

RÉGÉSZET

THE SETTLEMENT OF THE NEOLITHIC SZAKÁLHÁT-GROUP AT CSANYTELEK-ÚJHALASTÓ

HEGEDŰS KATALIN

(*Szentes, Koszta József Múzeum*)

Introduction, discovery and description of the site

On October 15, 1979 it was reported that SE of Csanytelek human skeletons, pottery fragments and animal bones were found on a peninsula-like extension of the levee alongside the former Dongér stream which ran into the Tisza (Fig. 1).

The brief surface survey following this report confirmed that two important sites, a Szakálhát settlement and a biritual Scythian cemetery were endangered by the earthworks necessary for the establishment of a new fishpond of the "Tisza" Halászati Tsz. (Tisza fishing co-operative, Szeged, F. Deák str. 24—26).

The first rescue excavation was conducted between October 22—December 7, 1979. A total of 600 m² were uncovered of the Neolithic settlement under the direction of the author, and 2650 m² yielding 56 graves of the Scythian cemetery were excavated by Márta Galántha.

The excavation of the Scythian cemetery was resumed in 1980. A further 2500 m² were explored during the second campaign. Apart from 76 Scythian graves and 1 Sarmatian burial, three characteristic Linear Band Pottery longhouses with massive timber framing were also unearthed.

Settlement features

House 1. Prior to the beginning of the excavations, scrapers had already removed a c. 25—30 cm thick humus layer from the surface of the peninsula-like extension of the levee extending into the floodplain of the Dongér stream. A highly calcareous yellow clay subsoil was visible under the humus against which the contours of various settlement features, the groundplan of houses, the contours of pits dug into the virgin soil and graves were clearly visible after clearing the surface (Fig. 3).

The groundplan of the house is marked by the darkly shaded, roughly rectangular area in Fig. 3. The foundation trench of the house, the dimensions of which were 19.4×9.2 m was dug into the yellow clay subsoil to a depth of 30—35 cm. The foundation trench was filled with hardbeaten greyish clay and fragments of burnt wattle and daub, pottery fragments and specks of charcoal. No definite culture layer could be observed either inside or outside the house. Only the humus layer yielded a few Szakálhát-type finds, ceramic fragments, a few quernstones and scanty zoological material.

The entrance to the house probably lay in the short eastern side of the house where there was a gap in the wall. The doorposts were in fact two wooden beams dug vertically into the soil. Vertical posts embedded firmly into the foundation

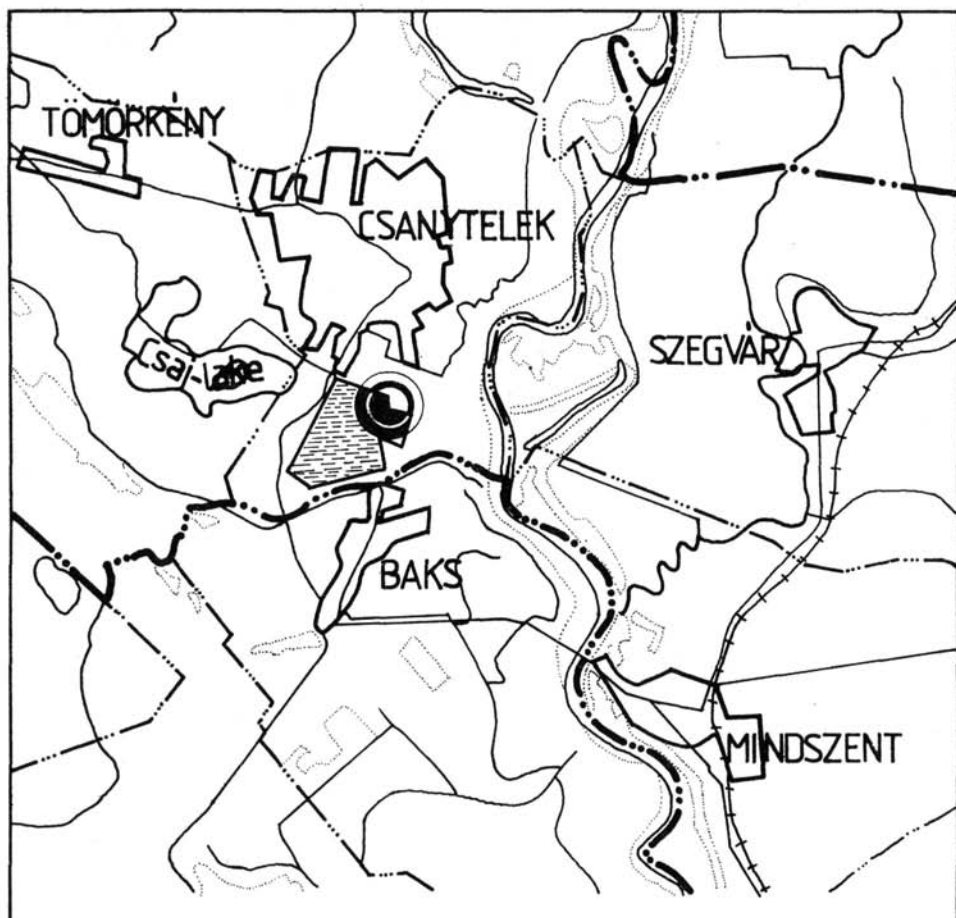


Fig. 1. The environs of Csanytelek and the site

trench at a distance of 2.5–3 m from each other supported the framework of the house which was constructed of plaited branches or wattling and which was daubed with clay on both sides.

Three longitudinal rows of posts running parallel to each other were unearthed inside the house. The middle row probably supported the purlin. The length of the building, the relatively small, 30–40 cm thickness of the walls and the span of the building necessitated the erection of a subsidiary row of exonerative posts on either side of the central row of posts supporting the purlin. The three rows of posts aligned along the longitudinal axis of the building were dug c. 25–35 cm deeper into the foundation trench than the posts ensuring the rigidity of the walls. As a consequence of their statical function, these posts were more massive and the diameter of these postholes was considerably greater, sometimes reaching 50–60 cm. The colorification indicates that most posts had a diameter of 40–45 cm.

¹ The rescue excavations were continued in 1981. The present article, however, does not deal with the finds and features unearthed then.

The foundations of a narrow wall which ran into the left long wall of the house were observed in the posterior part of the house (Fig.3.). This was interpreted as an inner partitioning wall. The depth of the bedding trench was a mere 15 cm the grey clay filling of the trench showed up well against the yellow subsoil. Even though traces of inner partitioning walls could not be observed elsewhere in the house, the possibility that the almost 20 m long building was originally divided into three rooms cannot be excluded. Four postholes lying roughly in a row were observed between pits 15 and 12, and the entrance of the house. If another traverse partitioning wall had originally been constructed, it could only have been at this point. These inner partitioning walls to which hardly any static function can be ascribed were probably not embedded as deeply as the main walls of the house. Neither the debris, the habitation floor, nor the possible hearth of the house were to be observed. Only features which lay beneath the house (erected over the surface) could be clearly discerned: the foundation trench and the postholes of three rows of posts. In spite of these deficiencies, the house can be regarded as a characteristic Linear Pottery building. The lack of a floor and debris, the relatively shallow depth of the four graves² unearthed in front of the entrance can be attributed to the fact that the surface of the peninsula extending into the floodplain had been heavily eroded during the subsequent millennia.

The following conclusions can be drawn as regards the features inside and near the house, namely pits filled with refuse. Even though two pits which yielded no finds whatsoever damaged the long walls and, with the exception of grave 1, burials did not cut into the walls, it would nevertheless appear that the house is, earlier than the graves and certain pits. This assumption can be verified in the case of those pits which almost reach or border on the foundation trenches, or in the case of those pits, the lower part of which flares into a beehive-shape which outs into the lowermost part of these trenches (pits 6, 14 and 16). It is the opinion of the author that the pits which cut into the house, and grave 1 which damaged the gable wall, postdate the house, similarly to the four shallow graves which formed a loose semicircle facing the entrance of the house in the same level as the main walls of the house.

The position of pits 1, 2, 3 and 5, and pits 7, 8 and 9 which were dug alongside the southern long wall of the house perhaps implies that these pits were coeval with the house.

Pit 1. The roughly circular discoloured patch indicating the pit was observed 2.60 m NE of grave 1. The floor of the beehive-shaped pit was flat. Its greatest depth, measured from the first appearance of the discolorification was 1.45 m. Its fill consisted of brownish or dark grey earth and yellow lumps of clay. The fill was occasionally speckled with charcoal and tiny fragments of burnt wattle and daub. The fill also yielded numerous Szakálhát-type sherds and a rich zoological material. This pit was probably used for storing foodstuffs and later reused as a refuse pit.

Pit. 2. Steep-sided pit which narrows step-like; dished floor. The pit was slightly globular and a smaller, shallow pit adjoined it on its north-western side. Its greatest depth, measured from the first appearance of colorification, was 1.75 m. The pit was filled with dark brown sandy earth and bright red fragments of burnt

² The levelling was carried out by Gábor Rózsa, a geodetic surveyor. The measurements of depth marked on the ground plan are interpolated and are adjusted to the highest point of the peninsula rising out of the floodplain. The work machines only removed the surface vegetation; the features shown in Fig. 3 lay at a depth of c. 25—30 cm from the present surface.

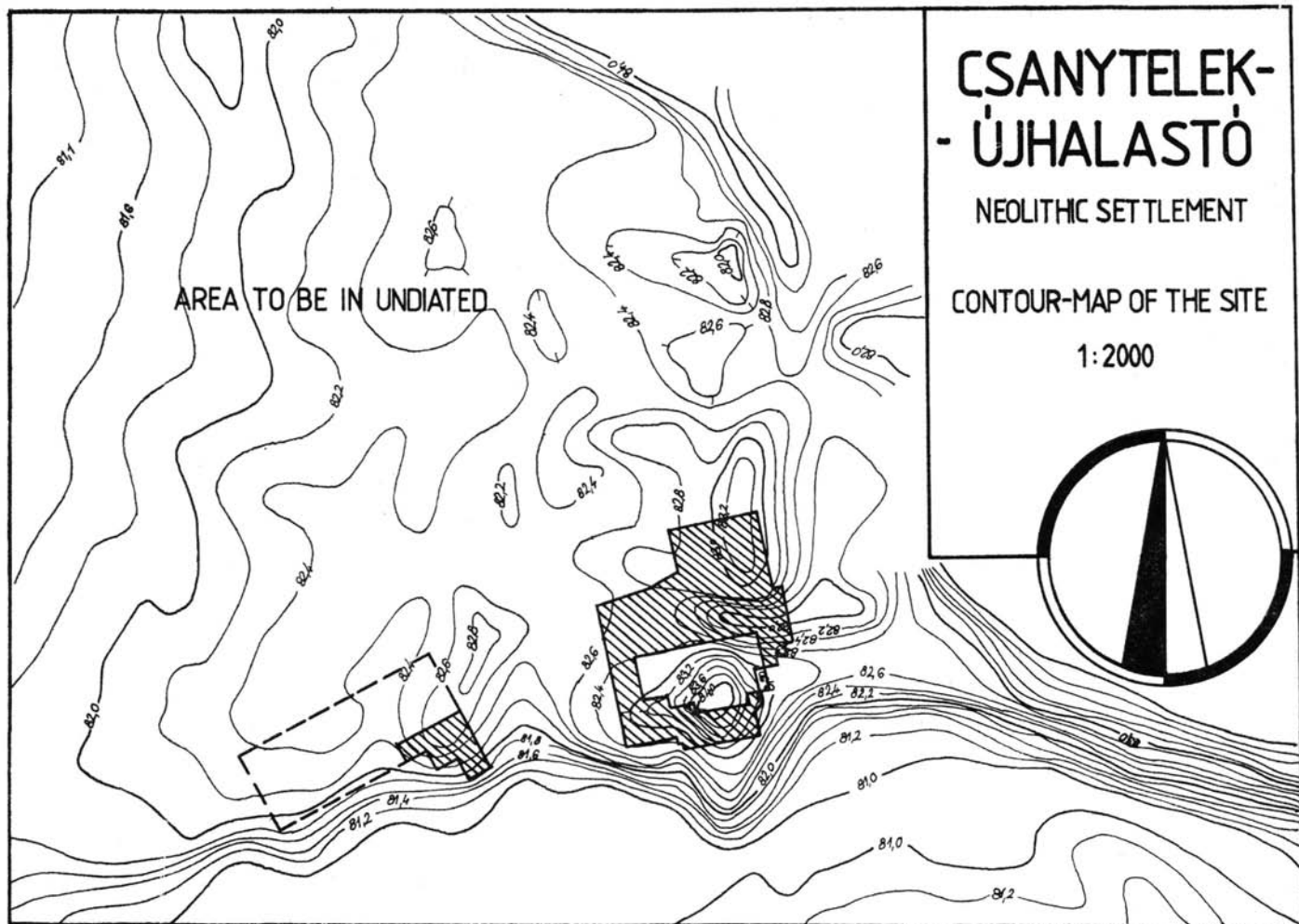


Fig. 2. Contour map of the site showing the area excavated between 1979 and 1981

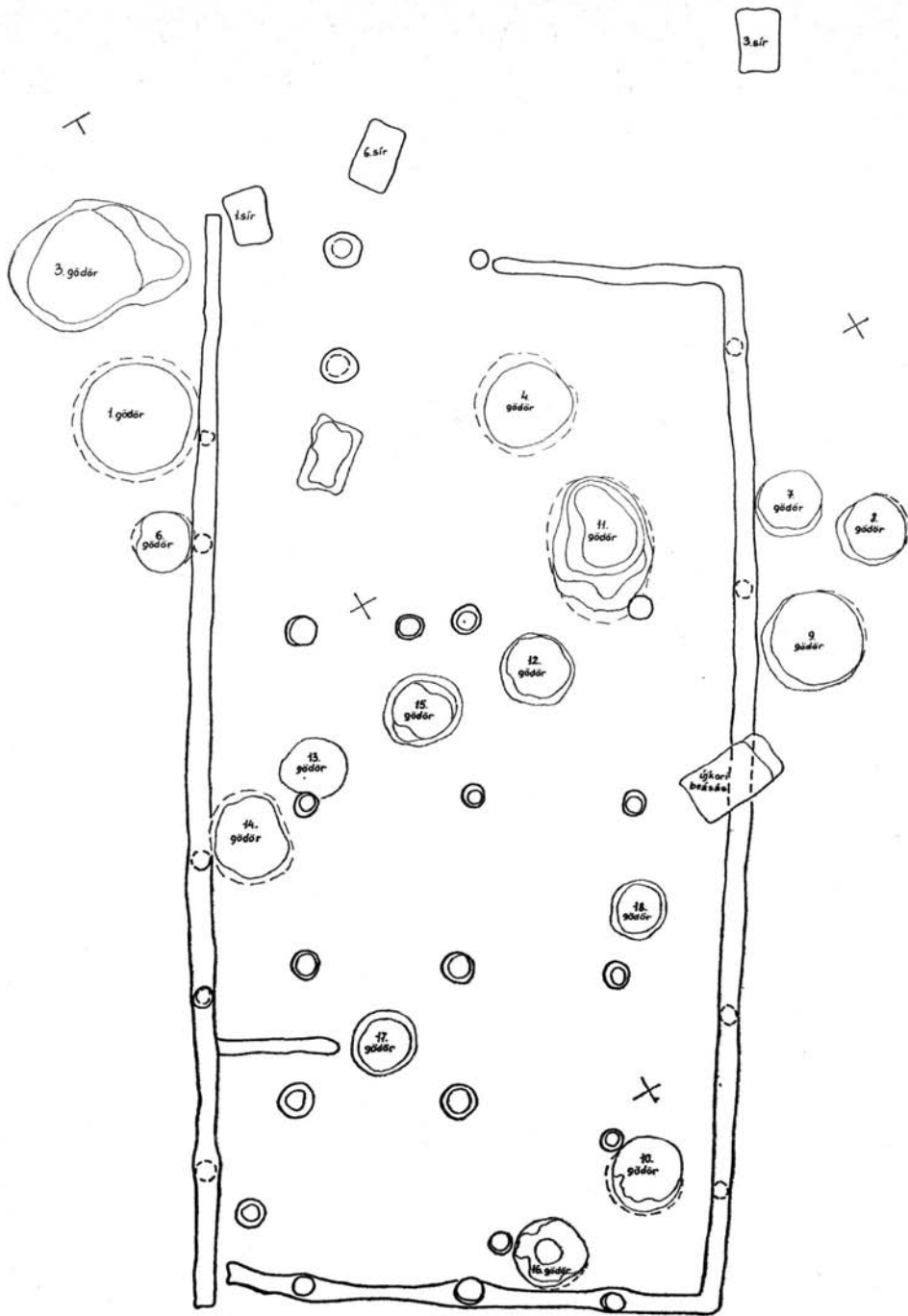


Fig. 3. House 1

wattle and daub. Sterile layers of yellow clay alternated with fill layers of brownish fragments of burnt wattle and daub and charcoal. We had to cut through six such basal linings until we reached the floor of the pit. On the basis of these renewed basal linings it would appear that the pit was originally used as a grain bin, the volume of which decreased considerably owing to the numerous daubings and could finally not fulfil its original function, and was subsequently filled with kitchen refuse. This pit yielded an extremely rich ceramic material including several fragments of a vessel with human face representation, pottery sherds with red-painted, incised patterns, loom weights and the fragments of a clay bench with an incised geometric design.

Pit 3. Oval pit with steep sides onto which adjoined a smaller, shallow pit on its southern side. Perhaps this step-like smaller cavity made an entrance to the pit possible. The pit contained an extremely large amount of burnt wattle and daub fragments. At a depth of 1.58 m we observed a thick burnt layer on the floor of the pit which can perhaps be taken to imply that there was a hearth at the bottom or that the pit was occasionally used for smoking. Vessel fragments with incised patterns occurs among the finds of this pit. These fragments bore curvilinear patterns composed of horizontally placed interlocking S-motifs; the surface inside the pattern was carefully polished, the background was covered with red paint after firing.

Pit 4. Slightly beehive-shaped pit with dished bottom on which lay large fragments of burnt wattle and daub and a 27 cm high, bichrome painted cylindrical vessel with a human face representation (Pl. 3) as well as a jug with elbowshaped handles, the rim of which was fragmented.

Pits 5—10 and 12—18 were very similar, but showing slight differences as regards their dimensions. Their diameter ranged between 1—1.5 m, their depth varied between 0.25 and 1 m. They usually had steep sides with slightly rounded bottoms. These small steep-sided pits occurred in great number all over the settlement. They were probably used for quarrying clay or daub material.

Pit 11. This pit differed from the small shallow pits described in the foregoing as regards its shape and perhaps also its function. A step-like entrance led into this oval, 1.75 m deep pit on its western side. The pit narrowed towards its bottom. On the basis of its form and depth, it was probably used for storing foodstuffs. Its floor was lined with yellow clay.

House 2 (excavated by M. Galántha). This house was uncovered in quadrat 103 on the territory of the Scythian cemetery (Fig. 4). A 20 cm wide bedding trench was observed under a shallow Neolithic pit. This trench-like discolorification could be followed for c. 1.5 m, after which there was a sharp turn at rightangles to the north. It is the opinion of the author that this was the south-western corner of a Neolithic house. After uncovering this corner, we proceeded to excavate a part of the southern long wall which survived to a length of 2 m. The short northern back wall which was 10 m long and was also embedded into the virgin soil to a depth of 0.11 m could also be uncovered. The foundation trench of the northern long wall could be traced to an extent of 2 m. The bedding trenches were filled with greyish earth spotted with yellow clay.

House 3. Part of a Neolithic house observed by M. Galántha, excavator of the Scythian cemetery, in quadrat 105. A 6 m long section of the house fell into the excavated area and it was possible to uncover a 3.5 m long section of the foundation trench dug for the eastern short wall. The foundation trench was out into the yellow clay subsoil to a depth of 33 cm (measured from the discolorification indicating

CSANYTELEK- ÚJHALASTÓ

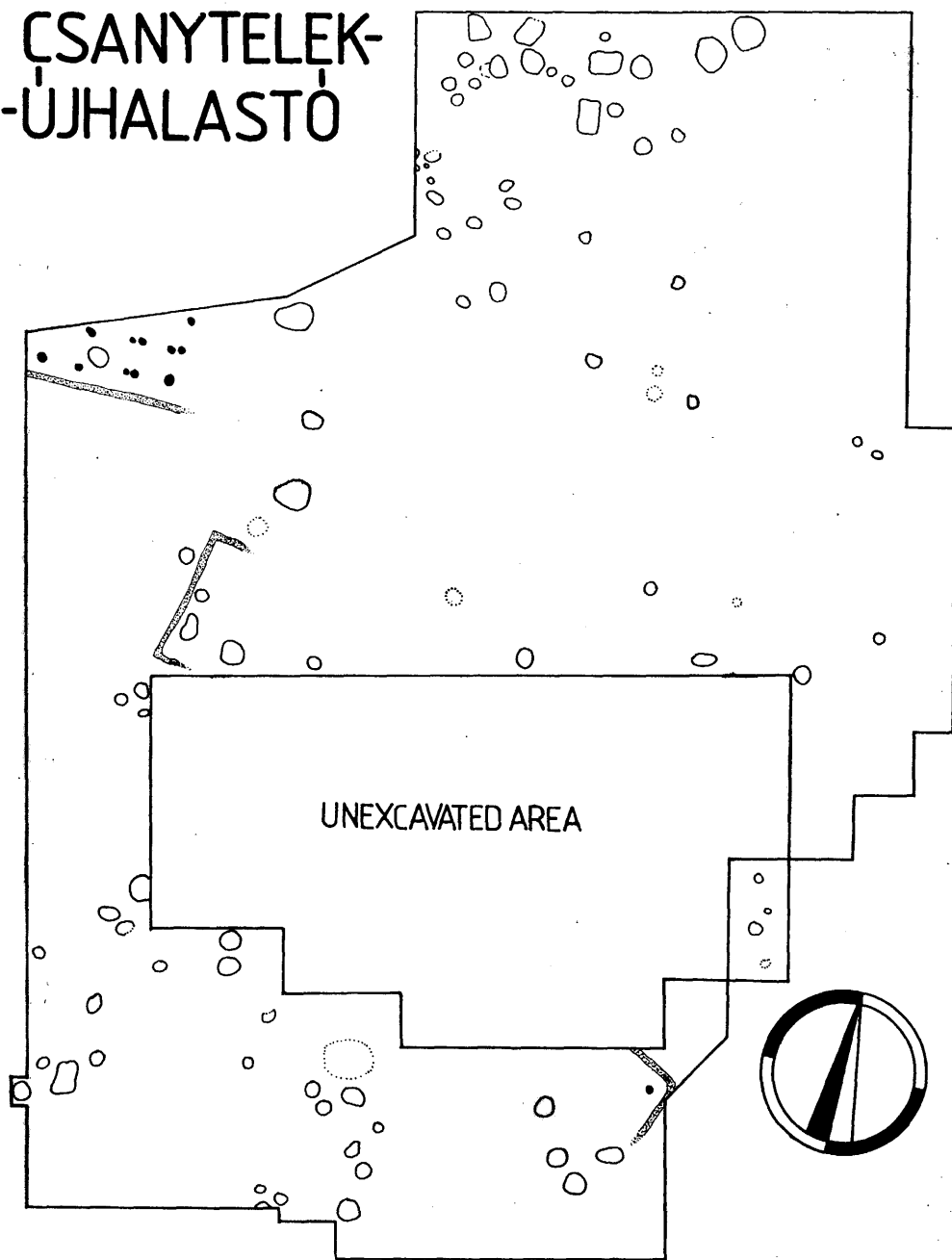


Fig. 4. Map by G. Rózsa showing the Neolithic features uncovered in the course of the excavation of the Scythian cemetery

its presence). The orientation of the northern long wall was E-SE 110°—W-NW, the section of the trench showed a dished bottom.

House 4. This house was excavated in quadrates 61—62. The 11 m long section of the bedding trench of the southern long wall was uncovered in quadrate 61. The bottom of the E-W oriented³ 40 cm wide foundation trench lay at a depth of 10—15 cm as measured from the discolorification. No traces of possible postholes were observed in the trench. The roof was supported by three rows of posts running parallel to the longitudinal axis of the house. The depth of the postholes uncovered within the house varied, the majority having been dug 0.8 m deeper than the foundation trench. Three of these were double postholes which can perhaps be interpreted as renewals⁴.

Fig. 4 shows the Neolithic settlement features excavated on the territory of the Scythian cemetery during 1979—1980. M. Galántha recorded in drawing a total of 58 pits. 38 of these 58 pits yielded Szakálhát-type finds.

Of the 38 pits which yielded finds only the following can be published adequately.

Quadrate 91, pit "B". Oval pit with steep sides having a depth of 0.80 cm. It was dug into the yellow subsoil only to a few cm. It was first observed at a depth of 0.85—0.90 m.

Quadrate 91, pit "C". The discoloured patch indicating the pit was rounded. The pit was cut into the virgin soil to a depth of 0.37 cm. Slightly wavy sides adjoined a dished bottom. It was filled with dark grey earth which contained numerous Unio shells, scanty zoological material and a few Szakálhát-type sherds.

Quadrate 91, pit "D". This pit could only be excavated partially since half of it was destroyed by a Scythian burial.

Pits "G", "H", "I", "Q" and "V" are mentioned in the excavation diary as yielding Neolithic finds.

Quadrate 18, pit "XX". Large beehive-shaped pit, rich in Szakálhát-type finds.

Pit "XXII". Its lower third widened into a beehive shape. It yielded Szakálhát finds.

Pit "XXIV". The round patch indicating the pit had a diameter of 1 m. The pit had steep sides, its floor was even; it had a depth of 0.40 m. Numerous fragments of thick-walled household pottery were recovered from its fill together with scanty zoological material.

Pit "XXV". Steep-sided pit with even floor having a diameter of 1 m. It contained a few atypical Szakálhát-type finds.

Pit "XXVI". The patch indicating the presence of the pit was oval in shape and was dug into the virgin soil to a depth of 0.25—0.30 m. The excavation diary mentions sherds with an incised S-motif and cattle bones from this pit.

Pit "XXVII". Oval, steep-sided pit with an even floor cut into the subsoil to a depth of 0.35 m.

Pit "XXVIII". The discolorification indicating the pit was first observed at the feet of the skeleton lying in grave 115 (Neolithic). On the basis of the drawing it would appear that the pit was earlier than the burial.

Pit "XXIX". The oval patch indicating the pit was observed in the southwestern corner of house 2 at a depth of 0.35 m.

³ The orientation of house 4 was exactly the same as that of house 1.

⁴ The author is inclined to interpret these double postholes somewhat differently: these posts probably belonged to the granary part of the house, with one of the posts supporting the roof, the other one an raised floor, which served as protection against vermin.

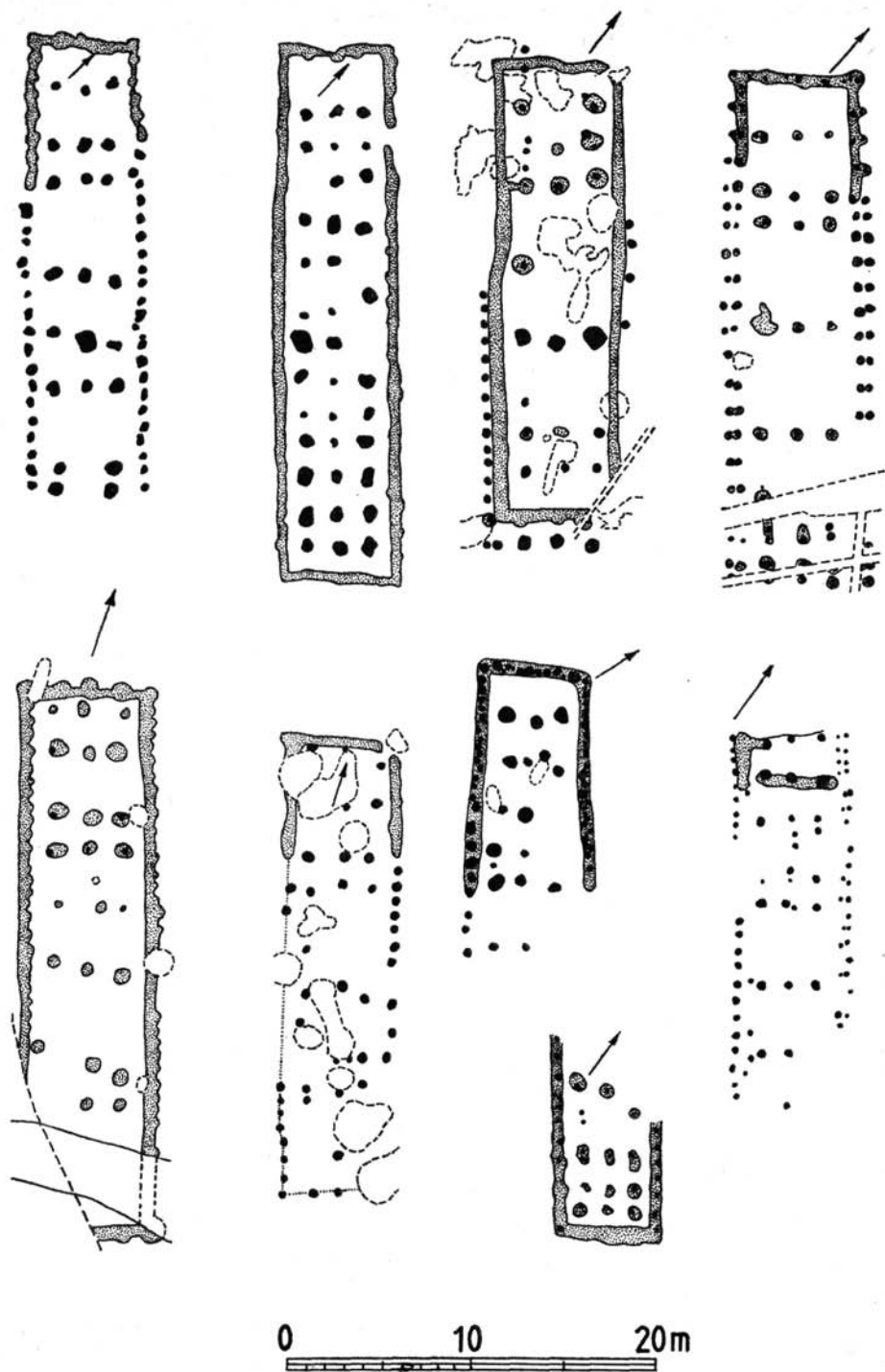


Fig. 5. Linear Pottery culture houses of Western and Central Europe 1,2 Sittard, 3 Daseburg, 4 Bohum — Hiltrop, 5,6 Köln — Lindenthal, 7 Herkheim, 8 Gudensberg, 9 Arnsbach

Quadrante 103, pit "XXX". The shape of the pit is not described by the excavator. Its depth, measured from the discolorification was 0.21 m.

Quadrante 102, pit "XXXI". The patch indicating the pit was observed on the floor of grave 114 (Scythian).

Quadrante 72, pit "XXXIII". Shallow pit with rounded bottom. Its dimensions and shape are not recorded in the excavation diary.

Quadrante 99, pit "XXXVI". According to the excavation diary, this pit was more or less circular in form and had a diameter of 1.60 m. Its fill yielded Szakálhát-type pottery fragments as well as fragments of burnt wattle and daub. A burnt layer was observed on the floor of the pit by the excavator, from under which were recovered "numerous delicately patterned sherds".

Quadrante 99, pit "XXXVII". The diameter of this circular-mouthed pit was 1.55 m. The diameter of its slightly rounded bottom was a mere 0.40 m. Its greatest depth, measured from the first discolorification, was 0.40 m. Fragments of a vessel with a human face representation are mentioned by the excavator.

Pit "XXXVIII" (in house 4). No mention is made of the dimensions of the pit; its shape is described as being slightly beehive-shaped and having an even floor.

Settlement features, houses

One complete house, parts of three houses and a total of 56 steep-sided, mostly shallow refuse pits yielding Neolithic finds were excavated in 1979—1980 at Csanytelek—Újhalastó.

On the basis of house 1, the other houses of Csanytelek show striking similarities to the buildings of the Linear Pottery culture of Western and Central Europe as regards their groundplan and building technique (Fig. 3).

On the basis of the present evidence it would appear that the longhouses of the Linear Pottery culture — disregarding differences in dimensions and orientation — are surprisingly uniform as regards their building technique within the distribution territory of this cultural complex from Belgium through South Holland and the Rhine region, in South-West Germany, Central Germany and Czechoslovakia⁵ and, as shown by the house at Csanytelek, also in the Carpathian Basin. The length of these houses ranges between 10 and 40 m; their width appears to be more constant, being 6—7.5 m on the average. These houses share numerous characteristic features, namely that these large rectangular buildings were erected around a framework of vertical wooden posts and their walls were supported by five rows of posts: the first and the fifth ensuring the rigidity of the long walls, the inner three serving to support the roof. The three rows of posts aligned along the longitudinal axis of the house were usually more massive (having a diameter of 0.4—0.5 m) and were dug deeper (sometimes to a depth of 1.4 m) than the posts ensuring the rigidity of the walls.⁶ The extant, smaller posts which were dug to a shallower depth supported the wattle and daub walls which were plastered with clay both on their inner and outer side⁷ and were occasionally also whitewashed.⁸

⁵ Stieren, A.: *Bandkeramische Grossbauten bei Bochum und ihre Parallelen in Mitteleuropa*. BRGK 33 (1943—50) 79.

⁶ Soudský, B., *The Neolithic Site of Bylany*. *Antiquity* XXXVI (1962) 197.

⁷ Schlette, F., *Die ältesten Haus- und Siedlungsformen des Menschen*. *Ethn. Arch. Forschungen* 5—6 (1958—59) 83.

⁸ A house of the Linear Band Pottery culture excavated at Herkheim had whitewashed walls. *Germania* 8 (1924) 82, *Germania* 16 (1932) 187 and *Germania* 17 (1933) 181. See also Dehn—Sangmeister, *Die Steinzeit im Ries*. (1954) 34.

These wattle daub walls were sometimes embedded into a foundation trench; in certain cases this foundation trench was observed only in the north-eastern part of the house,⁹ but sometimes all four walls of the house were set into a bedding trench dug slightly into the virgin soil,¹⁰ similarly to the houses at Csanytelek.

A. Stieren compared the characteristic features of 100 Linear Band Pottery Culture longhouses excavated at 34 different sites and reached the following conclusion: "Das konstruktiv Ausschlaggebende bei diesen Grossbauten liegt in den Bindern. Lange Rechteckbauten, insbesondere solange die Längsaussenwände noch nicht dachtragend sind, sind nur möglich auf Grund dieser Binderkonstruktion."¹¹ Only a construction with these "auxiliary purlins" enables these houses to be lengthened practically infinitely as documented by the 41 m long house excavated at Postoloprty¹² and the 45 m long house uncovered at Bylany.¹³

Unfortunately culture layers,¹⁴ finds¹⁵ and other features¹⁶ (e.g. ovens or hearths) occur extremely rarely inside houses of the Linear Pottery Culture, thus it is often extremely difficult or even impossible to determine the exact function of the various rooms into which these house were originally divided.¹⁷

H. T. Waterbolk and P. J. R. Modderman have been able to distinguish two chronologically distinct basic house-types, the Geleen-type and the Elsloo-type as regards groundplan.¹⁸ The earlier, Geleen-type house can be characterised as follows: the house is divided into three rooms or areas, the walls of the the north-western part are founded in a bedding trench and the posts in the middle of the house form a Y-configuration, whereas the two or three rows of double posts were observed in the south-eastern part of the house. It has been suggested that this south-eastern part was perhaps a granary, the middle part functioned as the main habitation area and the north-western part of the house was used for cattle stalling.¹⁹

Insofar as these long structures functioned as houses we would expect that culture layers or hearths would be observed inside them. Menghin has, however, argued²⁰ that the lack of culture layers and hearths doesnot necessarily preclude the possibility that these structures functioned as houses. It has been observed during recent excavations that the culture layer was levelled prior to new building activity and that house floors and ovens or hearths built thereupon were most probably destroyed in the course of this levelling. Open air hearths and ovens are, moreover,

⁹ E.g. structures 88 and 96 in Bylany, buildings 50 and 91 in Köln—Lindenthal, structures 2 and 45 in Sittard. Soudský, B., *Etude de la maison néolithique*. SA (1969) 13, Fig. 4.

¹⁰ *Idem*, Figs. 31—32.

¹¹ Stieren, A., BRGK 33 (1943—50) 80.

¹² Soudský, B., SA (1969) 31, Fig. 13.

¹³ *Ibid.*, 70, Fig. 31.

¹⁴ A floor has only been reported from the Griedel site: Müller—Karpe, H., *Handbuch der Vorgeschichte II*. Munich (1968) 220.

¹⁵ Müller—Karpe mentions two cases when grinding stones were found in the north-western section of the foundation trench encircling the house. *Handbuch der Vorgeschichte II*. Munich (1968) 220.

¹⁶ Two ovens were uncovered in house XI of Herkheim. Stieren, A., BRGK 33 (1943—50) 80, Fig. 5:7. Traces indicative of hearths or fireplaces within houses have furthermore been reported from Duderstadt, Jaschlowitz, Postoloprty and perhaps Bochum. Certain scholars, however, question the contemporaneity of these fireplaces and the houses in question.

¹⁷ Traces of inner partitioning have been observed in Elsloo, Duderstadt, Arnsbach, Jaschlowitz, Postoloprty, etc.

¹⁸ Waterbolk, H. T.—Modderman, P.J.R., *Die Grossbauten der Bandkeramik*. *Paleohistoria* VI—VII (1958—59) 163—171.

¹⁹ *Ibid.*, 169.

²⁰ Menghin, O., *Handbuch der Archäologie*. 4. Lief. (1950) 149.

rarely found on these settlements which also supports the fact that these were most probably located inside the houses.

The nearly total of floors, ceramic or other finds and inner furnishings (e.g. hearths) within these structures prompted certain scholars to question the function of these structures as houses and to suggest that these were perhaps used as granaries.²¹ This interpretation has been vigorously challenged by O. Paret.²² Subsequent research has, however, proved that these structures were indeed houses and that the smaller structures supported by posts, often only comprising a single room together with various pits which were only rarely provided with a roof²³ were most probably used for storing foodstuffs or perhaps functioned as work pits.²⁴

Geleen-type houses were gradually succeeded by Elsloo-type houses. The Y-configuration of posts in the middle of the house disappeared and was supplanted by three posts aligned in a row. The fact that the Elsloo-type is later is also supported by the fact that at the Geleen site these overlay chronologically earlier remains. The analysis of the ceramic ware from Sittard also corroborated the later dating of the Elsloo-type.²⁵

Regarding the evolution of the Geleen-type house, Waterbolk and Modderman have forwarded an ingenious and attractive hypothesis.²⁶ "Es wäre also denkbar, dass der Geleentyp durch die Vereinigung eines hölzernen Gebäudes — mit Vorhalle — mit einem überdeckten Speicher durch das Anbringen eines Daches über den Zwischenraum entstanden sein könnte." According to these scholars the south-eastern part of this house-type probably functioned as a granary; one of the double posts observed in this part supported the roof, the other double posts held a raised floor which was a necessary precaution against humidity and vermin. On the basis of the double posts it is the opinion of the author that house 4 of Csanytelek represents the eastern part, i.e. the granary of a Geleen-type house. House 1 of Csanytelek which was divided into three rooms is reminiscent of the somewhat later Elsloo-type since the Y-configuration of posts in the central part of the house was supplanted by three posts arranged in a row.

100 sites of the Szakálhát group of the Linear Pottery Culture are known at present in Hungary. The majority of these settlements represents small villages located in close proximity to each other, practically forming small groups. The northern area of the distribution territory of the group (the valley of the Zagyva and Tarna streams unto the foot of the Mátra and Bükk mountains) is characterised by single-layer settlements, whereas in the southern area (the lower reach of the Tisza river to the mouth of the Maros river) which abounds in tell settlements, the material remains of the Szakálhát group are to be found in the lowest layer of these tell settlements.²⁷ Most of the excavations conducted in this area were rescue digs in the course of which houses were rarely uncovered.

²¹ Buttler, W., *Das bandkeramische Dorf bei Köln—Lindenthal*. Germania 15 (1931) 245. See also Buttler, W.—Haberey, W., *Die Bandkeramische Ansiedlung bei Köln—Lindenthal*. Berlin—Leipzig (1936) 67.

²² Paret, O., *Das neue Bild der Vorgeschichte*. Stuttgart (1946) 54.

²³ See Buttler, W.—Haberey, W., *op. cit.* (1936).

²⁴ Stieren, A., BRGK 33 (1943—50) 80; Waterbolk, H. T.—Modderman, P. J. R., *Paleohistoria VI—VII* (1958—59) 169; Sangmeister, E., *Das bandkeramische Dorf als Siedlungstypus*. BRGK (1943—50) 89.

²⁵ Waterbolk, W.—Modderman, P. J. R., *Paleohistoria VI—VII* (1958—59) 167.

²⁶ *Ibid.*, 169.

²⁷ Kalicz, N.—Makkay, J., *Die Linienbandkeramik in der Grossen Ungarischen Tiefebene*. Budapest (1977) 84—85.

No houses, only pits were excavated at the eponymous site of Hódmezővásárhely—Szakálhát.²⁸ In the course of the control excavation conducted at Tápé—Lebő in 1956 there were uncovered postholes indicating the presence of houses and amorphous patches of burnt wattle and daub²⁹ which were interpreted as the remains of rectangular, semi-subterranean hut-like structures. Similar houses were excavated by J. Csalog at Szegvár—Tűzköves.³⁰

The rescue excavations conducted at Dévaványa—Sártó in 1969 yielded valuable new evidence as regards the research of Neolithic houses.³¹ Judging by the position of the postholes it would appear that the house was constructed around vertical wooden beams on the surface. The house itself had a disproportionately narrow rectangular groundplan with a length of 7 m and a width of 2 m. Its axis deviated by 30° to the north. The reconstruction of the house was based on the dimensions of the debris of burnt wattle and daub, the floor plastering (which was oval and could be observed to an extent of 4.5×2 m) and the post holes.

A rectangular patch of burnt wattle and daub 4×5 m large was uncovered at Dévaványa—Simasziget which was interpreted as the remain of a NE—SW oriented semi-subterranean house.³²

10 houses built with a similar technique were uncovered at the Szentes—Ilonapart settlement of the Szakálhát group.³³ Little is known of the structure of this settlement owing to the deficiencies of the excavation diary and documentation. Only the groundplan of two houses could be reconstructed with certainty;³⁴ one was indicated by a debris of burnt wattle and daub extending over an area of 8×6 m. Traces of the floor and numerous finds are mentioned by the excavator.

A rectangular structure bordered by numerous small postholes is mentioned from Battonya—Gödörösok by Gyula Gazdapusztai and later by Alajos Bálint who also published a drawing of the bipartite building.³⁵

An extensive debris of burnt wattle and daub 15×8 m heavily damaged by later pits, covering a floor plastered with mud was observed by Júlia G. Szénászký in the course of rescue excavations conducted at Battonya—Vidpart.³⁶ The floor itself could only be observed in patches since it was very badly preserved. The rigidity of the walls was ensured by large wooden posts having a diameter of c. 20—30 cm which were arranged according to a fairly regular plan.

The excavations conducted at Vésztő—Mágor during 1975—76 by the present author yielded a house originally built with the same technique as the house uncovered at Battonya at a depth of 6.4 m (in the 2nd building layer of the tell settlement counted from the bottom).³⁷ The bipartite house of which only about three-fourths

²⁸ Banner, J.—Bálint, A., A szakálhái őskori telep (The prehistoric settlement at Szakálhát). *Dolg.* XI (1935) 77.

²⁹ Trogmayer, O., Ásatás Tápé—Lebőn (Excavations at Tápé—Lebő). *MFME* (1957) 56.

³⁰ Csalog, J., Das Wohnhaus „E“ von Szegvár—Tűzköves und seine Funde. *Acta Arch. Hung.* 9 (1959) 96—100, Figs. 1—2.

³¹ Korek, J., Neolitikus telep és sírok Dévaványán (Neolithic settlement and graves at Dévaványa). *FA XIII* (1961) 12.

³² Kalicz, N.—Makkay, J., *op. cit.*, 86, Fig. 34: a—b.

³³ Csalog, J., Die Lehren der Ausgrabungen von Szentes—Ilonapart. *Acta Ant. et Arch.* 10 (1966) 49—56.

³⁴ Horváth, L., A Szentes Ilonaparti neolitikus telep (The neolithic settlement at Szentes Ilonapart). Budapest (1979) Figs. 9—10.

³⁵ Kalicz, N.—Makkay, J., *op. cit.*, note 202, Fig. 33.

³⁶ G. Szénászký, J., A korai szakálhái csoport települése Battyonyán (A settlement of the early Szakálhát group at Battonya). *Arch. Ért.* (1979) 67.

³⁷ Hegedűs, K., A Vésztő mágoridombi újkori és rézkori temetkezések (The Neolithic and Copper Age burials of Vésztő Mágoridomb). Ph. D. Thesis. Budapest (1977) 19.

could be excavated was fairly large in proportion to the thickness of its walls. The groundplan of the SE—NW oriented building could be followed for 11 m, its northern long wall and eastern short wall fall into the unexcavated area. The beaten earth floor of the house was renewed several times. The remains of an inner partitioning wall were observed at a distance of 6.2 m from the western short wall of the house. The presence of the inner partitioning wall was indicated by two large postholes lying at a distance of 1.2 m from the side walls; two decayed subsils were found between these postholes. The room (probably a kitchen judging by the hearths) lying in the eastern end of the house could probably be entered at this point. In the author's opinion the partitioning wall was probably erected at the midpoint of the longitudinal axis of the house. The two large posts mentioned in the above had a triple function, namely to ensure the rigidity of the partitioning wall, to serve as door jambs and to support the roof, exonerating thereby the mural crowns.

The houses of the Szakálhát group listed and described in the foregoing differ from the Csanytelek house both in their dimensions and their building technique. The latter share numerous affinities with the longhouses of the Linear Pottery cultural complex. The houses excavated at Szegvár, Tápé—Lebő, Szentés—Ilonapart, the environs of Battonya and Vésztő are smaller than the Csanytelek houses; they are sometimes semi-subterranean hut-like structures, sometimes bipartite with massive timber framing. No traces of the three parallel rows of posts and the "Binderkonstruktion" so characteristic of the Linear Pottery longhouses have been observed in them. In contrast to the houses of the Linear Pottery Culture, the floor of these houses is usually covered with a thick debris of burnt wattle and daub, moreover ovens and other objects of inner furnishings (e.g. large storage jars) are also often found on the floor.

7350 m² of a single-layer settlement of the Szakálhát group were excavated in 1979 in the environs of Bokros lying on the left bank of the Tisza river at a distance of c. 30 km to the north-east of Csanytelek. The excavations conducted by the author were necessitated by the building of the Tisza III barrage. In the course of the rescue excavations lasting for nine months 9 graves with contracted skeletons, 52 refuse pits filled with Szakálhát-type finds, a Neolithic well and the badly preserved remains of houses were uncovered.³⁸ The houses were built employing a similar technique as in the case of the Csanytelek houses. It was erected around a massive timber framework with three rows of posts running parallel to the longitudinal axis of the house supporting the roof. No culture layer or floor was observed within the house, the only finds being two large storage jars dug into the ground.

The fact that the five Linear Pottery longhouses found to date on the territory of Hungary (four at Csanytelek and one at Bokros) are located on the western periphery of the distribution area of the group and are but at a short distance from each other cannot be regarded as a mere coincidence. Neolithic research has long awaited the discovery of such structures since numerous innovations of the Central and Western European Linear Pottery complex (anthropomorphic and zoomorphic figurines, vessels with human face representation and, in the opinion of certain scholars, even the houses themselves) were diffused from South-East Asia and reached this area via the Balkans and the Carpathian Basin.³⁹ The houses from Csanytelek and Bokros would support such a suggestion. It is the opinion of the author that they can be regarded as "missing links" which have at last been found.

³⁸ Csongrád—Bokros, Bokrospuszta (1979). Excavation Diary. KJM Archives 80.998. A.

³⁹ Dahn, W., Germania 28 (1944—50) 5.

It should also be mentioned here that there is also indirect evidence corroborating the possible southern origins, namely the longhouses of phase B of the Tripolye culture⁴⁰ which are extremely similar to the timber constructions of the Linear Pottery Culture. The characteristic features of the houses uncovered at Kolomiščina and Vladimirovka were already compared to the longhouses of the Linear Pottery Culture by A. Stieren in his study quoted in the foregoing.⁴¹ He concluded that this characteristic house form was adopted from a common southern ancestor by both the Linear Pottery and the Tripolye culture.

To conclude, we must also briefly discuss an apparent contradiction, namely that as a result of research carried out in the past few decades there is accumulating evidence confirming the Alföld Linear Pottery origins of the Szakálhát group, granting at the same time that as a result of the large distribution territory of this group, formative influences from the Transdanubian Linear Pottery Culture lying to the west and from the Vinča culture bordering it to the south also made a strong impact on the material culture of the Szakálhát group. Until now the strong typological ties with the Alföld Linear Pottery culture were also corroborated by the similarities in the building techniques and the structure of the settlements, namely that the excavated houses of the Szakálhát group bore stronger resemblances to the Alföld Linear Pottery forerunners than to the timber structures of the Linear Pottery complex. We should nevertheless bear in mind that the excavations conducted on settlements of the Szakálhát group mentioned in the above were very limited in scope and are thus unsuitable for drawing conclusions concerning the structure of these settlements. It should also be pointed out that smaller structures built with a different technique have also been observed among the timber framed longhouses at the completely or nearly completely uncovered Linear Pottery Culture settlements of Central and Western Europe.

This apparent contradiction can also be resolved in another way. The material culture of the Szakálhát group was distinguished from the preceding and succeeding cultural complexes at a relatively late date. The first steps towards the differentiation of possible territorial groups and the establishment of an inner chronology have only just been taken; these have invariably posed a number of disconcerting problems.

Regarding the finds from the 56 refuse pits excavated in the vicinity of the Csanytelek houses, their discussion and evaluation would exceed the scope of this study.

Burials

In spite of the fact that numerous settlements of the Linear Pottery culture have so far been either completely or near-completely excavated, there are relatively few graves or cemetery parts which can be associated with these settlements. This statement is also true of Hungary. The monograph by N. Kalicz and J. Makkay lists 13 graves from seven sites (11 at Dévaványa—Sártó, 2 at Tarnaszádány—Sándorrésze).⁴³ The deceased were deposited within the grave in a — sometimes extremely strongly — contracted position and were laid on their right or left side.

⁴⁰ Hančar, F., *Blick nach Osten* 2 (1949) 25, Figs. 4—6. See also Passek, T. S., *Periodisation of the Tripolye settlements* (in Russian), *MIA* 1 0 (1949).

⁴¹ Stieren, A., *BRGK* 33 (1943—50) 84—86, Fig. 11. Kalicz, N.—Makkay, J., *op. cit.* 83.

⁴³ *Ibid.*, 86.

The grave pits were rectangular with rounded corners. Funerary gifts were mostly lacking. The deceased were usually oriented SE—NW with an occasional S—N orientation, similarly to the prevailing custom of the earlier groups of the Alföld Linear Pottery culture and the groups contemporary with the Szakálhát group.

If we add to these burials the graves uncovered at Csanytelek (6 graves), Csongrád—Bokrospuszta (9 graves) and Vésztő—Mágor (1 grave) excavated by the author, the material suitable for comparative analyses is considerably increased. It should also be mentioned that there would be a potentially greater number of Szakálhát graves if the burials of the Szakálhát group which could be linked to Szakálhát layers underlying certain tell settlements of the Tisza culture could be distinguished from those of the latter.⁴⁴ The establishment of the precise chronology of the



Fig. 6. Grave 1

⁴⁴ We shall only mention Szegvár—Tűzköves here. The excavations conducted by J. Csalog and J. Korek yielded 65 graves. A further 8 graves were unearthed by the author in 1978. See Korek J., *A tiszai kultúra* (The Tisza culture). Candidate dissertation. Budapest (1974).

burials observed and uncovered at these tell settlements is rarely if ever possible since the funerary rite of the Tisza and Szakálhát burials share numerous similar features and are extremely rare in funerary gifts, primarily pottery. Certain results in this respect could be gained taking the stratigraphical position of the burials as a starting point, but definite results can only be hoped if the graves fall under the profile or cut into each other.⁴⁵

Altogether six graves were uncovered during the excavations conducted at Csanytelek—Újhalastó during 1979 and 1981.



Fig. 7. Grave 2

⁴⁵ Hegedűs, K., Egyezések és eltérések a szakálhádi csoport és a tiszai kultúra temetkezési szokásaiban (Similarities and differences in the burial customs of the Szakálhát group and the Tisza culture). Múzeumi kutatások Csongrád megyében (1980) 116.

Grave 1. (Fig. 6 and Pl. XI: 1). The skeleton of a c. 44—53 years old woman⁴⁶ lay in a strongly contracted position on its left side in the rectangular grave pit with rounded corners. The skull was crashed, the chest had originally been turned downwards, the bones of the left forearm lay under the rib cage, the bent right arm was positioned at the right knee. Red and yellow ochre was sprinkled over the neck

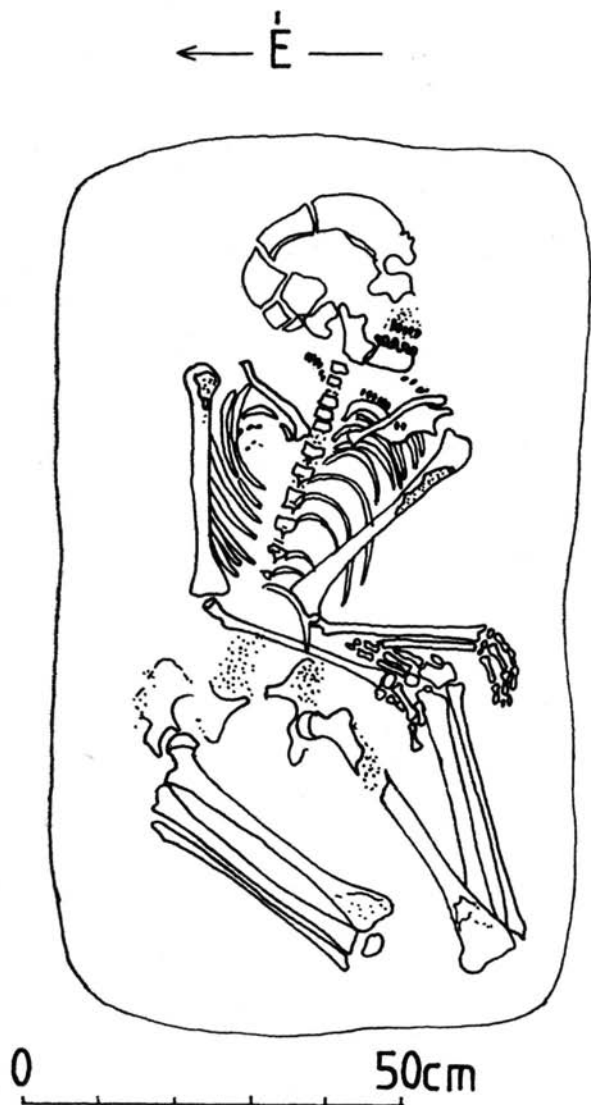


Fig. 8. Grave 3

⁴⁶ See K. Zoffmann, Zs., A neolitikus szakálhádi csoport emberanyaga Csanytelek Újhalastó lelőhelyről (The human remains from the Szakálhád site at Csanytelek Újhalastó) in the present volume.

bones, the trunk and the legbones. Depth: 36 cm. Orientation: E—W with 4' to the south. No grave goods.

Grave 2 (Fig. 7 and Pl. XI: 2). The skeleton of a c. 48—54 years old male lay in the grave in a strongly contracted position on its left side. The skull was crushed by the pressure of the earth. The left and right arm was extended and sliced between the femora, the wrist bone was broken, the hand bones were located next to the heel bones.

Traces of ochre could be observed on the skull, in the region of the feet and the lower part of the leg bones, sometimes also on the skeletal bones.

Depth: 20—25 cm+c. 25 cm which had previously been peeled off by the scraper. Orientation: E—W, with 0.5' to the south. Grave goods: thin-walled, grey 'Bombangefäss'. Height: 7.1 cm, diameter of mouth: 7.3 cm, diameter of base: 2.7 cm.

Grave 3 (Fig. 8 and Pl. XII: 1, 3). A 40—59 years old female was buried in this grave. The right temporal bone was crushed by the pressure of the earth. The arms of the deceased who had originally been laid prone were twisted back and bound together in the region of the elbows. Both thigh bones were turned south-east and broken around the region of the knee. The bones of the right leg lay in the region of the right pelvis, the left leg was found lying against the thigh-bone. A thick layer of ochre was found on the skull; specks of ochre were also observed on the floor of the grave in front of the face. Depth: 34 cm, orientation: E—W. Grave goods: a necklace comprising 4 tiny globular copper beads, 5 disc-shaped jet beads and 20 segmented shell beads (Fig. 9).

Grave 6 (Fig. 10 and Pl. XII: 2). The skeleton of a 48—54 years old male contracted to its left side lay in the grave. The right temporal bone was crushed by the pressure of the earth, the skull was tilted forwards. The chest was originally laid prone. The left arm was up-turned at an acute angle and lay under the chest, the hand was pressed against the left knee. The right arm was also pressed against the left knee; the two hands lay next to each other. The left leg was strongly contracted; the right elbow lay at a distance of 12 cm from the knee. The right leg was not as strongly contracted. Depth: 20—25 cm+c. 25 cm which had been peeled off by the scraper prior to the beginning of the excavations. Orientation: SE—NW, with 1.5' to the east. No grave goods.

Grave 115 (Fig. 11). The skeleton of a female contracted to its right side rested in the rectangular grave pit with rounded corners. The trunk of the deceased was laid prone, the arms were slightly bent at the elbow, the feet were also but slightly contracted. The discolorification of a modern pit (pit XXVIII) was observed at the lower end of the grave pit. Small lumps of ochre were recovered during the excavation of the burial. Depth: 20 cm (measured from the discolorification), orientation: N—NW 352°—S—SE. Grave goods: pear-shaped reddish vessel on the lower leg bones. The grave good was unfortunately totally crumbled.

Grave 136 (Fig. 12). The skeleton of a 2—3 year old child contracted to its left side was laid against the northern wall of the steep-sided grave. The bones and the grave goods were displaced from their original position by animals and tree roots. The bones of the forearm had entirely disintegrated and only a few splinters of the lower leg bone remained *in situ*. Only the ribs remained of the rib cage, the vertebrae and the pelvic bones had completely disintegrated. A 2.5—3 cm large ochre lump was found beside the skull; specks of ochre were also observed in the region of the feet and elsewhere in the grave. Depth: 35 cm, orientation: E-SE 102°—W-NW. Grave goods: (1) necklace strung of 20 greenish disc-shaped

stone beads, 2 large prismatic limestone beads and 12 segmented shell beads (Fig. 13). (2) Spondylus pendant with two circular perforations in the region of the wrist (Fig. 14).

If the funerary rites of the 13 Szakálhát graves known earlier are compared to the 16 graves excavated by the author at Csanytelek, Csongrád—Bokros and Vésztő, the following results are obtained.

During the period of the Szakálhát group burials were located within the settlement, usually grouped in the open area between various settlement features. It would thus appear that the deceased were buried in the temporarily unused or uninhabited parts of the settlement. Apart from these groups, single graves are sometimes found sandwiched between settlement features. This funerary custom or rite is surprisingly archaic and differs from the burial practices of the West European variants of the Linear Pottery complex which is characterised by the establishment of separate cemeteries alongside settlements.⁴⁷

Traces indicative of funeral structures are only known from two sites in Hungary: Szegvár—Tűzköves (grave 14)⁴⁸ and Vésztő (grave 36).⁴⁹ In both cases the deceased were deposited within a kist-like wooden structure. Regularly spaced post holes observed around graves 24 and 28 of the Sonderhausen cemetery were interpreted



Fig. 9. Necklace from grave 3

⁴⁷ Kahlke, D., *Die Bestattungssitten des Donauländischen Kulturkreises der jüngeren Steinzeit. Teil I. Linienbandkeramik.* Berlin (1954) 116.

⁴⁸ Csalog, J., *A legújabb kőkénydombi fonatlanymat tanulságai (The implications of the newest mat impressions from Kőkénydomb).* MFMÉ (1964—65) 38, 40.

⁴⁹ Hegedűs, K., *A Vésztő mágoridombi újkőkori és rézkori temetkezések (The Neolithic and Copper Age burials of Vésztő Mágorigomb).* PH. D. Thesis. Budapest (1977) 146.

as the remains of funerary structures („Holzeinfassung, Holzumkleidung”).⁵⁰ The section of a cemetery comprising five burials has been reported from Dresden—Nickern; the deceased buried in grave 3 of the cemetery was first deposited in an “Einbaum”- like wooden sarcophag.⁵¹ A coffin carved from wooden planks was recorded in one of the graves assigned to the Eneolithic Moravian and Lower Austrian Painted Pottery complex at Haid (Austria).⁵²

There is indirect evidence that these graves were originally marked somehow since even though certain graves are located extremely close to each other, they hardly ever cut into each other.

All Szakálhát burials were found in a contracted position with the deceased lying either on its right or left side, the latter being more common (18 out of a total of 29). Most burials were oriented SE—NW or W—E.



Fig. 10. Grave 6

⁵⁰ Kahlke, D., *op. cit.*, 66—67, Figs. 31—32.

⁵¹ Willfried, B., Eine bandkeramische Baumsargbestattung von Dresden—Nickern. *Ausgrabungen und Funde* 5 (1960) 62—64.

⁵² Kloiber, A.—Kneidiger, J.—Pertlwieser, M., Neolitische Siedlung und Gräberfundplätze von Rutzig und Haid. *Jahrb. des Oberöst. Musealvereines* I (1971) 116.

Traces indicating the use of ochre paint were observed in nine graves. It would appear that the custom of painting the body was not influenced by the sex of the deceased. Skulls and leg bones were most often painted; small ochre lumps were sometimes scattered over the entire body.

The finds from the Csanytelek graves

Three of the six Szakálhát graves unearthed at Csanytelek yielded finds: a small clay cup was recovered from grave 2, a necklace from grave 3 and a breast pendant carved from Spondylus and a necklace from grave 136.

The light grey thin-walled, carefully-fired clay cup (Pl. I:2) is a general type of the period and is paralleled by specimens from numerous sites, e.g. Dévaványa—Sártó,⁵³ Tápé—Lebő,⁵⁴ and other settlements. In the author's opinion the wide geographical distribution and frequent occurrence of this type is not particularly suitable for drawing conclusions concerning the chronology of its context.

The spondylus pendant found in grave 136 raises some interesting problems. Various ornaments — beads, bracelets, pendants, amulets — made of spondylus shell already make their appearance at the beginning of the Neolithic, even though their widespread use only falls to the Middle and Late Neolithic.⁵⁵ The exact origins of this shell are still subject to controversy: it has been suggested that these ornaments were manufactured from locally found fossil shells, other proposals include the Mediterranean, the Black Sea and the Adriatic as possible sources for this commodity.⁵⁶ There is accumulating evidence indicating an upswing in the trade of raw materials from the Middle Neolithic, even though the process itself reached its peak in the Late Neolithic. The import of this marine shell and the export of the Tokaj obsidian clearly prove the existing trade relations involving the exchange of various commodities and raw materials between contemporary cultures and groups. Certain settlements of the Bükk culture located in the vicinity of obsidian sources show such a high level of specialisation that can be taken to imply that the collecting, mining and processing of obsidian was the main occupation of the inhabitants of these settlements.⁵⁷

The Csanytelek pendant is matched by analogous specimens from both Szakálhát contexts (e.g. Kisköre—Gát,⁵⁸ Szarvas,⁵⁹ Ószentiván⁶⁰) and from contexts contemporary with the Szakálhát group, e.g. the Bükk group (Istállóskő cave⁶¹).

⁵³ Korek, J., FA XIII (1961) Pl. I:5, 7.

⁵⁴ Trogmayer, O., MFMÉ (1957) Pl. XIII:4, 14, Pl. XV:1, 3.

⁵⁵ Buttler, W., Beiträge zur Fragen der jungsteinzeitlichen Handels. Marburger Studien (1938) 26—33. See also Rodden, R. J., The Spondylus Shell Trade and the Beginnings of the Vinča Culture. Symp. Prague (1970) 411, 413; Comşa, E., Parures néolithiques en coquillages marines découvertes en territoire Roumain. Dacia 17 (1973) 61—76.

⁵⁶ Shackleton, N.—Renfrew, C., Neolithic Trade Routes Realigned by Oxygen Isotope Analyses. Nature 228 (1970) 1062—1065.

⁵⁷ Kalicz, N.—Raczky, P., Új-e az „új régészet”? (What's new in „new archaeology”?) Valóság (1977/6) 76—94.

⁵⁸ Korek, J., A tiszai kultúra (The Tisza culture). Candidate dissertation. Budapest (1974) 181, 183.

⁵⁹ MRT IV/2, site Szarvas 8/1, Pl. 6:10.

⁶⁰ Banner, J., Az ószentiváni ásatások (Excavations at Ószentiván). Dolg. 4 (1928) Fig. 70.

⁶¹ Korek, J., Das neolithische Fundmaterial der Höhle von Istállóskő. Acta Arch. Hung. 5 (1955) 141, Figs. 28—29.

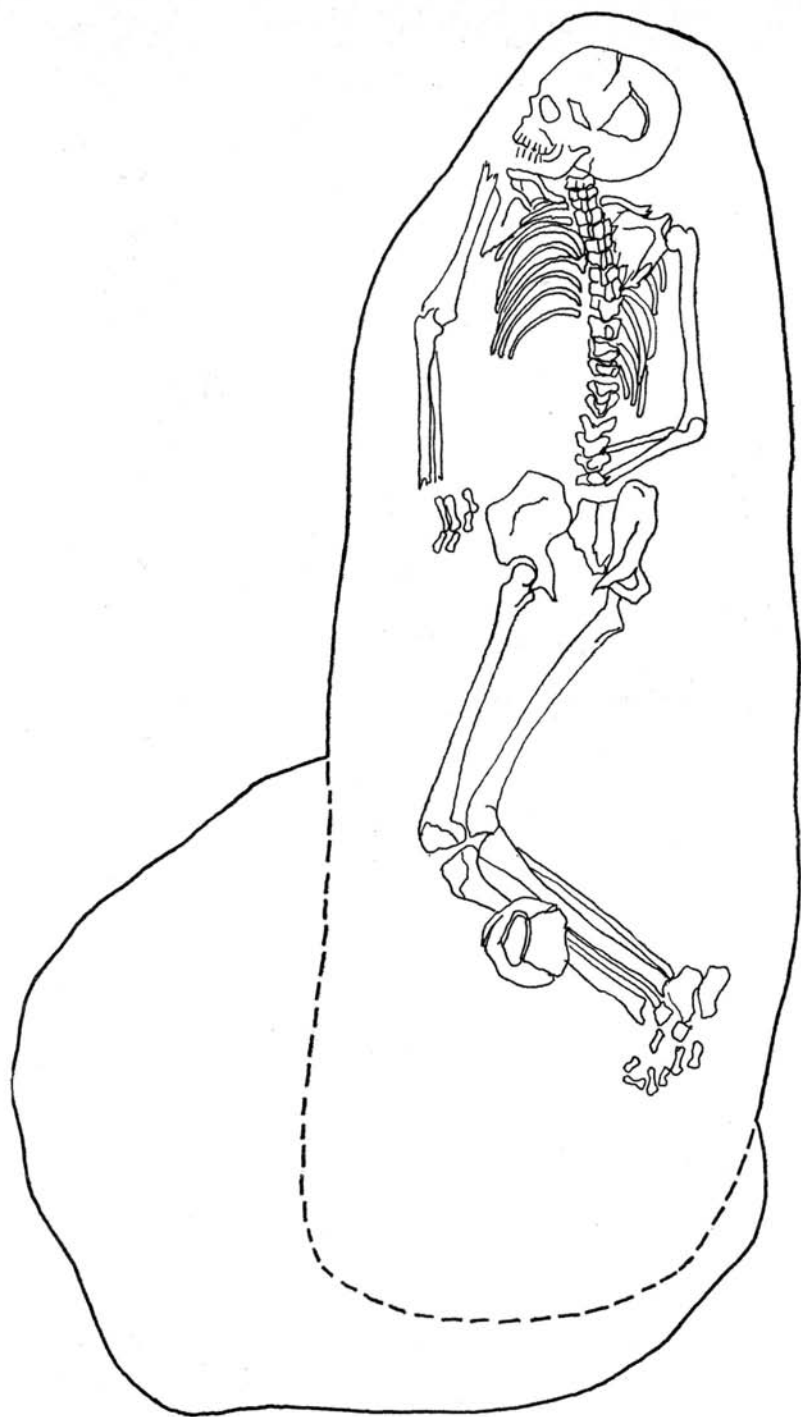


Fig. 11. Grave 115



Fig. 12. Grave 136

An extremely interesting find was recovered from grave 3: a necklace strung from copper, jet and segmented shell beads (Fig. 9). A similar, but somewhat more sophisticated necklace (Fig. 15) was found in grave 7 (infant burial) uncovered in the course of the excavations conducted at Csongrád—Bokrospuszta in 1979.⁶² The forepart of this necklace was fashioned from three drop-shaped beads carved from bone imitating deer-teeth among which were threaded barrel-shaped beads. On either side, these beads adjoined segmented shell beads intermixed with disc-shaped copper beads (six pieces altogether).

Beside the copper awl found in a Zseliz context,⁶³ the copper beads from Csanytelek and Bokros are the earliest occurrences of copper artifacts found in Hungary to date.

The discovery of objects fashioned from native copper in pre-ceramic contexts in Western Asia, on the territory of modern Iran, Iraq and Turkey during the past decades definitely prove that the discovery and processing of copper — first the working of native copper as a stone, later its mining and smelting — was primarily evolved to the south of the Carpathian Basin, in Western Asia⁶⁴. These innovations gradually spread to adjacent territories; it has also been proposed that they had

⁶² Csongrád—Bokros, Bokrospuszta (1979). Excavation Diary. KJM Archives 80.998.A.

⁶³ B. Kutzián, I., *The Copper Age Cemetery of Tiszapolgár—Basatanya*. AH XLII. Budapest (1963) 333.

⁶⁴ Muhly, J. D., *Supplement to Copper and Tin*. Transactions of the Connecticut Academy of Arts and Sciences 46 (1976—77) 136.

already reached the Balkans and slightly later the Carpathian Basin already during the Körös—Starčevo period.⁶⁵

The copper objects found in the Shanidar cave (Iraq),⁶⁶ in Çayönü Tepesi (Turkey),⁶⁷ Ali Kosh (Iran),⁶⁸ and Tell Ramad (Syria)⁶⁹ definitely prove that copper metallurgy first appeared in the area which was the homeland of the neolithic revolution, the transition from hunting to a food producing way of life, where the antecedents of later towns, sedentary village communities were to be found.⁷⁰

The next horizon of copper finds can be dated to the pottery manufacturing flowering cultures of the Neolithic, the most important sites being Tell es Sawwan⁷¹ and Tell Yarim Tepe.⁷²

The copper artifacts from Çatal Hüyük,⁷³ Hacilar⁷⁴ and Beycesultan⁷⁵ dated to the 5th and 4th millennia B.C. evidence an advanced level of metallurgy.

This brief summary does not aim at giving a detailed and comprehensive analysis of the metallurgical achievements of Western Asia. The objective of the above survey was to underline the primacy and priority of analogous phenomena in Western Asia and thereby the validity of the diffusionist model.

The emergence of South-East European metallurgy was marked by similar stages as those in Western Asia. At first only small artifacts (awls, needles, hooks) and ornaments fashioned by cold hammering (beads, pendants, bracelets) made their appearance, later, on, with the development of smelting new types appear alongside earlier artifacts; copper ornaments also become more varied. The rich ore deposits of the Balkans, the Carpaths and the Alps accelerated the adaptation and the evolution of copper metallurgy.⁷⁶ The exploitation of these copper deposits with vertical shafts had already begun by the end of the Neolithic.⁷⁷

Developments in South-East Europe thus took essentially the same paths as in Western Asia, even though there is a basic difference between the two areas:

⁶⁵ Horedt, K., Die ältesten neolithischen Kupferfunde Rumäniens. *Jahresschrift für mittel-deutsche Vorgeschichte* 60 (1976) 175—177.

⁶⁶ Solecki, R. S., A copper Mineral Pendant from Northern Iraq. *Antiquity* 43 (1974) 311—314.

⁶⁷ Cambel, H., The Southeast Anatolian Prehistoric Project and its Significance for Culture History. *Bulleten* 38 (1974) 361—377.

⁶⁸ Smith, C. S., Analyses of the Copper Bead from Ali Kosh. Appendix II, in Hole, F.—Flannery, K. V.—Neely, J. A., *Prehistory and Human Ecology of the Deh Luran Plain. Memoires of the Museum of Anthropology, University of Michigan* 1 (1969) 427—478.

⁶⁹ Lanord, F.—Contenson, H., Une pendeloque en cuivre natif de Ramad. *Paléorient* 1 (1973) 109—115.

⁷⁰ Oates, J., The Background and Development of Early Farming Communities in Mesopotamia and the Zagros. *PPS* 39 (1973) 147—181.

⁷¹ Native copper beads and a perforated knife were found in the Early Hassuna layers of the site. Al-A-Dami, K. H., Excavations at Tell-es-Sawwan. *Sumer* 24 (1968) 57—94.

⁷² On the basis of the slag and native copper remains found at Yarim Tepe and Tell Sotto, it must be presumed that the inhabitants of these settlements had a working knowledge of smelting techniques.

⁷³ Mellaart, J., *Çatal Hüyük*. London (1967) 217—218.

⁷⁴ Mellaart, J., *Earliest Civilisations of the Near East*. London (1965) 113.

⁷⁵ Lloyd, S.—Mellaart, J., *Beycesultan I*. London (1962). Metal objects by Stronach, D. B., *ibid.*, 280—292.

⁷⁶ The various phases in the evolution of copper metallurgy, the availability of local raw materials and a faulty measurement lead C. Renfrew to suggest that the Copper Age of the Balkans and Southeast Europe not only preceded the Copper Age of the Aegean, but that it was also the result of local, independent development. Renfrew, C., *The Autonomy of the South-East European Copper Age*. *PPS* 35 (1969) 12—39.

⁷⁷ Simić, V., *Istorijski razvoj naseg rudarstva* (The historical development of mining). Belgrade (1951) 248.

in the former this development began some millennia later. According to the C¹⁴-based chronology (high chronology) in Middle Europe copper finds make their first appearance around 4000 B.C.,⁷⁸ and a little later in Northern Europe, around the middle of the 4th millennium.⁷⁹

Finally, we would like to give a brief survey of the earliest copper finds of the neighbouring countries, primarily the Carpathian Basin.

Several copper artifacts and objects are known from Romania dating to the Körös—Starčevo period: a copper awl from Balomir, the fragment of a native copper from Radnot (Iernut) and another copper awl from Cuina Turcului.⁸⁰

The copper finds from a Karanovo II deposit found at Ovčarovo (Bulgaria)⁸¹

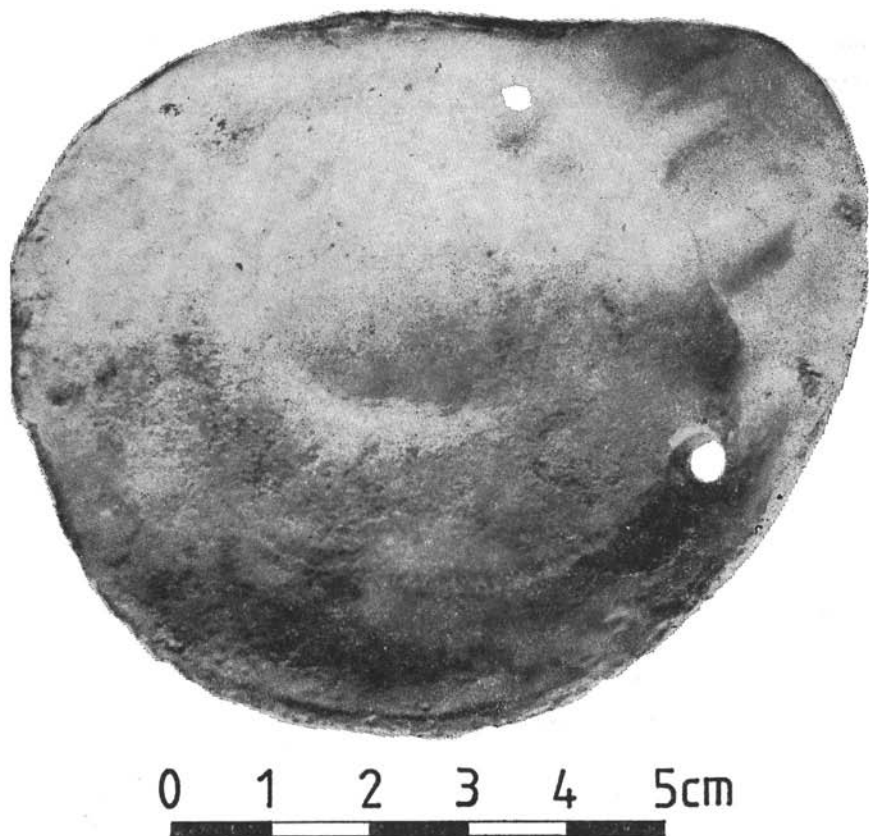


Fig. 13. The Spondylus pendant from grave 136

⁷⁸ Tringham, R., *Hunters, Fishers and Farmers of Eastern Europe: 6000—3000 B. C.* London (1971) 195.

⁷⁹ Ottaway, B., *Earliest Copper Ornaments in Northern Europe.* PPS 39 (1973) 294—331.

⁸⁰ Vlása, N., *Einige Bemerkungen zu Fragen des Neolithikums in Siebenbürgen.* Št. Z. (1969) 513—540.

⁸¹ Jovanović, B.—Ottaway, B. S., *Copper Mining and Metallurgy of the Vinč Group.* *Antiquity* 50 (1976) 104—113. Ovčarovo is mentioned on p. 109.

and from the late Starčevo layer of the Obre tell⁸² both attest the expansion of an early metallurgical technology.

Copper finds were recovered from a depth of 9.5 m (Vinča A) and 7.5 m (Vinča B₁) of the 10 m high settlement mound of Vinča near Belgrade during the excavations conducted at the beginning of the century by Basič;⁸³ these unusually early copper finds were, however, later “intentionally” disregarded by prehistoric research.

Numerous copper objects have been reported from neighbouring countries which fall within the Vinča B₁—B₂ period and are thus contemporary with the finds described in the foregoing; these are mainly ornaments and small artifacts. Several

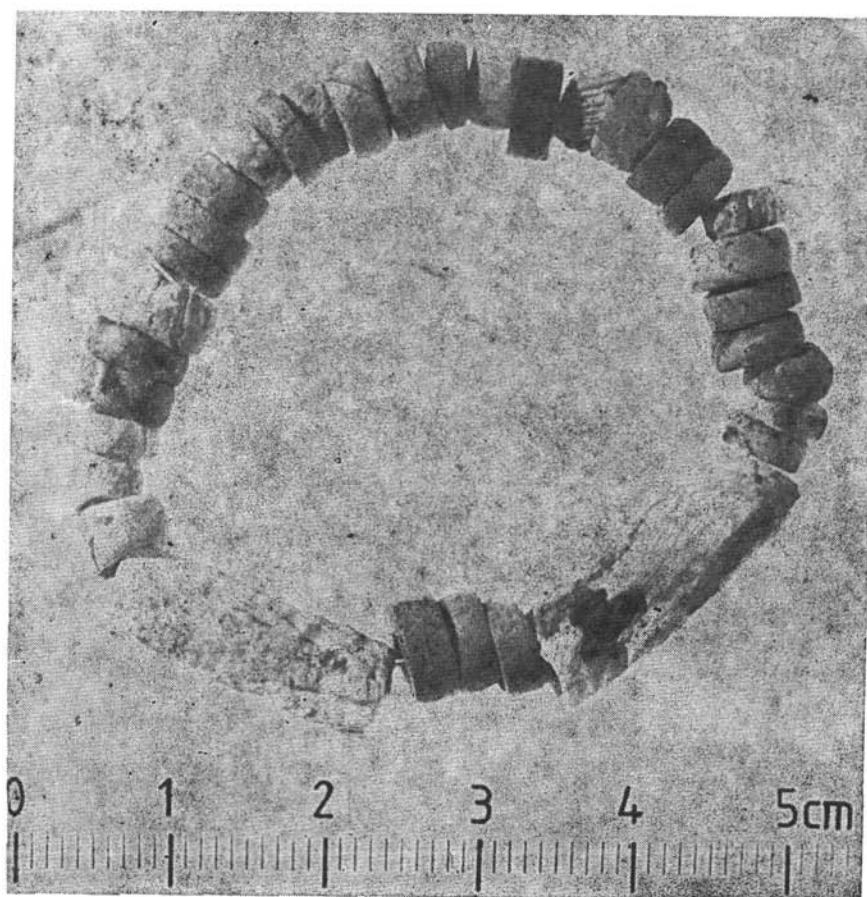


Fig. 14. Necklace from grave 136.

⁸² Gimbutas, M., Old Europe c. 7000—3500 B. C. *The Journal of Indo-European Studies* I (1973) 1—20.

⁸³ Vasič, M., Die Hauptergebnisse der prähistorischen Ausgrabungen in Vinča im Jahre 1908. *PZ* (1910) 31.



Fig. 15. Necklace from grave 7 of Csongrád—Bokros

copper beads were found between a depth of 6.6. m and 2 m at Vinča itself.⁸⁴ Ingots of raw copper were found in the early Vinča layer of the Gornja Tuzla settlement,⁸⁵ ingots, a fragments of a spiral and a bracelet were recovered from the early Vinča. deposits of the Velika Gradina settlement in Western Serbia,⁸⁶ and copper finds are also known from the Erősd (Ariuşd) settlement⁸⁷ and Tordos (Turdaş) in Romania

The flourishing copper metallurgy of the late Vinča period was aptly described in several studies by B. Jovanović.⁸⁸ There was a rapid growth in the amount of

⁸⁴ Vasić, M., *Preistoriska Vinča (Prehistoric Vinča)*. Vol. V. Belgrade (1936) 42—43.

⁸⁵ Covič, B., *Rezultati sondiranja na preistoriskom naselja u Gornjoj Tuzli (The results of the sondage on the prehistoric settlement at Gornja Tuzla)*. GZM 15—16 (1961) 79—239.

⁸⁶ Jurišić, A., *Velika Gradina u Stapani (Velika Gradina near Stapan)*. *Starinar* XI (1960) 230.

⁸⁷ A copper awl of thick cross-section and a copper ring was recovered from layer I/A of the Erősd settlement. Roska, M., *Erdély Régészeti Repertórium. I. Óskor (The Archaeological Finds of Transylvania. I. Prehistory)*. Kolozsvár (1941) 92, Figs. 2—3.

⁸⁸ Several copper objects were to be found in the Zsófia Torma collection. Unfortunately these finds are all unstratified. Roska, M., *A Torma Zsófia Gyűjtemény (The Zsófia Torma Collection)*. Kolozsvár (1941).

⁸⁹ Jovanović, B.—Ottaway, B., *Antiquity* 50 (1976) 104—113; Jovanović, B., *Metallurgia eneolitskog perioda Jugoslavie (Metallurgy of the Eneolithic Period in Yugoslavia)*. Belgrade (1971).

copper artifacts and ornaments during this period; here we shall give but a brief enumeration. Copper ornaments and ingots are known from Divostin,⁹⁰ small cylindrical beads, the fragment of an awl, hooks and spiral fragments from level II of Gornja Tuzla,⁹¹ and small copper beads from Gomolava⁹² and Sitagroi.⁹³

The widespread flourishing of copper metallurgy in South-East Europe is also evidenced by the fact that raw material was procured by mining at the close of the Neolithic. Late Neolithic copper mines have been excavated in Eastern Serbia at Rudna Glava⁹⁴ and at Aibunar in Bulgaria.⁹⁵

Settlement finds

In this section we shall give a comprehensive evaluation of the finds — primarily pottery — recovered from the various features of the Linear Pottery settlement excavated at Csanytelek according to manufacturing technique, ornamentation and vessel forms. This choice of grouping is necessitated by the typological uniformity of the finds and by an observation made in the course of the excavations, namely that hardly any settlement features cut into each other, corroborating thereby the author's opinion that the settlement was only inhabited in one specific period. The find spots of the various objects are tabulated in the chart. The three human face vessels will be discussed separately in view of their importance, similarly to the scanty implement finds and the faunal list in which the zoological remains are listed according to species.

Pottery (temper, surface finish, painting)

Fine and coarse wares cannot be distinguished on the basis of tempering matter alone since both organic and inorganic matter were used regardless of type. Chaff and husk intermixed with straw were the most favoured tempering materials, inorganic temper included unused pottery ground into fine powder, sand and tiny pebbles. Impressions of chaff or straw can often be seen on the surface of the vessel since the tempering matter was often charred during firing and only these impressions testify their presence.

Firing temperature must have been fairly low and uneven as indicated by the surface finish of vessel fragments and the often mottled surface of the pottery.

⁹⁰ McPherson, A.—Srejić, D., *Early Farming Cultures in Central Serbia. Guide to an Exhibit in the National Museum of Kragujevac* (1971) 8.

⁹¹ Jovanović, B., *op. cit.* 107.

⁹² Brukner, B.—Jovanović, B.—Tasić, N., *Praistorija Vojvodine (Vojvodina in Prehistory)*. Novi Sad (1974) 69—112.

⁹³ Renfrew, C., *Sitagroi and the Independent Metallurgy of Europe. VIII^e Congres UISPP*. Belgrade (1971) 473—481.

⁹⁴ Jovanović, B., *op. cit.*, PPS 45 (1979) 103—110.

⁹⁵ Cernyh, E. N., *Aibunar, a Balkan Copper Mine of the 4th Millennium B. C.* PPS 44 (1978) 203—217.

Surface finish

A thin clay slip was often applied to the surface of the vessel prior to firing in order to give a smoother surface and a livelier colour. This slip was usually red, ochre-yellow, occasionally grey in colour, and often shows signs of having been burnished. The slip layer can be easily detected owing to its different colour in the broken section of the sherd. If the vessel was tempered with pebbles or broken pottery ground to fine powder, the thin, coloured "slip" was applied to the surface of the vessel intermixed with some organic tempering matter. This type of surface finish is one of the main reasons why coarse, thick-walled vessels are sometimes mistaken for fine ware.

Vessel surfaces show but slight traces of burnishing. This is due to the mineral salts in the soil and ground water which dissolved the polished surface.

A 3—5 mm thick chaffy slip which was most probably applied after drying can often be detected on the surface of thick-walled, coarse cooking pots. This slip served to enhance the heat-preserving capacity of the vessels.

Painting was often employed to set off the incised decoration of vessels. Pastose red paint was especially favoured for decorating incised bands; alternately, sometimes it was the incised pattern which was left unpainted with only the background decorated giving a contrast effect. White encrustation served a similar purpose, namely to highlight the incised pattern (Fig. 16). Apart from red paint, orange, ochre-yellow and white paint was also used (the latter being somewhat less frequent). Bichrome painting occurs on a meander-patterned lid which was decorated with alternating bands painted white and orange (Pl. VII: 3); red and white painting can be seen on human face vessel 1 (Pl. III). The pattern on the shoulder of the bowl shown in Fig. 16 was fashioned by the rhythmic alternation of orange and pastose red painting, the linear motifs being enhanced by white encrustation.

Red ochre was a valuable commodity of both everyday life and funerary cults (body painting). A late Bükk suspension vessel with traces of red paint inside it was recovered from pit 14 (Pl. I: 4). This imported vessel was most probably used for storing paint.

Among the finds indicating the use of paint, an amorphous lump of red ochre recovered from pit 5 should also be mentioned (Pl. X: 17).

The decoration of fine ware

Apart from the painting and encrustation techniques described in the above, fine ware also often decorated with incised linear motifs. These motifs are extremely varied, the most frequent being spirals or spiraloid patterns either encircling the vessel or forming interlocking, horizontally placed 'S'-shaped motifs. This pattern is usually flanked by a garlandlike thin incised line which runs parallel to the main motif of interlocking 'S'-shaped spirals (Pl. I:5, 10 and Fig. 15). The pattern itself is either positive or negative according to whether it is the background which is polished and the linear motifs which are painted or the other way round.

The pattern described above often ornamented the body of large storage jars with human face representation and various bowls, jugs and "Bombengefässe". (P. VII:1) or lids (Pl. VII:3).

An interesting pattern covers the walls of an angular vessel recovered from pit 9 (Pl. VI:21). Incised bands of parallel lines are sometimes filled with random stabs;

The pattern was enhanced by white encrustation. This rhombical boat-shaped vessel appears to go back to a leather prototype executed in clay.

Step-like and network patterns also occur in the repertoire of designs (Pl. III:1, 2). The small Bükk vessel used for storing paint is also unique as regards its ornamentation: rhombical panels filled with bands of densely incised lines further highlighted by encrustation (Pl. I:4).

Concentric circles form another group within the repertoire of curvilinear patterns. A beautifully executed specimen further brightened with painting can be seen on the lower part of a small suspension bowl found in pit 5 (Pl. VII:1).

An interesting feature of the vessels of the Middle Neolithic Szakálhát group — which at the same time also points towards the transition to the Tisza culture — is that meandric patterns are arranged within panels bordered by dividing lines (Pl. V:1, Pl. VII:1). There is a general tendency in the Middle Neolithic towards arranging patterns within panels.⁹⁶ This type of patterning already makes its appearance in the genetic predecessor of the Szakálhát group, the Alföld Linear Pottery culture⁹⁷ and it can also be observed on the vessels of the contemporary Bükk group.⁹⁸ The practice of arranging meandric patterns into panels bordered by dividing bands was earlier incorrectly dated to the Tisza period,⁹⁹ but recent finds, including the Csanytelek assemblage, indicate an earlier, Middle Neolithic date.

Other impressed decoration

A favoured decorative technique of the early phase of the Szakálhát group, fingernail impressions arranged into patterns, is entirely lacking in the Csanytelek assemblage.

Only one sherd indicates the decoration of vessel surfaces with reed impressions, the fragment shown in Pl. VI:14.

Plastic ornaments

Smaller and larger knobs (the former are lentil-shaped, the latter are orvesicular in shape), thumb-indented appliqué ribs and notched bands running under the vessel rims are all encountered. These ornamental elements occur mainly on thick-walled, coarse wares; lentil-shaped small knobs can sometimes also be found on thin-walled, carefully polished fine wares (Pl. I:11).

Vessel forms

The pottery found at the Csanytelek settlement corresponds to the general vessel-types of the period. Most vessels are imitations of natural forms, namely vessels carved from gourds. The standard types of the fine wares, high-necked jars, pots, dishes and shallow cups can without exception be traced to gourd vessels

⁹⁶ Narr, K. J., *Handbuch der Urgeschichte II. Jüngere Steinzeit und Steinkupferzeit.* (1975). 863.

⁹⁷ Kalicz, N.—Makkay, J., *op. cit.*, Pl. 169:2a—b, 9a, 11, Pl. 170:8, 10, etc.

⁹⁸ *Ibid.*, Pl. 171:12, 14.

⁹⁹ Pittioni, R., *Urgeschichte des österreichischen Raumes.* Vienna (1954) 168.

according to the point where gourd was transsected. The shapes of household pottery are more or less independent of these organic prototypes and since their form was determined by their function, their shape is somewhat more abstract in comparison with the former.

High-necked jars

These jars usually have cylindrical necks, globular bodies and flat bases. Small pseudo-pierced lugs sit at the base of the neck (Pl. I:5). Larger jars are mostly well-fired and terracotta or red in colour with elbow-like handles (Pl. I:8).

Cooking pots

Cooking pots are mostly thick-walled with slightly (Pl. V:1) or strongly inverted rim (Pl. I:10) and globular bodies. Their decoration is varied: bands decorated with finger indentions and ledge handles (Pl. I:10) occur alongside incised meandrical patterns (Pl. V:1). Large ovoid cooking pots with short cylindrical necks were often coated with a chaff-slip after firing to increase the vessel's heat preserving capacity.¹⁰⁰

Bowls, cups, mugs

The shape of cups is extremely varied: steep-walled carinated deep bowls (Pl. I:7) and large, steep-walled but shallow bowls (Pl. VIII:12—13) both occur. Thin-walled specimens — which can be assigned to the fine ware — with incised decoration occur less frequently; these have a cylindrical neck and convex shoulders (Pl. I:11, 16).

Certain deep cups (Pl. I:3, 9) and mugs (Pl. I:2) can be assigned to a type termed 'Bombengefäss'. The size of this vessel which was named after its bomb-like profile varies considerably.

Vessels of special form and function

On the basis of the borings in the base, the vessel shown in Pl. I:1 can perhaps be interpreted as a strainer. The vessel fragment shown in Pl. IX:6 was also either a strainer or a fireguard.

A spouted vessel can be seen in Pl. I:6. The vessel has a globular body and an inverted rim. Horizontally placed ledge handles can be seen immediately below the carination line with the cylindrical spout taking the place of the fourth ledge. This quadripartite arrangement of plastic ornaments is a general feature of both vessels decorated with an incised pattern (four horizontally placed interlocking S-spirals) and coarse pots (four ledge handles alternating with four ribs with finger indentions). A quintuple arrangement can only be observed in one case (Fig. 16). It would appear that in this latter case the potter was faced with the following pro-

¹⁰⁰ This vessel type is only represented by fragments in the assemblage.

blem: the lower half of the bowl was wider than he had first anticipated, thus the customary quadripartite pattern did not cover the entire surface and another S-spiral had to be added.

Vessels with human face representation

This vessel type which was obviously used for cult purposes is represented by neck and shoulder fragments from two a large storage jars, a cylindrical human face vessel which could finally be pieced together and numerous fragments which can be assigned to this category.

Human face vessel 1 (Pl. III:1—2 and Fig. 17)

This 27 cm high cylindrical cult vessel showing traces of bichrome painting was found in pit 4. The 97 cm deep, slightly beehive-shaped pit also yielded a fragmented jar with elbow-shaped handles and the heavily burnt, red coloured fragments of a bench. In their discussion of the human face vessel from Füzesabony N. Kalicz and J. Makkay suggested that the similar find circumstances can perhaps be interpreted as being indicative of cult practices.¹⁰¹

An incised line runs parallel to the rim of the human face vessel; this can be regarded as a stylized depiction of straightly cut hair falling onto the forehead. Side-whiskers are indicated by a rectangular incision starting from the above line. The face is bordered by the characteristic 'M' sign. This sign does not yet appear on the human face vessels of the Alföld Linear Pottery,¹⁰² but strangely enough it occurs in the later groups of the Transdanubian Linear Pottery.¹⁰³ The interpretation of the sign itself is still subject to debate. It has been suggested that this sign delineates the chin and the neck¹⁰⁴; it has also been forwarded that it is a representation of a woman giving birth¹⁰⁵ and it has also been proposed that it should be interpreted as the façade of a sanctuary.¹⁰⁶ The surface of the vessel was divided into panels filled with incised meander hooks and a step pattern; the panels were separated by vertical and horizontal dividing bands. The background of the patterns was covered with pastose red paint.

A good parallel to the human face vessel found at Csanytelek was published by Gy. Goldmann from Battonya—Gödrösök.¹⁰⁷ Similar cylindrical vessels covered with meandric patterns were unearthed in the course of the excavations conducted at Szentes—Ilonapart by J. Csalog. Since these latter were mostly fragmented their attribution to this otherwise extremely rare anthropomorphic vessel type was nor

¹⁰¹ Kalicz, N.—Makkay, J., *Gefässe mit Gesichtsdarstellungen der Linienbandkeramik in Ungarn. Prähistorische Idolkunst*. Munich (1973) 15.

¹⁰² Kalicz, N.—Makkay, J., *op. cit.*, Budapest (1977) 61—67, Fig. 3.

¹⁰³ Human face vessels are known from several sites of the Transdanubian Linear Pottery, thus Keszthely, Kaposvár, Neszmély, Mande and Győr—Pápaivár. Mithay, S., *Zselizi típusú leletek a Győr-, pápaivári újabbkőkori lakótelepen (Zseliz-type finds from the neolithic settlement at Győr—Pápaivár)*. *Arrabona* 8 (1966) 50—52, PLI:18.

¹⁰⁴ Goldman, Gy., *Gesichtsgefässe und andere Menschendarstellungen aus Battonya*. *BMMK* 5 (1978) 38.

¹⁰⁵ Pavlu, I., *Early Myths Relating to the Neolithic Society*. *AR* 18 (1966) 714.

¹⁰⁶ Popovich, V., *Une civilisation égeo-orientale sur le Moyen Danube*. *Ra* 2 (1965) 44.

¹⁰⁷ Goldman, Gy., *op. cit.*, Pl. VII:2a—b.

possible.¹⁰⁸ A flat clay figurine adorned with a similar pattern as the one on our vessel was also found at Ilonapart. This idol reached the Leiden Museum in 1970 under mysterious circumstances.¹⁰⁹ The 11.5 cm high torso represents a female figurine; the head, arms and legs of the solid, enthroned figurine are missing. The body is covered with incised meander patterns arranged into rectangular panels. This pattern appears to be the stylized depiction of a ritual costume which left the breasts exposed. The costume of the Leiden idol shows close affinities to the meandric ornamentation of the face vessels from Battonya and Csanytelek.

The ornamentation of human face vessel 1 is shown in Fig. 17. The hair and side whiskers, the vertically pierced, horizontally placed angular handles were whiteish-yellow in colour, the dotted areas were covered with pastose red paint

Human face vessel 2 (Pl. II)

This human face vessel was a large, coarse storage jar. Only fragments of its upper part have survived; the height of the fragment is 36 cm. Vertical serrations on the outer side of the rim mark the hair, two deep vertical incisions indicate the eyes and the nose was modelled by a small clay knob. The face is bordered by the characteristic 'M' sign. A plastic rib with diagonal serrations perhaps indicating a necklace, runs at the base of the neck. Oppositely set columnar handles with serrations spanning the neck most probably represent the arms.¹¹⁰ A deeply incised garland pattern encircles the shoulder of the vessel; this most probably bordered the S-spirals decorating the body of the pot. Numerous parallels are known from Szakálhát contexts, of which some are housed in the Szentés museum. Of these we shall now only quote the face vessels from Szentés—Ilonapart, Szentés—Jaksorpart and Szentés—Megyeháza.¹¹¹

Human face vessel 3 (Pl. IV.)

The neck fragment from a large human face vessel was found in pit in the course of the excavations conducted by M. Galántha. The face under the straight rim shows the customary modelling; two horizontal incisions delineate the eyes, a small horizontal knob represents the nose with two round impressions marking the nostrils. The remains of the 'M' sign indicating the chin can be seen under the face; enclosed in a panel, an incised 'H'-like sign can be seen to its right, followed by a columnar handle covered with 'V'-shaped incisions. An incised meandric pattern adorns the other side of the neck. The vessel was tempered with fine powder obtained by grinding sherds; its surface was fired to a bright terracotta colour. Diameter of mouth: 33.5 cm, height of fragment: 20.5 cm.

Apart from the three completely or partially preserved human face vessels described in the foregoing, numerous fragments of such vessels were recovered during the excavations from pits 9, 10, 13 and 14. Most of these fragments are rim or neck fragments (Pl. X: 1—4) and body fragments (Pl. X: 5,7).

¹⁰⁸ Csalog, J., *op. cit.*, Acta Ant. et Arch. 10 (1966) Pl. I: 5.

¹⁰⁹ Hegedűs, K., Újkőkori lakótelep Csanytelek határában (Neolithic settlement at Csanytelek). Arch. Ert. 1981) Figs. 4, 3—12.

¹¹⁰ Csalog, J., Acta Ant. et Arch. 10 (1966) 50.

¹¹¹ *Ibid.*, Pls. I and II.

Tools

Bone implements comprise a few polishers fashioned from animal ribs (Pl. X:11—12, 16, 18).

The objects shown in Pl. X:8 and 14 can perhaps be interpreted as fishing net weights and loomweights.

The tools and implements found at the settlement also include the fragments of two clay spoons or ladles (Pl. X:10, 19).

Faunal list¹¹²

cattle — <i>Bos taurus</i> L.	78
sheep — <i>Ovis aries</i> L.	17
goat — <i>Capra hircus</i> L.	
pig — <i>Sus scrofa dom.</i> L.	8
dog — <i>Canis familiaris</i> L.	2
domesticated animals	105
aurochs — <i>Bos primigenius</i> Boj.	15
red deer — <i>Cervus elaphus</i> L.	1
roe deer — <i>Capreolus capreolus</i> L.	6
wild swine — <i>Sus scrofa fer.</i> L.	10
wild ass — <i>Asinus hydruntinus</i> Reg.	2
birds — <i>Avis sp.</i> ind.	1
wild animals	35
altogether	140

Chronology

Since the material remains of the Szakálhát group were distinguished from the preceding Alföld Linear Pottery group and the ensuing Tisza culture only recently, attempts at refining the inner chronology of the group have only just begun.¹¹³

I. B. Kuzián was the first to suggest that the Szakálhát group (in the present, modern sense) is not a local group of the Tisza culture and that it should rather be regarded a separate, late group of the Alföld Linear Pottery.¹¹⁴ N. Kalicz and J. Makkay regarded the Szakálhát group as a separate cultural complex of the Alföld Linear Pottery,¹¹⁵ but on the basis of its vessel forms and ornamentation they linked its origin to the Transdanubian Linear Pottery culture. They based their hypothesis on the horizontal stratigraphy of the Tarnabod site, where Alföld Linear Pottery and Szakálhát pits were found alongside each other but without any admixture; they concluded that the Szakálhát group must be later.¹¹⁶

The subsequent arguments put forward by N. Kalicz and J. Makkay, i.e. that Szakálhát group evolved from the late Alföld Linear Pottery culture and that it is

¹¹² The 140 determinable animals bones listed in the faunal list were analysed by Dr. Sándor Bökönyi. This material was recovered from the features of the 600 m² excavated in 1979 by the author, from the 18 refuse pits. The zoological material of the 1980—1981 campaigns conducted by M. Galántha has not yet been analysed.

¹¹³ No such attempt was made by Kalicz and J. Makkay in their monograph published in 1977 in Budapest.

¹¹⁴ B. Kurzián, I., *Das Neolithikum in Ungarn*. Arch. Austr. 40 (1966) 258.

¹¹⁵ Kalicz, N.—Makkay, J., *Die wichtigste Fragen der Linearkeramik in Ungarn*. Acta Ant. et Arch. 10 (1966) 39—41.

¹¹⁶ Kalicz, N.—Makkay, J., *op. cit.*, Budapest (1977) 106.

a late variant thereof was for a long time an attractive, but barely provable hypothesis.¹¹⁷ The small-scale excavations carried out during recent topographical surveys in the valleys of the Körös rivers yielded material indicating a gradual transition from the classical Alföld Linear Pottery culture to the Szakálhát group, a transition which could be observed in minute details.¹¹⁸ In numerous cases this transitional phase could be fully observed since the same pit or layer — i.e. a closed assemblage —, contained characteristic Alföld Linear Pottery culture and transitional or extremely early Szakálhát-type sherds. J. Makkay proposed that this transitional phase be named the *Furugy type* after a site showing numerous such features.¹¹⁹

The majority of the Szakálhát settlements, however, did not yield even scanty Alföld Linear Pottery culture finds; at the same time, the material recovered from these sites does not show signs of a gradual transition to the Tisza culture. Szentes—Ilonapart, Tiszaszöllős—Csákányszeg, Tiszaigar—Csikóstanya and Tápé—Lebő—Felsőhalom are regarded by N. Kalicz and J. Makkay as being representative of the classical Szakálhát period.¹²⁰ To these we would add — on typological grounds — the Csanytelek settlement and also the Bokros settlement.

This, most probably long classical period was followed by the Szakálhát — early Tisza period, the material remains of which are to be found in the bottom layer of the large tell settlements of the Tisza culture (e.g. Hódmezővásárhely—Kökénydomb, Szegvár—Tüzköves, Vésztő—Mágor, Battonya—Gödrösök and Battonya—Parázstanya).

The relative chronological position of the classical phase of the Szakálhát group is now fully established on the basis of the numerous import objects found in Szakálhát contexts, thus a discussion of this issue is irrelevant. Finds of the late groups of the Alföld Linear Pottery culture (Bükk, Szilmeg, Esztár) and the Transdanubian Notenkopf and Zseliz groups, contemporary with the Szakálhát group, occur frequently on sites of the latter,¹²¹ and vice versa: Szakálhát imports are often found on sites of contemporary groups and cultures.¹²² The small Bükk vessel used for storing paint (Pl. I:4) is another proof of the contemporaneity of the developed Bükk and classical Szakálhát phase.*

* The figures 16 and 17 has been lost during the course of the priting works. Copies of them has not been possible to get because of the advanced stage of priting. The editorial board entreat the readers' indigence about this imperfection.

¹¹⁷ *Ibid.*, 107.

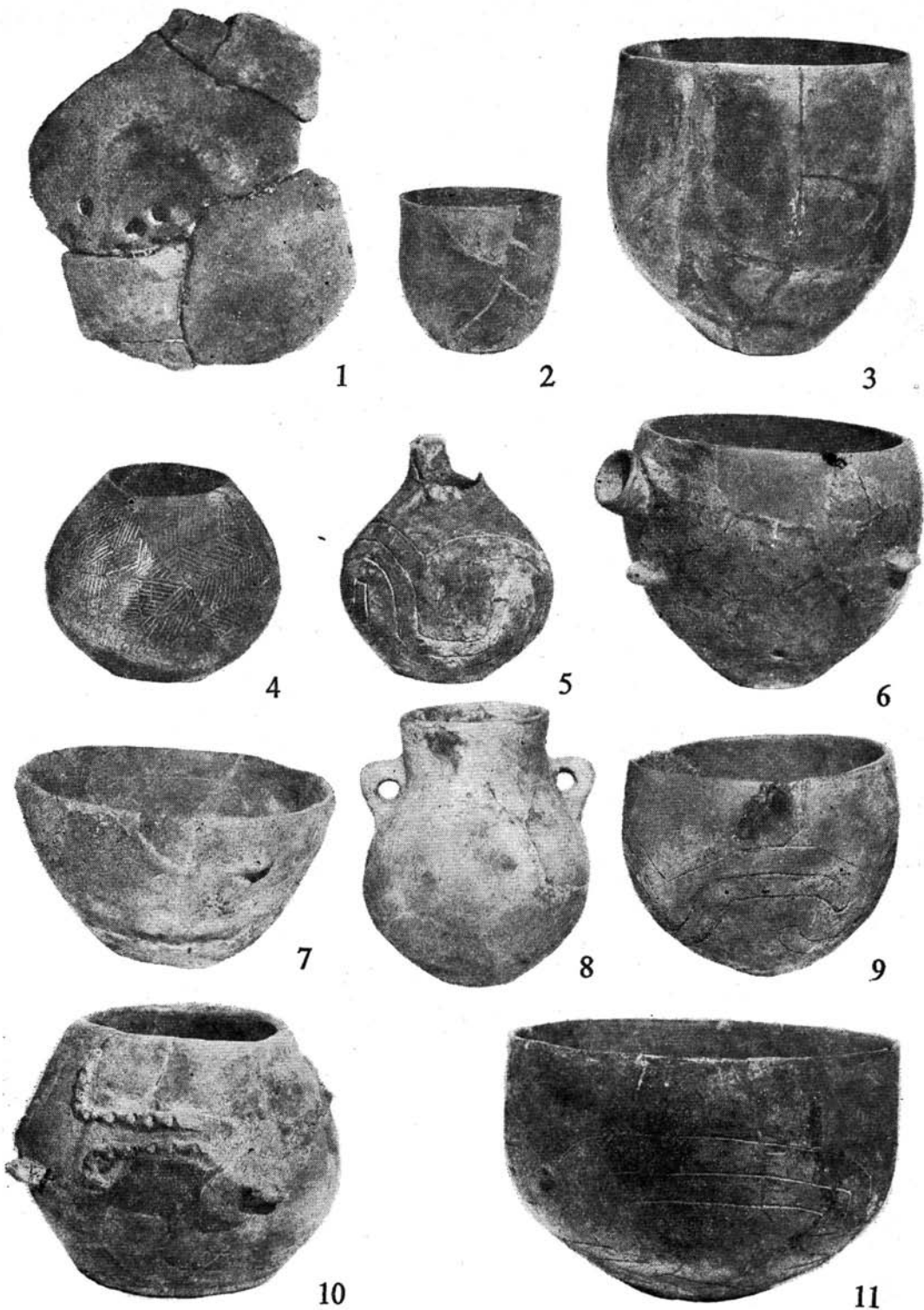
¹¹⁸ Makkay, J., *A magyarországi neolitikum kutatásának új eredményei* (New results in the research of the Neolithic in Hungary). Budapest (1982) 57—58.

¹¹⁹ *Ibid.*, 58—59.

¹²⁰ Kalicz, N.—Makkay, J., *op. cit.*, Budapest (1977) 107.

¹²¹ *Ibid.*, 44, Fig. 1.

¹²² Hévízgyörk—Kaparóház: Szakálhát sherds in a Notenkopf context; Párkány (Šturovo in south west Slovakia): a few Szakálhát sherds in an early Zseliz assemblage. Kalicz, N.—Makkay, J. *op. cit.* Budapest (1977) 108.



Pl. I. L.: pit 6; 2: beside grave 2; 3: pit 1; 4: pit 14; 5: pit 16; 6: pit 5; 7: pit 7; 8-9: pit 14; 10-11.



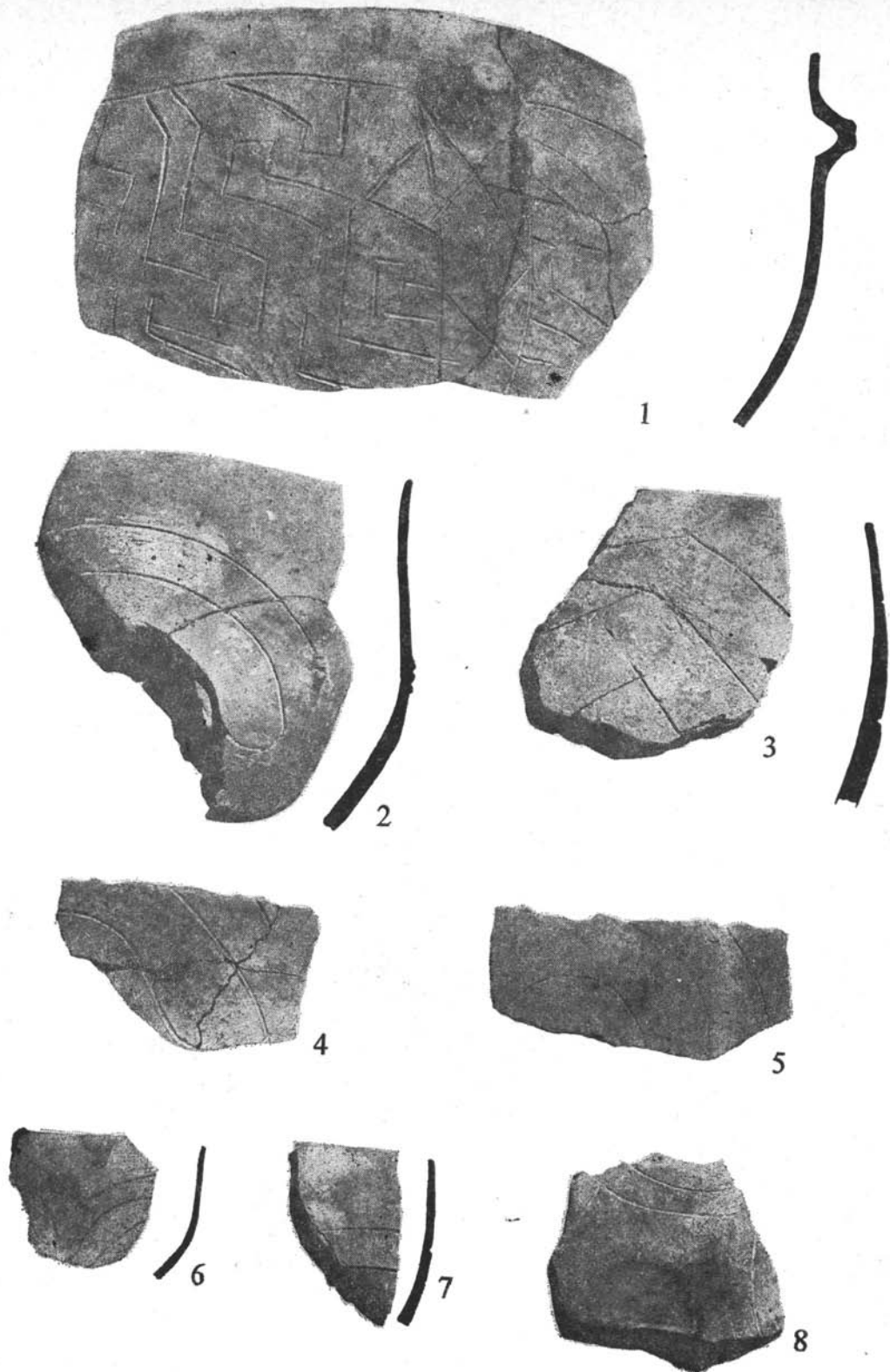
Pl. II. Quadrate 38, pit 18.



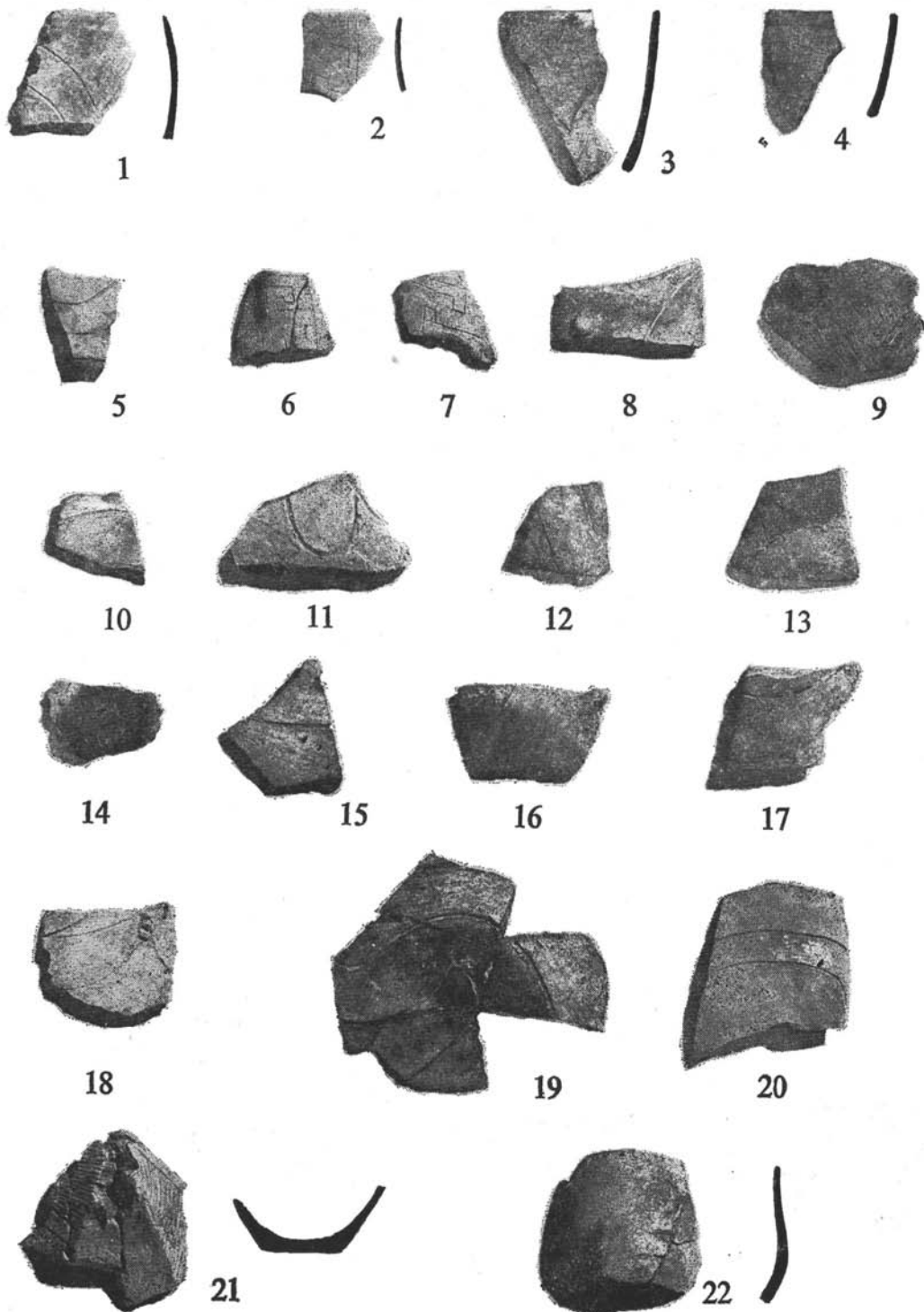
Pl. III. Pit 4.



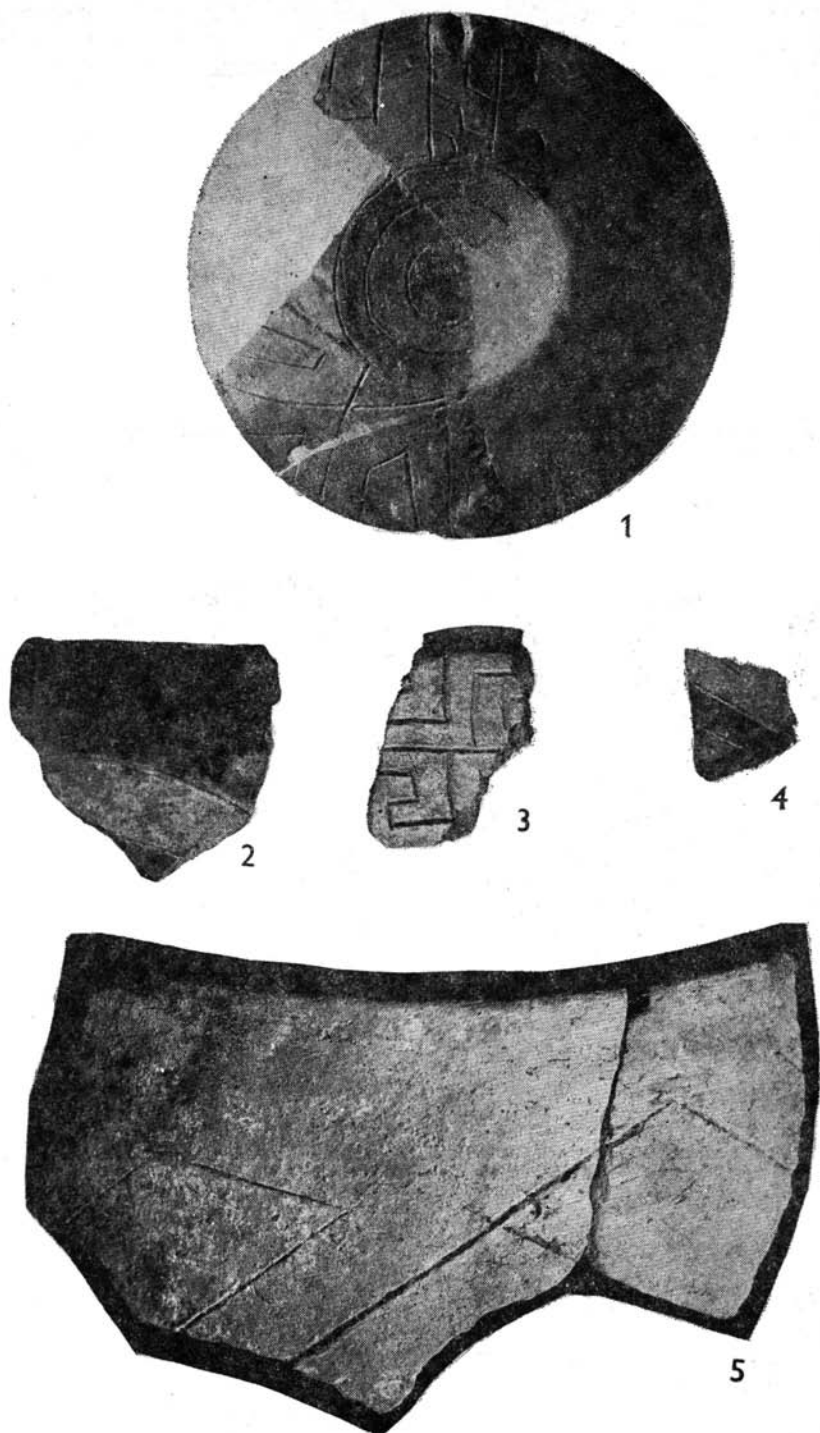
PL. IV.



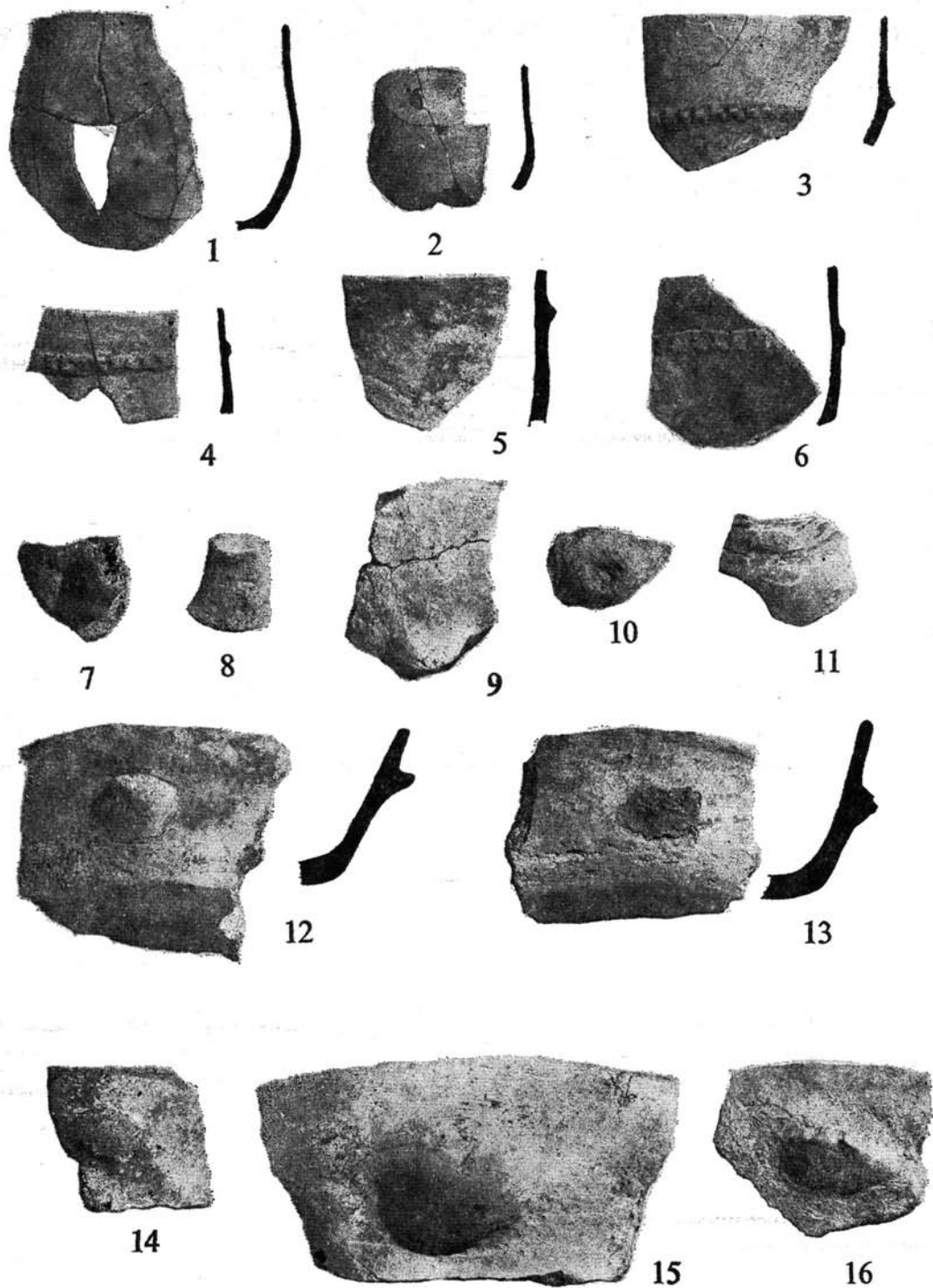
Pl. V. 1: pit 13; 2: pit 16; 3: quadrate 38, pit 18. 4: pit 2; 5: pit 5; 6: pit 5; 7: quadrate 38, pit 18; 8: pit 11.



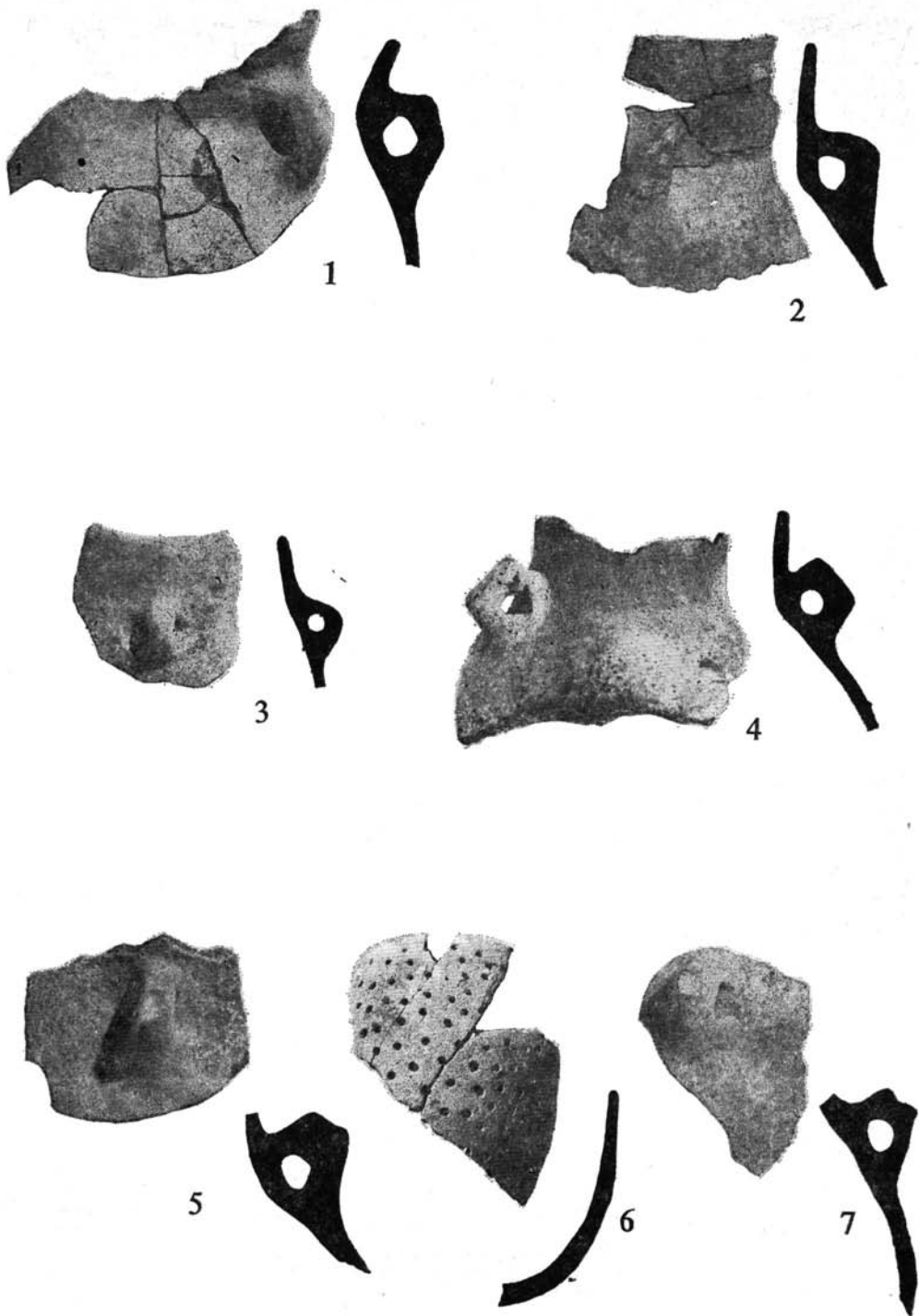
Pl. VI. 1: pit 3; 2: pit 14; 3-4: pit 5; 5-6: pit 11; 7: pit 14; 8: pit 5; 9: quadrate XX,
 0-40; 10: pit 5; 11: pit 2; 12: pit 5; 13-14: pit 1; 15: pit 16; 16: pit 5;
 17: pit 3; 18: pit 16; 19: pit 5; 20: pit 14. 21; 22;



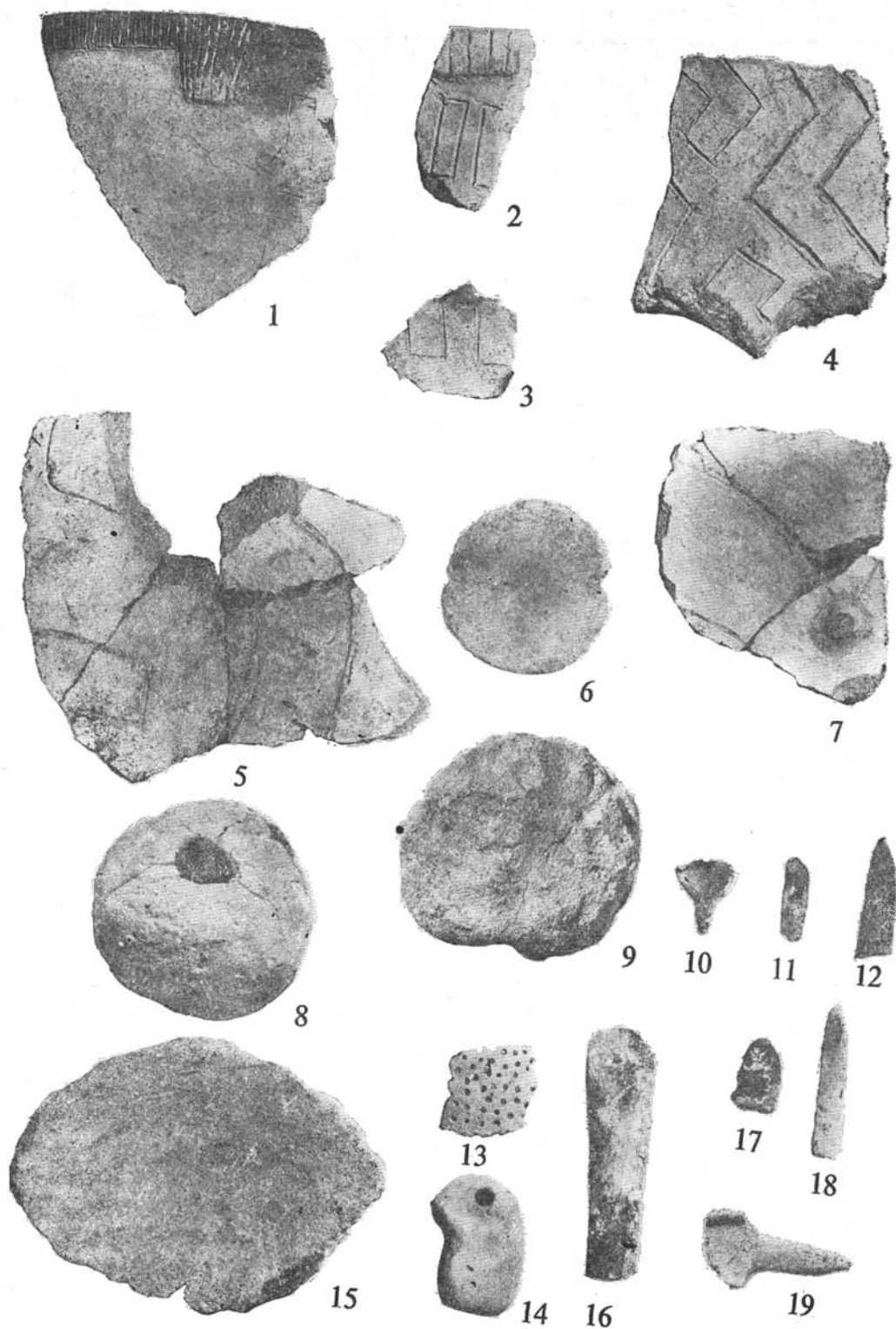
Pl. VII. 1: pit 5; 2-3: house 4, pit XXXVIII; 4: pit XXXIV; 5: pit X.



Pl. VIII. 1: quadrate II, 0—35 cm; 2: pit 14; 3: pit 6; 4: pit 1; 5: pit 18; 6—7: pit 16;
 8—9: pit 3; 10: pit 11; 11: quadrate XX, 0—40; 12: pit 15; 13—14:
 pit 14; 15: pit 10; 16: pit 9.



Pl. IX. 1: pit 4; 2: pit 5; 3: pit of the human face vessel; 4: pit 9; 5: pit 3;
6: quadrate 48, pit 3, 7: pit of the human face vessel.



Pl. X. 1: pit 13; 2: pit 9; 3—4: pit 10; 5: pit 14; 6: pit 7; 7: pit 14; 8: quadrate 38, pit of the human face vessel; 9—10: pit 14; 11: pit 2; 12: pit 14; 13: pit 3; 14: pit 2; 15: pit 5; 16: pit 14; 17: pit 55; 18: quadrate II, 0—30 cm; 19: pit 9.



1.



2.

Pl. XI.



1.



2.



3.

Pl. XII.