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ORNAMENTAL ENGRAVINGS AND DECORATIVE OBJECTS FROM PŘEDMOSTÍ NEAR PŘEROV IN MORAVIA

ABSTRACT: The Palaeolithic camp site of Předmostí near Přerov (Central Moravia) is, thanks to its unique pieces of Palaeolithic art, bone tools and large quantities of lithics, one of the most important Palaeolithic sites in Europe. Until now, the two most important objects of art, a strongly stylised female figure engraved on a mammoth tusk and an ivory-carved mammoth sculpture, have been pictured in most books on Palaeolithic art, but the total number of objects of artistic production remains unknown. Anthropomorphic and zoomorphic images from Předmostí have been summarised in the preceding article (Valoch K., 1969: IPEK 22, 1966/69: 1–6). In this paper, we provide an overview of non-figurative engravings and personal ornaments. This article is a reprint of a previously published article (Valoch K., 1975: *Anthropologie (Brno)* 13, 1–2: 81–91).

KEY WORDS: Předmostí – Palaeolithic art – Personal ornaments – Engravings – Pavlovian

It is almost 100 years ago since the Palaeolithic camp site of Předmostí was discovered near Přerov on the river Bečva in Central Moravia. Thanks to its unique pieces of Palaeolithic art, bone tools and large quantities of lithics, this site has brought fame to the Moravian Palaeolithic. It must be considered a misfortune of destiny that, despite the effort of three generations of

researchers, the finds were never published together in the form of a comprehensive monograph.

The two most important objects of art – a strongly stylised female figure engraved on a mammoth tusk and an ivory-carved mammoth sculpture – have been pictured in most books on Palaeolithic art, but the total number of objects of artistic production remains

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unknown. For this reason, anthropomorphic and zoomorphic images have been summarised in the preceding article (Valoch 1969; note that B. Klíma (1974) published in the meantime the only known wolverine (*Gulo gulo L.*) figure sculpted from clay and fired, whose original is stored in collections of the Anthropos Institute), which is followed by an overview of non-figurative engravings and personal ornaments.

Firstly, a female figurine is presented, which was found during the recent conservation of old skeletal remains in collections from the Anthropos Institute (Figure 5). The number of similar statuettes carved from mammoth metapodials rises to 6 or 8 specimens (cf. Valoch 1969: Taf. 2, 3).

Figure 5. A mammoth metapodial 10.4 cm long, whose distal joint end, representing the head, is distinguished from the rest of the body by a circumferential groove. Compact bone on both lateral sides of the head was removed, whereupon the head became elongated in shape. Sinter residues are preserved in a few places inside the groove. The remaining portion of the bone is unaltered; the knob in the lower part shows recent damage. Only the compact bone at the lower edge is worn with use in a few places.

This simple anthropomorphic figurine, which retains to the highest possible degree the natural shape of the bone, belongs to a group of similar artefacts found by K. J. Maška, which are considered to portray pregnant females.

Figure 6:1. An ivory-carved elliptical pendant ("amulet" or *churinga*) with a globular projection at the narrow end, which was probably intended for suspension. The cross-section of the artefact is flat, lentiform, a little asymmetrical. One side is richly decorated, while the other is plain. The decorative pattern is composed of two elements: on the right there are four rows of varying lengths of short, parallel, oblique grooves, on the left there are three half ovals consisting of 8, 10, and 10 arched lines respectively. Absolon, who also described this artefact, gives exact number of lines in each row (10, 20, 40, and 50) (Absolon 1957: Fig. 30). However, the globular projection at the end was broken off at that time and several millimetres of the surface are missing (this part was reconstructed with plaster), this means that the beginning of the two longer rows is unclear and the last row may have had 11 grooves.

Found by M. Kříž, published by Kříž (1903: 233).

Figure 6:2. A banana-shaped ivory artefact 13 cm long, with oval cross-section of 3×4 cm and bilaterally chiselled hollows, perhaps with an initiated perforation, at both ends. The whole surface was originally smoothed

and undecorated; today it is cracked, on the back a small piece of a thin tusk lamella was recently broken off, the incurvation on the left middle was also caused by the removal of a lamellar remnant and the surface has a natural grooved structure. The artefact was thus probably originally symmetrically arched.

Figure 6:5. Fragment of an oval ivory artefact 10.5 cm long, with hollows at both ends. The surface is smooth, the left bottom margin of about 6 cm in length up to the edge of the hollow is reconstructed with plaster. Originally it was probably an object similar to Figure 6:2, at least 2.5 cm thick. The present remnant is just a dorsal hollow shell, barely 1 cm thick; the remaining part of the artefact has broken off along the lamellar surface.

Figure 6:3. An ivory stick, 13.5 cm long, with a round cross-section of max. 2 cm in diameter. Both ends are well distinguished to form globular heads. The entire surface of the artefact was smoothed but today it is corroded and damaged in a few places. Nevertheless, in one place in the lower third (not pictured) five short grooves can be observed. The upper head is smoothed round; the lower one retained an uneven, knobbly shape.

Found by K. J. Maška.

Figure 6:4. An artefact carved from a single piece of mammoth ivory, 16.5 cm long, max. 9 mm thick. One side (not pictured) is completely covered with quite thick, coarse grained calc-sinter, roughly in the middle is the only place that a small piece of strongly corroded original surface can be seen. Approximately half of the other side (pictured) is also covered with sinter.

The artefact, often referred to in the literature as glasses-shaped, consists of three ovals linked together by narrowed neck-like segments. At the lower end it seems to have been rounded and terminated, whereas at the upper end it can be supposed to extend. The upper oval has an almost round hole of 13 mm in diameter; the central oval has a hollow of about 15 mm in diameter, which was perhaps intended to become a second opening. The hole on the lower oval is partly coincidental; the grooved surface of the lower third follows the natural surface structure of a tusk lamella. It can be supposed that a lamella split off during the chiselling of the central hole (it was not drilled) whereby the lower end became so thin that it broke. The junction in the middle part below the hollow is also reinforced with plaster since it was too thin. The lower oval, however, may have been broken because a second hollow of approx. 15 mm in diameter began to be chiselled out from the other side.

Thus, it is an unfinished artefact, maybe a faulty product, which ought to have had three holes and probably also an extension in the upper part.

Figure 6:6. Small bone cylinder 7.2 cm long, max. 18 mm in diameter, with cavity of about 4 mm in diameter, truncated at the top and bottom. Below the upper end, there are 6 small equidistant dimples and in one place we can see remnants of a circumferential double line, which links the dimples. The entire surface of the bone is so heavily worn (or corroded due to unprofessional treatment with hydrogen chloride) that the internal bone structure is exposed. Some dimples can also be seen at the lower end and some others are scattered over the surface of the artefact.

Figure 6:8. Small ivory plate 6 cm long, max. 15 mm wide and 5 mm thick, roof-shaped in cross-section, recently broken off at both ends. One of the longitudinal edges is designed like a saw blade, equipped with 9 wide notches.

Figure 6:9. An ivory stick 8.7 cm long, 4 mm in diameter, plano-convex in cross-section, recently broken off at both ends. The convex side has 22 notches.

Figure 6:7. Fourteen approximately equally sized ivory beads, about 10×6×4 mm in size, with a planed back. The front side is divided into two by a deep indentation.

Figure 7:4. Flat heart-shaped Kulmian slate pebble (72×7×9 mm) with two marginal indentations in the middle of each side. There are also fine incision marks on the left and on the back.

Found by K. J. Maška.

Figure 7:2. An almost circular thin Kulmian slate pebble (38×36×3 mm), perforated in the middle. The marginal edge is at least partly sawn off and smoothed, the bottom of the back has many incision marks.

Figure 7:1. An irregularly semicircular Kulmian slate pebble (27×19×5 mm) with a shallow hollow in the middle, which seems to have been caused by blows. Some percussion marks can also be observed at the same place on the back.

Figure 7:3. An elongated Kulmian slate pebble oval in cross-section (9×6 mm in diameter), 52 mm long, perforated at the wide end. The hole was hollowed out from both sides and the place of impact was first flattened a little by several cuts.

Figure 7:5. A flat piece of marl irregular in shape (max. 36×26×6 mm) with two holes; a third hole – and maybe even a fourth one – were placed in the lower part and broken off. The incurved margin on the left also seems to be sawn off and smoothed. The holes are biconical, hollowed out from both sides.

Figure 7:6. Two wolf canines stuck one into the other, the connection covered with sinter. With low magnification, on the back of the right, smaller tooth we can see fine longitudinal incision marks and two rows of

oblique grooves running from the margin of the dental crown enamel as far as to the sinter coating.

Found by K. J. Maška.

Figure 7:7. Additional finds comprising a number of drilled teeth of fox, wolf, bear and other carnivores. Fossils were gathered in Tertiary sediments and some of them are perforated. Dr. J. Uhrová identified among them, mollusc shells *Ostrea*, *Cerithium*, *Dentalium*, *Cardium*, *Cyprea*, and a shark tooth (*Lamna* sp.).

Figure 8. A mammoth rib 23.5 cm long, broken off at the bottom; the upper end is bevelled, the edges are rounded and truncated with use. The entire surface of the rib is decorated with short oblique grooves in parallel transverse rows, which are arranged in pairs to form bands in a herringbone pattern. Each side was decorated separately so that the bands end at the edge of the bone but the converging groove pattern runs to the right on both sides. The rows of grooves, at least those in the upper part, are laid out approximately perpendicular to the axis of the rib, so that there is an undecorated space of varied width left between them at the bevelled working end. On the dorsal surface (picture on the right), all the rows run in the same direction and are very close one to one another, and seem to contain the same number of grooves each. On the inner arch of the rib, the pattern is worn away at max. 1.5 cm in width along almost the entire length of the rib. This may have been caused the artefact being held in the hand because this area was originally decorated too. On the ventral surface (picture on the left) a small piece of bone broke off in ancient times, perhaps due to way the artefact was used, and the decorative pattern was interrupted. Here the bands as well as individual rows are at larger distances from each other. In some of the bands, it can be observed that the grooves in the upper row are much shallower and therefore fewer in number than those in the lower row. In the bottom part of the rib, at a length of about 9 cm, the bands on this side are laid out longitudinally so that the entire ventral surface of the artefact contains 17 transversal and 7 longitudinal bands. It is remarkable that on the ventral surface we cannot observe any abrasion of the ornament corresponding to that on the other side. The rib was broken approximately in the middle, so a small part of the decoration got anciently damaged.

Found by M. Kříž, published by Kříž (1903: 233).

Figure 9:2. A mammoth rib 32 cm long, the upper end was anciently chopped off, the rounding on the right is worn, the lower end has broken off recently. The dorsal surface is decorated with a wavy line with seven bends, whose seven fields on the left are filled in with parallel grooves running in a longitudinal direction. The inner

arch of the rib has a continuous row of short incisions. The wavy line began from the working end of the artefact; its original length cannot be identified. The empty space between the beginning of the wavy line and the working end is filled in with incisions in two longitudinal and one transversal (not visible on the photo) rows on the dorsal side and one longitudinal row on the ventral side. Some grooves are also placed on the right side between the fourth and fifth bend of the wavy line. The surface of the bone is disrupted by longitudinal cracks and in some places, mainly between the third and fourth bend on the right, corroded because of roots. – The artefact was already published and exactly described by K. Absolon who has counted up the incisions in individual groups (Absolon 1957: 147, Fig. 39).

Found by K. J. Maška 1890.

Figure 3:3. Fragment of a reindeer antler. The supposed rest of the pedicle at the upper end is smoothed into an oblique facet, whereas at the lower end it can be observed how the main beam was notched all around and then broken off. The inner arch and the wide area adjacent to the right are decorated with continuous rows of short oblique grooves; the inclination of the grooves to the left or right changes alternately in each row. There are in total nine rows of 7 (indistinct), 15, 15, 10, 19, 11, 13, 11 and 17 incisions respectively. It is necessary, however, to point out that none of the rows is preserved and visible in its entirety because they are partly covered with calc-sinter. Moreover, the remaining surface on which no decoration was identified is heavily worn or covered with sinter. Thus, it remains unclear whether the surface was originally decorated in its entirety.

Figure 2:3. Fragment of a small mammoth rib 11 cm long, with the upper part bevelled and worn, decorated on both sides. On the ventral surface (picture on the left) the ornament begins on top, about 3.5 cm from the tapered end. It is composed of five longitudinal rows of oblique grooves (forming the fir-tree pattern), of which 14, 15, 13, 20, and 17 are preserved respectively. This side of the bone is burst and mainly in the upper part slightly corroded and worn. On the dorsal surface (picture on the right) the pattern is laid out crosswise over the rib. The rows begin here much closer to the upper end but do not reach the left margin. The number of grooves top down: 7, 7, 6, 6, 6, 6, 3?, 6, 6, 8, 10, 6 + 6, 7, 9, 9, and 5. The outer right edge has 22 indentations. On the right margin there are numerous fine fissures and corrosion marks, which make the ornament hard to identify.

A conspicuous feature of this engraved decoration is that the rows are not arranged as regularly as with the

other artefacts; there is even a sort of asymmetry where the fourth and fifth rows from the bottom are laid out in approximately the same direction. One can see with the naked eye that the grooves in individual rows are varied, thin and sharp, wide and blunt, made with a double line etc.; in one case (fifth row from the bottom) the design varies even within the same row. This phenomenon could not be observed with any of the other artefacts.

Found by K. Absolon 1928.

Figure 10:1. Fragment of a large mammoth rib anciently chopped off at both ends. Just a small piece on the left has broken off recently. The incipient rounding on top left seems to be intentional, similar to pictures on *Figure 4*. The dorsal surface is covered with a quite complicated pattern. The ornament in the upper part is composed of large triangles made with oblique lines (one entire and two partial triangles are preserved) the space between them is filled in with vertical lines. The area to the left of the central triangle is filled in with 9 horizontal incised lines. A longitudinal double line separates this motif from the lower part composed of two fields separated from each other by 6 vertical lines. Both fields were probably filled in with bands of short incisions in a herringbone pattern, on the left in vertical and on the right in horizontal layout. The ornament in the right field is interrupted by an artificial indentation, which continues to the ventral surface. The upper convex rounding of the rib shows some longitudinal cut facets, the outermost margin has a row of notches (faintly visible left on the picture), the ventral surface bears two isolated rows of short incisions laid out crosswise over the bone.

Found by K. J. Maška 1885.

Figure 7:9. A rib fragment 9.2 cm long and 4 cm wide, with old fracture planes. The dorsal surface bears seven rows of short oblique grooves placed quite far from each other, laid out in a herringbone pattern. The grooves are preserved in groups of: 7, 10, 14, 15, 12, 6, and 3.

Found by K. J. Maška 1882.

Figure 10:2. Fragment of a mammoth shoulder blade sized 19.5×17 cm, whose one side is densely covered with a herringbone pattern. There are in total 9 bands, out of which the sixth from the left is irregular and incomplete and the rightmost one is not preserved in its entirety. The bands are placed so close one to another that the grooves in the upper rows merged to form a zigzag. In addition, fine long incision marks run across the ornament.

Found by K. Absolon 1930.

Figure 2:4. A spatula-shaped tool made from a mammoth bone splinter 19.5 cm long, max. 3.9 cm

thick. The bone is splintered lengthwise, bilaterally polished; the spongy bone on the back side is exposed. The sharp edge on top is worn; the lower part was chopped off by several blows. Ornamental decoration is partly preserved on the dorsal surface. It is composed of longitudinal and transversal rows of oblique grooves in a herringbone pattern. Essentially there are three longitudinal rows interrupted by two transversal bands.

Figure 2:2. A stake-like object made from a thin piece of tusk, 9.5 cm long, round in cross-section, the upper part 32 mm in diameter. The upper end is formed by a slightly convex face bearing visible percussion marks of some soft object. In one place below the rim remnants of a triple line are preserved. The remaining surface is either smooth or worn or covered with sinter. On one side a part of the tusk lamella is split off along the entire length and the grooved natural structure is exposed. The lower end forms a pyramid-like tapered point with five facets, which are about 4.5 cm long and equipped with relatively sharp edges. The point is blunted with use. Four facets are decorated with incisions placed along the edges, one of them (picture on the left) also with four transversal rows. The numbers of preserved grooves are as follows: transversal rows top down 5, 8, 6, and 4; grooves at the edges of facet I (picture on the left) – left 12, facet II – left 19, middle 11, 9, and right 27, facet III (picture on the right) – left 11, 11, right 16, facet IV – 0, facet V – left 0, right 16. It is necessary, however, to remark that these numbers may not be exact due to use, wear and small sinter residues.

Figure 2:1. A stake-like object made from a thin piece of tusk, 7 cm long, round in cross-section, the upper part 25 mm in diameter. The lower end is tapered to form a conical point. The upper face, originally cut off, is slightly convex in shape and has the supposed percussion marks of some soft object. This activity caused a splinter to be removed on the left side. The surface is smoothed, from the back a thin lamella was split off and the grooved natural structure is exposed. On the front some grooves can be observed: top left 6 in vertical direction, below them 6 in arched layout and 7 in an oblique row, which is, however, probably not complete due to damage.

Figure 7:8. An ivory plate with an unusual decoration composed of four concentric trapezoids enclosing an area filled in with 17 upright grooves.

Figure 3:2. The end of a tusk 21 cm long, 5.8 cm in diameter, anciently chopped-off at the bottom; the lower bore maybe a complicated engraved decoration but the uppermost tusk lamella was unfortunately split off, partly recently. The remaining part is decorated with a roughly circular double line filled in with three groups of

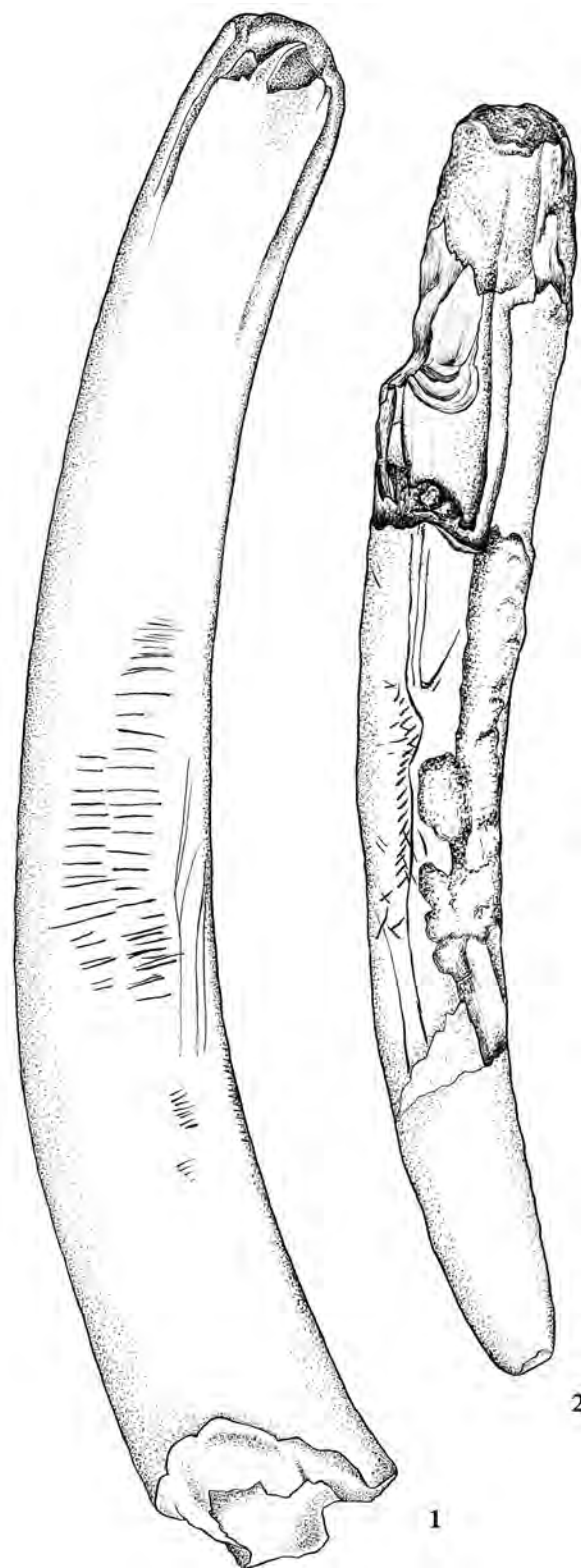


FIGURE 1. Předmostí. Decorated pieces of mammoth tusks.

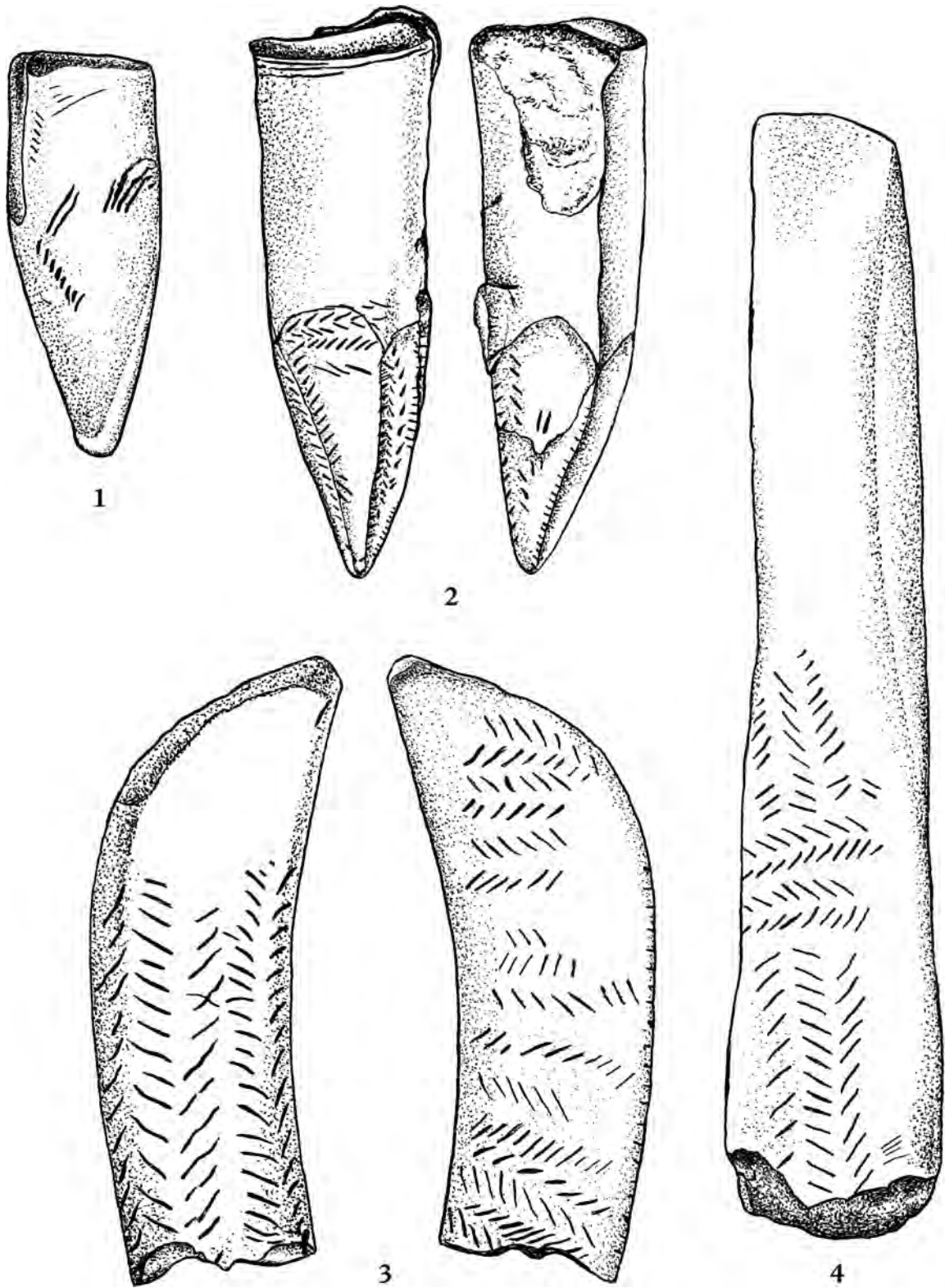


FIGURE 2. Předmostí. Decorated ivory and bone tools.

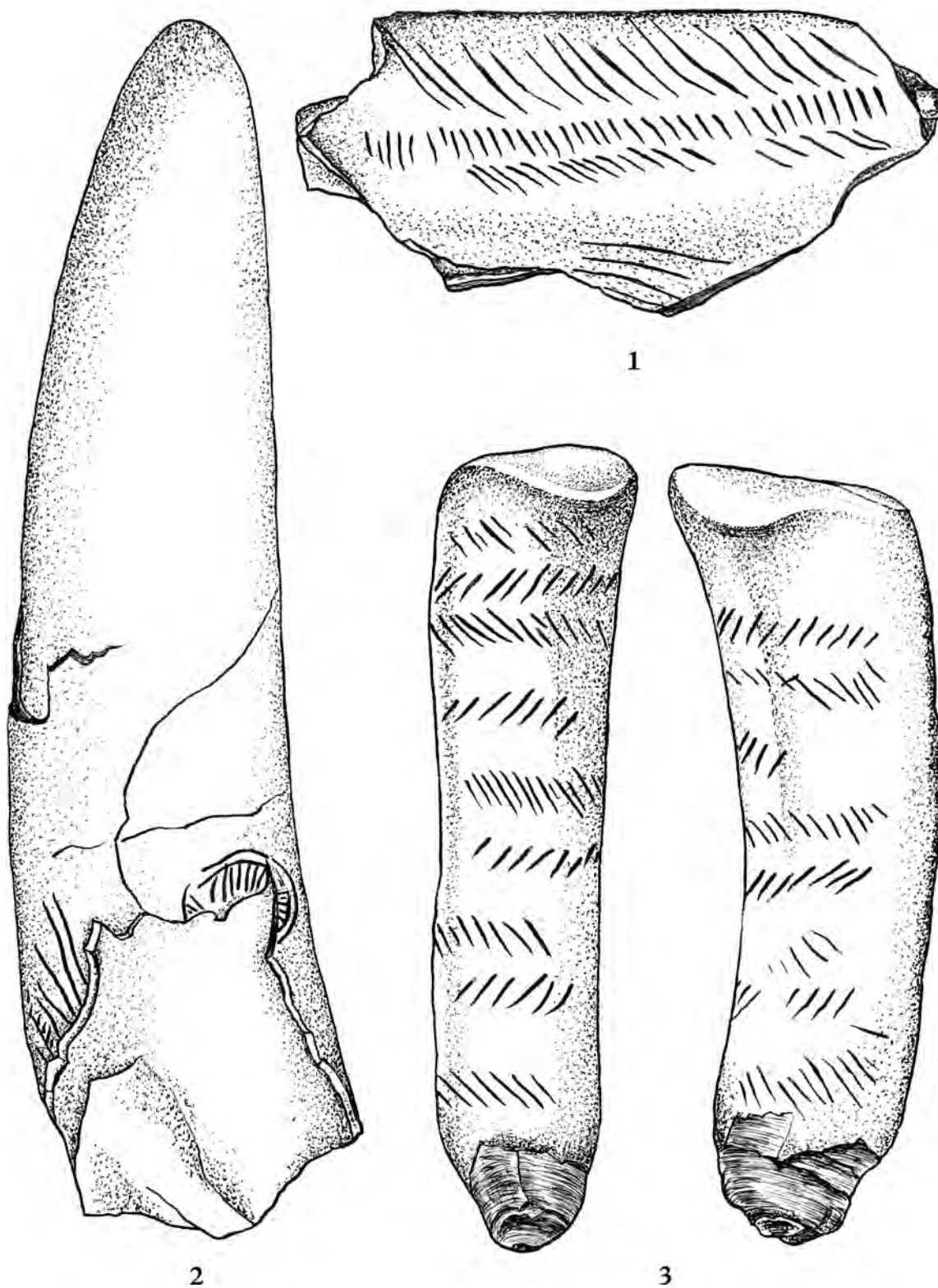


FIGURE 3. Předmostí. Decorated ivory, reindeer-antler, and bone objects.

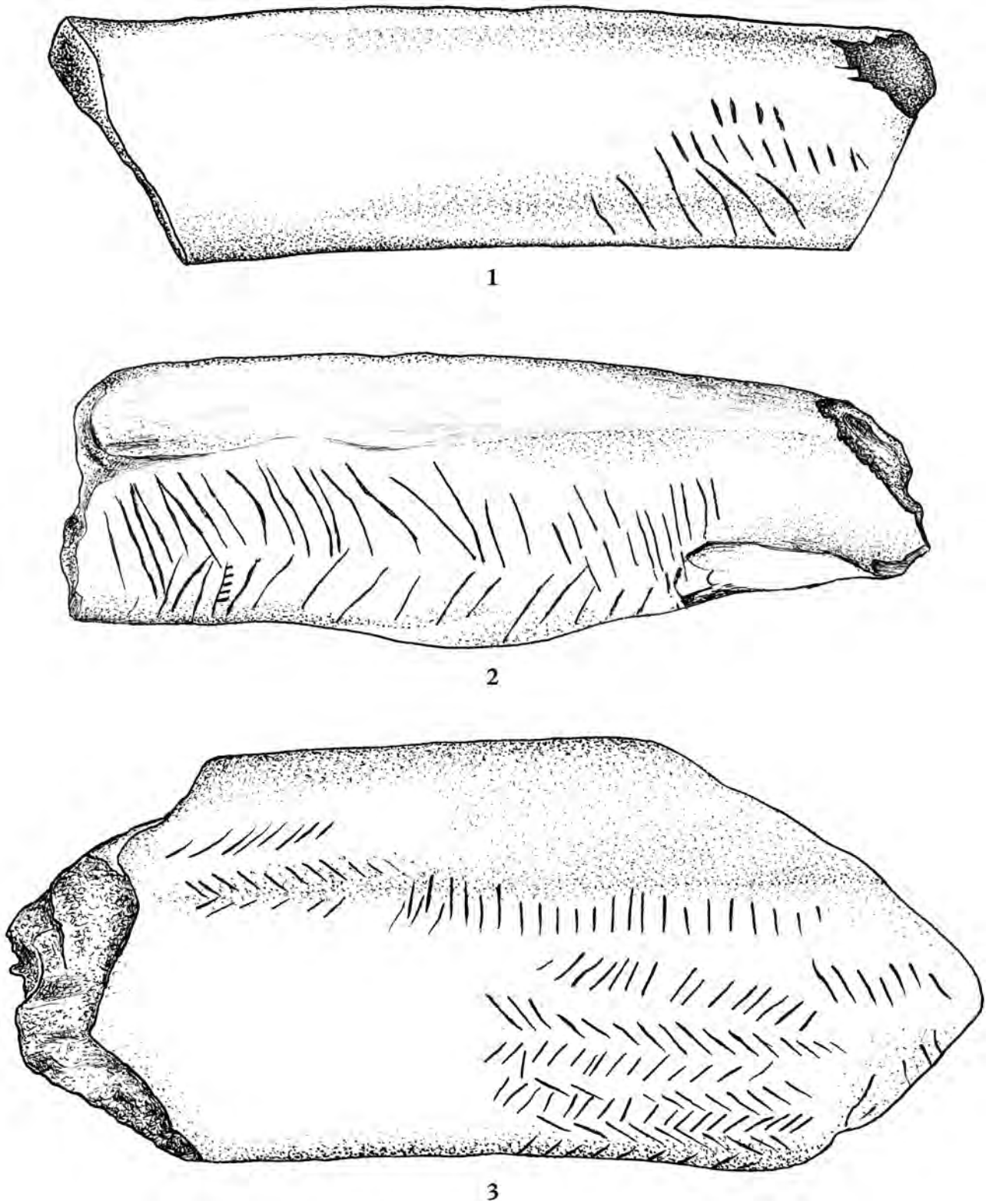


FIGURE 4. Předmostí. Decorated ribs and tusk fragments.

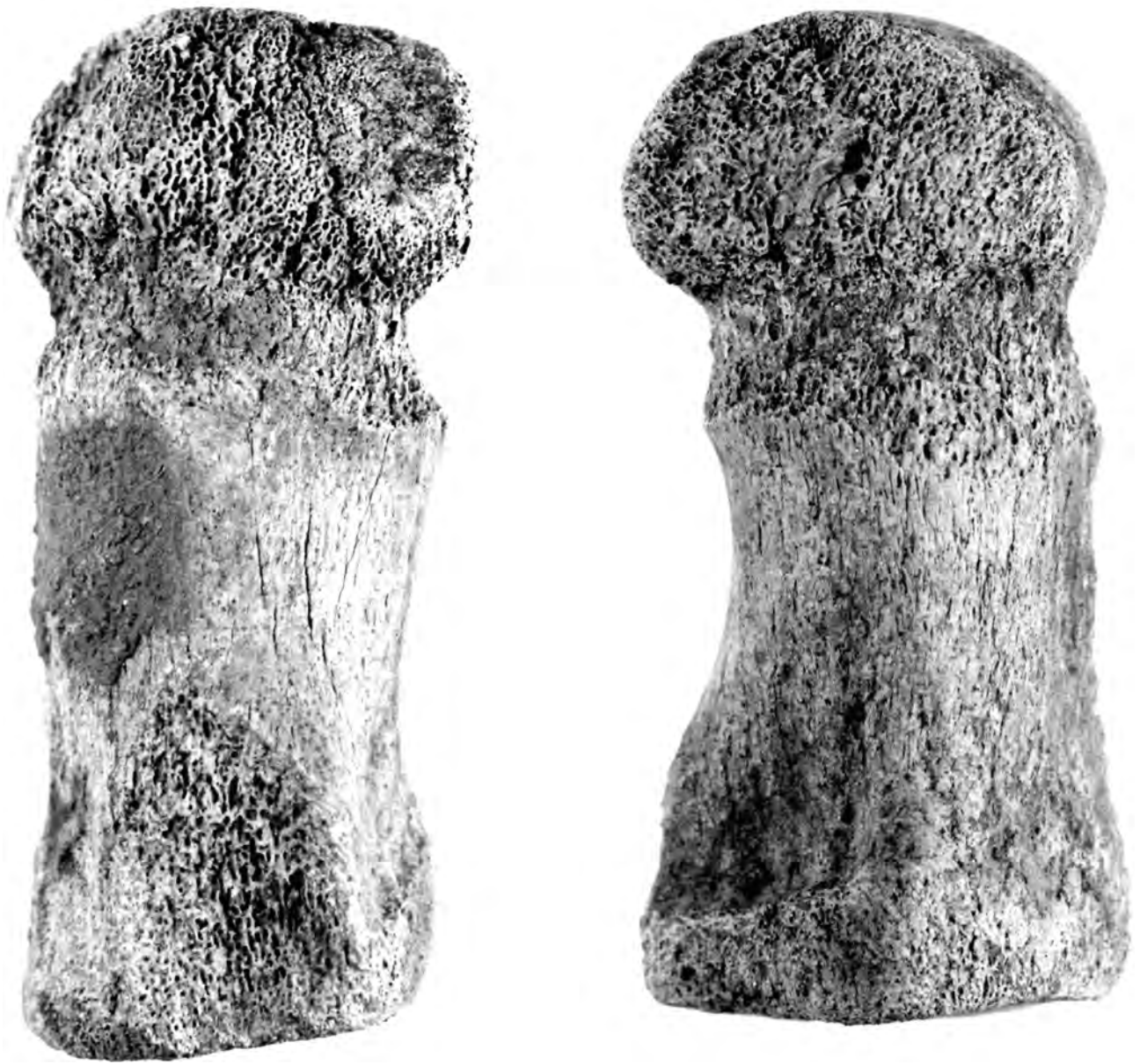


FIGURE 5. Předmostí. Female figurine made from a mammoth metapodial.

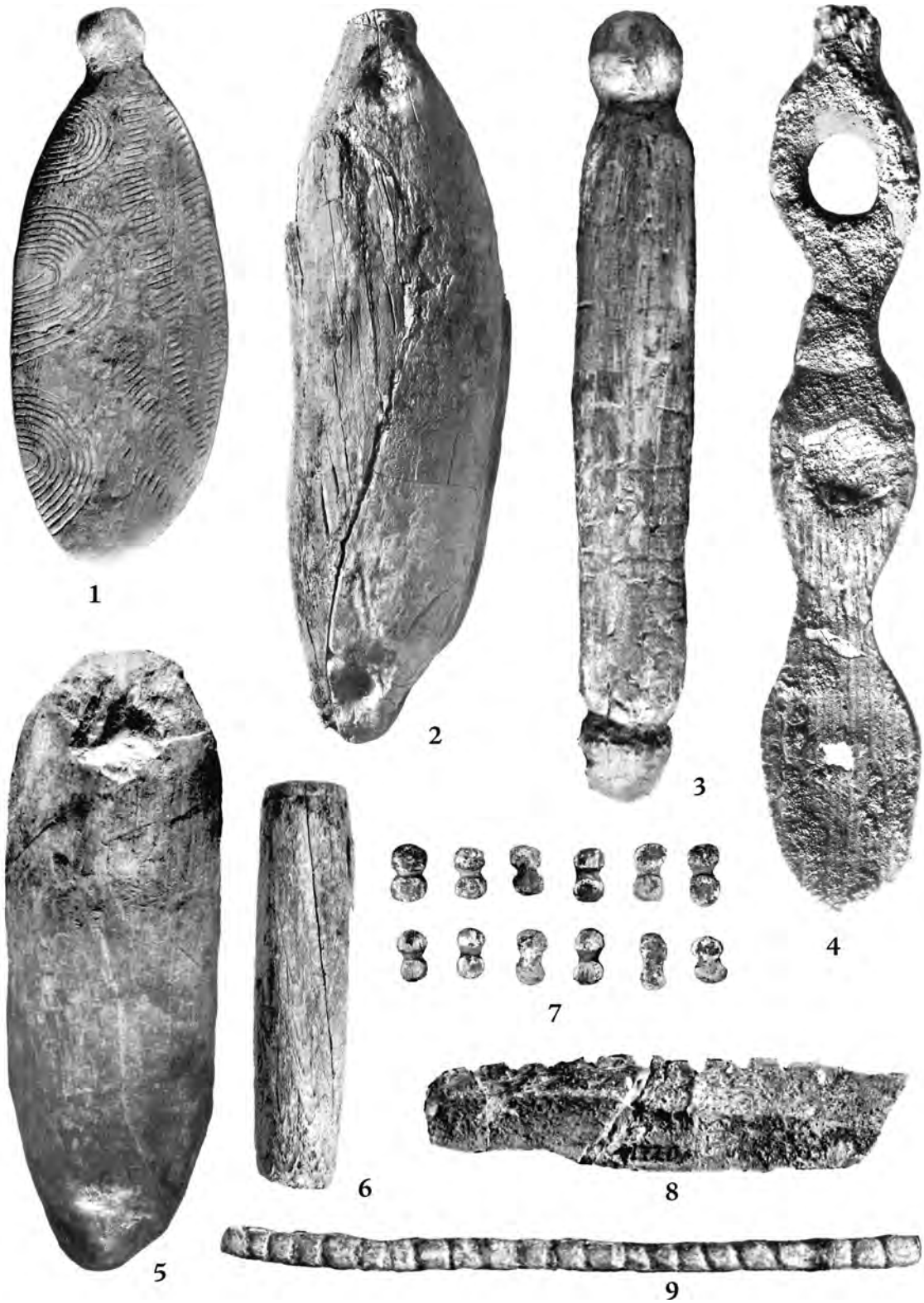


FIGURE 6. Předmostí. Ivory and bone ornaments (6).

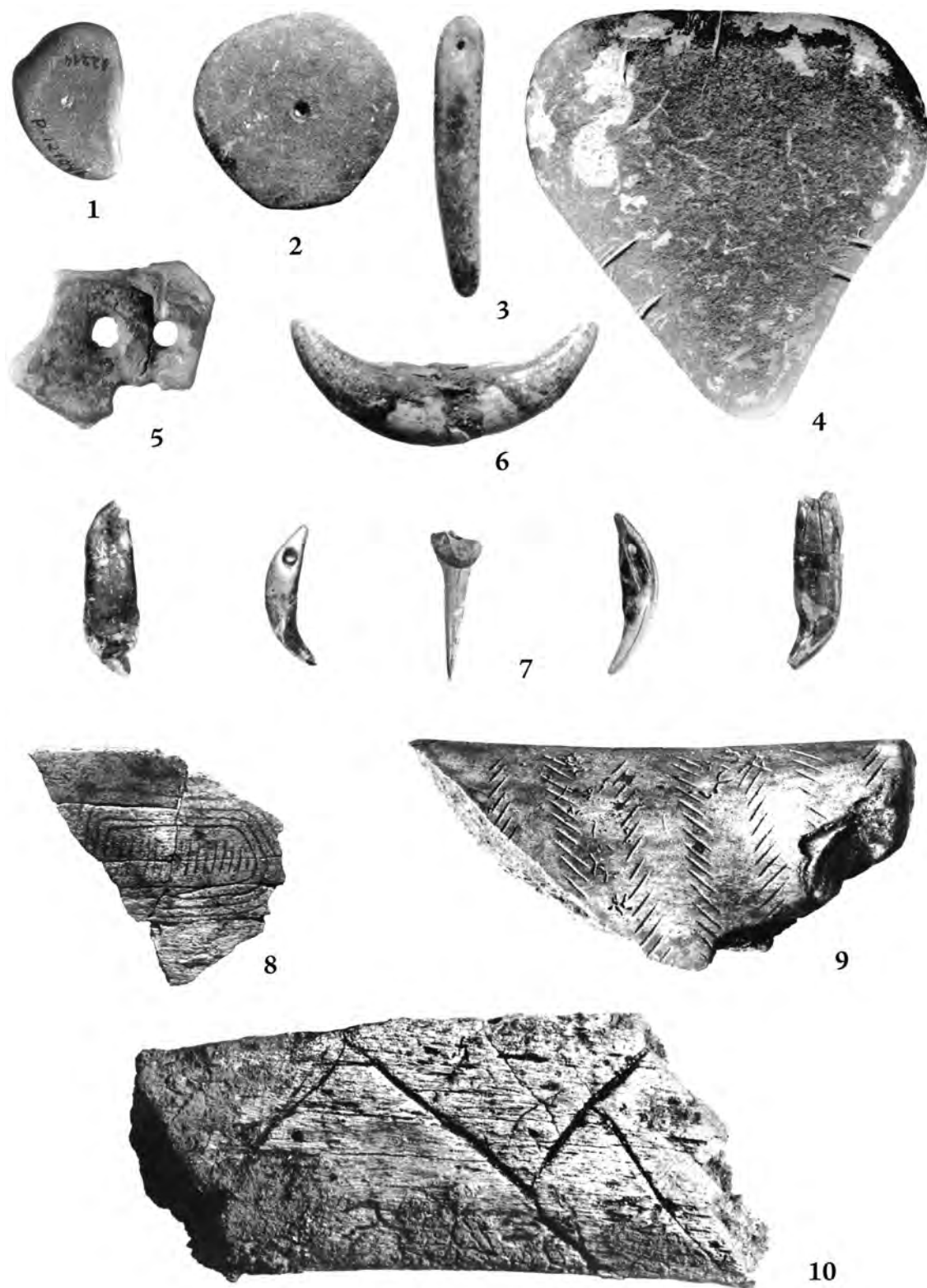


FIGURE 7. Předmostí. Slate, tooth, bone, and ivory ornaments.

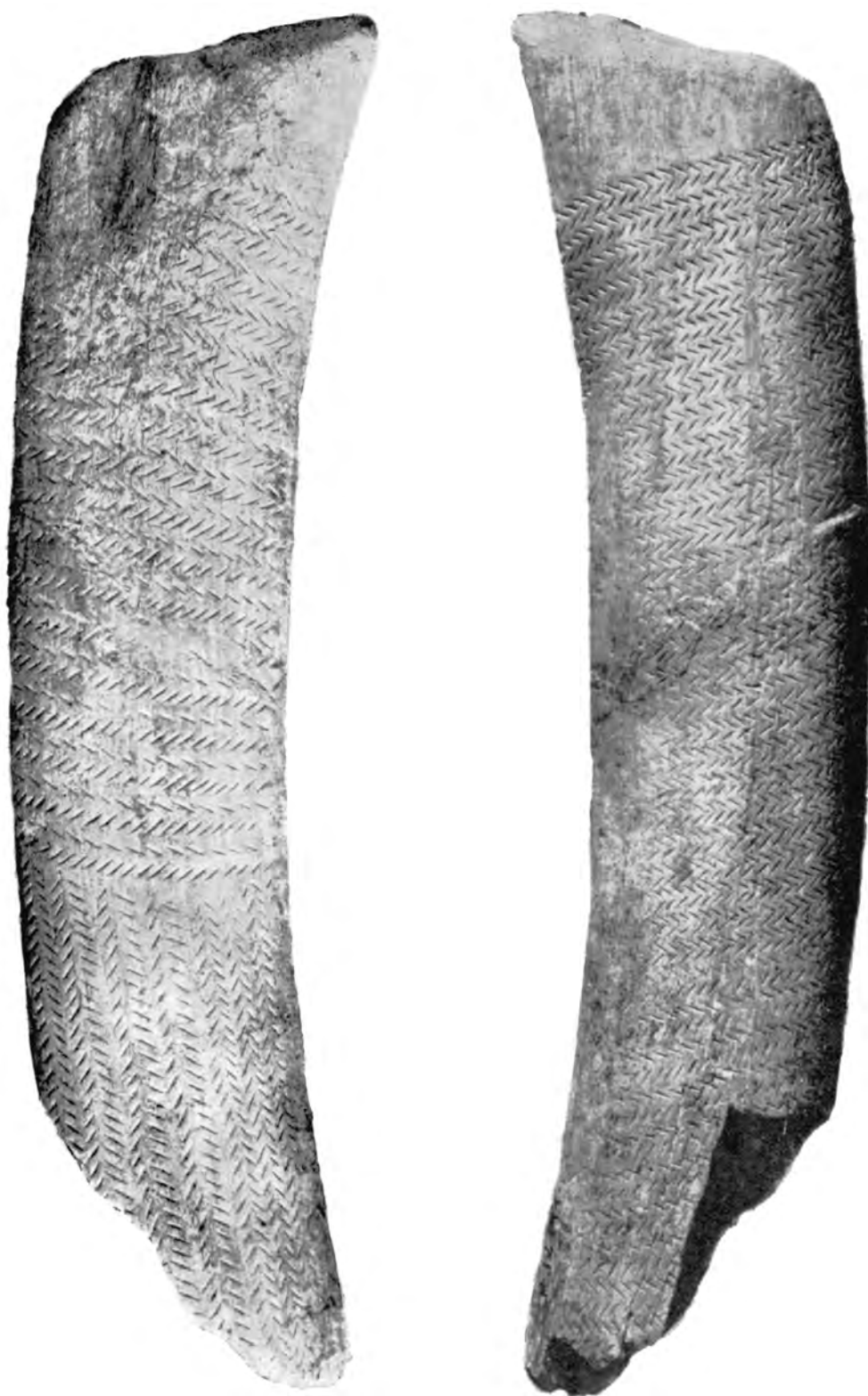


FIGURE 8. Předmostí. Bilaterally decorated tool made of a mammoth rib.



FIGURE 9. Předmostí. 1, 2, decorated mammoth ribs; 3, enlarged detail of a decorated piece of mammoth tusk.

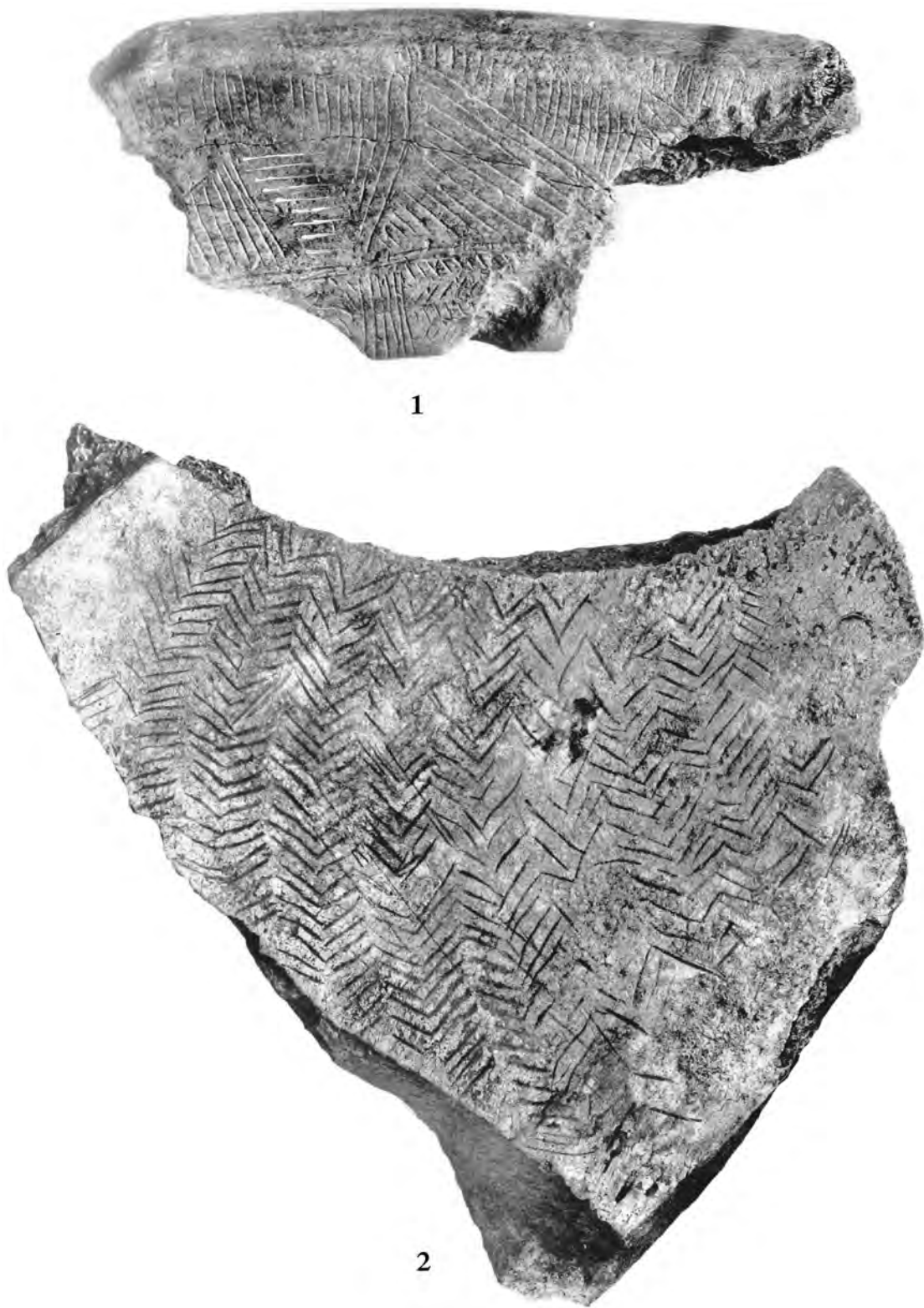


FIGURE 10. Předmostí. Ornamented rib and shoulder blade fragments.

grooves, which come out from the inner line and run radially to the centre. Further left, 7 long parallel lines, one of them, which has with four short perpendicular grooves, are terminated by the fracture.

Figure 9:3 (enlarged detail), *Figure 1:2* (downscaled). The end of a tusk 40 cm long, 5.5 cm in diameter, anciently chopped off at the bottom, the cleavage faces are up to 15 cm in length. The surface is very poorly preserved, partly covered with sinter and partly (back side) abraded. In one place an engraved pattern is preserved – an about 15 cm long line curved in the lower part, which is bordered on the right by a row of 19 short oblique grooves, damaged in the upper part. Below the curvature there are another two parallel lines on the left side and the outermost one is bent on top to the left.

Figure 7:10. A rib fragment 11 cm long with a part of a deep engraved zigzag. The surface of the bone is rough, as if worn, but partly covered with sinter crust.

Figure 9:1. A mammoth rib 27 cm long, anciently chopped off at both ends, with two rows by 11 of oblique grooves arranged in a herringbone pattern.

Found by K. Absolon 1928.

Figure 3:1. A tusk splinter 11.5 cm long, 5.5 cm wide and 1.3 cm thick, decorated with three longitudinal rows of grooves. The upper row contains 17 long oblique lines, the middle row 36 shorter, almost vertical lines, and the bottom row, partly damaged, comprises 19 oblique short grooves. Below them are another 4 long lines. The surface does not bear any sinter residues.

Found by M. Kříž, published by Kříž (1903: 235).

Figure 4:1. A rib fragment with three groups of oblique grooves (4, 10, and 6) at the right end.

Figure 4:2. A rib fragment 17 cm long, anciently broken off and sintered on the left, with an old fracture on the bottom right, damaged at the top. The surface in the upper part is abraded, probably due to the mechanic removal of sinter crust, whose residues are still preserved. In the lower part there are three different groups of incisions. The upper left one contains 23 quite long and irregular lines; the last six of them are covered with sinter. At the end of this row, there follows a second one composed of 10 grooves laid out in approximately the same direction. Below them is then the third row with 16 grooves in opposite inclination. It is remarkable that there are five short incisions attached perpendicular to the right side of the fourth groove from the left.

Figure 4:3. A tusk fragment 19 cm long, 8.5 cm in diameter, chopped off at both ends and on the back, and partly sintered. It has about 12 loose rows of oblique and upright grooves, all of them finished on the preserved fragment. Some of them are very hard to identify but the

numbers of grooves in individual rows may be (top down) 8, 8?, 6?, 22, 7, 15, 16, 14?, 7?, 18, 10, and 9?. This artefact is also pictured by A. Marshack (1972: Fig. 134).

Figure 1:1. A tusk fragment about 49 cm long, max. 6.5 cm in diameter, anciently chopped off and sintered at the upper tapered end, with a recent fracture at the lower end. Approximately in the middle of the artefact, there are two rows of long grooves laid out in the same direction. The left row contains 18, the right one about 30 grooves; the latter are hard to count up because at both ends of this row there are several grooves made by fine, barely visible incisions. To the right of these two rows are some thin longitudinal lines and below them still two groups of short, hardly discernable grooves. The inner arch of the tusk also has short incision marks, which cannot be counted accurately.

INTERPRETATION

An overall view of these finds from Předmostí enables to divide them into several categories. Among them are objects that have undoubtedly served as personal ornaments, used tools bearing rich decoration, and decorated items without any identifiable functional purpose, some of which are preserved only in fragments.

The first category, very common with Upper Palaeolithic, comprises drilled animal teeth, fossils and slate pebbles, which can be interpreted as components of necklaces or as individual pendants. Less common are, on the other hand, those items, which probably had similar purpose but were not perforated so that they must have been fastened in some other way. Such objects were above all the small ivory beads (*Figure 6:7*), which were most probably sewn on clothes, and both of the large objects with head-like projections (*Figure 6:1, 3*), which were probably intended for binding a thread around. But whether these objects were worn as pendants is unclear; the unilaterally decorated ellipsoid object suggests itself to be a bullroarer (*churinga*). It also remains unclear whether both of the ivory objects (*Figure 6:2, 5*) with indicated perforation are to be considered unfinished or whether they were indeed fastened in this design. It is noteworthy that in Pavlov (excavation by B. Klíma) some objects analogous to that on *Figure 6:2* were found, which were, however, perforated at both ends. Within the category of personal ornaments, even though this purpose cannot be confirmed, we can probably count the perforated "glasses-shaped" objects (*Figure 6:4*), the notched plate (*Figure 6:8*), and the stick (*Figure 6:9*).

The most interesting category of artefacts from Předmostí are the objects which can be unequivocally identified as tools. First of all, it is rib tools with bevelled, rounded and often smoothed working ends. The best example of this type among the whole inventory from Předmostí is the bilaterally decorated item on *Figure 8*, but, there are number of undecorated objects of this type in our collections. The same tool type may be also seen in the bilaterally decorated rib fragment on *Figure 2:3*, whose working end, however, is not smoothed. In two other pieces only a part of the bevelled working end is preserved (*Figures 9:2, 10:1*) but with certainty the same design can be supposed.

Figure 2:4 pictures a fragment of another typical tool. A spatula documented in the inventory from Předmostí with multiple specimens and has numerous analogies in Dolní Věstonice and Pavlov.

The decorated antler fragment (*Figure 3:3*) may also have had a practical purpose; the levelled upper end could most probably be interpreted as a smoother. It is noteworthy that numerous smoothers from tusk fragments were found at Předmostí.

A special tool is the ivory "stake" (*Figure 2:2*); whose slightly convex upper end shows percussion marks. This can only be explained as the pointed end of the object being driven in soft materials by gentle blows. A similar purpose may also be ascribed to the analogous object on *Figure 2:1*, which, however, is not so distinctively shaped.

The fragment on *Figure 7:9* with partly smoothed edge may also come from a tool. A practical purpose, rather than a decorative one, can be supposed with the dimpled hollow bone (*Figure 6:6*).

In the other objects it is not possible to identify their functional purpose, even though the rib fragments (*Figures 4:1–2, 7:10, 9:1*) may have originally been part of some tools. The tusk ends (*Figures 1:1–2, 3:2, 9:3*) most probably cannot be supposed to have had some practical purpose and the same also applies to the shoulder blade fragment (*Figure 10:2*) and the thick tusk fragment (*Figure 4:3*). These artefacts seem to have been intended solely for decorative use. The heart-shaped slate pebble with a few notches (*Figure 7:4*) may also have had only a symbolical meaning. Might we suppose that to the Upper Palaeolithic people such a triangular shape was already considered to be the symbol for the heart?

A different approach leads us to distinguish individual stylistic elements of decoration. The most frequently applied motif is represented by rows of short oblique grooves laid out to form the herringbone pattern. This type of decoration often filled in entire surfaces. All

the other motifs appear only sporadically: wavy line, zigzag, circular, ellipsoid or trapezoidal figures. For filling in empty spaces long parallel lines were used (*Figure 9:2*); in one case such long incised lines were laid out in alternating directions and various amounts to form a complicated pattern composed of triangles and rectangles (*Figure 10:1*).

The typological, morphological and stylistic attributes identified are also relevant to archaeological classification of the inventory. The rib tools with bevelled rounded working end and the spatula can be considered typical tools of Pavlovian – the Central European component of the Gravettian complex. As far as I know, they have no analogies in Western Europe and occur only sporadically in Eastern Europe. They are concentrated in Moravia but this phenomenon shall be addressed in detail within the prospective evaluation of all bone tools from Předmostí. The dominant herringbone pattern can also be considered a characteristic feature of Pavlovian.

In conclusion, it should be attempted to identify the meaning of this non-figurative Palaeolithic art of Předmostí. Here, however, we are walking in a vague field of speculations based on the subjective attitudes of individual researchers, which vary from an aesthetic/decorative meaning to a deep religious and ideological symbolism (e.g. König 1972). Some aspects, however, should be elucidated.

The rich decoration of used tools is conspicuous, in which the purely decorative intention of the owner would be understandable. Nevertheless, the fact that only a small part of the numerous bone tools were decorated advises caution with this simple explanation. One most probably cannot go astray in attributing them with some special value. The groups of various numbers of grooves maybe refer to the knowledge of counting, which Absolon already tried to prove in the rib with wavy pattern (Absolon 1957). But the quantities of grooves were hardly applied to the bones only as an exercise in arithmetic, there must have been a purpose inside. It seems very likely in this regard to be the recording of certain events; using microscopy, A. Marshack has shown in numerous well-founded works that these grooves may be records of days within individual lunar phases, that is a real lunar calendar (Marshack 1970, 1972). His finding that particular amounts of grooves differ from each other in terms of morphology, so that they must have been applied using different tools at different intervals, is in full accordance with our rib fragment (*Figure 2:3*) right. Such a layout, however, could not be observed during a brief binocular

examination of the long rows of grooves on the bilaterally decorated rib (*Figure 8*), but the fact that the ornament was wiped only on one side indicates that the back was engraved later when the tool was no longer in use. Of various types may be the grooves on the shoulder blade (*Figure 10:2*). The decoration on the pointed working end of the stake-like tool is unusual, which was abraded with use; any record in this area would not have been very durable. Isolated groups and bands/rows of grooves on various bones and tusk fragments did not have any decorative purpose and we can regard them with certainty only as recordings; but whether they have taken note only of lunar transits or also of other events remains undecided. It is possible that the finding by A. Marshack represents only the first step towards the knowledge of the diverse spiritual culture of the Upper Palaeolithic people. The very varied quantity of grooves in individual rows and groups, however, does not allow any considerations about the meaning of these finds based on repeated occurrence of particular numbers of grooves.

The engravings on tusk ends (*Figures 3:2, 9:3*) may have had only a decorative symbolical meaning. In this regard, we note the famous female figure made in a geometric style, which is among the most valuable objects of Palaeolithic art (Valoch 1969: Taf. I). The exclusively symbolic nature of the heart-shaped slate pebble was already mentioned above. Provided that the ellipsoid pendant (*Figure 6:1*) has indeed been used as a bullroarer, the engraving must also have had a deeper ritual meaning.

We will content ourselves with these findings. It is beyond doubt that both the figurative and non-figurative art and various ornaments played an important role in the world of ideas of Palaeolithic people. However, decoding them is extremely hard because it would require putting ourselves into spiritual atmosphere of the people.

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