IČA NEOLITHIC SETTLEMENT IN THE LAKE LUBĀNS WETLAND

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Abstract

Archaeological excavations in the Late Neolithic settlement of Iča were carried out in 1998 and 1989. Pre-war research of the Iča settlement was done by Eduard Šturms (1895–1959). The aim of this paper is to draw attention to the character of the Late Neolithic population. In total, an area of 463.5 square metres was investigated. Three cultural layers were discovered: Eneolithic, and Late Neolithic. Topography, stratigraphy and dwelling traces are described. Attention is paid to the demoted human burials, of which bones were found all over the excavated area. Flint, stone, antler and amber artefacts, 516 items altogether, were found in an area of 506 square metres. A small clay item, representing the breast of a female figurine, and a bone plate with an engraved anthropomorphic face, are of special interest. Amber ornaments, altogether 122 pendants, buttons, cylindrical beads, fragments of rings and discs, were found. The pottery was classified in three groups: Late Neolithic porous and Corded Ware, as well as Eneolithic-Lubāna type. Radiocarbon data from five wooden samples allowed us to date the habitation of the settlement at Iča from 3320 to 2570 BC.

Key words: Iča settlement, Lubāns wetland, artefacts, pottery Neolithic, Eneolithic.

Introduction

Iča Neolithic settlement was discovered in 1937 during the deepening and straightening of the riverbed of a right-bank tributary of the River Aiviekste. A report on the discovery of the Iča settlement to the board supervising and rectifying the deepening works of the River Iča was written by A. Turnis, a culture technician, who was involved at that time in the Lake Lubāns regulating works. In the 1960s, Iča was in fact the only known Neolithic settlement in the Lake Lubāns wetland.

The settlement is situated on the left bank of the serpentine lower reaches of the Iča, several kilometres downstream from the village of Sala, and 1.175 kilometres to the east of the place where the River Iča used to flow into the small Lake Vējezeriņš (it was drained in the 1960s) (Fig. 1). The lower reaches of the river are regulated over a stretch of 11 kilometres. The estuary is located at a distance of eight kilometres from the place where the River Aiviekste curently flows out of Lake Lubāns. The river valley is wide in its lower reaches, making a spacious plain along both its banks which formerly overflowed during floods. The settlement is situated in the Lubāns marshy meadows, and is characterised by a relief elevation without the peat cover, which was an ideal place for the location of a settlement during the Middle Neolithic. The Early and Late Neolithic-inhabited part of the Iča settlement was located side by side with the elevation, to the north of the Middle Neolithic inhabited area. The stratigraphy of these cultural layers formed in a lower part of the area of the settlement.

Pre-war research of the Iča settlement is associated with Eduards Šturms (1895–1959), who organised archaeological excavations in 1938 and 1939 on a broad scale, since the excavation areas were studied in the central part of the settlement. In addition, archaeological excavations were also carried out in the shallows of the old bed of the River Iča, and also probing excavations were carried out for the determination of reliable borders of the settlement. The scientific value of this work was reflected in the press at that time (Šturms 1938; 1939). Work was organised promptly, and in the summers of 1938 and 1939 an area of 51.45 square metres was studied. Information on the excavations was written up by Šturms. This report has been preserved in the archive of the Archaeology Department of the Latvian National Museum of History (LNVM, inv. no. 219). Also, a collection containing fragments of archaeological artefacts and pottery obtained during the excavations can be found there.

New archaeological excavations in the Iča settlement were carried out in 1988 and 1989, when the Lubāns archaeological expedition of the Institute of History, Latvian Academy of Sciences, worked in exactly the place of the Early and Late Neolithic population of this settlement, since exactly this territory was endangered due to the projected construction of a polder on the River Iča (Fig. 2, see Plate II).

The aim of this paper is to draw attention to the character of the Late Neolithic population in this settlement, based on the material obtained and recorded in the archaeological excavations during these two years.

Fig. 1. A map of the main Late Neolithic settlements at the Lake Lubāns wetland: Abora, Asne, Eiņi and Iča settlements. 1 Mesolithic; 2 Early Neolithic; 3 Middle Neolithic; 4 Late Neolithic.

Topographic and stratigraphic characteristics of the Iča settlement

The topographic and stratigraphic characteristics of the Iča settlement differ from the other 25 settlements of the Lake Lubāns wetland. The Iča settlement is so far the only known settlement of this type in the Lake Lubāns wetland, having been populated for lengthy periods of time, where continuous layers of population did not accumulate one over the other, but instead the populated areas changed their location over the course of time due to fluctuations in the water level of Lake Lubāns. Namely, in the Early Neolithic, the populated area in the Iča settlement was situated at its lowest place, close to the old Iča riverbed.

In 1988 and 1989, after thorough consideration, the excavation areas were admeasured in the site of the settlement that had not been studied before, which was situated at a much lower height in comparison with the relief elevation marks. It was hoped to uncover traces of population from the Early as well as the Late Neolithic (Fig. 3).

In total, ten excavation areas were admeasured in the lowered part of the Iča settlement, of which three (A, B and C) were situated in the zone of the river bank, beyond the intensely populated area of the settlement. These excavations were carried out on the site of silt banks made by excavators on the old riverbed, in other words, these finds lack stratigraphic data.

Eight (D, E, F, G, H, I, J and K) were located in the intensely populated part of the settlement. In total, an area of 463.5 square metres was uncovered (Fig. 4).

The stratigraphy of Late Neolithic cultural layers in the Iča settlement was preserved in good condition, since people had not disturbed the cultural layers. The first four lithological layers of the lower part of the Iča settlement did not contain any artefacts or pottery fragments. The cultural layers were covered with sod (first lithological layer), washed over sand (second layer),

Fig. 3. A view of the Iča settlement from the southeast (photograph by I. Loze).

peaty soil (third layer), and mixed light and dark soil layers (fourth layer) (Fig. 5).

The first pottery fragments were found in the fifth lithological layer, overpeated loamy soil, which covered the Late Neolithic cultural layers. The sixth and seventh layers, intensely filled with artefacts and pottery fragments, represent two stages of Late Neolithic populations.

The first inhabited cultural layer in loamy soil was discovered at a depth of 0.6 to 0.7 metres, the upper Late Neolithic layer contains disturbed hearth places at a depth of 0.7 to 0.8 metres. The second, earlier inhabited cultural layer in peaty deposits was discovered at a depth of 0.8 to 1.05 metres (Fig. 6). The subsoil and gravel lithological layers underneath them belonged to the Early Neolithic layer, which was inspected in the excavation areas (D, E, J) that were the nearest to the old Iča riverbed.

The upper part of the Late Neolithic cultural layer (sixth lithological layer) was formed by peaty sand mixed with ashy sand, but the lower one had a layer of dark peat with shingles and fragments of hewn wooden planks (seventh lithological layer).

Dwelling traces of the settlement

During excavations of the Iča settlement, a large number of poles and posts were found in the subsoil. The uncovering of pole sites in the subsoil shows two kinds of fillings:

1. pits of a large diameter filled with mixed sand characteristic of the sixth cultural layer, including crumbled boulders, which remained after the breakdown of buildings and punk posts;
2. pits made by poles of a lesser diameter filled with peat; these pits belong to the Lower Late Neolithic population period, the seventh layer.

The uncovered pole and post sites belong to buildings of post constructions, but studies are encumbered and complicated by the existence of two cultural layers. Considering the area of the excavation square, which is a bit over 50 square metres, it may be assumed that in this area there was only one dwelling place. Anyway, the location of the hearth sites should be taken into consideration, since they should be part of any dwelling place. The fact that changes have occurred in the settlement is shown by the lithological filling of cultural layers which mark the previous activities in the Upper Late Neolithic cultural layer that account for the presence of ash in the dwelling place. There is no need to argue about whether there were one or two hearths in the dwelling place, since the remains of hearths have been uncovered in E, F, G, H and K excavation areas, although at different depths. The largest hearth site belonging to the upper cultural layer was found in the western sector of E excavation area (Fig. 7, see Plate I).

The intensive population character registered in E and F squares were also the same in G square, which was connected to the southern edge of both squares, three metres wide and ten metres long. In this part of the set-

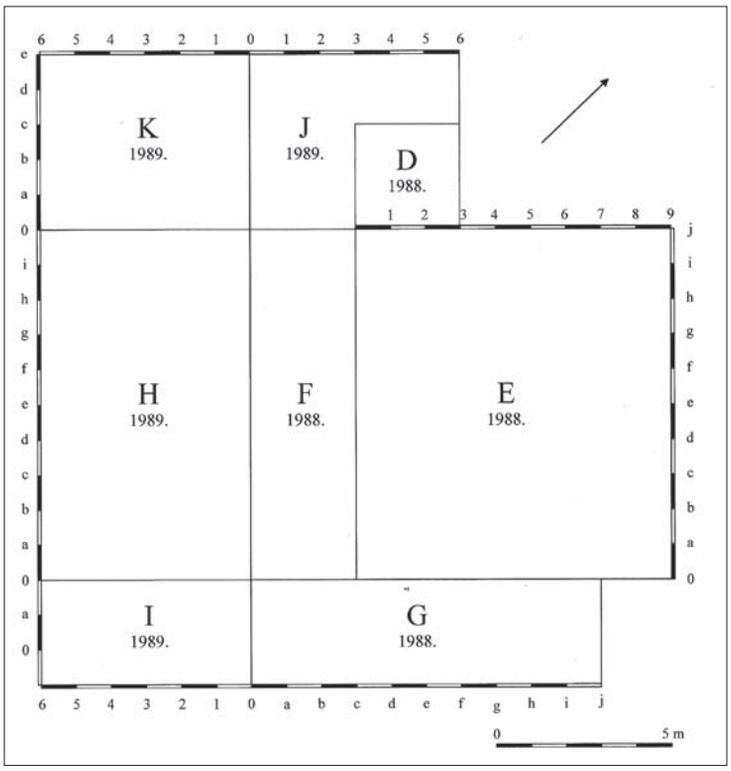

Fig. 4. A scheme of excavation squares D, E, F, G, H, I, J and K.

tlement, in the sixth layer, the largest amount of crumbled hearth stones had accumulated (Figs. 8, 9, see Plate II). This indicated the intensive use of this hearth or during fire rituals over the course of time.

In the western part of the investigated area of the settlement (H and K squares), in the lower part of the Late Neolithic cultural layer, one-metre-long round timber was uncovered, and a wooden wedge-shaped item. Digging deeper in the excavation square, a fragment of hewn board, 0.65 metres long and 0.5 metres wide, was uncovered.

The other site with hearth remains was found in the northeast part of H square (1–3, f-g sq). A large number of animal bones were found there. The structure of the cultural layer was changed, peat with the remains of wood and stone splinter dominated. The remains of wood have been preserved in the form of chips and poles of larger round timber, but in a rather fragmentary way. The remains of this place in the hearth belong to the most ancient population period of this settlement. Regrettably, the hearth was demolished and the stones are scattered around an area of seven to eight metres.

With K excavation square, two working seasons were concluded in the archaeological excavations of the Iča settlement. K square bordered H square on the southern edge. During the uncovering of the square, a hearth cultural layer was registered, which was similar to the one discovered in the northern part of H square. Fragments of deciduous tree boards should be mentioned, and a place where pine splinters were concentrated (4c sq).

In the southeast corner of K square, fragments of two parallel beams were found, as well as a round timber (pine?) pole and a plank-shaped wooden fragment (1a sq). There was also a group of wooden remains, consisting of bark, splinters and fragments of deciduous trees (3, 4a, 5a sq). In this group, no round timber was found. Also uncovered were two parallel wooden fragments (0.5 m long) (4a, 5a sq).

The saturation of these latter excavation squares with wooden remains should be noted, which is evidence that beams were cleaved to make planks.

Remains of human burials in the settlement

The finds of human skulls and jaws, as well as arm and leg bones in E, G, I, H and K excavation squares, judging by the conclusion made by the palaeoosteologist Guntis Gerhards, represented several individuals. The fact that the remains have been preserved fragmentarily is evidence of the fact that these burials were demolished during the life of the settlement, since a large part of the skeletal remains of the buried individuals are situated in the subsoil, although nothing was *in situ* any more; and besides, important parts of a skeleton such as spinal vertebrae were not found among the bones of the buried individuals.

The remains of skeletons of the buried individuals were concentrated in two places, H and K, as well as in E and G excavation squares, where a dwelling was discovered, of east-west location. At the western end of the dwelling, a piece of a massive jaw of a 30 to 35-year-old male individual was found (H, on the subsoil, 3f sq), but a little further was a humerus belonging to the same individual (5h sq). Also, the possible presence of two other individuals should be noted: occiput (base of skull), left-side temporal bone, fragments of a lower jaw (H square, 2h, 3j, 3I, 5j, 5g-c, 6h sq), as well as two skull fragments of a young person up to 18 years old (at the same place 3h sq). Also, the remains of a female skeleton were found there: two forearm

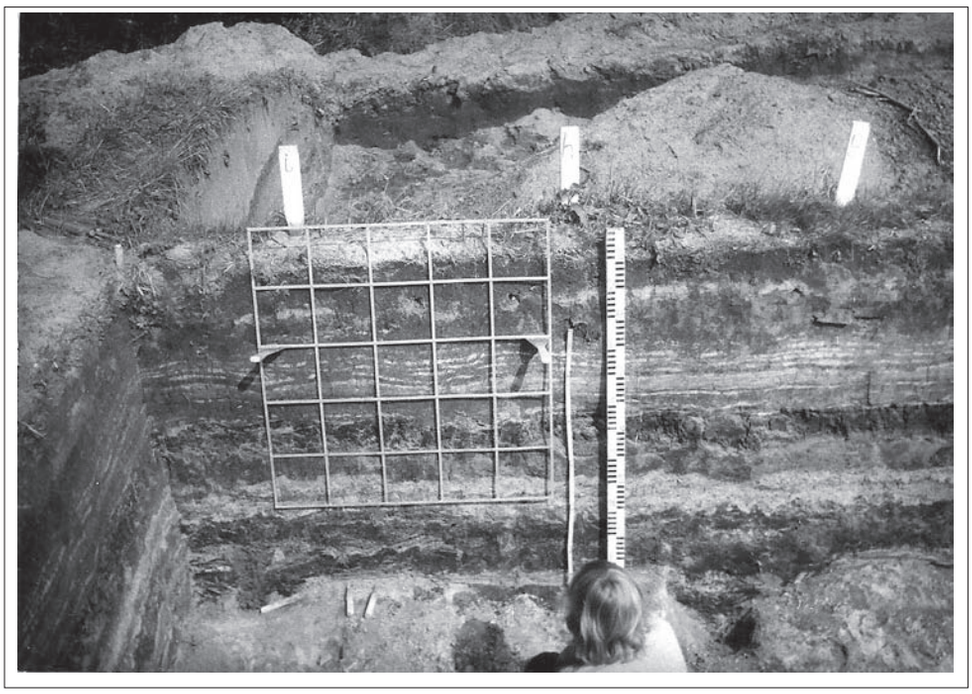

Fig. 5. The northeast profile of excavation square E (photograph by I. Loze).

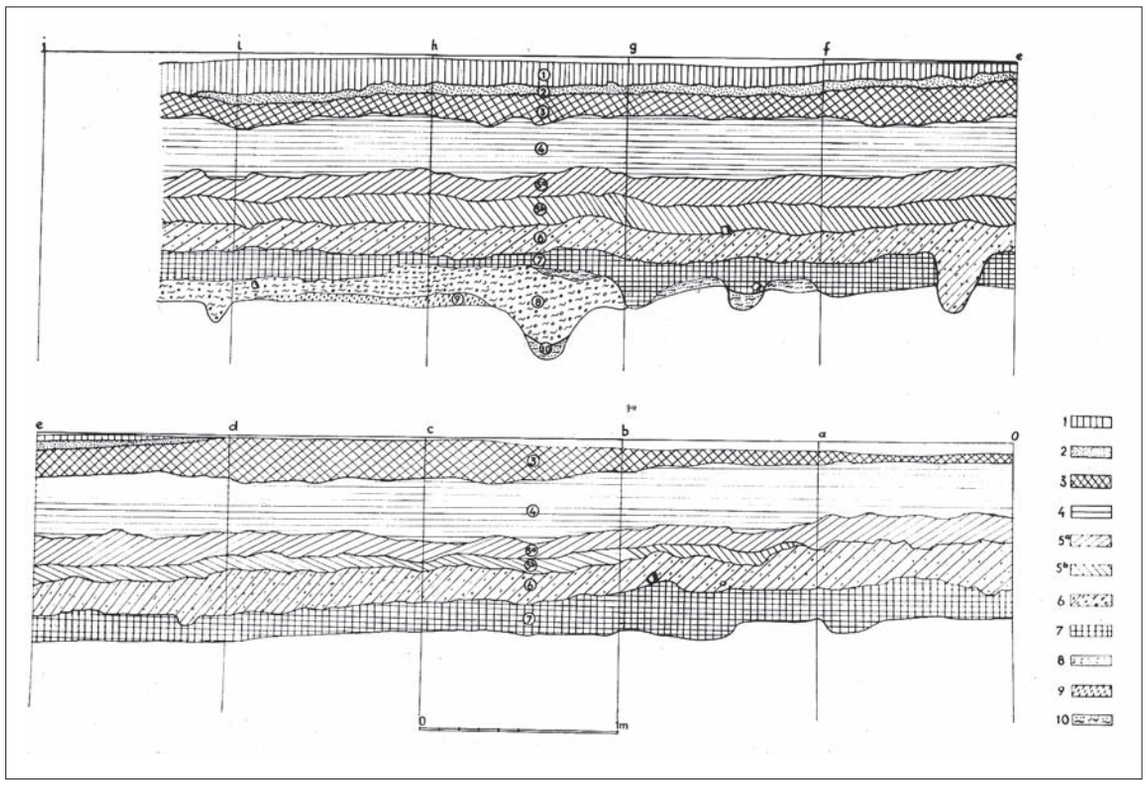

Fig. 6. The eastern profile of excavation square F: 1 sod; 2 washed-over yellow sand; 3 dark peaty soil; 4 interchanged light and dark sand layers; 5 overpeated loamy soil; 6 mixed hearth layer; 7 peaty layer; 8 subsoil; 9 gravel; 10 pitted hearth layer.

bones, left-side shank and a fragment of the left-side femur (2j, 4j, 3d, 5a). The remains of a juvenile burial, a fragment of a lower jaw, was registered in 5I and h square of H excavation square.

At the eastern end of the discovered dwelling in the southern part of the E excavation square the bones of an arm of an adult male were found (seventh layer, 2–3a sq), as well as fragments of the skull and the upper jaw (seventh layer, 3d sq). Possibly also fragments of the skull and lower jaw of a 30 to 35-year-old individual found in G square (in the subsoil, 1–3, h–j, sq) indicate the potential place of burial of another male. Bones of upper arms belonging to a woman or an adolescent were also found close to the place of the hearth in G square (sixth layer, 2i sq).

The fact that the group of demolished burials were located in exactly this part of the dwelling is indicated by several characteristics of the found inventory. They are seen already in the distribution plan of the settlement which was published earlier. Finds were registered in this part of the dwelling that could belong to a grave inventory: a bone plate with a graphic engraving of human features, pendants made of animal's teeth, amber pendants, button-shaped beads and a bone disc.

Also, attention should be paid to a clay anthropomorphic figurine which might not be part of the grave inventory of buried or deceased individuals, but it could belong to a magician who lived in the settlement, as part of his ritual equipment (Loze 2003a, Fig. 2).

Distribution of artefacts and pottery fragments

The distribution of Late Neolithic artefacts and pottery fragments in a living space allows us to expect traces of a dwelling, which had an east-west orientation with some derivation to the southeast. The spatial distribution of artefacts in the investigated excavation areas shows that they were concentrated within an eight-metre-wide and a 12 to 13-metre-long zone. In the dwelling site there was also a Late Neolithic amber processing workshop which is the second one in importance in the Lake Lubāns wetland. Also, 122 amber ware and semi-finished manufactures have been found there. Among them are 32 pendants and their semi-finished manufactures, 20 round and 13 rectangular as well as quadrangular button-shaped beads, 14 cylindrical and one disc-shaped bead, fragments of one ring and two discs, and a fastener (Loze 2008, p.134ff). Amber raw material and its processing waste totalled 70 grams, which does not testify to large reserves of it in the settlement.

The intensely saturated cultural layer of the settlement dwelling is represented by flint arrowheads, scrapers, knives and drills, bone daggers, awls and arrowheads, as well as shale chisels. A fragment of the bottom part of a stone battle-axe, as well as a bone plate with an engraving of a human face, are worthy of attention.

To the west of the dwelling place, in a zone of less activities, where also the remains of disturbed burials of settlement inhabitants were found, a small number of artefacts was obtained, including a disc-shaped amber bead and a semi-finished manufacture of a pendant, as well as two flint knives, bone arrowheads, and animal tooth pendants. The latter, like the amber bead, might belong to a burial inventory.

Pottery fragments which were obtained during the archaeological excavations belong to the following types: 67% are porous clay mass pottery with a smooth surface; 7% with pseudotextile impressions; 4% Lubāns-type pottery; and 1% pottery wholly covered with impressions of cord and corded pottery fragments. The rest of the fragments belong to Early Neolithic (1%), and to Bronze Age and Early Iron Age (1.1%) pottery (Loze 1993, p.15ff).

The distribution of pottery fragments in the eastern excavation areas were five to 17 fragments per metre, and also in the western part the distribution came within this range. Their number in K excavation area did not exceed 12 items per metre. In the area of the settlement, there were no concentrations of especially large numbers of pottery fragments.

Characteristics of the settlement inventory

In the Iča Late Neolithic settlement, during the course of archaeological excavations, in an area of 405 square metres, in total 516 artefacts were obtained (356 in 1988, and 160 in 1989). That makes on average more than one artefact per square metre. Of these, 66 artefacts belong to C excavation area, when the sand layer from the River Iča bed was dug over again at the end of the 1930s.

The artefacts found in the settlement are made of flint, stone, bone, antler and amber.

Flint inventory

Flint tools from the uncovered excavation areas of the Iča settlement make a small set of objects. There are arrowheads, scrapers, knives, perforators and several semi-finished manufactures of these. The arrowheads are of different forms, including two bifacial arrow-

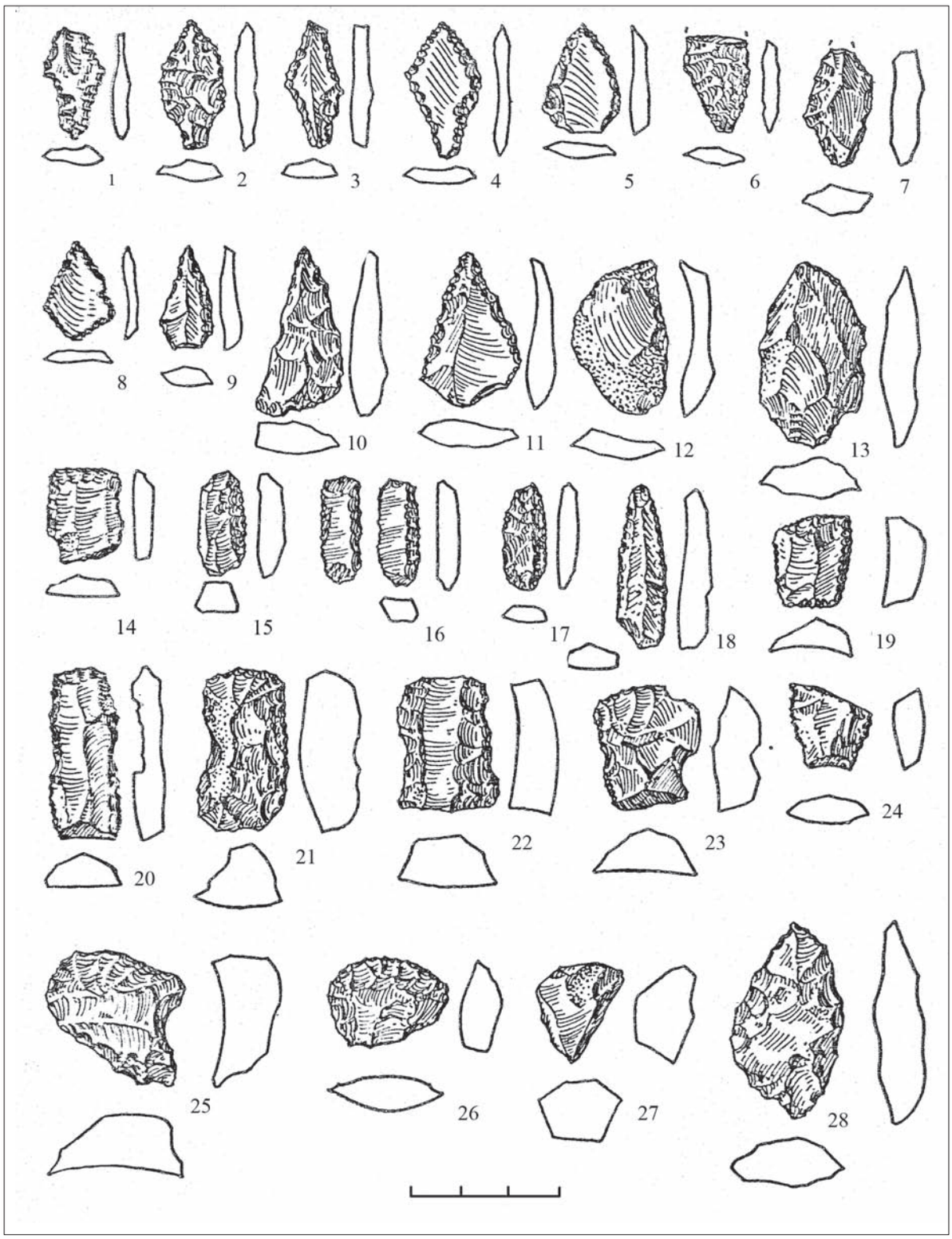

Fig. 10. Flint tools from the Iča settlement: 1-6 arrowheads; 7, 24 semi-manufactured arrowheads; 8-11 perforators; 12, 13 knives; 17 drill; 18 blade; 19-23, 25, 26 end and side-scrapers; 27 semi-manufactured scraper; 28 semi-manufactured spearhead (drawing by M. Jānkalniņa).

heads: one with a leaf-shaped head and narrowed tang; the other one, which has been preserved fragmentarily, is rhombus-shaped (Fig. 10.2, 6). Four other arrowheads have retouched edges. One of them is rhombus-shaped (Fig. 10.3). Two others differ in width and form: one is narrow, the other one wide (Fig. 10.1, 4). The last is triangular (Fig. 10.5).

There are three semi-finished manufactures of arrowheads: an unfinished bifacial arrowhead, a fragment of the middle part of a bifacial arrowhead, and a wide leaf-shaped item with started edge retouch (Fig. 10.7, 24, 28).

Flint scrapers are very diverse. There are:

- Quadrangular scrapers (Fig. 10.14, 19)
- Elongated edge scrapers (Fig. 10.15, 16)
- A blade-scraper with a straight forehead and edge retouch and a small concavity from both sides (Fig. 10.20)
- A massive block-shaped scraper of a regular form, with a high forehead and a concavity on the left side (Fig. 10.21)
- A block-shaped scraper with a wide retouch of the opposing edges (Fig. 10.22)
- A wide scraper with a high forehead and a concavity of the right side (Fig. 10.23)
- A scraper with a rounded forehead (Fig. 10.26)
- A scraper with a steep forehead and a concavity of the right side (Fig. 10.25)
- A semi-finished manufacture of a triangular scraper (Fig. 10.27)

Flint knives that are made using a flint flake technique have a fine retouch of one side (Fig. 10.12,13).

One of the knives made using flint flake technique, an elongated one, has a fine retouch of both sides, and the other one a retouch of one side (Fig. 10.18).

Flint perforators have a triangular contour and a short working end (Fig. 10.8,9,10). Only one drill with the short working end was found (Fig. 10.17).

Shale tools

There are not many stone tools in the Late Neolithic inventory of the Iča settlement. However, in the uncovered territory a massive and weighty slate chisel with a flatly pulvinated cross-section was found. Also, a typical Late Neolithic chisel with a rectangular cross-section has been preserved whole and unbroken; the other item is fragmentary, being represented by the edge part (Fig. 11. 2,7). In addition, a short and wide chisel with side edges and a symmetrical cross-section (Fig. 11.10) should be mentioned, as well as several small and miniature chisels characteristic of the Late Neolithic in the Lake Lubāns wetland, which are abundantly represented in the archaeological material of the Abora settlement.

Stone (boat) battle-axe

The battle-axe found in the Iča settlement belongs to the early type of massive Late Neolithic battle-axes (Fig. 11.9). This find of a fragment of a weighty axe is so far the only one in the Lake Lubāns wetland. The axe has an almost straight upper part, and a rather sharply upward blade edge on the lower part of it. The cross-section has a rounded oval form (LNVM, inv. no. 413). The axe is massive, the length of the fragment, from the hole in the handle to the blade, reaches 9.45 centimetres, the blade is 5.7 centimetres wide, and in the middle part in the place of the fracture it is 5.1 centimetres thick, which allows us to assume that it could have been part of a 16 to 17-centimetre-long tool.

Bone tools

Among Late Neolithic bone tools from the Iča settlement, there are arrowheads and spearheads, chisels, awls, daggers and knives, as well as blades made of cleaved wild boar tusks.

Arrowheads and spearheads can be classified in the following way:

- slender arrowheads with elongated feather and an asymmetrical tang (Fig. 12.1,2)
- slender arrowheads with elongated feather and a symmetrical tang (Fig. 12.3)
- spearhead with one-sided tooth and highly narrowed tang part (Fig. 12.4)
- slender fishing spearhead with rounded triangular cross-section (Fig. 12.19)

Among bone chisels, there are small items made of cleaved animal bones (Fig. 12.12). Bone awls are of two types. They are made of cleaved large animal bones (Fig. 12.15-17), and *RUD metacarpus Alces alces* (Fig. 12.6,7,18).

Daggers are made of ulna *Alces alces*. Sets of these everyday tools are the largest ones. The number of daggers comes to 20. For refined cutting works, blades made of cleaved wild boar tusks were used (Fig. 12.10,11).

The bone tool collection also contains a single-piece fishing hook and some other hard-to-identify bone tools (Fig. 12.8,13,14).

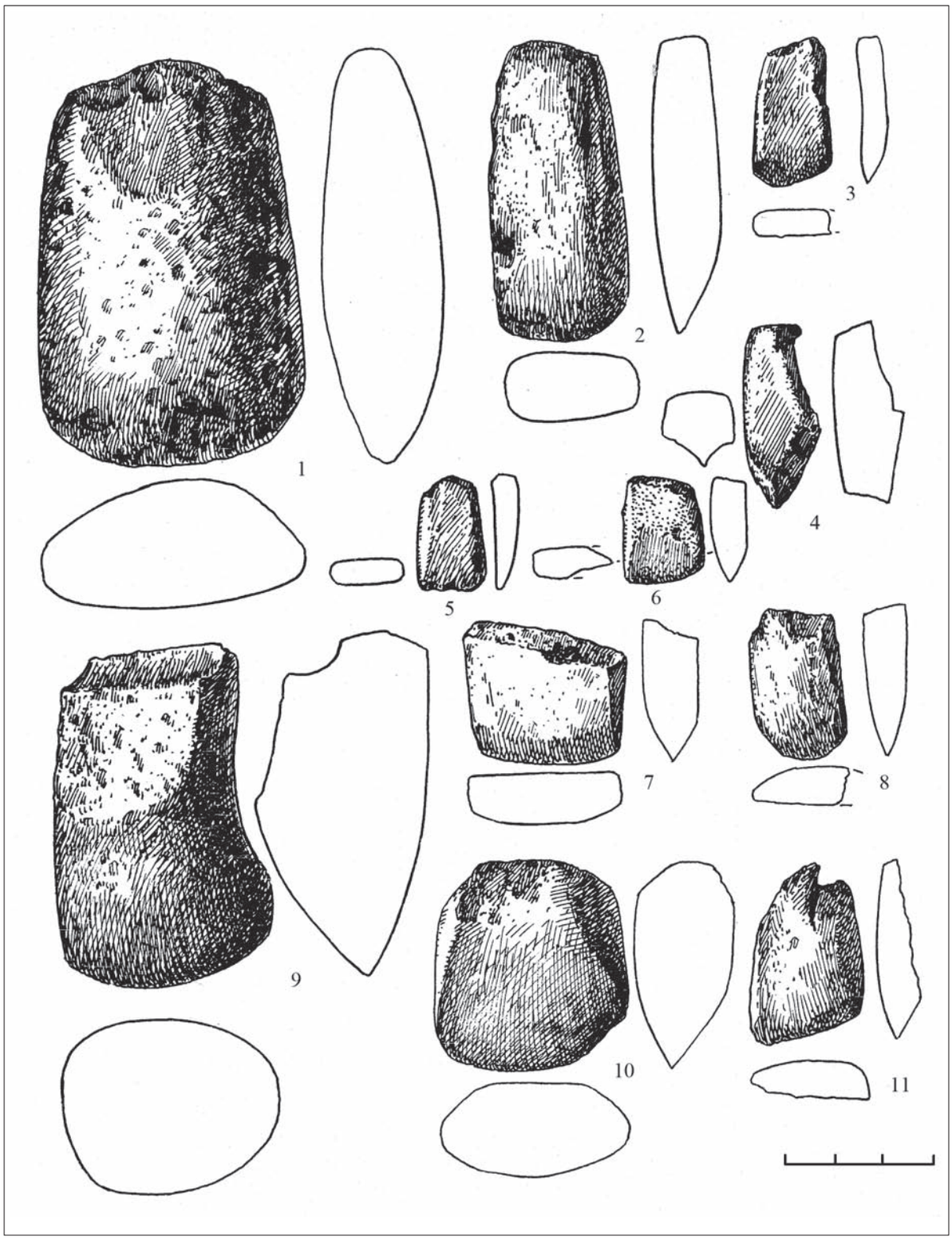

Fig. 11. Stone Age tools: 1battle-axe; 2-8, 10, 11 shale chisels; 9 fragment of a battle-axe (drawing by M. Jānkalniņa).

Small clay figure

A clay anthropomorphic figurine is the only small sculpted clay find in the Iča settlement (Fig. 13; see Plate III). Only the chest part of it, which belongs to the figure of a female, has been preserved. The fragment of the figurine is 2.8 centimetres long and 3.6 centimetres wide, and 0.85 centimetres thick in the middle part. This indicates that the figurine could have been about seven or eight centimetres long. It has rounded shoulders and a flat body. The face was possibly made in the same way. This is the feature that distinguishes the figurine from the Iča settlement and those obtained in northern Kurzeme in the Pūrciems and Ģipka settlements (Loze, 2003b, Fig. 2, 9-18).

We should note the ornamentation of this female clay figurine. The composition is made up of nail-shaped impressions. Its arrangement on the back is characterised by a criss-cross double line, encompassed by a double line of similar impressions, while on the front these impressions are arranged in three symmetrical rows in the shoulder part, in a direction towards the centre of the figurine.

It is possible that these nail-shaped compositions on the surface of the anthropomorphic figurine had a symbolic meaning in the Iča settlement. Such an arrangement of nail-shaped impressions in the form of a rhombus-shaped net is characteristic of early crop-grower pottery, including small clay figures, among which it was found.

When the fragment of a clay figurine was found, the excavation area resembled a large demolished place for a fire ritual, or even a hearth. While digging deeper in the Late Neolithic cultural layer, it still became possible to uncover a marked hearth site which consisted of 25 fragments of boulders.

Engraving of an anthropomorphic face on a bone plate

The inhabitants of the Iča Late Neolithic settlement also left in the settlement a bone plate with an anthropomorphic face engraved on it. The plate is 9.3 centimetres long and 2.3 centimetres wide (Figs.14.5, 15). The anthropomorphic face is engraved with deep incisions. It is formed in a peculiar way: the proportions are unnaturally elongated in length. The eyes are formed by drilling, but the atypically long nose is marked by two grooves arranged in parallel. The mouth is possibly discernable in the form of a line arranged athwart to the nose at the bottom part of the plate. The hair or headgear is shown in a similar way at the upper edge of the plate.

The bone plate, which was made from a large animal's leg bone, has a flat bottom. It could possibly have been used as an everyday utensil. We must emphasise that the rather primitive and peculiar representation of this anthropomorphic face does not attest to consummate skill on the part of the maker, nor to any special significance of this item. This engraving on a bone plate was obtained in the H 7th cultural layer of the H excavation area (inv. no. 432).

Bone ornaments

Ornaments cut from bone in the Iča settlement are represented by discs, plate-shaped pendants and lunules characteristic of the Late Neolithic settlements of the Lake Lubāns wetland. The discs are of two types: one has patterns on the edges, but the other does not. The diameter of the discs is from 2.6 centimetres to 4.3 centimetres (Fig. 14.3, 7-9). Plate-shaped pendants have slightly rounded contours and an incurved bottom, or they are wider, with jagged edges (Fig. 14.1, 2). A lunule with side carvings has been preserved fragmentarily; therefore, it is difficult to judge about the formation of the edges (Fig. 14.4).

Amber ornaments

Attention should be paid to the amber-working in the Iča Late Neolithic settlement. The ornaments and semi-finished manufactures found in the settlement, 122 items in total, were made in the last stage of the settlement population. The amber collection from this settlement includes pendants, button-shaped and cylindrical beads, one disc-shaped bead, rings and discs, and fragments of them. Also, a single pin has been found.

Inhabitants of the Iča settlement still used natural pieces of amber with frontal perforation. Of such ornaments, 32 items have been found. The second group of amber pendants were represented by regular-shaped bulky pendants: tooth-shaped, pyramidal, and drop and plate-shaped, as well as by stemmed discs (key-head shaped) specimens (Loze 2008b, p.442ff).

Specimens of round (15) and quadrangular button-shaped (11) beads were made perfectly. Among them are some especially carefully worked specimens, with small incisions on their edges (Loze 2008a, Fig. XXVIII.10, 12).The quadrangular button-shaped beads are of two types. One of them is of a geometrically precise form, the other one is characterised by a rounding of its end. Cylindrical beads (11 specimens) and three semi-finished manufactures were found. They are 1.5 to three centimetres long. One disc-shaped bead is roughly worked, with a cross-section

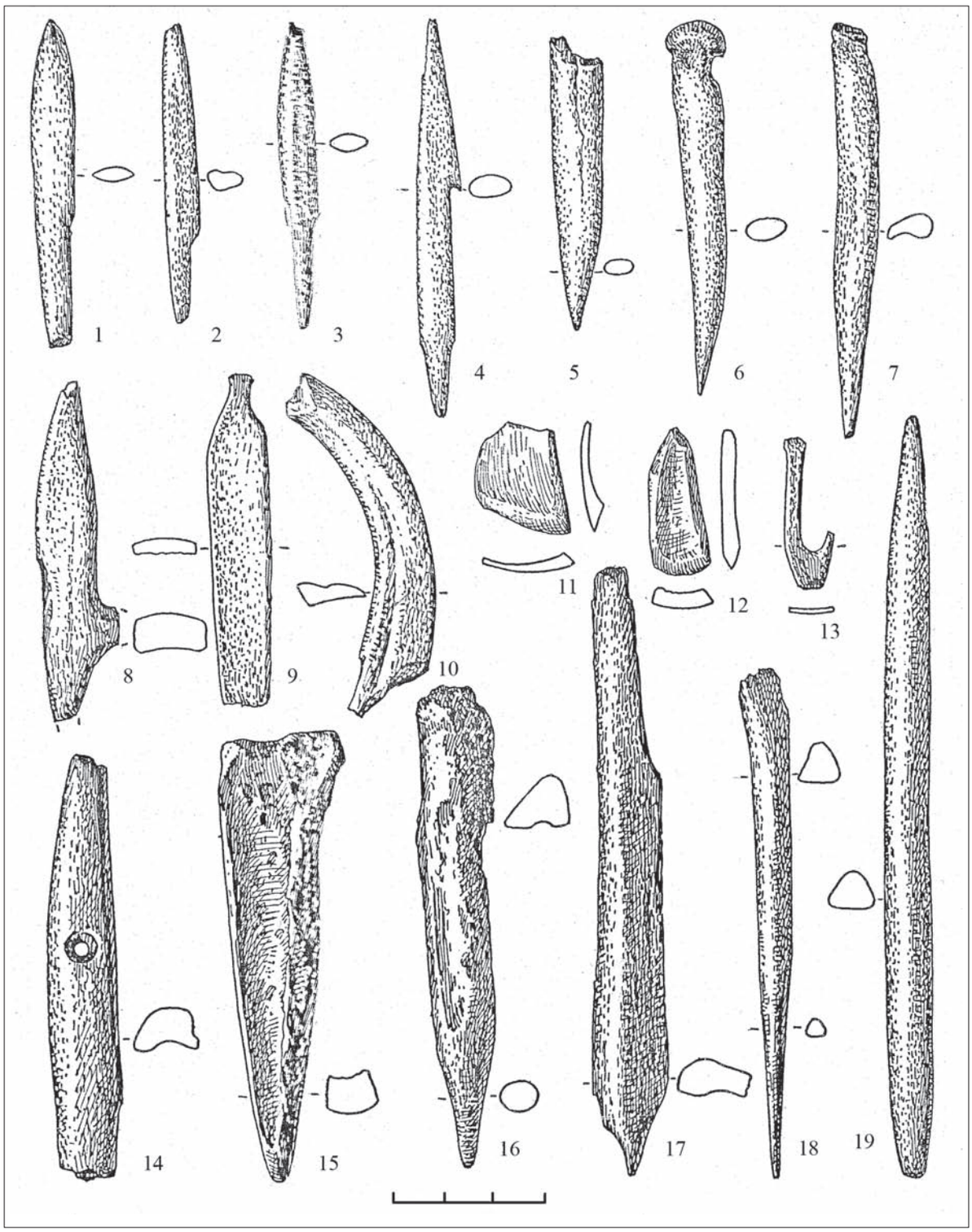

Fig. 12. Bone tools for hunting and everyday use: 1-3 arrowheads; 4, 19 spearheads; 5-7, 15-18 awls; 8 fragment of a harpoon; 9 net-making needle; 10 blade of cleaved wild boar tusk; 11, 12 small chisels; 13 fishing hook (drawing by M. Jāņkalniņa).

of 1.3 centimetres. Discs and rings were also made at the Iča settlement. Only fragments of two discs and one ring were found. The complex of amber ornaments from the Iča settlement has significantly expanded the research basis of Late Neolithic amber, and reminds us once more of the significance and phenomenon of the Lake Lubāns wetland amber-working centre in the context of east Baltic prehistoric amber research (Loze 2009, p.60ff). The Late Neolithic in the Lake Lubāns wetland is characterised by the rapid growth of amber-working, resulting in the making of technically valuable ornaments which should be duplicated and distributed among those who like amber ware nowadays.

Late Neolithic and Eneolithic pottery

Late Neolithic pottery from the Iča settlement (2,109 fragments) is represented by fragments of vessels of a porous structure, and also by fragments of corded pottery and Lubāns-type pottery. This means that three population periods of the settlement can be distinguished: two belong to the Late Neolithic, porous mass pottery and corded pottery; but Lubāns-type pottery is characteristic of Eneolithic, and this pottery corresponds, according to the opinions of specialists in this field, to Bell Beaker culture pottery (Loze 2003a, pp.123-136).

Until now, issues about the stratification of Eneolithic pottery in the cultural layers of Late Neolithic settlements have not been discussed; therefore, a question arises about the mutual relations between representatives of these two diverse cultural periods, by ascertaining their character. It should be mentioned that the makers of Lubāns-type pottery were newcomers from the east and southeast; therefore, the relations between them might not have been so friendly. The fact that the newcomers did not form settlements in new places, but settled on the sites of Late Neolithic settlements, suggests that these relations might not have been too peaceful. Besides, these cultural periods still differ chronologically, and also the lithology is diverse. However, fragments of Lake Lubāns pottery in the Iča settlement are found not only in the fifth lithologic layer, but also in the sixth lithologic layer belonging to the Late Neolithic, and this fact suggests that these two groups of inhabitants, the local inhabitants and the newcomers, could possibly have had a period of contact. This issue can by no means be discussed in the light of the presently accumulated materials, but in the course of archaeological excavations of the Lake Lubāns wetland it will become especially topical.

Corded pottery

According to scientific significance, the Iča Late Neolithic settlement is the second one in the Lake Lubāns wetland where in the course of archaeological excavations traces of corded pottery population have been found. If the planigraphic distribution of corded pottery amphorae and scoops is traced in Late Neolithic cultural layers, it becomes clear that they are situated in a definite part of the settlement territory, which is probably linked with the sites of the remains of burials of the inhabitants. Besides, the bottom part of a broken stone battle-axe also belongs to this area. This zone of burial remains, and the corded pottery distribution is located in the northern part of H excavation area and in the southern part of K excavation area. Separate fragments of human bones have also been found in the western part of G excavation area, and even in the northwest part of J excavation area.

While classifying these fragments of pottery obtained during archaeological excavations of the Iča settlement, it should be noted that these are only small fragments of amphorae, beakers and large household pots. Their extreme fragmentation is a characteristic phenomenon in the settlements of the Lake Lubāns wetland, since they were much used, which did not allow for them to be preserved whole.

Fragments of amphorae, number 3, belong to the upper edge of a large short-necked amphora with a slanting hatching of the edge, and two side fragments from different amphorae, decorated with vertical group hatching; and along the edges one of these has a triangular, and the other a vertical, row of pits (Fig. 16.2, Table 1).

Smaller fragments of amphorae (inv. nos. 52, 120, 161, 322, 324, 423) were found in D (first layer), E, F and G areas, in the sixth lithologic layer, which corresponds to the second period of construction of the Late Neolithic population. Fragments of beakers in the Iča settlement can be divided into two groups. Those in one of these have characteristically corded impressions, but the other ones have a herringbone-type incised pattern along the upper edge of the beaker's neck (Fig. 16.4, 5,7).

The profiling of the neck differs between these two beakers, due to the different arrangement of corded impressions arranged horizontally along the upper edge. One of them is slightly profiled, but the other one has a strongly marked S-type profiling of the upper edge.

Fragments of beakers with herringbone-type patterns do not have drastic side profiling. Numbering three, they are decorated in two ways: one of them by com-

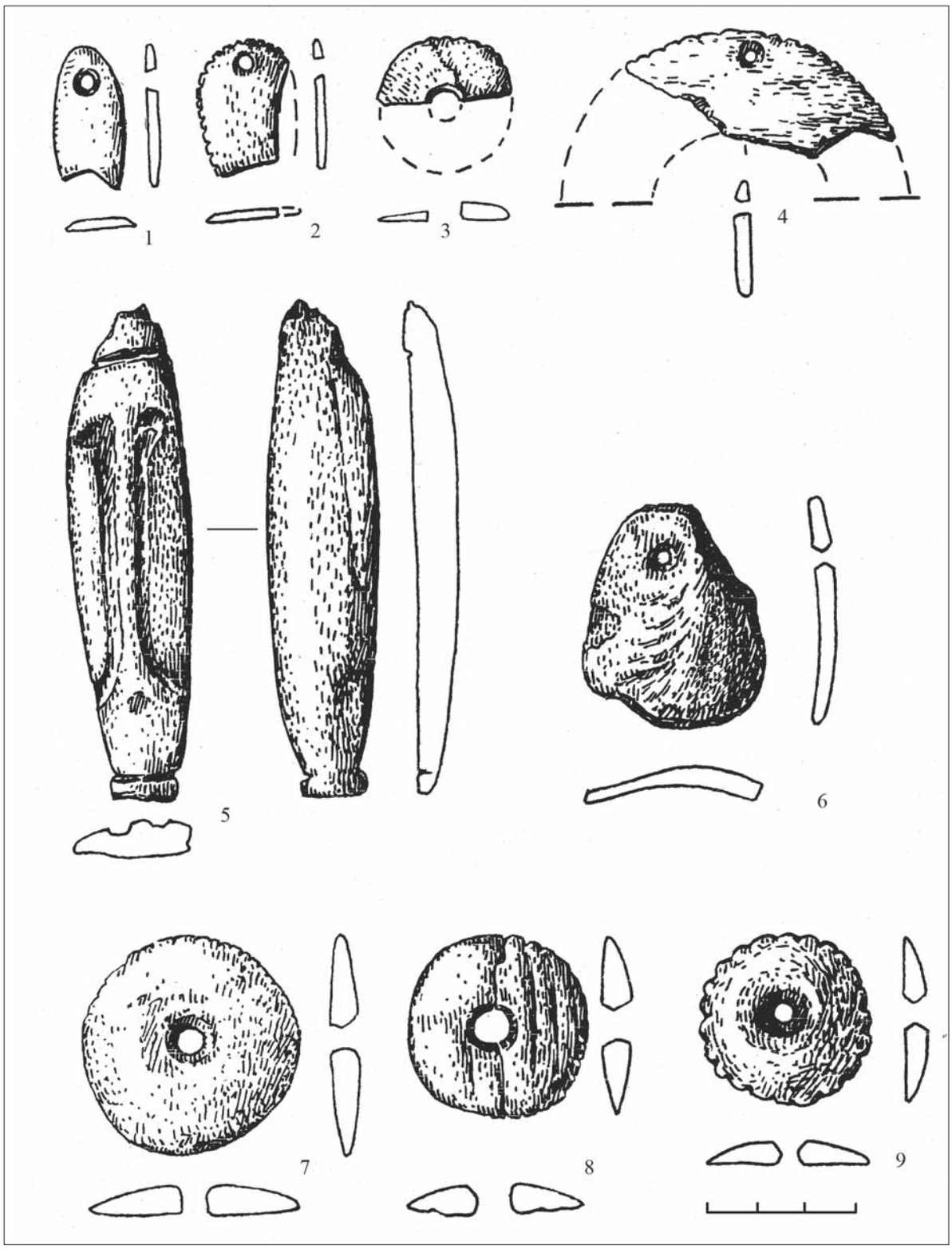

Fig. 14. 1, 2, 6 bone pendants; 3, 7-9 discs; 4 lunulae; 5 plate with engraved anthropomorphic face (drawing by M. Jāņkalniņa).

Fig. 15. A plate with an engraved anthropomorphic face from the Iča Late Neolithic settlement (photograph by I. Gradovskis).

pactly arranged herringbone-type incisions arranged in a zig-zag line; but the other two by a wider zone of patterns where groupings of herringbone-type incisions are arranged at a right angle with one another, and they form horizontal lines by which the first ones are separated from the zone of slanting herringbone-type incisions.

Household pots which are often also called amphora-type bulky pottery are represented by only three fragments (inv. nos. 38, 101, 327). One of the fragments belongs to the short-necked rib type. Chamotte was admixed to the clay mass of this type of pottery, while amphorae and beakers had sand admixed to the clay mass.

Pottery of porous clay mass structure

Fragments of pottery of porous clay mass structure represent the dominant population in the settlement who dwelt here even before the arrival of Corded Ware culture population, and this was distinguished as Late Neolithic culture in the 1970s, thanks to fundamental archaeological excavations of the Abora Late Neolithic settlement, which for the first time in the eastern Baltic showed a peculiar complex of Late Neolithic culture. This includes not only smooth-surface pottery with wound cord, striped and comb impressions, as well as pit and tubular bone impressions, but also pottery which in the processing of its surface was wholly covered with impressions of cord and pseudotextile impressions. These pots, made for household or kitchen needs, represent the making of an archaic thick-walled type of pottery, characterised by an inwardly slanting upper edge, and were replaced by pottery with a gradual extending forward and upward of the slightly rounded upper edge. This group of pottery cannot be included in the ordinary classification scale of east Baltic Late Neolithic pottery, since it represents a rather archaic style of manufacture, characteristic of a comb impression method (Figs. 17.4,5;18.5). Here, six ver-

Table 1. The planigraphic and stratigraphic distribution of amphorae

No.	Amphora type	Inv. No.	Area	Layer	Square
1.	Fragment of the upper edge of a short-necked amphora	486	G	8	2, b-d
2.	Fragment of the side of an amphora with hatching and triangular incisions along the edges	749	H	9	2 d
3.	Fragment of the side of an amphora with hatching and pits along both edges	358	F	7	1–2 c

Table 2. The planigraphic and stratigraphic distribution of beakers

No.	Beaker type	Inv. No.	Area	Layer	Square
1.	Upper edge of the beaker decorated by corded rows	123	D	5	1a
2.	Fragment of corded ware	600	H	6	4 i-j
3.	Upper edge fragment of a beaker decorated with herringbone-type lines	442	G	6	1a
4.	Fragment decorated with herringbone-type and horizontal lines	630/631	H	7	5-6 d
5.	Fragment of the upper edge of a miniature beaker with corded impressions	257/259	E	7	3 b
6.	Fragment of a beaker wall upper edge with herringbone hatching	135	D	12	1-2, b-c
7.	Fragment of a beaker wall with a corded zone	91	C4	4	6 c

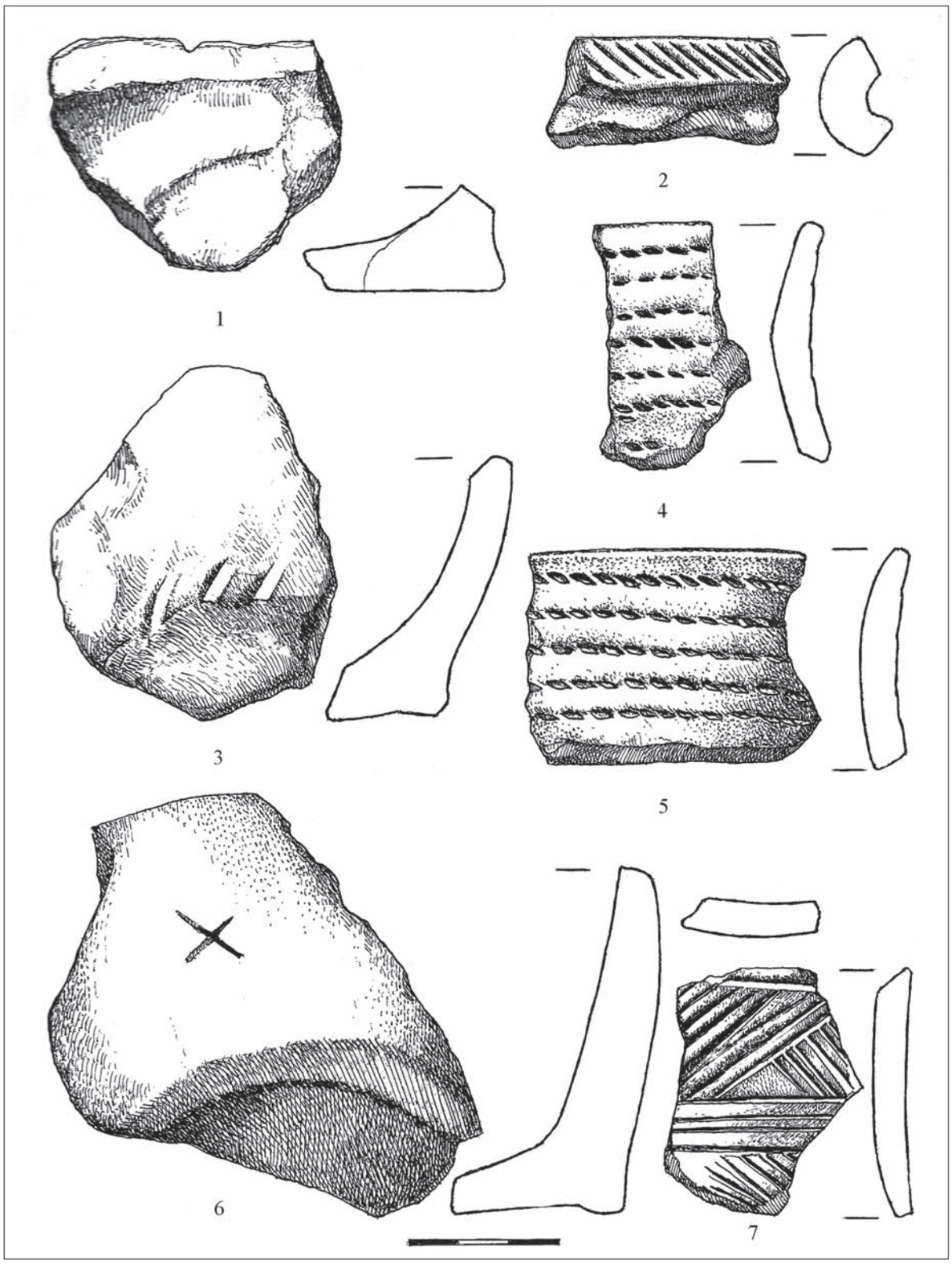

Fig. 16. Potsherds with smooth surface (1, 2), potsherds of Corded Ware pottery (3, 5, 7), and dishes (3, 6) from the Iča Late Neolithic settlement (drawing by A. Ivbule).

sions of profiling of these pots can be distinguished. We can consider that from this type of pot, ones with a forward and upward extended rounded upper edge were formed (Fig. 18.4).

Among these pots, there are items with pseudotextile impressions and with a smooth surface. The surface of these pots is decorated mostly with sparsely distributed pits of various sizes, or with wound cord impressions. The surfaces of the wide upper edges of these pots were also processed using pseudotextile or cord, or wounded cord impressions (inv. no. 103: 646, 928, 929).

We should remember that the profiling of this archaic type of pot (versions of types 1 to 6) is also characteristic of the pottery of the Eiņi Late Neolithic settlement, which, like the Iča settlement, is located in the basin of the River Aiviekste (LNVM, inv. no. 119: 11, 15, 16, 25, 28, 50, 54). This type of pottery has not been found in the Abora Late Neolithic settlement.

It is characteristic also of the Riņņukalns settlement, which is situated in the basin of Lake Burtnieks: the ornamentation is of a similar type as on the edge fragments of pots found in the Iča and Eiņi settlements. Among these pottery fragments, which are stored in the archaeological collections of the Estonian Institute of History (LNVM, inv. no. 1392:272, 287), even 1.7-centimetre-thick fragments of pot upper edges have been found. Fragments of this type of pot (LNVM, A 11301:73) were also found during the excavations in this settlement led by Šturms.

Straight-edged vessels (Type I) belong to fragments of slightly rounded upper edges. Among them are some upper edges of thick-walled vessels (Fig. 17.2). These vessels are decorated with incised herringbone lines, small incisions or horizontal wound cord impression lines or very rare thin comb. In one small cord, impressions were found on the surface of the vessel interchanged with rows of small pits (LNVM, inv. no. 103:754).

Vessels with inwardly extended upper edges (Type C) are represented by fragments with a flat upper edge surface, which is straight or inwardly slanting and rounded. This group of vessels comprises not only smooth-surfaced but also pseudotextile pottery.

Vessels with S-type profiling of the upper edge were not made in large quanities; only separate fragments were found here, among which a rather loosely profiled vessel should be noted (LNVM, inv. no. 103:254). In exactly this group of vessels appear several upper edges wholly covered with impressions of cord (Figs. 17.1;18.1,2, 6). On one of these vessels, these impressions are arranged in a definite order: in the part under the neck they are arranged horizontally, but below they turn and are slanted (LNVM, inv. no. 251). They are also impressed on the surface of the upper edge of the vessel (Fig. 18.2). Among them there is also a kitchen vessel. Some items are characterised by a wavy upper edge with rectangular impressions (LNVM, inv. no. 103:198). One vessel is decorated with small comb impressions that are arranged in sinuous lines (LNVM, inv. no. 103:546).

Flat-bottomed round dishes are of two types. One of them is characterised by straight extended edges with the height not exceeding 4.8 to 6.5 centimetres (LNVM, inv. no. 165, 189) (Fig. 16.3,6). On one of these dishes, a double cross sign has been incised, which indicates the communication activities of the settlement's inhabitants. Dishes of the other type have rounded edges (LNVM, inv. no. 165, 203). Dishes were also used for cooking on a fire, which is shown by the sooty bottom and edges. Only one shale with an absolutely straight outer edge was found among the fragments (LNVM, inv. no. 357). It is a vessel for a well-prepared table (Fig. 16.1)

Radioactive carbon wood sampling and C^{14} dating

The Iča Late Neolithic settlement is the second one in scientific importance in the development of Late Neolithic monument chronology in the Lake Lubāns wetland. Therefore, during the 1988, and especially during the 1989, field work season, wood samples were gathered in areas where they were available, for the determination of their age using the radiocarbon method. In the course of both work seasons, 22 wood samples were gathered, of which five were dated in the Radiocarbon Laboratory of the Institute of Zoology and Botany of the Estonian Academy of Sciences (Loze 1989, p.54).

During the sampling process, wood from different depths of cultural layers were considered; and, in addition, raw materials of different types were selected in order to gain a more complete view of the time of the population of the settlement and its significance in the development of the periodisation of the Late Neolithic in the Lake Lubāns wetland.

A cleaved-off wooden plank from area K, ninth layer (4 c sq), thanks to its stratigraphic location, was useful for determining the beginning of the period of the Corded Ware culture population of the settlement. The age of this sample is 4260 ± 70 years (TA-2249). Another sample, a fragment of a picket from the eighth layer of square H, showed an even greater age: 4390 ±

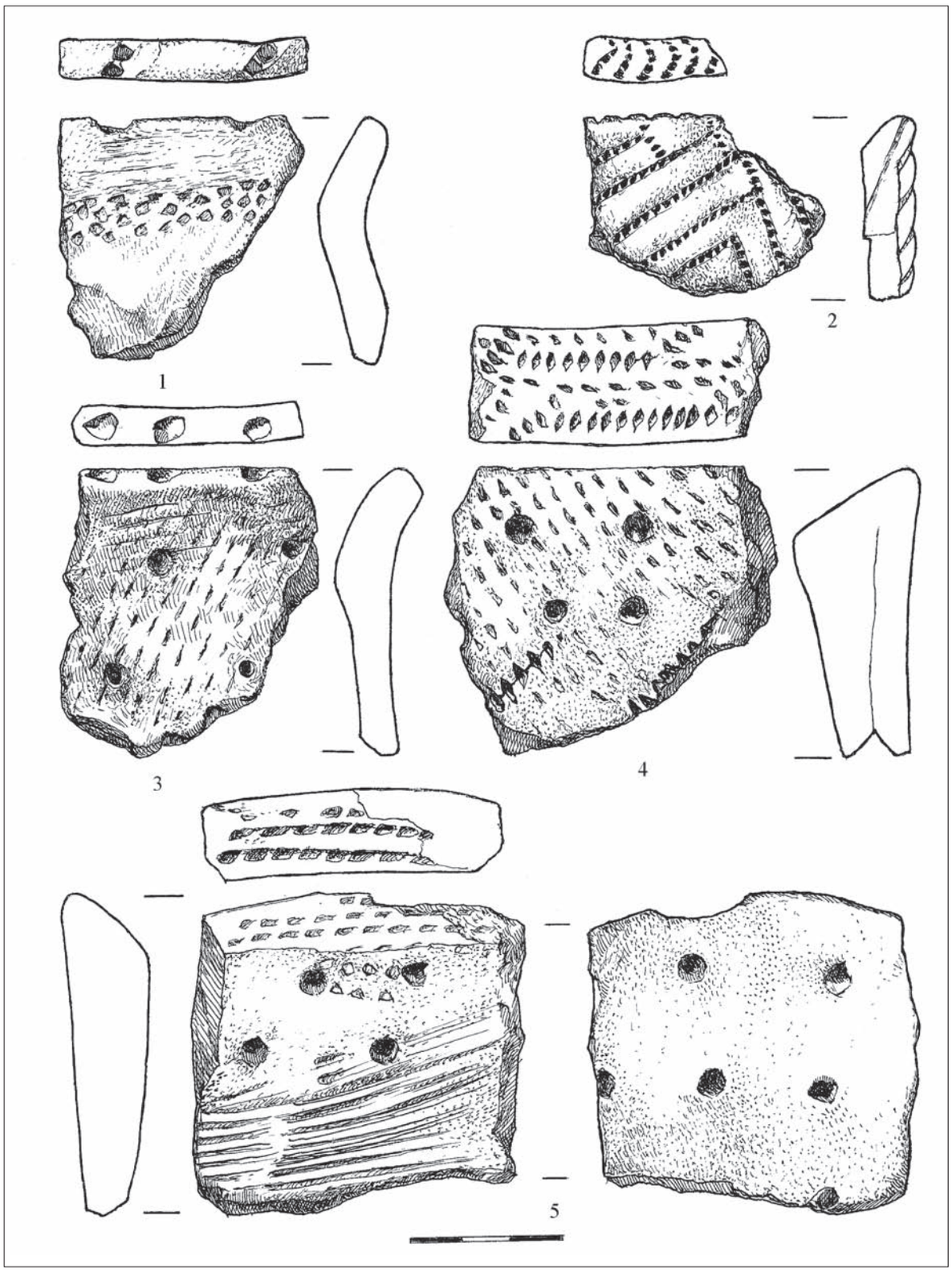

Fig. 17. Porous mass pottery from the Iča Late Neolithic settlement: 1-4 all-over cord-impressed potsherds; 5 pot sherds of smooth surface (drawing by A. Ivbule).

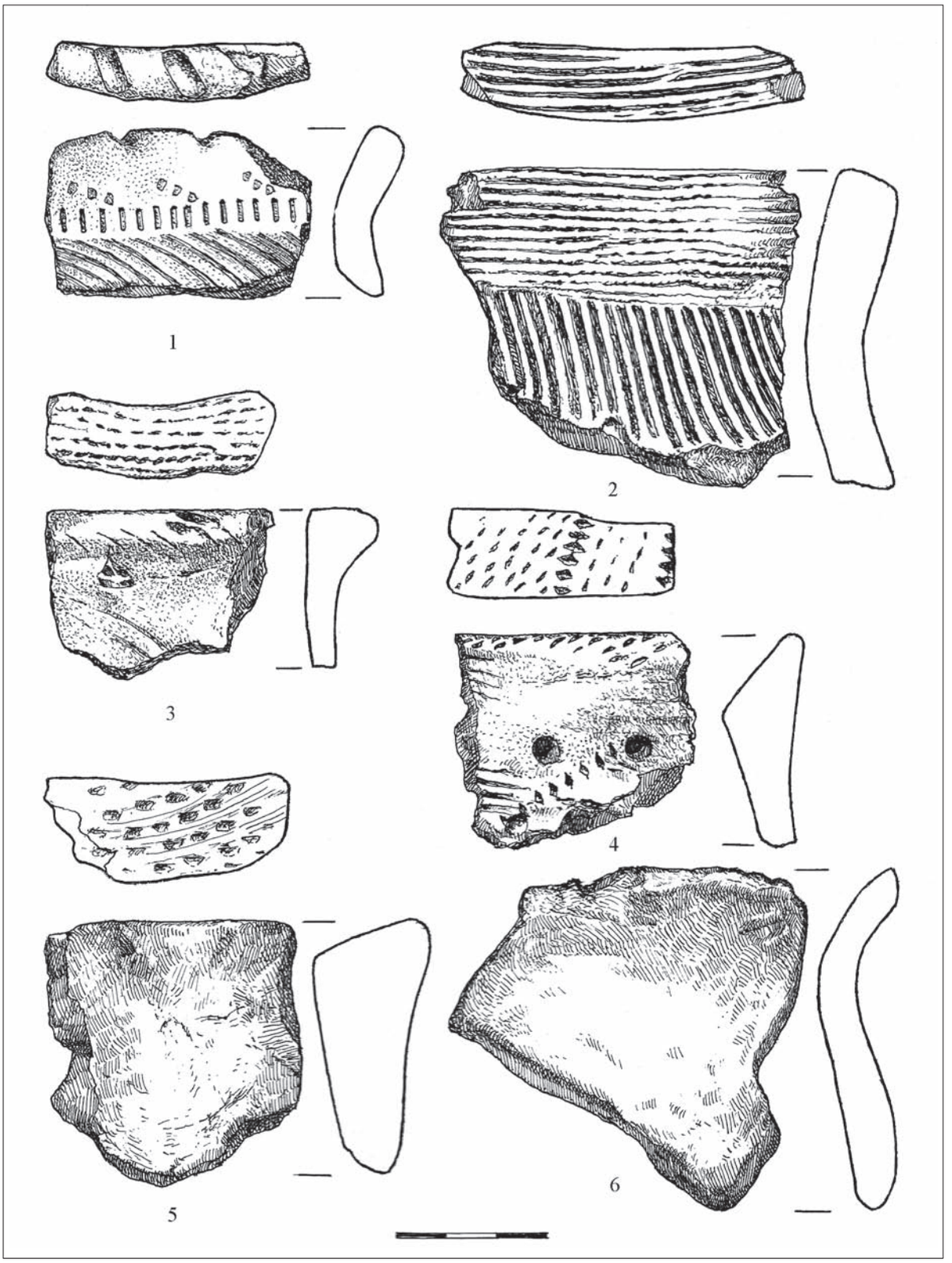

Fig. 18. Porous mass pottery from the Iča Late Neolithic settlement (drawing by A. Ivbule).

80 (TA-2247), and this should be related to the beginning of the time of population of the settlement.

A pole lying in subsoil in square F (5 g sq) shows a lesser age: 4120 ± 90 years (TA-2143). Another pole from the eighth layer of square H (3 g sq) had the most recent dating: 3950 ± 50 (TA-2390).

Radiocarbon data of Iča Neolithic settlement

No.	Code of lab.	Material	Data BP	Calibrated Data	BC
1	TA- 2248	Wood	4420 + 80	3320±3230	68, 2 %
2	TA- 2247	Wood	4390 + 80	3210±3300	68, 2 %
3	TA- 2249	Wood	4260 + 70	3010±2980	68, 2 %
4	TA- 2143	Wood	4120+ 90	2870±2800	68, 2 %
5	TA- 2390	Wood	3950 +50	2570±2520	68, 2 %

Translated by the author

Abbreviations

AE – Arheoloģija un etnogrāfija (Rīga from 1957).
LNVM – Latvian National Museum of History, Department of Archaeology (Rīga).

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IČA NEOLITINĖ GYVENVIETĖ LUBĀNS EŽERO ŠLAPŽEMĖSE

ILZE LOZE

Santrauka

Archeologiniai kasinėjimai Iča vėlyvojo neolito gyvenvietėje vykdyti 1988 ir 1989 metais (1–9 pav.; įklija II). Prieškarinius Iča gyvenvietės tyrimus atliko Eduardas Šturmas (1895–1959). Šio straipsnio tikslas – atkreipti dėmesį į vėlyvojo neolito populiacijos pobūdį. Iš viso buvo ištirtas 463,5 m² plotas. Atidengti trys kultūriniai sluoksniai: eneolitinis, viršutinis vėlyvojo neolito ir žemutinis vėlyvojo neolito. Aprašyta topografija, stratigrafija ir būstų žymės (5–6 pav.; įklija II). Atkreiptas dėmesys į labai suardytus žmonių kapus, iš kurių pavienių kaulų buvo rasta visoje tyrinėto ploto teritorijoje. Titnago, akmens, rago ir gintaro dirbiniai, iš viso 516 vienetų, buvo rasti 506 m² teritorijoje (10–12; 14–15 pav.). Mažas molio lipdinys – moters figūrėlės biusto dalis, taip pat kaulo plokštelė su išraižytu antropomorfiniu veidu – verti ypatingo susidomėjimo (13 pav.; įklija III). Iča gyvenvietėje buvo rasta gintaro papuošalų – 122 kabučiai, sagutės, cilindriniai karoliai, žiedo fragmentai ir diskų radiniai. Iča keramika buvo suskirstyta į tris grupes: vėlyvojo neolito akytoji ir virvelinė, taip pat eneolitinė Lubāns tipo keramika (16–18 pav.). Penkių medienos mėginių radiokarboninės datos leido nustatyti Iča gyvenvietės gyvavimo laikotarpį tarp 3320 ir 2570 m. pr. Kr.

Vertė Rasa Banytė-Rowell