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NEW DATA ON ORNAMENTED ARTEFACTS FROM THE MESOLITHIC SITE POBIEL 10, LOWER SILESIA, POLAND

Pobiel 10 (woj. dolnośląskie/PL) on the Orla river is one of the most famous Mesolithic sites in western Poland (fig. 1). Because of its extraordinary scientific value, the excavations were carried out thoroughly. They took place on an upper terrace and in an old riverbed in which organic artefacts have been preserved in an excellent condition (Bagniewski 1987; 1990a; 1990b; 1992). Amongst the many artefacts made of wood, antler and bone, there were pieces with engravings of a non-utilitarian character, representing the symbolic culture of the Mesolithic settlers on the Orla river. We have reanalysed some of the engraved artefacts which have been stored by the Regionalny Ośrodek Badań i Dokumentacji Zabytków w Poznaniu (Regional Centre for Historical Monument Studies and Documentation in Poznań, workshop at Trzebiny

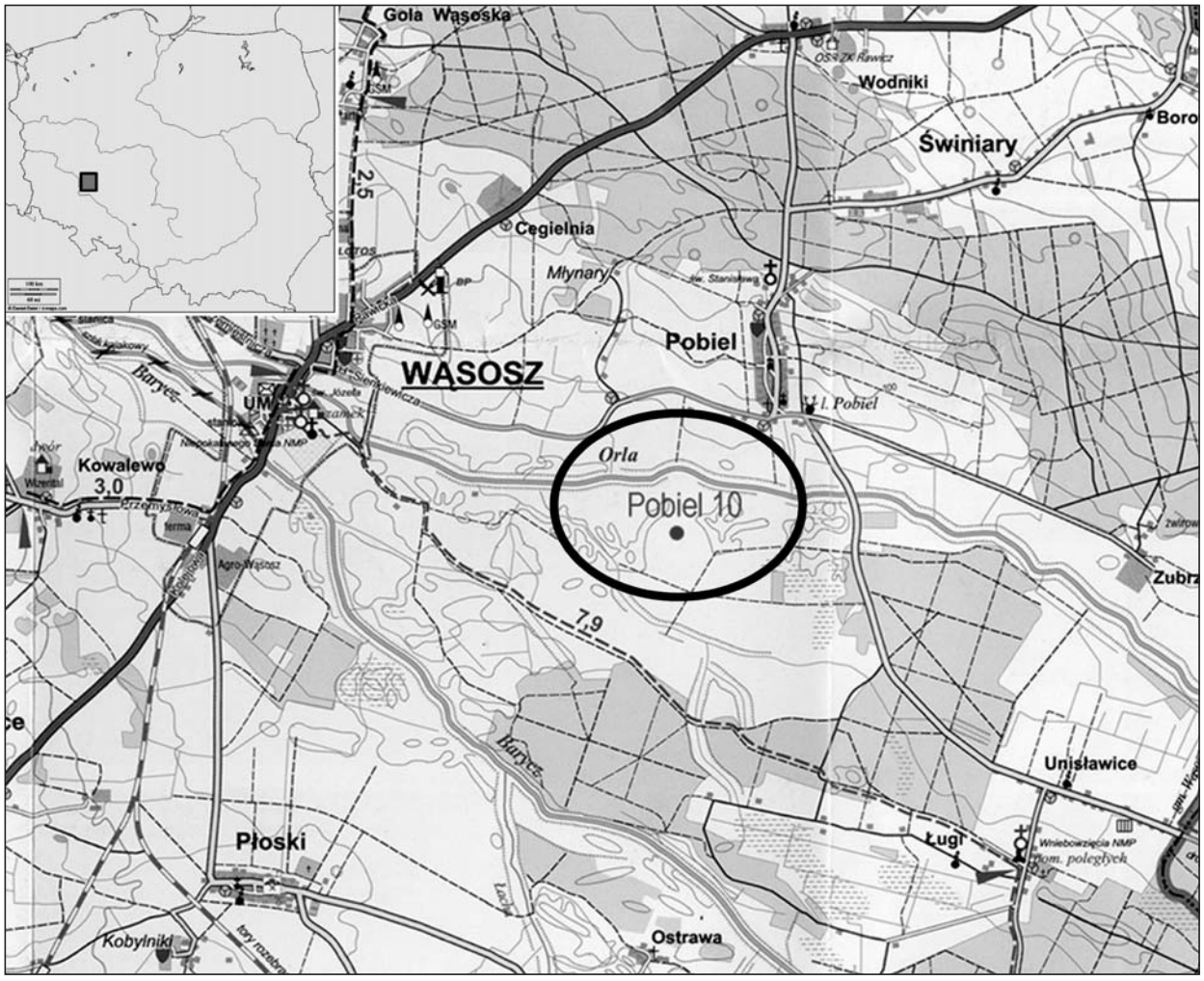

Fig. 1 Pobiel 10, woj. dolnośląskie/PL: localization of the site. – (Map M. Diakowski).

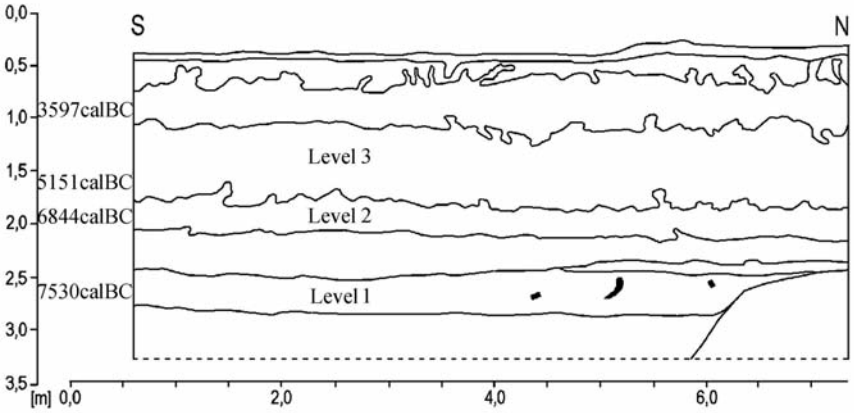

Fig. 2 Pobiel 10: generalised profile of the ancient riverbed with the position of the ornamented Mesolithic artefacts (black objects). – (Drawing M. Diakowski).

near Leszno). In this paper, the results of this reanalysis are discussed, with a focus on the technology of their manufacturing and form. We also aim to place them in the context of the Mesolithic art of Northern Europe.

STRATIGRAPHICAL CONTEXT

In this analysis we deal with three engraved artefacts made of red deer antler: 1. with a fragment with a row of oblique strokes (Bagniewski 1990a, 141 photo 27a), 2. a fragment with an arrow (ibid. 141 photo 27b), and 3. a tine with a zoomorphic engraving (ibid. 138 fig. 55 photo 23)[1]. The pieces were found in level 1 of the old riverbed layers (fig. 2); we also know that the tine was located in the so-called peat III, in its upper part. The bottom part of peat III has a radiocarbon date, fixing an outset of its deposition at 7 530 ± 34 cal. BC. The start of the deposition of level 2 is dated to 6 844 ± 138 cal. BC [2]. Using the available dates, it was assumed that the artefacts have been deposited within the period of approx. 7 550-6 900 cal. BC.

METHOD

Our goal was to establish a technology of artefact production and ornament engraving. We have also tried to determine a relation between the two. In order to do so, we carried out a cautious analysis of the artefact morphology and their ornaments and conducted experiments to establish the different kinds of technological traces on the lines of ornaments and on the artefacts themselves. In these experiments we have processed contemporary red deer antler, using flint, stone and iron tools.

The analysis of production marks and traces of wear on the artefacts and their replicas was performed by means of a stereoscopic microscope (Olympus SZX9). We observed artefacts and ornaments using magnifications 6.3-57. Photographs were taken with an Olympus Camedia 5060 (part of the microscope). We additionally used a metallographic microscope (Nicon Eclipse LV 100) for magnifications 100 and 200. This was particularly useful when observing the inner parts of incised lines and their intersections. We encountered problems during the observation because of the artefacts having been soaked in preservative gelatin.

The experiments and microscope analysis enabled us to find out that the artefacts were fashioned with flint tools (Greenfield 1999; Cristiani / Alhaique 2005). The most distinctive features are intersections of incised lines. Their variation is related to the type of flint tool used, to the force and the angle of pressure and the working direction.

INCISED ARTEFACTS

Antler fragment 1

This artefact (inv. no. P-28/85W) is 7 cm long and 3.1 cm wide (**fig. 3, 1; fig. 4, 5**). It was made of a red deer antler beam (*Cervus elaphus*) from a section of the brow or bez tine. The surface and edges of the artefact are strongly weathered, and the state of preservation makes it difficult to establish how it was severed from the beam. Anyway, it is probably waste material that became detached when the beam was split (cf. David 1999, fig. 101). Both the distal and the proximal end are broken. The poor state of the edge preservation is the reason why we cannot determine if the breaks have been intentional or not.
On the one side of the artefact, there is a row of short, oblique incisions which runs along the edge. These were thought of as having been longer and having been destroyed when the artefact was cut (Bagniewski 1990a, 141; Pratsch 2006, 129) – our analysis demonstrated that the incisions were made after the cutting of the artefact because the edge and the surface of the cutting overlap.

Antler fragment 2

This piece (inv. no. P-19/85W) is 3.7 cm long; its width is 2.8 cm (**fig. 3, 2; fig. 4, 1-2**). It is a rectangular fragment, one end of which has a retouch, is slightly arched and oblique. During morphological analysis we have proposed several hypotheses to explain in which way this end could have originated.
The first possibility is a secondary use of the antler implement. The fragment could have been cut off from the working edge of a damaged axe (arched end). The production of such an artefact is simple: the producer has to incise three deep lines to create the base and sides of the piece. The second possibility involves the cutting of a rectangular piece from an antler beam. Scraping would have formed the oblique run of the end, and the spongy tissue on the bottom surface would have been removed.
There are three possibilities as to the origin of the retouch: 1. the axe's working edge may have been specially prepared, 2. the retouch may have resulted from working (traces of use) or 3. from retouching after cutting off the fragment. To check our hypotheses, we made a replica of an axe which was used extensively for woodwork. This work did not damage the working edge – on the contrary, it got sharper. Anyway, we observed that a specific angle between the cutting edge and the wood could not have brought about the use retouch along the whole edge of the Pobiel artefact. Experiments by other (albeit T-shaped) axe researchers have shown that crumbles occurred after having used axes for a long time (Jensen 2001). However, those crumbles are different from the traces on our artefact (**fig. 4, 1**).
On the upper surface of the artefact there is an ornament resembling an arrow. Ornament lines, as we know from their cross-sections, were incised with a flint tool: with a sharp edge of a flake or blade and a burin. The arrow is composed of three main lines (**fig. 4, 2**): a middle line (a), left lines (b1 and b2) and right lines (c1 and c2). The incision started with line a, then line b1 was cut, oblique to line a. The producer controlled the path of the cutting tool in the beginning, but at the end the tool deflected arch-wise to the right, crossing line a under its tip. The maker continued with line c1 which crossed the tip of line a. Wanting to deepen line c1, he unintentionally produced line c2 which runs separately. The maker tried to repair line b1 by incising line b2 which runs from the tip of line a, probably as a result of using a burin. Line b2 was cut in two stages, as we could observe two traces of stopping of the burin. The entire design is somewhat asymmetrical.

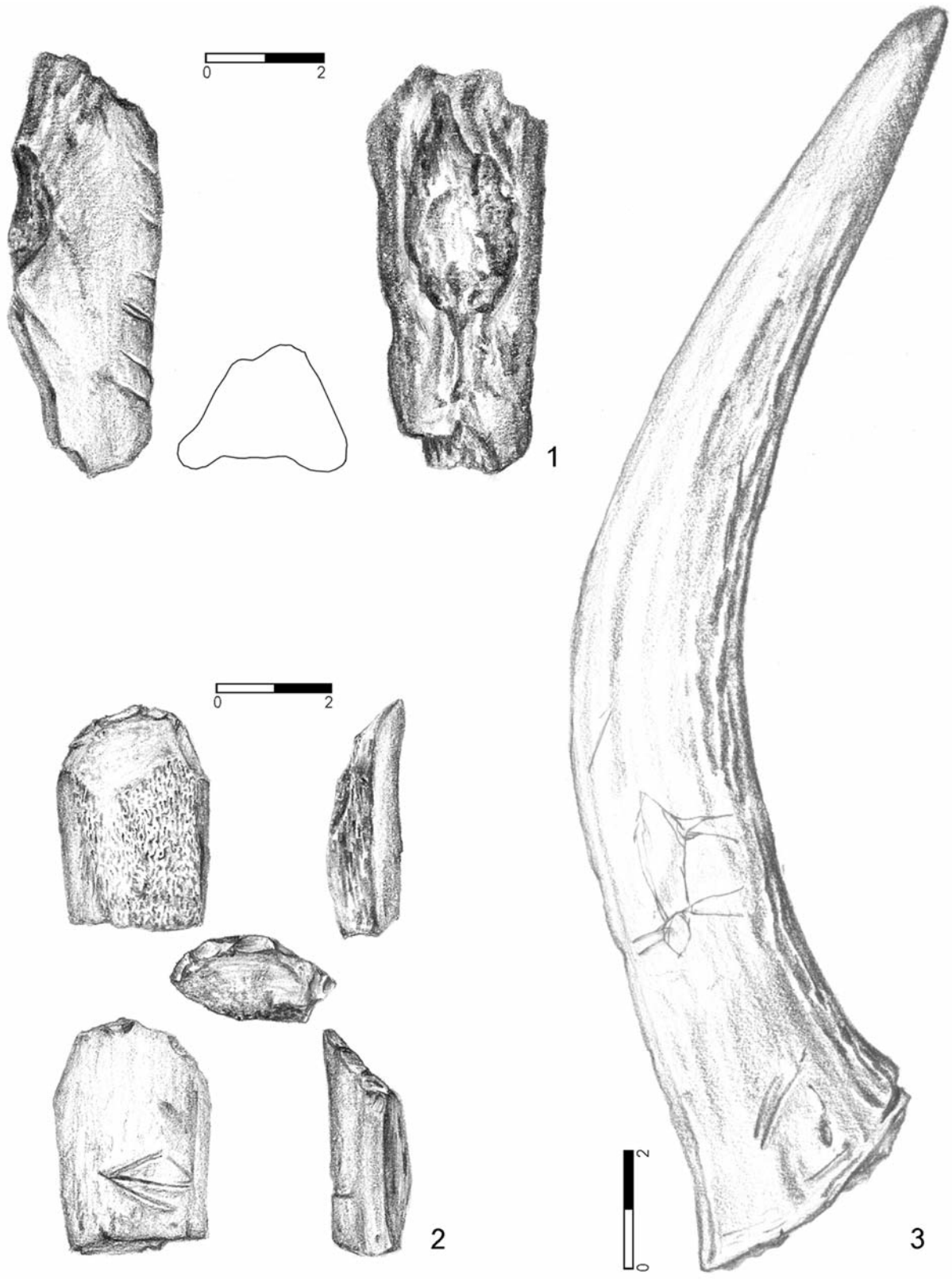

Fig. 3 Pobiel 10, ornamented artefacts: **1-2** fragments of the antler. – **3** Antler tine. – (Drawings A. Sztromwasser).

Antler tine with animal depiction

This engraved artefact (inv. no. E-34; **fig. 3, 3; fig. 4, 3-4. 6**) was originally described as a dagger by Z. Bagniewski (1990a, 138). In the literature such pieces are usually interpreted as retouchers or pressure tools (punchers). The length of the tine is 22.6 cm. It was detached by cutting around the compact tissue with a flint tool, as a result of which eleven crossing surfaces appeared on the artefact base (**fig. 4, 3-4**). Having cut the compact tissue, the tine was broken out of the beam – the crumbles in the spongy tissue probably appeared then. The cut and the break were performed with perfection, for there is no bulge on the basis of the tine.

The traces show that the cutting was done after a softening of the antler. Traces of antler softening are very rare in the archaeological evidence; to grasp them, we need experiments and analyses of cuts in softened and non-softened antlers. Experiments were made by various authors including ourselves (cf. Drzewicz 2004; Osipowicz 2005; Kufel / Diakowski 2008). The easiest way of softening antler is to soak it in water. The antler might have been dipped in a nearby water reservoir situated next to the camp. The antler processing was rotary; there were always several artefacts worked on at the same time: when a processed artefact dried out, it was placed into water, and another piece, sufficiently smoothed, got shaped. We can reconstruct this way of antler processing due to the cutting traces on the tine (**fig. 4, 3-4. 6**). It is possible to discern the succeeding actions of cutting on the surface of the compact tissue, parallel to the basis of the tine (**fig. 4, 4).** When the maker returned to cutting after the tine had been soaked in water, he missed a former cutting line with a cutting edge. We reject the proposition that the observed lines arose when the cutting edge of a flint tool made a detour; in that case the lines would be oblique to the basis of the tine, not parallel.

The surface of the tine is naturally smooth. We cannot see any blood vessel channels apart from those visible on the lower side of the tine, in the medium section and at the base. Ca. 5 cm from one end of the artefact an animal had been incised (**fig. 5, 1-2**). The lines of the figure are damaged – they crumbled away after the tine was deposited. The back lines are most damaged because they are very shallow and were subject to particularly unfavourable conditions (**fig. 5**).

Cross-sections of the incised lines prove that they were cut with an edge and/or the pointed tip of a blade or flake and with a burin (Walker / Long 1977; Cremades 1991). The different depth and width of lines depend on the shape of the antler surface (convex, covered with blood vessel channels etc.), the kind of tool and the proficiency of the maker. Comparing the incision technique of our artefact with other animal representations from the Mesolithic, we come to the conclusion that the producer was not a very skilled engraver.

Thanks to the line intersections we were able to establish the sequence of incisions. Initially, the head with antlers (ears?) was made. The maker used a flint tool with a broad point and a burin or flake/blade with a sharp tip and acute-angled edges. Cutting a few lines, he first made an outline of the head. He started from the tip of the head moving toward its back, where the upper and bottom lines of the outlined head cross.

There is no intersection between the forelegs and the abdomen, but we can be sure that after having incised the head, forelegs in the form of two lines were made (one of them intersecting the line of the head). The hind legs were carefully executed: the maker tried to render thigh muscles. One of the thighs is covered with additional parallel lines. The intersection of the abdomen and the hind legs lines is not clear, but we suppose that the former had been incised earlier. The position of the legs suggests that the animal is in motion.

At the very last stage, the back was accomplished. We can see two shallow main lines that run irregularly, one of which failed completely – a cutting tool must have been applied at a very acute angle (**fig. 5, 3**).

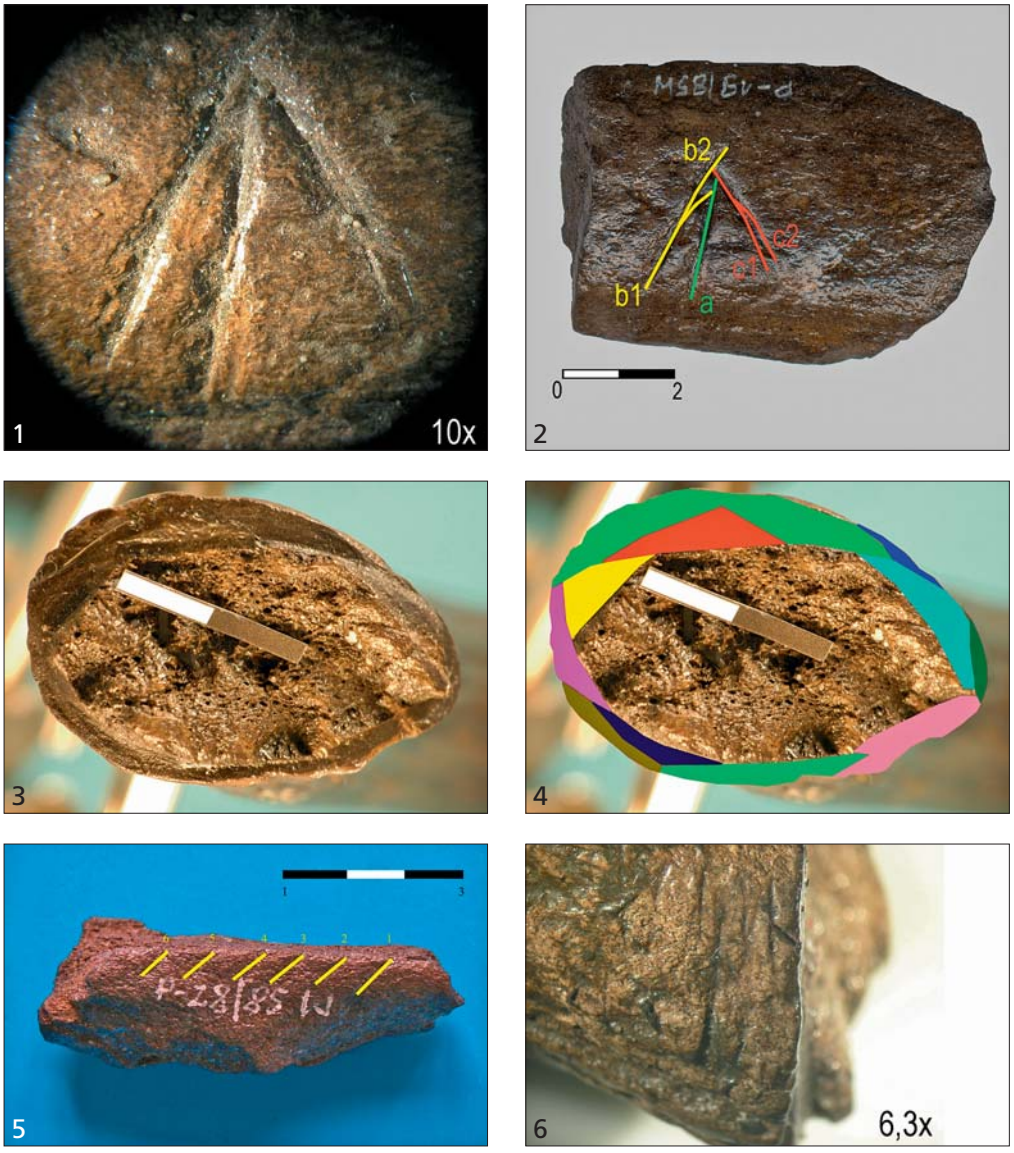

Fig. 4 Pobiel 10, ornamented artefacts: **1** arrow. – **2** Arrow, sequence of incisions. – **3** Cutting off the tine. – **4** Tine, sequence of the cutting off. – **5** Row of incisions on an antler fragment. – **6** Tine, traces of cutting. – (Photos M. Diakowski).

The line of the back cuts the line of the head and that of the abdomen at the hind quarters. In comparison to the other lines of the figure, they were incised inaccurately, as the maker did not control his tool sufficiently – in our opinion due to a natural convexity of the tine at the place where the back was incised that resulted in an unplanned deviation of the tool.

THE INCISIONS' SUBJECT MATTER

Amongst the presented artefacts, the most interesting piece is the tine with the incised animal. Incised zoomorphic motifs are extremely rare in the Mesolithic portable art of Northern Europe (**figs 6-7; tabs 1-2**). Incised representations of mammals are the rarest among motifs on ornamented pieces from this area. They are known from the northwestern province of Mesolithic art and are dated to the Early and the beginning of the Late Mesolithic (Płonka 2003, 179).

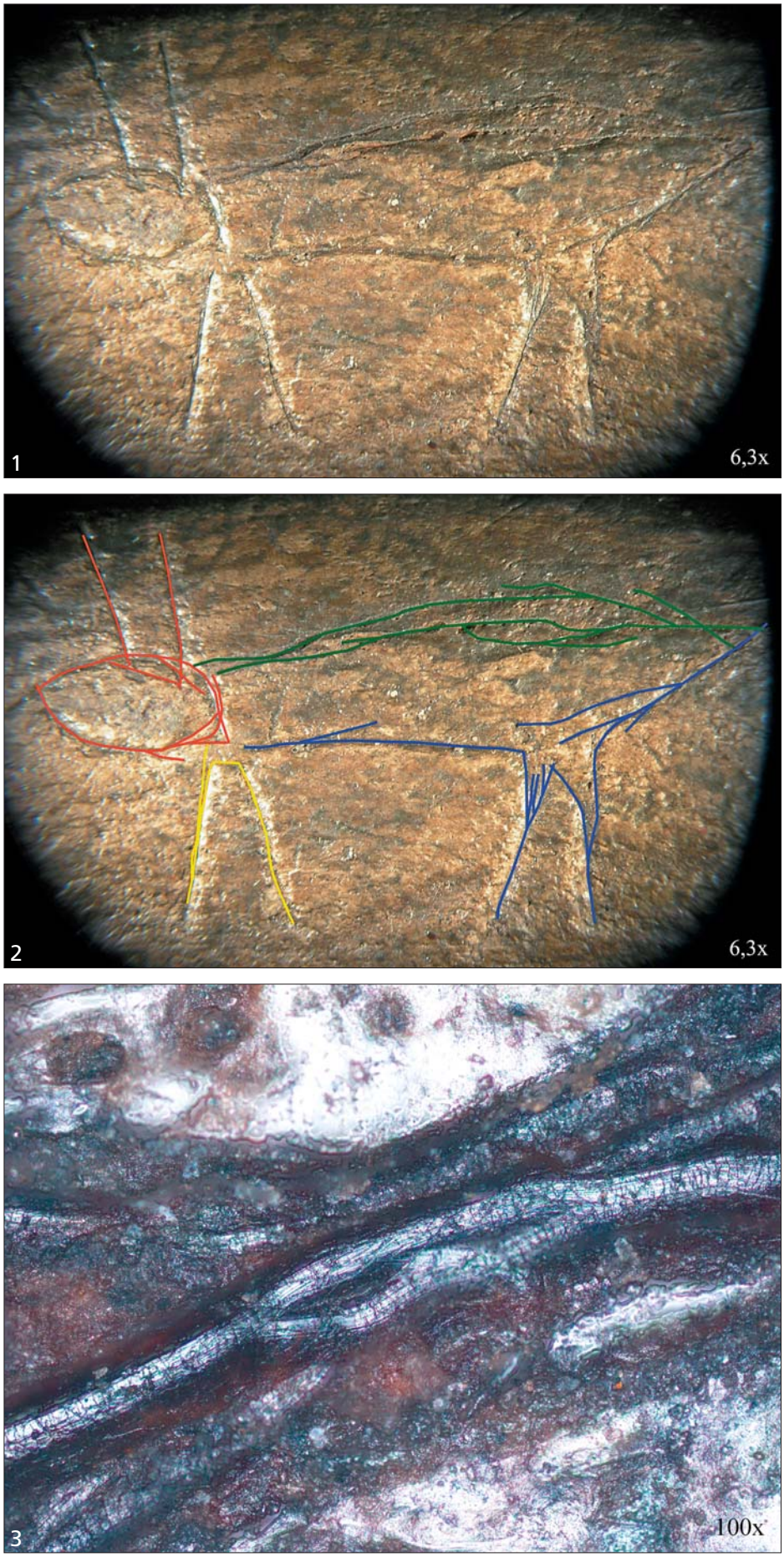

Fig. 5 Pobiel 10, the animal on the antler tine: **1** general view. – **2** Sequence of incisions. – **3** Intersection of lines of the animal back. – (Photos M. Diakowski).

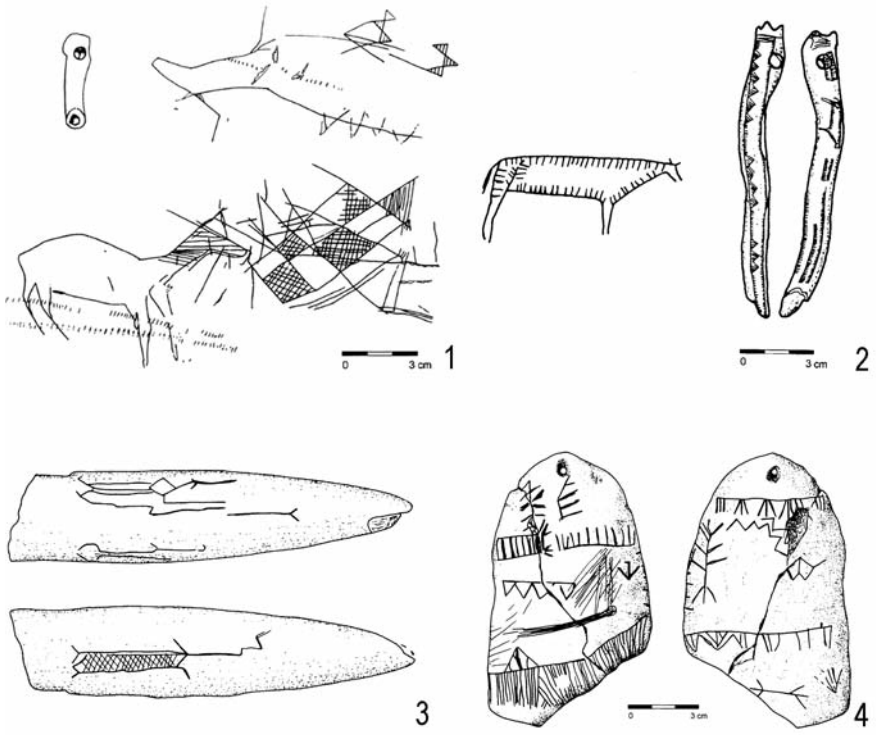

Fig. 6 Ornamented artefacts with quadrupeds (1-3) and an arrow (4): **1** antler axe from Ystad, Scania/S. – **2** Perforated antler beam from Szczecin-Grabowo, woj. zachodniopomorskie/PL. – **3** Knife from the Užava river/LV. – **4** Amber pendant from the vicinity of Hjørring, Nordjylland/DK. – (After Clark 1975; Kunkel 1936; Płonka 2003).

Apart from incised animals, amber figurines of mammals (bear, elk) were also found in the northwestern province. However, their dating is dubious since they are stray finds. In our opinion we should not preclude the possibility that some of them come from the Late Paleolithic – particularly in the light of an amber figurine from the Federmesser site Weitsche which has been ^{14}C-dated to ca. 12,000 cal. BC, i.e. to the Early Allerød period (Veil / Breest 1995; 1997; Veil / Breest / Grootes 2007).

Another tradition flourished in Northeastern Europe, where carved elk sculptures were the most popular zoomorphic subjects. These were not only bone and antler figurines but also sculpted elements as parts of different artefacts (Gurina 1956; Lozovski 1996).

When we look at incised representations of animals from Northern Europe, we can see both similarities and differences as far as style, composition and subject are concerned, although each representation is individual and has specific features. Types of artefacts with such representations are a good starting point. All of the representations, apart from the ones from Pobiel, are on pieces which belong to the most richly ornamented categories of artefacts in the region. In Northwestern and Middle-North Europe they appeared on perforated beams of red deer antler (»Lochstäbe«, »bâtons percées«) dated to the Early Mesolithic. As for the axe from Ystad (Southern Sweden), we can say that antler axes from the Late Mesolithic are also richly ornamented artefacts in Northwestern Europe. The only incised animal figure from Northeastern Europe appeared on an elk bone knife found in the Užava river in Latvia. This category of artefacts was also often covered with incised motifs. On the other hand, antler tines from the Early and Late Mesolithic are rarely ornamented (Płonka 2003, pl. 10. 37). Except for the Pobiel tine, they are covered with geometrical ornaments such as zigzag and barbed lines.

The second specific feature of the Pobiel 10 artefact is the arrangement of the animal ornamentation – it is the only motif incised on the surface. All other pieces are representations of mammals as parts of very rich compositions (Åmose, Sealand/DK; Szczecin-Grabowo, Pomerania/PL; the Užava river/LT), or they are an accumulation of different motifs cut successively in different times (Ystad). The former are ordered in some way, i.e. the motifs appear on different parts of the artefact surface and are interrelated so that we

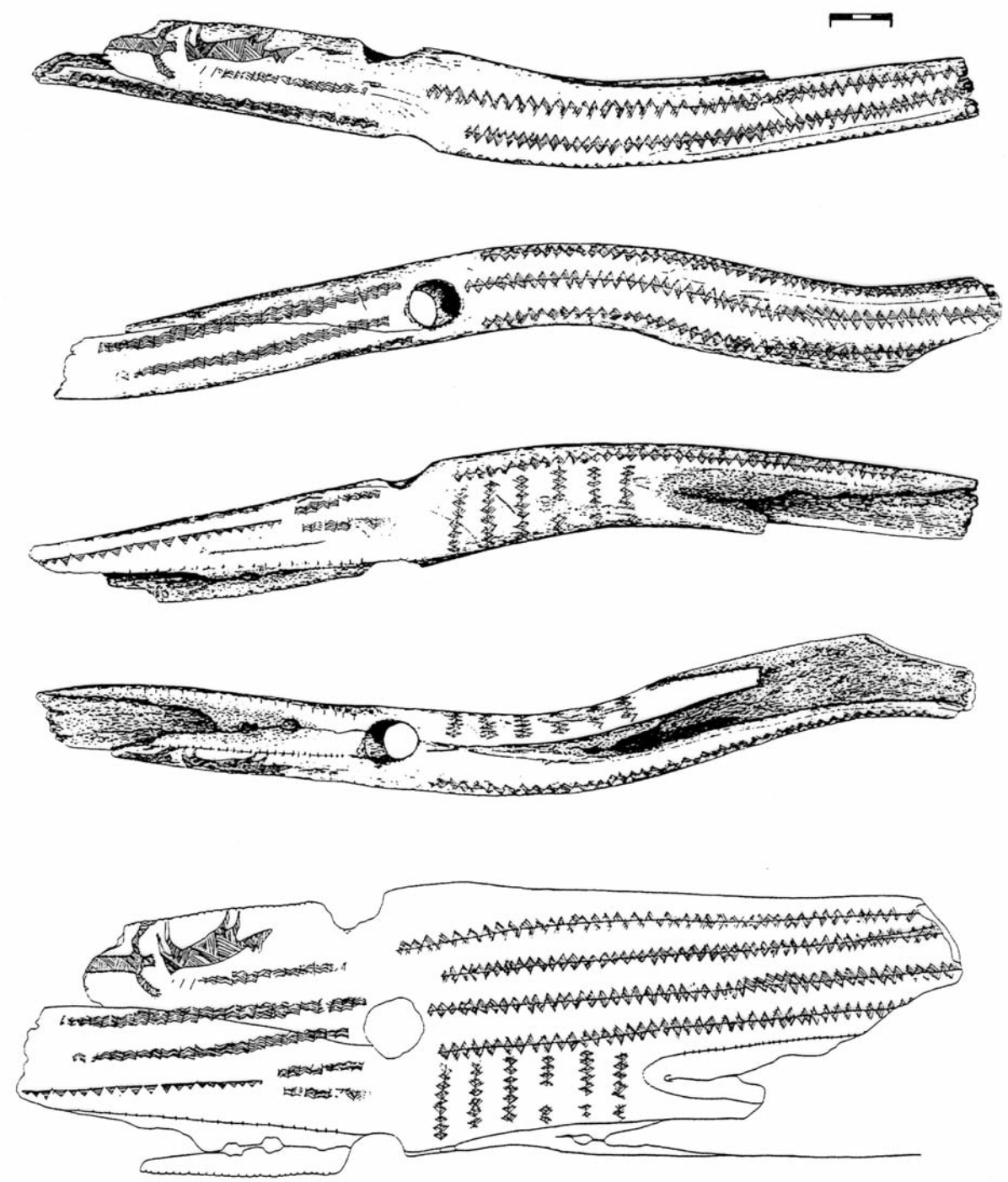

Fig. 7 Åmose, Zealand/DK: perforated antler beam with quadrupeds. – (After Brinch Petersen 1982).

suppose that they were arranged at the same time (fig. 6, 1-2; fig. 7). However, having in mind the order of the motif arrangement, we cannot exclude the possibility that they were incised during several engraving sessions. The axe from Ystad was ornamented differently: the motifs crossed one another, and one of the two zoomorphic figures is a partial representation, one without the hind part of the trunk and without hind legs. According to the crossing of the incised lines of ornaments and the wear we can discern three incision phases (Clark 1975, 157 fig. 34)[3]. The accumulation of motifs incised in different phases is character-

no.	site	region	artefact	style	attendant motifs	species	chronology	remarks	references
1.	Åmose	Zealand/DK	perforated beam	geometrical	anthropomorphic, shaded triangles on line, »fences«	red deer(?)	BO2	–	Brinch Petersen 1982
2.	Pobiel 10	woj. dolnośląskie/PL	tine	geometrical	–	roe deer(?)	AT1	–	Bagniewski 1990a
3.	Szczecin-Grabowo	woj. zachodniopomorskie/PL	perforated beam	geometrical	lines, barbed lines, shaded triangles, figures of barbed lines	red deer(?)	BO2	lost	Kunkel 1936
4.	Užava river	Latvia/LV	knife	geometrical	anthropomorphic	?	BO(?)	–	Loze 1968; 1973
5.	Ystad	Scania/S	axe	realistic	zigzag lines(?), shaded triangles on line, net ornament, row of points (*pointillé*)	red deer	AT1	two representations; ornaments, partially worn, across the figures	Montelius 1917; Clark 1975

Tab. 1 Mesolithic artefacts with incised mammals of the Northern European Mesolithic.

no.	site	contour	shading of figure	depicted body parts	legs	movement	narrative	remarks
1.	Åmose	line	shaded triangles	thorax, neck, head with ears/antlers, four legs	with muscles presented	+	+	shading of human and animal figure are similar
2.	Pobiel 10	line	–	thorax, head with antlers, four legs	forelegs (strokes); hind legs (with muscles presented)	+	–	–
3.	Szczecin-Grabowo	line, barbed line	–	thorax, neck, head with ears/antlers, legs	with muscles presented	–	+	–
4.	Užava river	line	criss-cross	thorax, neck (stroke), head with antlers (stroke), legs	strokes	+	?	twisted perspective
5.	Ystad	line	–	thorax, neck, head with ears, tail, legs	with muscles presented	+	–	–
		line	parallel lines(?)	thorax (partial), neck, head with antlers	-	–	–	partial representation

Tab. 2 Style of incised mammals of the Northern European Mesolithic.

istic of ornaments from the Late Mesolithic, i.e. from the Atlantic period of Northwestern Europe (Liversage 1968; Marshack 1970a; Andersen 1981; Płonka 2003).

There are other elements specific to the incised animal from Pobiel 10 to be mentioned: an oval head and the representation of antlers. These differences are difficult to explain, and in our opinion they are related to the local style employed. Anyway, we should not ignore the similarities of our representation and those from the Early Mesolithic of Northwestern Europe (Åmose, Szczecin-Grabowo) and the one from Ystad.

There is a general geometrical style of all the figures in a specific (twisted) perspective: trunks, legs and heads are displayed in profile while antlers or ears are depicted from the front.
However, the execution of the elements is completely different: the contour of the Pobiel representation is made with a line, there is no hatching of the body, and the hind legs with thigh muscles resemble the realistic figures from the Ystad axe. The representation from Pobiel 10 is located somewhere between the geometrized figures from Åmose and Szczecin-Grabowo and the more realistic figures on the axe from Ystad.
In our opinion the representation on the knife found in the Užava river is different due to three factors: 1. a special (twisted) perspective, 2. the dynamics of the figure (position of legs suggesting motion), and 3. a linear rendering of the neck, head and antlers. Most interesting is the artistic perspective: the trunk and legs are represented from above, the neck, head and antlers in profile.
We believe that the specific character of the tine with the zoomorphic motif may be connected with different factors. As mentioned above, the producer was not a skilled engraver, and we should consider that it may have been a child, a teenager or an adult beginner testing his abilities in engraving. In such a case, we can easily explain why such a »strange« piece like the tine has been chosen for an incision and the fact that there are no additional motifs. On the other hand, the way the thigh muscles were incised shows that the engraver had had some practice. We can hardly solve this problem because we know very few ornamented artefacts from the southern areas of the northwestern province of Mesolithic art. Hence we are not able to answer whether this specific look of the artefact is not simply a matter of a local style. Anyway, from Denmark, the core of the northwestern province, we know some Mesolithic ornamented artefacts which differ from the typical view of this art. The best example is a bone or antler sleeve from Refsvindinge Mose (Müller 1918, 8 figs 18. 27; Płonka 2003, fig. 64, 1), Funen, which is ornamented with geometrical patterns (strokes, barbed and zigzag lines) and a schematized human figure, i.e. motifs which are exceptional for these kinds of artefacts.
The arrow incision on a fragment of the antler from Pobiel is one of the rarest motifs in the Mesolithic art (cf. Płonka 2003, figs 86, 1; 92, 1). We suppose that the arrow was incised in the center of the antler fragment. However, we cannot be sure whether the arrow was executed before the artefact had been intentionally damaged or before any damage occurred. If the latter were true, the arrow may well have been part of a more extensive set of incisions. It would then be in agreement with the use of the motif on the two artefacts from Northwestern Europe, dated probably to the late Boreal period, i.e. an amber pendant from the vicinity of Hjørring (Jutland; **fig. 6, 4**) and a flint nodule from Holmegård V (Zealand). The arrows on the pendant and the nodule are parts of a complex incision which was probably accumulated during long periods of time.
The last artefact, the antler fragment with six cuts, presents a very popular motif from the Palaeolithic on. In this case, the time at which the incisions were made is noteworthy: they were made after the antler had been broken. Covering damaged artefacts or bone and antler fragments with incisions is a tradition that goes back to the Palaeolithic. A. Marshack (1970b; 1972; 1977; 1979; 1990; 1993) describes this tradition as one characteristic of Palaeolithic (from the Aurignacien to the Magdalenian) and Mesolithic marking throughout Europe.

CONTEXT

All three artefacts were found in a former riverbed near a Mesolithic campsite. Taking into account other pieces from the bed, we can be sure that it has been an area of the camp (or camps) used as a dump. In our

opinion the two antler fragments, i.e. the ones with the arrow and with incisions respectively, were thrown away just after the ornaments had been incised, or a little later. It may be possible that the tine with the animal depiction reached the riverbed in some other way. The artefact bears no traces of work, and it has evidently not been used as a retoucher or puncher. At the same time we may suppose that some kinds of artefacts – ornamented or not – were ritually deposited in water. In L. Larsson's opinion (1990, 285-286), some of the Mesolithic points (not ornamented) discovered in waterlogged areas of Northwestern Europe could be interpreted as votive deposits. Further traces of former ritual action were found at the Late Mesolithic site Zamostye 2 in Northern Russia. Most of the ornamented stone plates and polishers there were discovered on the shore of the lake near the campsite. A large part showed traces of a fire treatment and the presence of tar and grease (Sidorov / Engovatova 1998, 127-129). They probably accumulated as a result of ceremonial rituals, either single or from time to time repeated rituals. The ritual(s) involved the burning of ornamented stones and some manipulations with meat or fat (grease) and wood (tar). At the end the stones were thrown into the lake. Although we have no ultimate proof of the ritual deposition of the Pobiel tine, we cannot rule out the possibility that it got to the riverbed as a result of a ceremonial ritual.

FINAL REMARKS

Detail analysis of three ornamented artefacts from Pobiel 10 has enabled us to establish the technique of their production and ornamentation. The ornamentation was not only executed on whole artefacts but also on antler fragments. The style of the ornaments shares some features with the Mesolithic art of Northwestern Europe, but we also see a local form of expression. This is best visible in the case of the antler tine with animal depiction – the choice of the material ornamented, the disposition of the animal and the execution of the ornamentation.

Notes

1) This paper was prepared for the 15th Silesian Archaeological Reunion in May 2007. After it was completed, a book by S. Pratsch appeared with a photo of the zoomorphic engraving (Pratsch 2006, pl. 35, 2a-b). – We appreciate the useful suggestions of an anonymous reviewer.

2) Unfortunately, the artefacts were soaked in preservative gelatine produced on a resin base after the excavation. However, we tried to gain a radiocarbon date of the most interesting piece – the tine with the representation of an animal. To prepare a sample, AMS dated by the Poznan Radiocarbon Laboratory, it was subjected to a special preparation (cf. Bruhn et al. 2001; Goslar et al. 2006, 10f.). The date obtained, 7 800 ± 50 BP (Poz-20157; 6 626 ± 52 cal. BC), points to the beginning of the Atlantic period and is clearly younger than the radiocarbon dated bottom of level 1 (8 450 ± 50 BP; GrN-13857; 7 530 ± 34 cal. BC) where the tine was found. The date of the tine is even younger than that from the bottom of the overlying level 2 (7 920 ± 80 BP; GrN-13856; 6 844 ± 138 cal. BC). How to explain these discordances? It is most probably to assume a vertical movement of some artefacts and parts of the sediments – dates from the famous peat bog site Vis I (cf. Burov 1990, fig. 3) suggest the same –, but it could be caused by the preservative gelatine, as well. All dates mentioned in the text are calibrated using the CalPal online calibration programme.

3) J. G. D. Clark, who called this accumulation a »palimpsest«, dated the axe to the Boreal (Maglemose art).

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Zusammenfassung / Abstract / Résumé

Neue Untersuchungen zu den dekorierten Artefakten des mesolithischen Fundplatzes Pobiel 10, Niederschlesien, Polen

Die Ergebnisse einer Neuuntersuchung der drei dekorierten Artefakte aus Rothirschgeweih vom mesolithischen Fundplatz Pobiel 10 in Südwestpolen werden hier vorgestellt. Die Stücke fanden sich in der sog. Fundlage 1 als Teil von Altarmablagerungen der Orla, die generell in das jüngere Boreal datiert wird. Unsere Untersuchungen betrafen die technischen Abläufe, die zu den gravierten Darstellungen führten, unter Hinzuziehung von vergleichbaren Objekten des nordeuropäischen Mesolithikums. Dabei offenbarten die drei Gravierungen von Pobiel 10 zwar Ähnlichkeiten zu diesen Beispielen, aber auch spezielle, vielleicht regionale Besonderheiten. Ein neues Radiokarbonalter für das Geweihstück mit Tierdarstellung sowie die früheren Daten erlauben nun, die Objekte an das Ende des Boreals bzw. den Beginn des Atlantikums einzuordnen. *M. Baales*

New data on ornamented artefacts from the Mesolithic site Pobiel 10, Lower Silesia, Poland

Three ornamented pieces of red deer antler from the Mesolithic site at Pobiel 10, one of them with a zoomorphic motif, have been reanalysed. They were deposited in the so-called level 1 of the former riverbed and dated generally to the second part of the Boreal period. Our research aimed at establishing the technology used to produce these artefacts and ornaments. We also studied similar ornaments from Northern Europe in the context of the deposition of our artefacts. Although the analysed ornamented artefacts have some stylistic similarities with the northwestern province of Mesolithic art, their style is also locally specific. A new date for the ornamented antler tine and all the radiocarbon dating allow us to date the two other pieces to the end of the Boreal and the beginning of the Atlantic period.

Nouvelles études sur des artefacts mésolithiques décorés du site de Pobiel 10, Basse-Silésie, Pologne

Le présent article relate les résultats des nouvelles analyses menées sur les trois artefacts en bois de cerf ornés du site mésolithique de Pobiel 10, dans le Sudouest de la Pologne. Les pièces ont été découvertes dans un ancien lit de la rivière Orla, dans le »niveau 1« réputé dater de la fin du Boréal. Nos recherches ont concerné les évolutions techniques qui ont permis ces représentations, en y ajoutant d'autres pièces du Mésolithique nord-européen à titre de comparaisons. Il en ressort que les trois ornements de Pobiel 10 se rattachent à certains exemplaires européens mais présentent aussi des caractères originaux, peut-être locaux. Une nouvelle datation radiocarbone du bois représentant un animal permet, en corrélation avec les dates déjà obtenues, de proposer une datation de la fin du Boréal ou du début de l'Atlantique. *L. B.*

Schlüsselwörter / Keywords / Mots clés

Polen / Mesolithikum / Kleinkunst / zoomorphe Darstellungen / mesolithische Ornamentik / technologische Analyse
Poland / Mesolithic / portable art / zoomorphic motifs / Mesolithic ornamentation / technological analysis
Pologne / Mésolithique / art transportable / représentations zoomorphes / ornementation mésolithique / analyse technologique

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