unstratified.
- h: TSH. 364. Floor 13, L 9.
- i: TSH. 397. Floor 13, L 9.
- j: TSH. 409. Floor 13, L 8.
- k: TSH. 806. Level 10.
- l: TSH. 735. Level 11.
- m: TSH. 772. Level 10.
- n: TSH. 1201. Unstratified, K 9.
- o: B. 391. Floor 12, L 10.

Type	Level									Total number	
	16	15	14	13	12	11	10	9	Unstratified		
Flat-bottomed dishes				12	17	10	17	5	3	64	
“Husking trays”				4	4	4			5	17	
Bowls, type c				7	1	3	3	1	1	16	
Bowls, type d				2	3		3		1	9	
Bowls, type e				1			1	1	1	4	
Bowls, type f				2	1				1	4	
Vessels on pedestal bases				3	1	1	2		2	9	
Vessels on tripod feet				2		1	2			5	
Cup								1		1	
Jars, type j				2	4	3	2	1		12	
Jars, type k							2			2	
Jars, type l				12	2	1	3	1	2	21	
Indeterminable shapes				31	63	12	26		4	136	
Total number					78	96	35	61	10	20	300

Fig. 106. Table showing the number and distribution of Undecorated Coarse Ware sherds throughout the sequence.

that more than 70% of the vessels within all three groups of pottery are medium-sized bowls and globular jars (with a diameter between 15 and 25 cm.), and that large globular jars may be tempered with sand (Standard Ware) as well as with straw (Coarse Ware). This means that—with a few exceptions—it is impossible to establish a firm relationship between a specific ceramic technique and a certain vessel shape or size. Most of the shapes cross the technically defined limits set between the three main categories of pottery. We must therefore reject the idea that Fine Wares, Standard Wares, and Coarse Wares represent three techniques applied for practical reasons on the production of different types of pottery by a single group of potters.

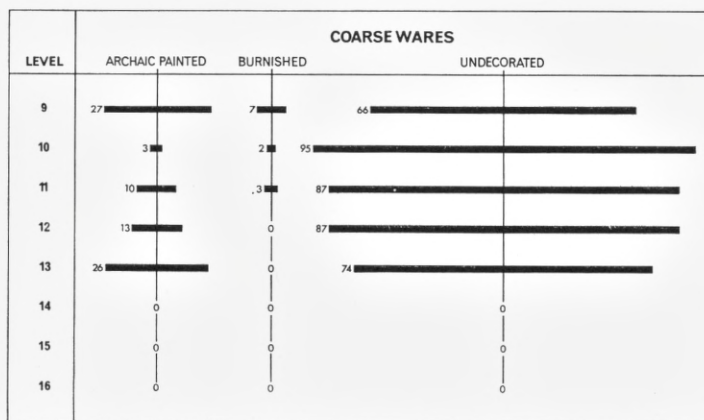


Fig. 107. Seriation diagram showing the relative distribution throughout the levels of Archaic Painted, Burnished and Undecorated Coarse Wares.

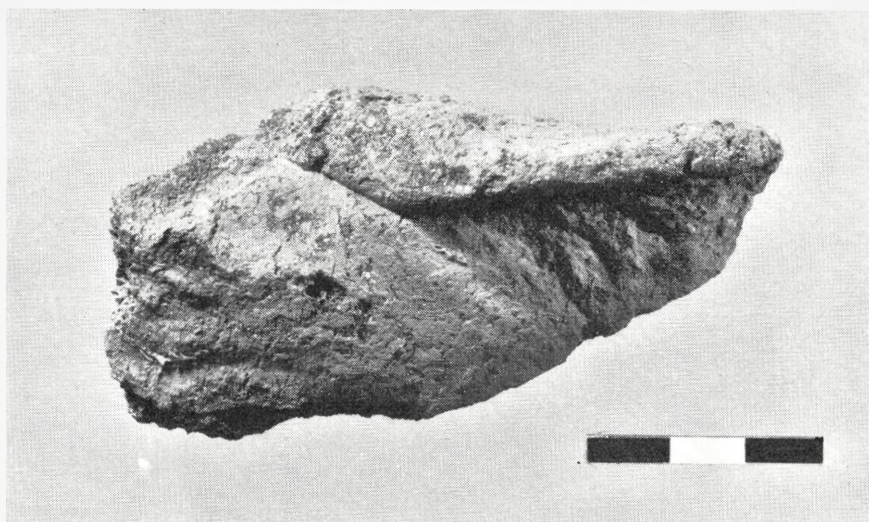


Fig. 108. Rimsherd of an undecorated, low-collared Standard Ware jar, destroyed by overfiring: TSH. 328. Level 12.

If we assume instead that different cultural traditions were responsible for the three ceramic techniques it would be reasonable first to examine if all the pottery was locally produced. In the next place it would be important to trace the origin or affinities of the ceramic traditions, and if possible to explain their mutual occurrence at Tell Shimshara.

It is almost certain that large straw-tempered Coarse Ware vessels such as "husking-trays", oval dishes, tall jars with straight or curved sides, and several types of collared globular jars were too heavy and fragile to withstand transportation; and it is most likely that the same technique when applied to minor vessels also represents local work. As stated above Undecorated and Archaic Painted Coarse Wares are closely related technically, and they also have a series of shapes in common (cf. Figs. 92a-e, 103i-k, and 104a-b).

The sand-tempered Standard Wares are generally much better fired than the Coarse Wares. Even large sand-tempered vessels (for example the globular jars: Figs. 65j and 71d and f) could perhaps be traded over not too great a distance, for instance from another village in the Dokan valley. But in this context a rim sherd found in level 12 is of importance (Fig. 108). Its core shows a cindery structure, the surface is crackled, and the heat has softened the collar to such an extent that it leans on the upper part of the body. The sherd represents an undecorated, low-collared Standard Ware jar, destroyed by overfiring. Useless and out of shape this jar would hardly be worth the transport from another village. It is most likely, therefore, to presume that also the Standard Wares were produced at Shimshara, and that the Samarra Painted Standard Ware shall be interpreted as a simple local variant of the technically superior Samarra Painted Fine Ware.

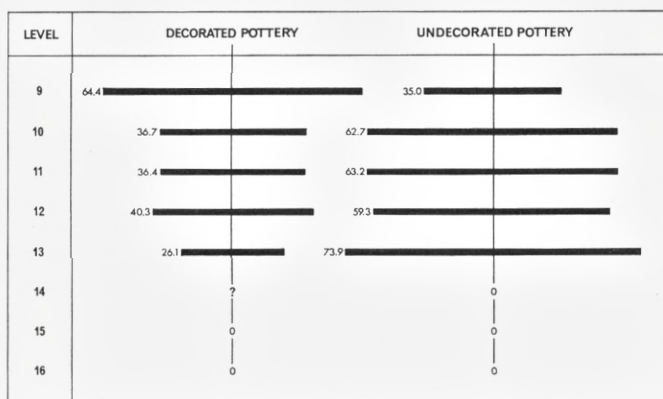


Fig. 109. Seriation diagram showing the relative distribution throughout the levels of decorated pottery, compared with undecorated pottery.

If the Standard Wares were made at Shimshara, the Samarra Painted Fine Ware can hardly be local. It is not likely that two kinds of Samarra pottery were made simultaneously in the same small village. Furthermore the Samarra Painted Fine Ware exhibits in technique, decoration and shapes a close resemblance to the Samarra wares found on the Mesopotamian plain. Unfortunately, this does not apply to the Undecorated Fine Ware. Technically it is almost identical with the Samarra Painted Fine Ware, and the two groups have many shapes in common (cf. Figs. 54c-e, f, and m, 56b-c, 61a and e-q, and 62a-b, d and f-g), but a similar Undecorated Fine Ware has not as yet been reported from any of the classical Hassuna Period sites. It is possible, therefore, that the central area of production whence the Fine Wares were traded to Shimshara should be located somewhere between Hassuna-Matarrah and the Dokan valley. The diagram Fig. 110 shows that the Standard Wares dominate through all levels, and that they are more common in the late than in the early habitations. At

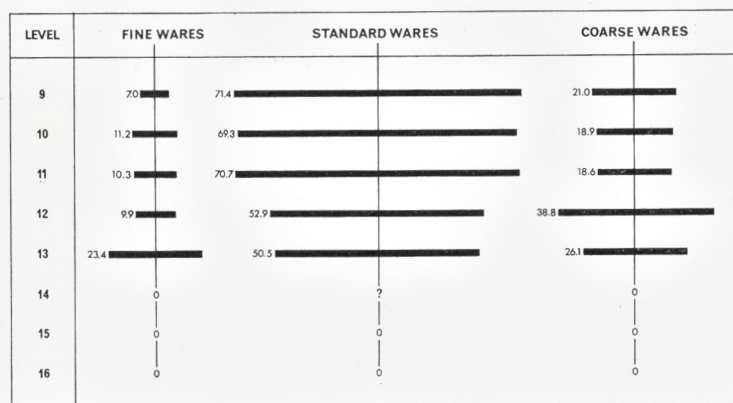


Fig. 110. Seriation diagram showing the relative distribution throughout the levels of Fine, Standard and Coarse Wares.

the same time it shows a decrease of Fine Ware sherds, a circumstance which is not surprising if the supposition is correct, that the Fine Wares were imported in contrast to the Coarse and Standard Wares.

It has been shown above that the Fine, Standard and Coarse Wares of Shimshara are in general related to the contemporary ceramic wares on the North Mesopotamian plain. But compared with the early appearance of pottery in the Central Zagros area and on the North Mesopotamian plain the introduction of pottery at Shimshara seems remarkably late. Although a number of Hassuna Period sites have been investigated in the Dokan valley (see the map Fig. 111), no ceramics earlier than Samarra pottery have been found in this area, and with the exception of one sherd from level 14 no pottery appeared in the three earliest habitations at Shimshara⁹. This circumstance has previously been explained as an isolation phenomenon (MORTENSEN 1962, p. 78), but the abundant occurrence of imported obsidian is an evidence of excellent northern trade relations with the Lake Van area already in the period of level 16. There may, however, have been an ecological reason for the late adaption of pottery to the Dokan valley if stone and wood were available in sufficient quantity to cover the requirements for vessels.

It is important in this connection to note that it is impossible to relate the introduction of pottery at Shimshara to any breaks in other material traditions: architecture, chipped and ground stone industries etc. The arrival of various fully developed ceramic wares can therefore not be explained through any kind of migration hypotheses. It is more likely that pottery came to Shimshara as a result of a cultural communication between Hassuna Period villages on the North Mesopotamian plain and people living in the Dokan valley. But how shall we understand the social organization behind these contacts?

If we accept the idea that Coarse and Standard Wares were produced in the Dokan valley, and if we presume that the potters settled at Shimshara, we should have expected that an interchange or fusion of shapes and styles among the different wares introduced by the first potters would take place little by little. But at Shimshara no signs of such a development can be observed. On the contrary, wares, techniques, shapes, and decoration remain distinct throughout the sequence. The similarity with the development on the Mesopotamian plain can be recognized not only in details, but also in the quantitative amount of different wares: for example there is a decrease of Archaic Painted Coarse Ware compared with Undecorated Coarse Ware (p. 112), and the decorated Standard Wares are dominated by Samarra Painted Standard Ware

⁹ At several Near Eastern sites the earliest occurrence of pottery is very sparse. If layers of this period are penetrated only by a small sounding, one or several layers may show a complete absence of sherds, although pottery actually may be present in the settlement outside the excavated area (cf. MELLAART 1964, p. 81–82 and 1966, p. 170). In a strict sense of the word, layers of this kind are aceramic, but they do not, technologically, represent a pre-pottery level.

At Tell Shimshara level 13 produced a fairly large bulk of pottery (406 sherds) contained in ca. 16 cubic metres. In contrast to this, more than 60 cubic metres of soil were excavated from levels 14–16, with just a single sherd (TSH. 236a–b) registered as found in the uppermost of these layers. Presumably doubt must be attached to the stratigraphic origin of this sherd.

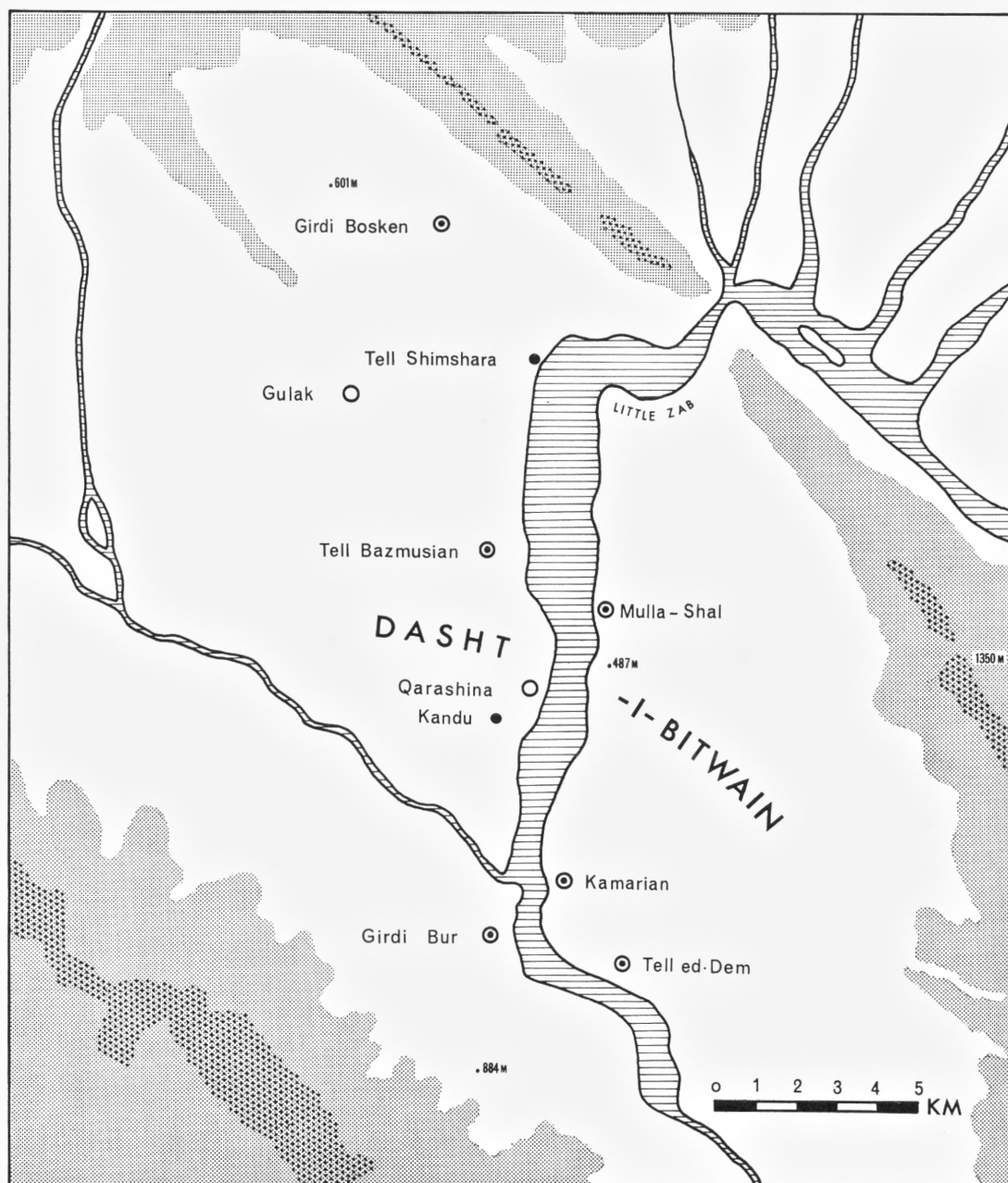


Fig. 111. Sketch map showing the distribution of Hassuna and Halaf Period sites in the Dokan valley. The map is based on information from the Iraqi Directorate General of Antiquities, who has kindly permitted its publication here. Legend: ● Hassuna Period sites; ○ Halaf Period sites; ⊙ Sites occupied in both periods.

(Fig. 91). A general increase of decorated pottery compared with undecorated (as shown in the diagram Fig. 109) is also paralleled by the development on late Hassuna Period sites in Northern Mesopotamia (cf. the diagram Fig. 118). The lack of ceramic acculturation at Shimshara, and evidence of constant relations with central areas outside the Dokan valley might suggest that the Coarse and Standard Wares of Shimshara were made by people who were continuously in contact with pottery-producing regions southwest of the Dokan valley. In that case the most reasonable explanation would be an interesting hypothesis recently proposed by Frederic R. Matson: that in the 6th and 5th millennia B.C. certain ceramic wares were made by nomadic tribes who specialized in making pottery for others when they visited their villages (MATSON 1965, p. 212)¹⁰. If we accept this hypothesis it would mean that Coarse and Standard Wares produced at Shimshara were made not by settled potters, but wandering groups of pot-makers coming from areas southwest of the Dokan valley.

It remains to outline the chronological pattern connected with the distribution and spread of pottery in the Hassuna Period and to deal with the interrelation of ceramic groups in Northern Mesopotamia. A consideration of these problems has been attempted on p. 126ff.

¹⁰ Matson's hypothesis is based on ethnographic observations from Ethiopia and Afghanistan. Professor Ingholt has kindly provided me with an example of ceramic trade in modern Kurdistan: during the excavation campaign at Tell Shimshara in 1957 a group of gypsies passed through the Dokan valley offering water jugs and other kinds of pottery for sale.

MISCELLANEA

A biconical spindle whorl of terra cotta was found in level 9 (Fig. 112). Its surface is slipped and polished and faint traces of red paint are visible. Height 2.6 cm., diam. 4.3 cm. The type is common in the Hassuna Period in Northern Mesopotamia (cf. LLOYD and SAFAR 1945, Pls. X:1 and XI:1, BRAIDWOOD *et al.* 1952, Fig. 17:4-6, and WAILLY and SOOF 1965, Fig. 70).

An impression of a textile was discovered on the inner side of an Undecorated Standard Ware sherd found on floor 13 (Fig. 113). The imprint has been examined by Dr. Margrethe Hald of the National Museum in Copenhagen. She has kindly commented as follows:

Imprint of textile, the largest extent of which is ca. 3×6 cm. The textile was made in plain weave (i.e. a simple over-and-under weave), and the thread is of an uneven thickness in the two systems. In the finest system, thirteen threads can be counted within a length of 2 cm. In the opposite direction there are fourteen threads within 2 cm.

Plain weave is represented on several earlier and contemporary sites in the Near East, e.g. by impressions at Jarmo (BRAIDWOOD and HOWE 1960, pp. 46 and 138), and by textiles preserved through carbonization at Çatal Hüyük (HELBÆK 1963, p. 40, and MELLAART 1964, Pl. XXIVa).

In level 12 was found a small lump of what seemed to be copper. The lump has kindly been analysed in the laboratory of Professor Cyril S. Smith at Massachusetts Institute of Technology, by Mrs. Katharine C. Ruhl. The results are summarized and transmitted here by Dr. C. C. Lamberg-Karlovsky of the Department of Anthropology, Harvard University:

It is not copper, although the exterior shows corrosion products of copper (malachite and cuprite) together with clay, small stones and a bit of shell. The area was sectioned and streaks of high density were observed on the radiograph (Fig. 114) which we hoped were remaining uncorroded metal. However, the interior of the lump proved to be a material orange brown in colour and slightly magnetic, probably the corrosion product of iron pyrites. The structure is a porous honeycomb (Fig. 115), in contrast to the more dense copper corrosion products of the exterior (Fig. 116). A few flecks of highly reflective material, probably pyrite, are found in the matrix of interior corrosion (Fig. 117). We conclude that this piece is a weathered piece of copper pyrite. We cannot see any evidence that it was shaped by man, although its completely corroded state makes this uncertain. It is just possible that it was a piece of pyrite that had been used as a firestone, but it has lost its shape completely from the weathering.



Fig. 112. Spindle whorl of terra cotta:
TSH. 868. (SH. 155). Level 9, N 10.

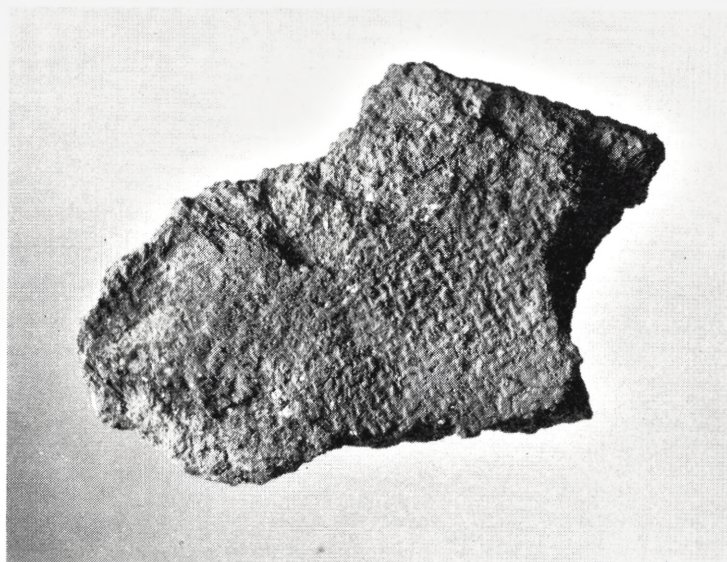
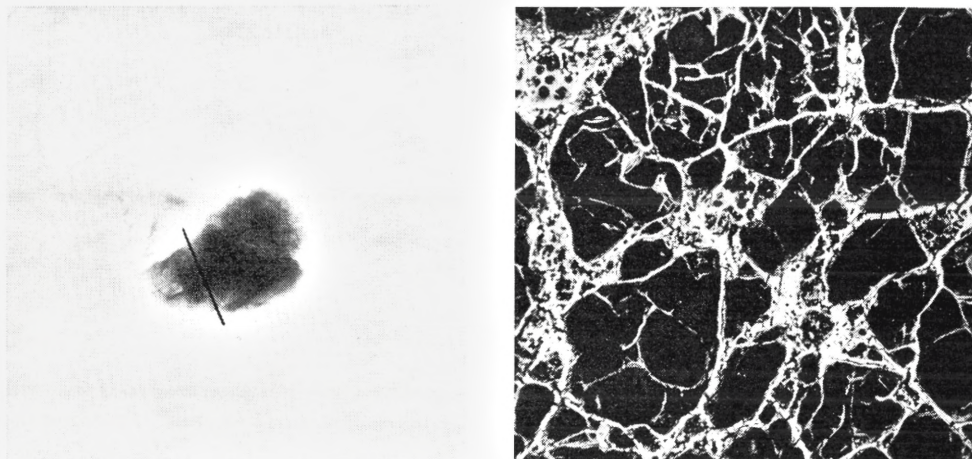
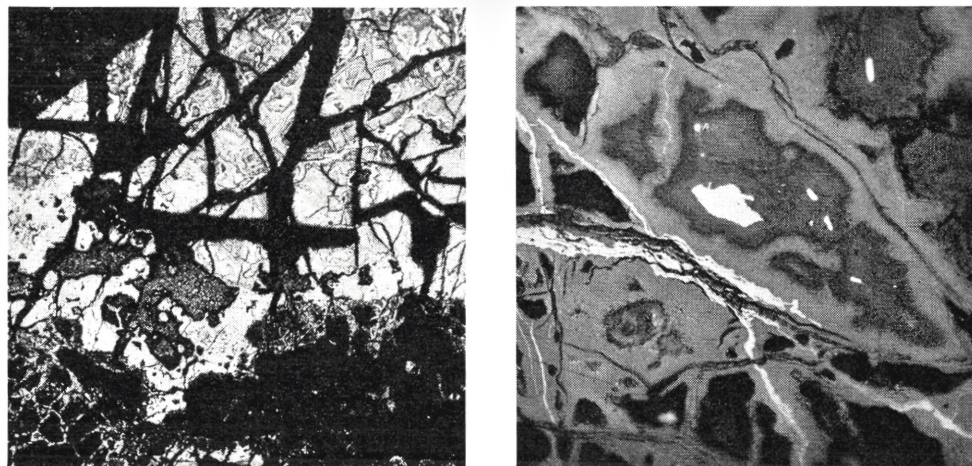


Fig. 113. Undecorated Standard Ware sherd with textile imprint:
TSH. 404. Floor 13.



Figs. 114–115. *127-1*: Radiograph of the corroded lump and the position of the cross section, X 2:3, and *127A2*: Honeycomb structure of the internal corrosion product, X 70.



Figs. 116–117. *127A1*: Outer layer of copper corrosion products, X 35, and *127A3*: Inclusions, probably pyrite, in the internal corrosion product, X 350.

REFLECTIONS ON THE RELATIVE CHRONOLOGY AND CULTURAL DEVELOPMENT IN THE HASSUNA PERIOD

The Danish excavations at Tell Shimshara started in 1957 as part of a salvage programme for archaeological monuments in the Dokan valley, initiated by the Directorate General of Antiquities of Iraq. For various reasons a second excavation campaign, planned for 1958, was cancelled, and since 1959 the mound has been inaccessible, because most of the valley has been transformed into a water reservoir covering about 230 square kilometers.¹

Unfortunately, the lack of a second season at Tell Shimshara has caused some obvious disadvantages. Virgin soil was never reached, and the prehistoric material is so limited that a general quantitative analysis has not been possible. Furthermore, the economic background of the habitation escapes us, because no carbonized plant remains and only a few animal bones were found in levels 9–16 during the excavation in 1957.

With these limitations in mind, I have chosen to publish a rather detailed, but traditional description and comment upon the artefacts and pottery recovered. I feel that it might be reasonable in addition to consider our present knowledge of the chronological and cultural development in Northern Mesopotamia in the Hassuna Period.²

Although Hassuna and Samarra pottery has been discovered in a great number of places during the last twenty-five years, only a few sites have been recorded in archaeological literature. Furthermore, but a minor part of these sites have been published in such detail that their chronological position can be determined within the Hassuna Period, i.e. the span of time covered by levels Ia–VI at Tell Hassuna.

¹ Excavations on the lower part of the mound were continued in 1958–59 by the Directorate General of Antiquities of Iraq (ALUSI 1959, p. 50, and LÆSSØE 1960, p. 12–19).

² Where no other sources are quoted the descriptions are based on the excavation reports of Hassuna (LLOYD and SAFAR 1945), Matarrah (BRAIDWOOD *et al.* 1952), Gird Ali Agha and Tell al-Khan (BRAIDWOOD and HOWE 1960), Nineveh (MALLOWAN 1933), Samarra (HERZFELD 1930), Baghouz (BRAIDWOOD *et al.* 1944, and BUISSON 1948), and Tell as-Sawwan (WAILLY and SOOF 1965).

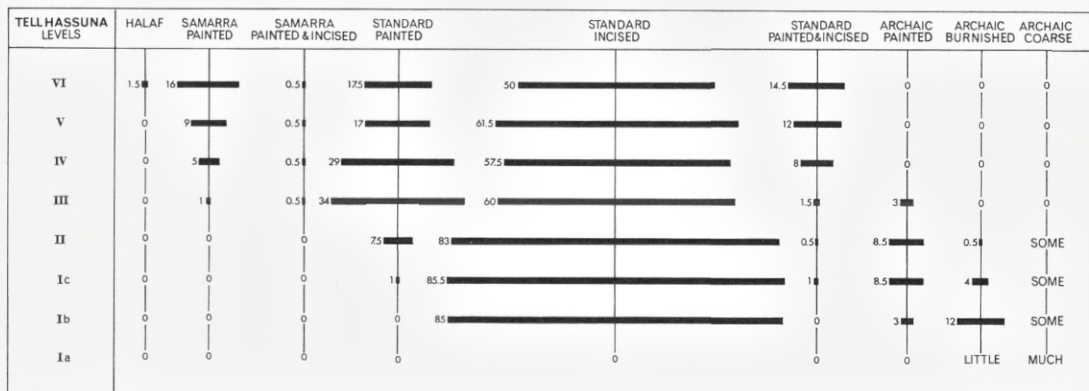


Fig. 118. Seriation diagram showing the development of ceramic wares at Tell Hassuna. The scheme is based on a pottery chart in the Hassuna publication (LLOYD and SAFAR 1945, Fig. 5). Sherds of straw-tempered Coarse Ware, which were not originally counted, are not included in the diagram.

Our knowledge of the chronological development in Northern Mesopotamia in the 6th millennium B.C. is still principally based on the ceramic sequence established by the excavations at Tell Hassuna in 1943–44. This sequence has been summarized in a pottery chart in the Hassuna publication (LLOYD and SAFAR 1945, Fig. 5), on the basis of which Fig. 118 showing a seriation diagram of the ceramic wares at Tell Hassuna has been constructed.

The diagram reveals that level Ia, which comprises the three early camp sites at Tell Hassuna, is characterized by a few sherds of an Archaic Burnished Ware and by a straw-tempered Coarse Ware. The latter decreases in quantity, and neither of these wares turns up later than level II. An Archaic Painted Ware appears in level Ib and disappears again in level III. Standard Incised Ware dominates throughout the sequence from level Ib, and Standard Painted and Painted-and-incised Wares are found in levels Ic–VI. Samarra Painted and Painted-and-incised Wares are restricted to the upper levels (III–VI), and Halaf Ware makes its first appearance in level VI. The excavators thought that there might be a gap in the occupation between level Ia and the following layers, which had a more substantial mud-walled architecture (LLOYD and SAFAR 1945, pp. 261–62 and 272), but this has been questioned by Robert J. Braidwood, who did not see any serious break in the ceramic tradition (in: LLOYD and SAFAR 1945, p. 258, and in: BRAIDWOOD *et al.* 1952, p. 67).

After the excavation of Tell Hassuna it became clear that the material excavated in 1931–32 from the lower levels of the great mound of Nineveh (MALLOWAN 1933, p. 127ff.) could be related to the Hassuna sequence. It has been suggested that the burnished, incised and painted wares from levels 1–2a correspond to the pottery from Hassuna Ib–III, and that Ninevite 2b, in which Samarra pottery was abundant, is comparable to Hassuna IV–V (PERKINS 1949, p. 14). Since Samarra pottery actually was found in Hassuna III there has been a tendency in more recent publications to correlate Ninevite 1–2a with Hassuna Ib–II, and Ninevite 2b with Hassuna III–V (see e.g. PORADA 1965, p. 175).

During archaeological field campaigns in 1948, 1950/51 and 1954/55 the Oriental Institute of the University of Chicago investigated three sites from the Hassuna Period: Gird Ali Agha, Tell al-Khan and Matarrah. At Gird Ali Agha a coarse, chaff-tempered ware with trays and shouldered jars similar to the early Hassuna vessels, predominated, but a fine simple ware did also occur. The site has been compared with Hassuna Ia (BRAIDWOOD and HOWE 1960, pp. 37–38 and 66).

The material from a sounding at Tell al-Khan seems to be contemporary with Hassuna III. It includes a coarse ware with "husking-trays" and a few "milk-jars," Hassuna Standard Painted, Standard Incised, and Standard Painted-and-incised Wares, and a few sherds of Samarra Ware (BRAIDWOOD and HOWE 1960, pp. 35 and 66).

Matarrah has been interpreted as a southern variant of the Hassuna complex. The pottery includes a Coarse Simple Ware, two Fine Simple Wares (one undecorated and one decorated) and a Samarra Painted Ware. The assemblage has been divided into a Lower Phase contemporary with Hassuna Ib–II, and an Upper Phase which is marked by the appearance in quantity of the Samarra Painted Ware. Presumably this phase corresponds to Hassuna III–V (BRAIDWOOD *et al.* 1952, p. 8ff.). Traces of a non-permanent establishment were exposed in operation VI:5 together with sherds of Coarse Simple Ware and a few Undecorated and Incised Fine Simple Ware sherds. It has been suggested that these remains might be compared to the earliest occupation layers (Ia) at Tell Hassuna (BRAIDWOOD *et al.* 1952, p. 67).

Since 1964 the Iraqi Directorate General of Antiquities has carried out extensive excavations at the important site of Tell as-Sawwan near Samarra. Five building levels, numbered from the bottom I–V, were discovered. The pottery found in the lower levels is mainly plain coarse ware, but some incised and a few painted sherds also appeared. Samarra Ware is common from level III, and it is dominating in the youngest levels, which also yielded several polychrome Halaf sherds (WAILLY and SOOF 1965, p. 21 and Fig. 61 no. 28). It seems therefore, on the evidence available at the moment, that the early levels correspond to Hassuna Ib–II, and that the younger part of Tell as-Sawwan is more or less contemporary with Hassuna III–VI.

Like the uppermost levels at Tell as-Sawwan two other sites: Samarra, excavated in 1911 (HERZFELD 1930), and Baghouz sounded in 1936 (BRAIDWOOD *et al.* 1944 and BUISSON 1948) are characterized by an abundant occurrence of fine Samarra pottery, by a general lack of Coarse and Hassuna Standard Wares,³ and by a certain Halaf influence. Halaf pottery with lustrous monochrome and polychrome decoration has been found at Samarra (HERZFELD 1930, p. 92–94, and Abb. 81 and 219–21), and a few sherds of Samarra Ware with polycerome decoration were found at Baghouz (BUISSON 1948, Pl. XX:G, O and P, and Pl. XXIX). There is no doubt that this polychrome technique was adopted from Halaf pottery. Certain vessel shapes and orna-

³ Braidwood mentions two sherds without painted decoration from Baghouz (BRAIDWOOD *et al.* 1944, p. 51 and Pl. VII: 1). Reconstructions of these sherds are shown by Comte du Mesnil du Buisson (BUISSON 1948, Pl. XV: 2 a–b and Pl. XXI: Z), and it appears from his illustrations that at least one of the jars has a painted decoration on the collar.

mental motifs peculiar to the Samarra pottery found at Baghouz and Samarra do also seem to reflect a Halaf influence: beakers with a flat base and straight, oblique sides (BUISSON 1948, Pl. XXII:B), pedestal bowls on a low base (BUISSON 1948, Pl. XXII:7, and Pl. XXXII), ornamental squares filled in with a Sct. Andrews cross (or a quatrefoil) painted in a negative design technique (HERZFELD 1930, Abb. 14–15, 25, 52–54, 67–68, 71–72, 77, 163, 165, 188, 203–4, and 209b) and zones with two opposed triangles (“double-axe motif”) (HERZFELD 1930, Abb. 46, 48 and 162, BRAIDWOOD *et al.* 1944, Pl. V:1 and 3, and BUISSON 1948, Pl. XXI:T, Pl. XXV and Pl. XXXV:2). Despite minor local variations in style (cf. BRAIDWOOD *et al.* 1944, p. 60–62), it is therefore most likely that Baghouz and Samarra are contemporary with the youngest levels at Tell as-Sawwan.

It is important to realize that the lustrous monochrome and polychrome sherds found at Hassuna VI, Tell as-Sawwan, and at Baghouz and Samarra represent the influence of Middle and perhaps Late Halafian pottery. This confirms the situation at Arpachiyah, where a few sherds of Samarra Ware appeared in Middle Halafian contexts, principally in levels TT 7–8 (MALLOWAN 1935, p. 169–70), and it seems to support Mallowan’s suggestion, that Arpachiyah TT 9–10 might be approximately equated with Hassuna V, and that the Samarra and Halaf Wares were to a great extent contemporary (MALLOWAN 1947, p. 245–48).

In the chapter concerning the pottery found at Tell Shimshara it has been stated that Samarra Wares occurred in levels 13 to 9. This circumstance indicates that Shimshara 13–9 is comparable to the younger part of the Hassuna sequence and to the Upper Phase of Matarrah. Furthermore, the absence at Tell Shimshara of Halaf Ware known from several other sites in the Dokan valley (cf. the map Fig. 111) shows that Tell Shimshara was no longer inhabited at the time that Halaf pottery was introduced into the area. This seems to allow a general correlation of Shimshara 13–9 with Hassuna III–V.

It is worth recalling that no break has been observed in the occupation of Shimshara immediately before the introduction of pottery (cf. pp. 36 and 120). Two violent fires registered in levels 16 and 13 do not coincide with this event, and although a certain development is visible in the type inventory of the chipped stone industry from level 16 to level 9, it is notable that the change is gradual, and that—with the exception of the appearance of beaked blades—it is not linked up with the transition from an aceramic to a ceramic community. It is assumed, therefore, that levels 16–14 precede the ceramic levels 13–9 without a gap in the sequence, and that they must be partially contemporary with lower Matarrah and with the earlier part of Tell Hassuna.

An examination of the pottery from the sites mentioned above leaves the impression that, based on the ceramic development, it is possible to divide the Hassuna Period into three phases: A, B and C:

Phase A is characterized by an abundant quantity of undecorated, coarse, chaff-tempered pottery and by a few burnished sherds. Representatives of this phase are

Hassuna Ia, Gird Ali Agha, and probably the earliest occupation at Matarrah, operation: VI:5. The three sites are all situated between 150 and 300 meters above sea level near watercourses in the rolling foothills leveling off towards the Assyrian steppe region: Tell Hassuna not far from the Tigris valley at a point where two small wadis meet and continue as a single tributary of Wadi Qasab, Matarrah on a small natural hill southwest of a now normally dry wadi, and Gird Ali Agha on the first major terrace of the left bank of the Greater Zab (Fig. 119).

Hassuna Ia comprises about 1 meter of debris, including three "living-floors" with pottery, implements, and animal bones centered around hearths, some of which were slightly sunken and paved with pebbles. There were no traces of permanent architecture, and not even post-holes suggesting huts were found. On this evidence the three assemblages have been explained as camp sites for people living in tents or sheltered by weather screens, an interpretation supported by impressions of woven reed matting found in several places.

A similar explanation probably applies to the early habitations at Matarrah and Gird Ali Agha. Operation VI:5 at Matarrah revealed a fire place and a number of drains and pits dug into virgin soil, some of them with firehardened walls. At Gird Ali Agha three floors or compacted earth layers with irregular pits, flecks of charcoal, and a hearth lined by small flat river boulders were found.

The non-permanent character of the three early occupations of Hassuna, Matarrah and Gird Ali Agha might suggest that they were camp sites, seasonally occupied by groups of herders or farmers sent out from permanent villages situated in other ecological zones. The existence of such settlement patterns in the 7th and 6th millennia B.C. has recently been affirmed in the intermontane Zagros valleys and on the alluvial plain of Deh Luran in Khuzistan (BRAIDWOOD 1962, p. 122, MORTENSEN and FLANNERY 1966, p. 85ff., and HOLE and FLANNERY 1967, p. 166 ff.), and it would not seem unlikely that the North Mesopotamian plain was first populated by seasonal dwellers, who later settled and developed their camp sites into permanent villages.⁴

The excavators of Tell Hassuna have suggested that the first settlers of the wadi bank were primarily groups of herdsmen and hunters. Two obsidian javelin heads and a number of "sling-pellets" perhaps indicate hunting activity, and a great number of animal bones was recovered, but no analysis of this material has been published. There is no conclusive evidence of agriculture. Although it is likely that seasonal planting and harvesting took place, the boulder mortars and pestles found at Hassuna and Gird Ali Agha, and the large stone hoes from Hassuna cannot be interpreted as a certain evidence of agriculture. It is notable, however, that all Phase A settlements are located in an area watered by 250–380 millimeters of winter rain, creating a natural winter grassland favorable for dry-farming (FLANNERY 1965, p. 1247–48).

⁴ A similar transformation took place in Luristan at Tepe Guran, which started as a winter encampment occupied by a group of goat herders and developed into a permanent mud-walled village (MELDGAARD, MORTENSEN, and THRANE 1964, p. 110, and FLANNERY, unpublished data).

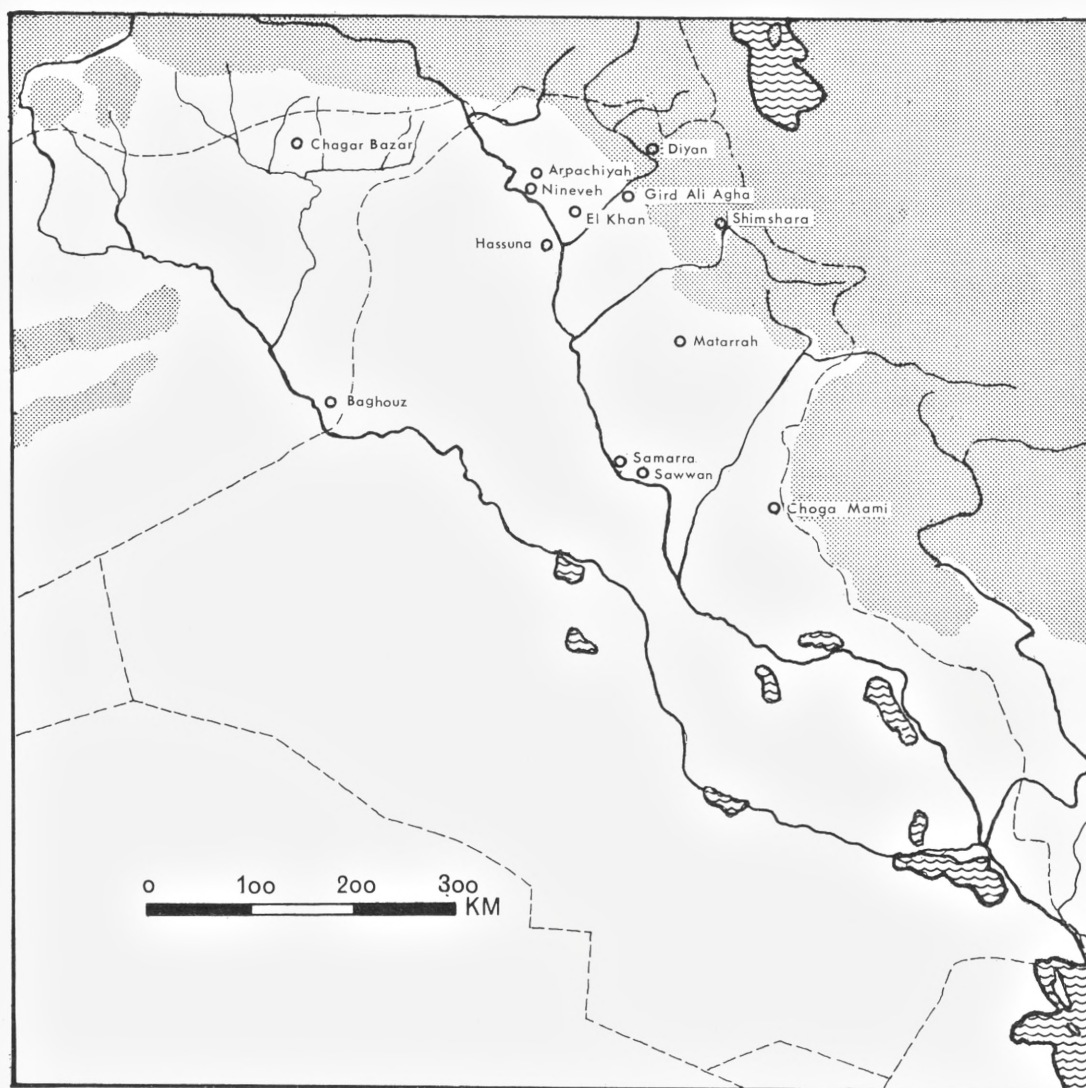


Fig. 119. Map showing the distribution of Hassuna Period sites, mentioned in the text.

If we accept the hypothesis that the assemblages of Hassuna Ia, Gird Ali Agha and operation VI:5 at Matarrah were camp sites, seasonally occupied by groups of herders, hunters and perhaps farmers coming from permanent villages, we must admit that these villages have not as yet been located. The dark-burnished ware and the two javelin points found at Hassuna probably indicate a relationship with the Amuq A Phase of Syro-Cilicia (LLOYD and SAFAR 1945, p. 265), and obsidian found at Matarrah testifies to trade relations with areas west of Lake Van, more than 400 km.

to the North (RENFREW, DIXON and CANN 1966, Table I). Similarities between the coarse chaff-tempered pottery of the early Hassuna phase and of Upper Jarmo have been observed by Matson (in: BRAIDWOOD and HOWE 1960, p. 63), and it has been suggested that the pottery from Gird Ali Agha might represent "an approximate midpoint in the apparent progression from Jarmo to Hassunan types of coarse ware" (BRAIDWOOD and HOWE 1960, p. 161 and Pl. 15:18). Comparing Hassuna with Jarmo and other assemblages in the Zagros zone (Sarab and Guran) it is remarkable, however, that the Zagros sites are characterized by a rich variety of bowls and trays, and by a general absence of the large shouldered storage jars which completely dominated in early Hassuna contexts (twenty-nine of them appeared on the first floor of Hassuna Ia). It is also notable that none of the red-faced burnished or painted wares of Jarmo, Sarab and Guran were found at Hassuna, Matarrah or Gird Ali Agha, and that on these sites—in contrast to Jarmo—the chipped stone industry is rather poor, clay figurines are extremely rare, and marble bracelets and bowls do not occur at all.

At the moment, therefore, we cannot point at any obvious origins for the early settlements of the Hassuna Period in Upper Mesopotamia. But it does not seem unlikely to me, that they may have developed from still earlier assemblages within the Tigris area. Such sites have not as yet been found, and they may be difficult to locate since in many cases they would be covered by later cultural deposits or by meters of eroded materials (MORTENSEN 1964, p. 36). That they may turn up some day is shown by the recent and rather unexpected discovery in an ecological setting not much different from the Upper Tigris area of two villages on the Euphrates: Mureybat and Bouqras, dating back to the 9th–7th millennia B.C. (LOON 1966 a and b, ZEIST and CASPERIE 1968, and CONTESEN et LIERE 1966).

Phase B is characterized by the spare occurrence of an archaic painted coarse ware and by the general appearance and domination of sand-tempered standard wares (painted, incised, and painted-and-incised). The phase includes Hassuna Ib–II, Ninevite 1–2a, the Lower Phase of Matarrah, and probably the two earliest levels at Tell as-Sawwan. Furthermore, it is most likely that Shimshara 16–14 falls within the younger part of the B-Phase.

By this time the settlements at Tell Hassuna and Matarrah develop into permanent habitations and other villages appear along the Tigris: Nineveh about 60 km. North of Hassuna, and Tell as-Sawwan on the alluvial plain more than 300 km. South of Matarrah (Fig. 119). The aceramic village at Shimshara seems to be partly contemporary with Hassuna Ib–II, but there is no evidence of direct cultural contact between the higher intermontane valleys, in which Shimshara is situated, and the Hassuna B-Phase villages on the Upper Tigris.

The houses at Matarrah and Hassuna were built of packed mud (*tauf*) with walls varying in thickness from 20 to 45 cm. At Hassuna the houses had straight or slightly curved walls, and the rooms which were rather small were grouped around open courtyards. A single building found in level Ic was circular, but like the other houses its domestic character was indicated by large grain bins and ovens. The *tauf*

technique adopted at Hassuna and Matarrah has a long tradition in Northern Mesopotamia. It was used already in the 7th millennium at Jarmo and at Bouqras I (BRAIDWOOD and HOWE 1960, p. 40–43, and CONTEYSON et LIERE 1966, p. 388–391).

A more impressive architecture appears at Tell as-Sawwan, where the earliest level is dominated by a large complex with more than fourteen rooms and several courtyards. The regular lay-out of this building and its position on top of an extensive cemetery, combined with finds of alabaster figurines in some of the rooms, support the excavator's hypothesis that the building is a religious structure. Besides this building, which was in use for a long time, were found some less regular houses, also with many rooms. It is notable that the earliest use of external buttresses at wall junctions in Mesopotamian architecture appeared in the lower levels of Tell as-Sawwan.

The walls at Tell as-Sawwan were built of large rectangular mud-bricks made in moulds, and measuring 50–70 cm. by 21–30 cm. by 6–8 cm. It is interesting that this method of wall construction—in contrast to the *tauf* technique used at Matarrah and Tell Hassuna—seems to be universal at Southern Hassuna Period sites throughout the 6th millennium B.C.⁵ The origin of the mud-brick tradition is not clear, but it may perhaps have been developed in the South Mesopotamian alluvium as a result of cultural contact with Luristan or Khuzistan (Guran and Ali Kosh), where walls of mud-slabs on stone foundations were common in the first half of the 6th millennium B.C.⁶

That dry-farming was generally practised on the North Mesopotamian plain in the B-Phase is evidenced by the grain bins and ovens appearing at Tell Hassuna as early as level Ib, and by two-row hulled barley (*hordeum distichon*) from Lower Matarrah, identified by Hans Helbæk (in: BRAIDWOOD and HOWE 1960, p. 109).

Phase C is characterized by the introduction of Samarra pottery and by a continuous use of standard wares, and to a minor extent of chaff-tempered coarse wares. Hassuna III–V, the upper levels of Tell as-Sawwan, Ninevite 2b, the Upper Phase of Matarrah, Tell al-Khan and Shimshara 13–9 do all belong to this phase. During phase C the quantity of Samarra pottery increases, and an import or influence of lustrous monochrome and polychrome Halaf ware is detectable at Tell as-Sawwan, Baghouz and Samarra. Apart from a few Halaf sherds, Samarra ware is the only kind of pottery represented on these latter sites. At Hassuna VI, where Halaf ware makes its appearance, Samarra pottery is abundant but not dominant. Part of Ninevite 2c, the levels TT 8–7 at Arpachiyah, and Chagar Bazar 15–13 are presumably contemporary with this late development in the South. At Tell Hassuna, Matarrah, Nineveh and Tell as-Sawwan there is evidence of a ceramic continuity from the preceding phase and of an unbroken architectural tradition.

Three samples of carbonized grains and seeds recovered from a wide ditch at Tell as-Sawwan (HELBÆK 1964, p. 45ff.) did mainly consist of emmer (*Triticum*

⁵ Mud-brick walls, belonging to the Hassuna C-Phase, were also found at Baghouz (BUISSON 1948, p. 15 and Pl. XV: 3), where the bricks measured 59–60 cm. by 29–30 cm. by 8–9 cm.

⁶ On the distribution and spread of Near Eastern architectural traditions in the 7th and 6th millennia B.C. see also CONTEYSON 1966, p. 5–6.

dicoccum), six-row and two-row hulled barley (*Hordeum vulgare* and *Hordeum distichon*), six-row naked barley (*Hordeum vulgare*), and caper (*Caperis spinosa*). Furthermore, there were seeds of einkorn(?) (*Triticum monococcum*(?)), bread wheat (*Triticum aestivum*), goat-face grass (*Aegilops* sp.), prosopis (*Prosopis stephaniana*), linseed (*Linum usitatissimum*), and of various thistle species. An examination of the three samples from Tell as-Sawwan has brought Hans Helbæk to the following conclusion:

Judging from Tell as-Sawwan's nearness to the river we may take it that some sort of irrigation was employed, an assumption that is supported by the presence and size of the linseed which cannot be grown in such climate without artificial watering. But, on the other hand, the poor size of the cereal grains makes it improbable that regular canalization was instituted at the same time. Most probably agriculture was conducted on the basis of the seasonal flood of the river, spill pools were exploited, run-off checked in favorable spots by primitive damming—and generally the activities which we may visualize as the fore-runners of the later full-fledged canal irrigation. (HELBÆK 1964, p. 47).

The appearance of Samarra pottery along the Tigris was followed by a spread of ceramic traditions towards the Northeast, where Samarra and Hassuna Standard Wares reached Diyan (SAFAR 1950, p. 118ff.) and Tell Shimshara in the intermontane valleys (Fig. 119). At Shimshara pottery was adopted by a hitherto aceramic community with chipped and ground stone industries related to Jarmo and other sites in the Zagros region.

The younger part of Phase C shows for the first time a further expansion of Samarra pottery towards Northwest along the Euphrates (Baghouz) and farther North to Chagar Bazar on the Khabur River. At the same time Halaf pottery appears on Hassuna C sites, and shortly afterwards it displaces Samarra and Hassuna Standard Wares along the Tigris. This ceramic movement marks the end of the Hassuna Period. But we do not so far have any evidence which would help us to decide whether the transition to Halaf pottery represented the prevalence of a new ceramic taste, or if it was a reflection of new trade patterns provoked by more serious changes in economy and in social organization.

On the evidence from Shimshara it has been suggested that some of the various kinds of pottery peculiar to the Hassuna Period may reflect wandering groups of pot-makers, who made and traded pottery over large areas (cf. p. 118–121). This hypothesis would perhaps meet the points raised by those who have discussed the different ways of explaining the development and character of the Samarra pottery. Was it developed as part of the normal Hassuna assemblage? Was it just a style of decoration, or did it represent a separate culture? (BRAIDWOOD *et al.* 1944, p. 65–69, LLOYD and SAFAR 1945, p. 258–259, MALLOWAN 1947, p. 245–248, BRAIDWOOD *et al.* 1952, p. 4, and BRAIDWOOD and HOWE 1960, pp. 149 and 162). It would also explain why several varieties of Samarra ware occur on one site, as at Tell Shimshara, and as previously observed at Tell Hassuna (LLOYD and SAFAR 1945, Pl. XVII).

The origin of the Samarra pottery has not been traced with certainty. Attempts to derive it from Iran (McCOWN 1942, p. 35–36, BRAIDWOOD *et al.* 1944, p. 65ff.) have

now been given up, and it seems that most authors share the opinion that the Samarra ware developed out of the Hassuna archaic and standard painted ware traditions (Braidwood in: LLOYD and SAFAR 1945, p. 256, MALLOWAN 1947, p. 247, PERKINS 1949, p. 14–15, and Leslie in: BRAIDWOOD *et al.* 1952, p. 57ff.). This theory seems suspicious, however, because the Samarra ware appeared in the middle of the Hassuna Period with its characteristic vessel shapes and decoration fully developed. Until further conclusive evidence is available, it is worthwhile bearing in mind the analogies to the earliest pottery from Eridu, pointed out by Joan Oates (OATES 1960, pp. 42 and 47). Future investigations in the South Mesopotamian alluvium might easily reveal a series of early village-farming communities, within which the origin of the Samarra ware tradition might be found.⁷

⁷ It is reasonable in this context to refer to three recent publications dealing with various aspects of importance for our understanding of the Hassuna Period (HOLE, FLANNERY and NEELY 1969, OATES 1969, and WRIGHT 1969). Unfortunately, they all appeared after the manuscript of this report had been finished, in October 1968.

ABSOLUTE CHRONOLOGY

At the moment nine C-14 dates are available from Hassuna/Samarra contexts:¹

W-623. Basal Matarrah: 5610 ± 250 B.C.

W-660. Hassuna V: 5080 ± 200 B.C.

P-855. Tell as-Sawwan I: 5506 ± 73 B.C.

P-856. Tell as-Sawwan III: 5349 ± 86 B.C.

P-857. Tell as-Sawwan III: 4858 ± 82 B.C.

K-951. Tell Shimshara 13: 5990 ± 150 B.C.

K-960. Tell Shimshara 9: 5350 ± 150 B.C.

K-972. Tell Shimshara 11: 5870 ± 150 B.C.

K-981. Tell Shimshara 10: 8080 ± 160 B.C.

Unfortunately, five of these dates are unacceptable. P-857 has been suspected of contamination by the excavators of Tell as-Sawwan (WAILLY and SOOF 1965, p. 19), and K-951-960-972-981, which were run on the carbon content of potsherds have generally given too high dates, as could be suspected, when this method was used (cf. Henrik Tauber's Appendix, p. 143ff.).

We are thus left with four dates. The earliest of these, 5610 ± 250 B.C. for Basal Matarrah, does approximately mark the transition from Hassuna Phase A to B. Early Phase B (Tell as-Sawwan I) has been given a date of 5506 ± 73 B.C., and early and late Phase C are fixed at respectively 5349 ± 86 B.C. (Tell as-Sawwan III) and 5080 ± 200 B.C. (Hassuna V).

This gives us a vague idea about the duration of the Hassuna Period. It seems to start early in the 6th millennium B.C., which will probably mean that Hassuna A superseded the Jarmo sequence in Iraq, and that it is contemporary with late Guran in the Zagros area (MORTENSEN 1964, p. 32ff.) and with the Mohammad Jaffar Phase in Khuzistan (HOLE and FLANNERY 1967, p. 170).

If we accept a C-14 date of 5620 ± 35 B.C. (GrN-2660) for "Altmonochrome Ware" from Tell Halaf, the transition from Early to Middle Halaf in Northwestern

¹ The dates are all calculated in accordance with the Libby value, 5570 years for the half-life.

	Northwestern Mesopotamia	Northeastern Mesopotamia	Southern Mesopotamia	Khuzistan
5900.....		JARMO		
5800.....	?	?		MOHAMMAD JAFFAR PHASE
5700.....	↑ EARLY HALAF	↑ HASSUNA A		
5600.....				
5500.....		HASSUNA B		
5400.....				
5300.....				
5200.....	MIDDLE HALAF	HASSUNA C	?	SABZ PHASE
5100.....			↑ UBAID 1 (Eridu Phase)	
5000.....	LATE HALAF			
4900.....				
4800.....				
4700.....		HALAF	UBAID 2 (Hajji Moh. Phase)	KHAZINEH PHASE
4600.....				

Fig. 120. Table, tentatively indicating the chronological position of the Hassuna Period.

Mesopotamia would be roughly contemporary with the occurrence of decorated pottery in Hassuna B.

Hassuna C has tentatively been placed from ca. 5400 B.C. to about 5000 B.C. The appearance of Hassuna-type "husking-trays" in levels XIX, XVII and XV at Eridu, and certain similarities between Samarra Ware and the early painted pottery at Eridu (OATES 1960, p. 42-43) suggest that the Ubaid 1 Phase in Southern Mesopotamia was at least partly contemporary with Hassuna C. This impression is strengthened by the correlation of Ubaid 1 to the Sabz Phase in Khuzistan, the date of which is based upon several C-14 determinations (HOLE and FLANNERY 1967, Table 4, and DYSON 1968, p. 308).

A C-14 sample from Arpachiyah TT 8 has been given a date of 5077 ± 83 B.C. (P-584). At about this time the influence of lustrous monochrome and polychrome pottery can be detected on pottery from late Hassuna C sites (Hassuna VI, Baghouz,

Samarra, and the younger part of Tell as-Sawwan).² Shortly after—presumably about 5000 B.C., or early in the 5th millennium B.C.—the Hassuna Period comes to an end, and Halaf pottery displaces Samarra and Hassuna Standard Wares in North-eastern Mesopotamia, for example at Hassuna VII–X, Tepe Gawra XX and Area A, Gird Banahilk, and on several sites in the Dokan valley.³

Our knowledge about the correlations between Northern and Southern Mesopotamia in the Hassuna Period is still very limited. But fortunately a group of mounds with Eridu and Hajji Mohammad pottery associated with Samarra and Hassuna incised wares have recently been discovered by Joan Oates in the Mandali district Northeast of Baghdad (OATES 1966a, p. 51ff.). There is no doubt that further explorations in this area will provide us with important new evidence of the connections between North and South.

It is obvious that the chronological reconstruction of the Hassuna Period, which has been attempted above, is based on a very fragmentary material. The chronological table, Fig. 120, must therefore be used with this reservation in mind as an interim reflection of our present knowledge. It will certainly have to be changed when more reliable sequences and series of new C-14 dates become available.

² At the same time—around 5000 B.C.—Halaf influence is visible on a number of sites in Anatolia, e.g. at Mersin XIX–XXIV, Çatal Hüyük West, Hacilar I, and Can Hasan 2B (MELLAART 1965, p. 154–55, MELLIK 1965, p. 107, and WATSON 1965, p. 69).

³ A C-14 determination at 6114 ± 78 B.C. (P-585) for Late Halaf (Arpachiyah TT 6) is obviously too high. Still, it is probably right that the early phases of the Halaf tradition can be traced back into the first half of the 6th millennium B.C. as suggested by Braidwood (BRAIDWOOD 1967, p. 144).

APPENDIX 1:

TELL SHIMSHARA AND THE TRAFFIC IN OBSIDIAN

By Colin Renfrew

The obsidian artefacts at Tell Shimshara constitute more than 80% of the total chipped stone industry—a greater proportion than at any other site recorded in Iraq or Iran. Several samples, from stratified deposits, were kindly sent for analysis by Peder Mortensen, together with details of the level-by-level occurrence of obsidian at the site. Six of these were analysed in collaboration with Dr. J. R. Cann and Mr. J. E. Dixon, and their trace-element compositions have been published elsewhere (RENFREW, DIXON and CANN 1966, pp. 70 and 72).

Two of the specimens (Analysis number 349, Excavation number TSH. 208a; Analysis no. 350, TSH. 208d), both from level 13, had a distinctive green colour when seen in transmitted light. In previous work, the occurrence of this green colour has shown a high correlation with peralkaline obsidians assignable to Group 4b (Pantelleria) and Groups 4c and 4d, established with their trace-element composition (CANN and RENFREW 1964, p. 116f.). Both proved, on account of their high zirconium and low barium, to fall in Group 4c/d. The niobium and yttrium contents excluded an African or South Arabian origin, and these two obsidians may be placed in Group 4c. The principal known source of Group 4c obsidian is the volcanic crater of Nemrut Dağ, situated on the west of Lake Van in East Anatolia. There is a source with material of similar composition at Bingöl some 100 km. to the west (RENFREW, DIXON and CANN 1968, p. 320). But work by A. A. Gordus and G. A. Wright, which has independently confirmed by neutron-activation analysis the broad outlines and many of the details obtained by optical spectrometry, suggests that this Bingöl source was less important in prehistoric times than Nemrut Dağ (WRIGHT and GORDUS, in press).

Obsidian from this Lake Van source has been identified from Neolithic levels at Jarmo, Tepe Guran, Ali Kosh and Tell Ramad, and in later deposits at numerous sites in the Near East, including Arpachiyah, Chagar Bazar, Eridu, Susa and Byblos. One of the two pieces from the Upper Palaeolithic (layer B) at the Zarzi Cave has

been analysed and also falls within this group. There seems little doubt that Tell Shimshara was likewise participating in the very extensive trade of Lake Van obsidian.

The remaining four pieces selected for analysis did not show the characteristic green colour of the Group 4c obsidian. Two were grey, without striations, when seen in transmitted light (Analysis no. 347, TSH. 50, level 14; and Analysis no. 332, TSH. 227r, level 11), one was grey with striations (Analysis no. 348, TSH. 62, level 14) and one was black and opaque (Analysis no. 331, TSH. 227g, level 11). All four proved on analysis to fall within Group 1g. These pieces, and others with similar trace-element composition from Jarmo, Sarab, Tepe Guran, Ali Kosh, Bouqras, Arpachiyah, Ras Shamra and Kabri, are from a source as yet not precisely located. The distribution of finds, however, makes it clear that the source of the Group 1g obsidian was probably not far from Lake Van, and certainly in eastern Anatolia.

The very high proportion of obsidian at Tell Shimshara (87% of the chipped stone industry, compared with 40% for Jarmo (BRAIDWOOD and HOWE 1960, p. 44)) might lead one to seek for a source nearer at hand. But no source of obsidian is yet known from Iraq or Iran. Moreover, obsidian is exceedingly rare during the preceding phase in this area. Only two pieces were found in the Upper Palaeolithic levels at the Zarzi Cave (GARROD 1930, p. 16), itself close to Tell Shimshara, and extremely little at Karim Shahir (BRAIDWOOD and HOWE 1960, p. 53). Had obsidian been locally available, one imagines that it would have been used in Upper Palaeolithic times. In East Anatolia, for example, where obsidian is known to occur, tools of the material of Upper Palaeolithic or even Mousterian date are found in considerable quantity.¹

The trace-element compositions of the obsidian thus indicate the sources from which they were obtained. But it is the quantities found at various sites along the Zagros which give greater insight into the trading mechanisms of the time. The final data for finds of stratified obsidian at Tell Shimshara, compiled by Peder Mortensen, are as follows:²

Level	16	15	14	13	12	11	10	9	Total
Obsidian.....	38	35	58	26	92	90	404	2	745
Flint.....	7	1	15	7	7	15	51	2	105
% Obsidian.....	83	97	79	79	93	86	97	50	87.6 %
% Green.....	50	—	30	50	—	14	23	—	20.4 %

In the first place, the high proportion of obsidian to other chipped stone is important. Obsidian was always abundant at Tell Shimshara, much more so than at Jarmo and other sites further south along the Zagros, and away from the sources. A plot of “% obsidian” (on a linear scale) against “distance from the sources” (on a

¹ Oral information, Professor I. Kiliç Kökten, May 1964.

² The final line of the table indicates the % obsidian (out of the total obsidian) which showed a green colour in transmitted light. It was determined from a smaller sample of 485 pieces, and the figure is approximate.

logarithmic scale) gives an approximately straight line (RENFREW, DIXON and CANN 1968, Fig. 1). It suggests that the proportion of obsidian in the chipped stone industry of sites along the Zagros falls off exponentially with distance from the edge of what has been termed the "supply zone". Within this zone, obsidian was abundant—at least 80% of the total chipped stone. An analogous pattern is seen in the Levant, where the obsidian came from the Anatolian sources. Tell Shimshara was on the periphery of the eastern Anatolian supply zone, and clearly had a very efficient supply mechanism. In central Anatolia there is some typological uniformity in the lithic industries found within the supply zone in the Early Neolithic period. The possibility thus arises that Tell Shimshara was likewise in fairly close cultural contact, rather than simply in trading contact, with the inhabitants of the supply zone and the area occupied by the obsidian sources of eastern Anatolia.

The second interesting variation which the figures reveal is the proportion of Group 4c obsidian. As mentioned above it has been found that Group 4c obsidian is generally green in transmitted light, while Group 1g obsidian is grey. Although this is not an invariable rule, it allows the estimation of the proportions of these groups within the assemblages on the basis of a visual inspection, supplemented by analyses in a few cases. The estimates obtained will not be exact, but should be valid as approximations. On the basis of counts by Peder Mortensen for Tepe Guran and Tell Shimshara, and by the writer for Ali Kosh, Sarab and Jarmo, the following table may be reconstructed:

Site	Shimshara	Jarmo	Guran	Sarab	Ali Kosh		
					Bus Mordeh phase	Ali Kosh phase	Mohammad Jaffar phase
Total obsidian in sample	485	683	120	498	196	578	367
No. grey	386	251	76	82	0	72	107
% grey	80	36	63	17	0	12	29

Due allowance must of course be given to possible discrepancies between the results of two different observers in judging the presence or absence of a "greenish tinge." But already the Ali Kosh figures suggest that Group 1g (i.e. grey) obsidian became more abundant, relative to Group 4c material, in the later Neolithic (RENFREW 1969, p.430). The Jarmo and Sarab figures suggest too that Group 1g obsidian was increasingly more abundant towards the north along the Zagros in comparison with Group 4c obsidian. Both groups, of course, were abundant in the north, and rare in the south—at Ali Kosh, obsidian forms less than 2% of the chipped stone industry.

There is certainly a pattern emerging here, and it is surely significant that Tell Shimshara, the most northerly of these sites, as well as the latest, has a notably high proportion of Group 1g to Group 4c obsidian. Quite what this means will not be clear

until the Group 1g source is precisely located. At present it would certainly seem that the Group 1g source was easier of access to the Tell Shimshara people than was the Group 4c one, while the converse was true farther south. As a tentative explanation it could be suggested that the Group 1g source lies on the east side of Lake Van, allowing easy access to Tell Shimshara over the Hakkari. The obsidian of Nemrut Dağ (Group 4c) might travel south over more westerly passes, and then down the Tigris river. But at present this is no more than a possibility. One feels, nonetheless, that there must be some explanation to account for the pattern observed.

In conclusion, then, we have evidence that Tell Shimshara, in common with such sites as Jarmo, Tepe Guran, Sarab and Ali Kosh, engaged in trade in obsidian from the time of its earliest settlement. Two main varieties of obsidian were used, and the material was in very good supply. All of it came from East Anatolia. East Anatolian obsidian is found in the Levant in the seventh and sixth millennia B.C. as well as along the Zagros range. The picture therefore is one of contacts and links, direct or indirect, extending north, south, and west over considerable distances.

APPENDIX 2:
RADIOCARBON DATING OF POTSHERDS
FROM TELL SHIMSHARA

By Henrik Tauber

During a ceramic analysis of potsherds from Tell Shimshara it was found by Mr. Aksel Rode of the Royal Academy of Fine Arts in Copenhagen that the pottery had been tempered with organic materials consisting of plant fragments (chaff) and dung of sheep or goat. The tempering material had only been partly oxidized at the low firing temperatures used in the manufacture of the vessels, and flakes of black carbon were present in the central parts of the sherds. Aksel Rode therefore suggested that C¹⁴ determinations might be carried out directly on the sherds.

C¹⁴ measurements on organic tempered potsherds have previously been made by Kohl and Quitta (1963, 1964) and by Stuckenrath (1963). Their investigations have shown that a dating of such sherds is possible, although large errors may occasionally occur with this material. Plant fragments locked up in the ceramic matrix are very likely to be contemporaneous with the sherds and thus should be an ideal material for C¹⁴ dating. However, organic matter in a ceramic mass is liable to contamination from two distinct sources, both of which may give rise to serious errors, especially if the carbon content of the sherds is low (less than 1% carbon). First the clay used in the ceramic mass may contain small amounts of organic matter itself. This will be older, usually much older, than the time of manufacture and thus will give too high ages. Next, potsherds are porous and, like other porous materials (e.g. bones), are exposed to post-depositional uptake of organic matter from ground water percolated through the sherds. Such secondary additions may be difficult or impossible to remove before dating and will, as is known from other porous materials, give rise to too young dates. In view of this, C¹⁴ results from potsherds must be taken with some more reservation than dates of well-suited organic materials.

In the case of the sherds from Tell Shimshara the carbon content proved to be very low (0,16 to 0,32% C), and the sherds therefore are susceptible to contamination.

Since the sherds have been deposited under comparatively dry conditions, the second source of error is less likely to have influenced the dating results, but an effect from a primary content of old carbon in the clay cannot be excluded and is the most probable explanation of the anomalously old date obtained for one of the samples (K-981).

Before dating, the sherds were treated with dilute acid to remove carbonates. In the same procedure compounds of alumina and iron would also be extracted. The measured losses due to treatment with acid, and the carbon content of the sherds are indicated for each sample. These quantities have also been measured by Aksel Rode who found very similar results. The dates have been calculated on the basis of the Libby half life (5570 years) and are given in years before 1950 (B.P.) and in the B.C. scale. The results can be converted to the new half life (5730 years) by adding 3% to the B.P. age.

- K-951 Coarse, organic tempered potsherds (Undecorated Coarse Ware) from level 13 in Tell Shimshara, Kurdistan, Iraq. Found immediately above three ceramic layers. 7940 ± 150 B.P. 5990 B.C.
Loss on boiling with acids (CaCO₃, Fe₂O₃, and Al₂O₃): 23%
Carbon content in the sherds: 0,16%
Sample No. TSH. 5.
- K-972 Coarse, organic tempered potsherds (Undecorated Coarse Ware) from level 11 (above K-951). 7820 ± 150 B.P. 5870 B.C.
Loss on boiling with acids: 20%
Carbon content: 0,20%
Sample No. TSH. 3.
- K-981 Coarse, organic tempered potsherds (Undecorated Coarse Ware) from level 10 (immediately above K-972). 10030 ± 160 B.P. 8080 B.C.
Loss on boiling with acids: 19%
Carbon content: 0,32%
Sample No. TSH. 2.
- K-960 Coarse, organic tempered potsherds (Undecorated Coarse Ware) from level 9 (immediately above K-981), which represents the latest Hassuna Period habitation at Tell Shimshara. 7300 ± 150 B.P. 5350 B.C.
Loss on boiling with acids: 19%
Carbon content: 0,21%
Sample No. TSH. 1.

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