



Domestic and funerary bone, antler and tooth objects in the Neolithic of western Europe: a comparison.

Isabelle Sidéra

► To cite this version:

Isabelle Sidéra. Domestic and funerary bone, antler and tooth objects in the Neolithic of western Europe: a comparison.. Choyke A.M. & Bartosiewicz L. eds. Crafting bone: Skeletal Technologies through Time and Space., British Archaeological Reports, IS 937, Oxford., pp. 221-229., 2001. halshs-00283603

HAL Id: halshs-00283603

<https://shs.hal.science/halshs-00283603>

Submitted on 29 Jun 2017

HAL is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

L'archive ouverte pluridisciplinaire **HAL**, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d'enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.

Crafting Bone: Skeletal Technologies through Time and Space

Proceedings of the 2nd meeting of the
(ICAZ) Worked Bone Research Group
Budapest, 31 August – 5 September 1999

Edited by

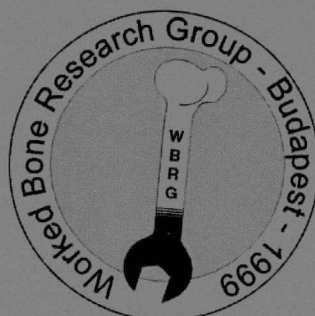
Alice M. Choyke and László Bartosiewicz

Technical Editors

Krisztián Kolozsvári and Katalin Kövágó-Szentirmai

Infrastructural Support

The staff of the Roman Department of the Aquincum Museum



BAR International Series 937
2001

DOMESTIC AND FUNERARY BONE, ANTLER AND TOOTH OBJECTS IN THE NEOLITHIC OF WESTERN EUROPE: A COMPARISON

Isabelle Sidéra

Abstract: Following more than ten years of research on west European Neolithic bone, antler and tooth artefacts, from all the contexts in which these objects are found, including settlements, enclosures, mines and graves, some results of the comparison between settlements and burials are given. Three aspects of funerary material are discussed. Through a presentation of ordinary, everyday objects and more exceptional grave-goods, the aim is to show the quite specific values which they convey and to underline the information that one can hope to obtain from this approach, thus broadening our knowledge of the Neolithic.

Keywords: West European Neolithic, settlement materials, funerary materials

Résumé: A la suite de dix années de recherches sur les industries en os, bois de cervidé et dents, en considérant tous les contextes qui ont livré ces objets, comprenant habitats, enceintes, mines et sépultures, nous donnerons quelques résultats issus de la comparaison entre les sites d'habitat et les sites funéraires. Trois aspects relatifs au mobilier funéraire sont abordés. A travers la présentation d'objets quotidiens et d'objets funéraires plus exceptionnels, notre but est de montrer la valeur spécifique de chaque type de mobilier et de souligner les informations que l'on peut espérer obtenir de cette approche, pour ainsi élargir notre connaissance du Néolithique.

Mots-clés : Néolithique d'Europe Occidentale, mobilier provenant des habitats, mobilier funéraire.

Zusammenfassung: Nach mehr als zehn Jahren intensiver Forschungsarbeit an Knochen-, Geweih- und Zahnartefakten aus neolithischen Fundplätzen in Westeuropa, die aus ganz unterschiedlichen Fundkontexten wie z.B. Siedlungen, Anlagen, Bergwerke oder Gräber kommen, sollen hier einige Ergebnisse aus dem Vergleich zwischen Siedlungen und Bestattungen dargelegt werden. Drei Aspekte aus Bestattungsbefunden werden diskutiert. Durch eine Gegenüberstellung gewöhnlicher Alltagsgegenstände und eher herausragender Grabbeigaben wird die spezielle Bedeutung einer solchen Analyse für die Erweiterung unserer Kenntnisse zum Neolithikum betont.

Schlüsselworte: Westeuropäisches Neolithikum, Siedlungsfunde, Grabfunde

The research I have undertaken for over ten years on bone, antler and tooth ornaments and tools from the 6th to the 3rd millennium BC in western Europe has focused special attention on all the types of contexts in which these artefacts occur¹. Thus, the material from settlements, mines, burials and specialized workshops has been studied in turn (Sidéra 1989, 1991, 1992, 1993, 1995, and 1997, 499). Only by bringing together the objects from these different contexts can we understand the variety within a bone industry in a given culture, obtain the complete panorama of production in this culture and reconstruct the position held by these objects in terms of the society. Once all this evidence has been surveyed, the comparison of cultures and contexts can only be more rewarding.

However, making the most complete list possible of artifacts in these materials also helps us, above all, to grasp the cultural, economic and social facts involved in their manufacture and use. It is of course this line of research that I have pursued, using methods such as technology and use-wear as well as comparing fauna from food refuse with those selected for making tools, in order to broaden our knowledge of the Neolithic.

As will be outlined below, with grave-goods from the late 6th and 5th millennia in western Europe, the artifacts, raw materials and production techniques all greatly differ according to context and show the range of fields of implication for these objects. In order to illustrate this variety and at the same time lend meaning to it, I will discuss three aspects: the value placed on wild animals, extraordinary objects in graves and differences between domestic and funerary contexts in terms of the speed of diffusion of technical innovations.

As a result of a number of excavations of graves and cemeteries (for example, Trebur [Hessen, Germany: Spatz 1997, 157]; Schwetzingen [Baden-Württemberg, Germany: Behrends 1997, 17]; Bucy-le-Long "la Fosselle" [Aisne, France: Collectif 1996]; Aiterhofen-Ödmühle [Bavaria, Germany: Nieszery 1995]), there has recently been a spectacular increase in funerary data, opening up new paths of research. This new evidence means that the subject can now be approached through bone artifacts.

Research into the use of animals concentrated initially on domestic species, naturally associated with the Neolithic. Little attention was paid to the role of wild animals, relatively infrequent (under 20% and more often under 10%). The

last decade, which has seen the development of archaeozoological studies, as well as research on bone artifacts, has also seen the question of wild animals and their complex relations with man discussed and restored to its just value. The function of wild animals has drawn particular attention because they represent more than simple remains of food consumption. In particular, burial data from the 5th millennium indicate that wild animals were an especially important source of raw material for making the artifacts that were placed in graves. A number of original interpretations have been suggested, which take into account the cultural or economic function of hunting, as well as its symbolic, religious or prestige dimension (Audoin-Rouzeau & Desse 1993; S  n  part 1993, 293; Tresset 1993, 247; Vigne 1993, 201; Hachem 1995, 197; Jeunesse et al. 1997, 81.), or even its use as a social code to distinguish individuals within cemeteries (Sid  ra 1994, 15 and 1997, 499).

By combining the new data with the evidence already available, the phenomena which are relevant to the analysis can be identified, emerging at the end of the Linear Pottery culture and at the end of the first stage of the European Neolithic, around 5000 BC. This dynamic period saw the beginning of a new symbolic system which was to last several millennia and take on vast proportions later on during the Neolithic. Finally, it must be stressed that the bone artifacts especially well reflect the new symbolic trends that we are now going to describe.

1. Valorisation of the wild in burials at the end of the 6th millennium

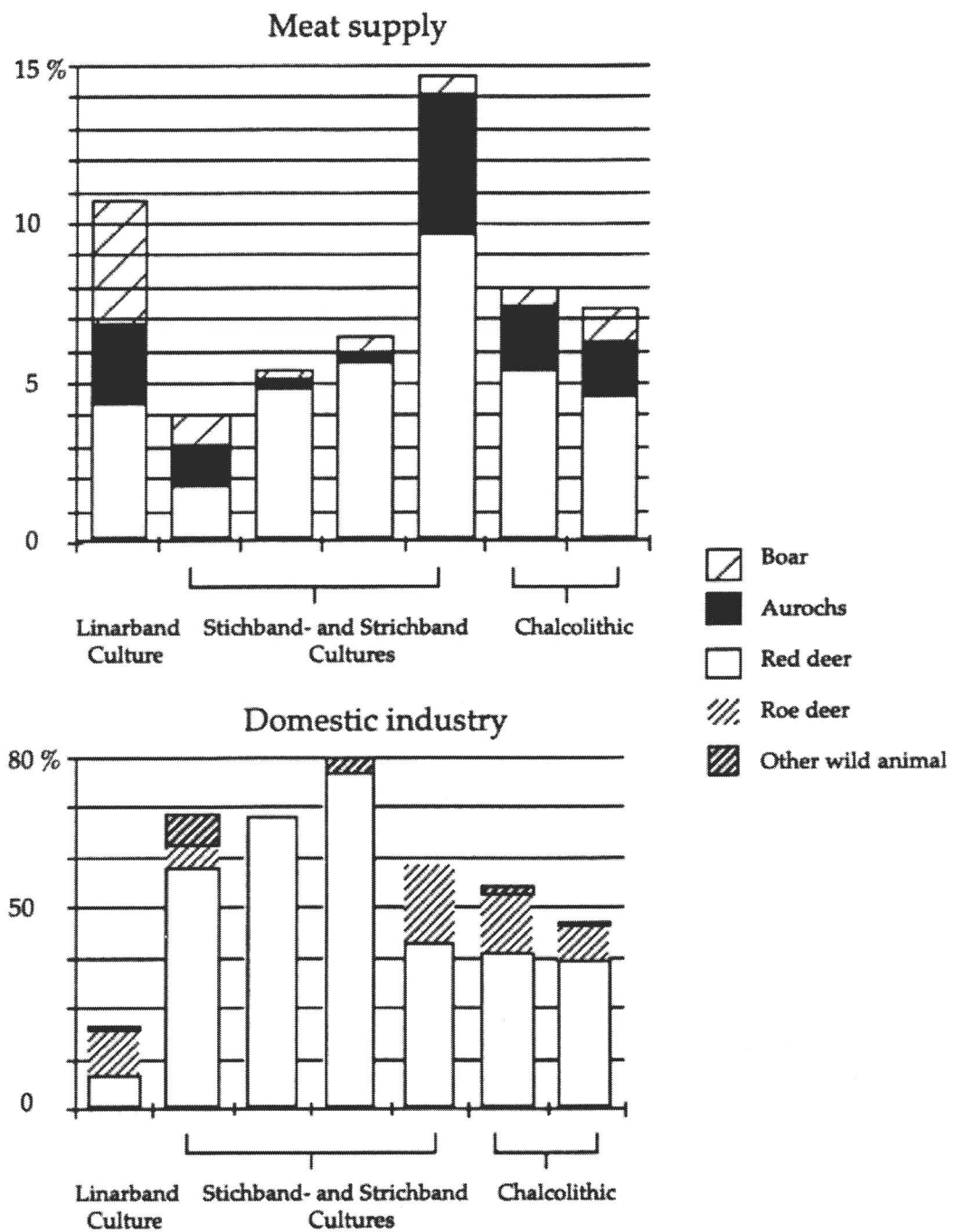
First of all, the evidence from settlements of the western Linear Pottery culture (Rhine and Paris basins) shows a coherent pattern of use of domestic animals for meat consumption and making tools. In this culture, around 5100 BC, craftspeople mainly used the animals that were eaten: cattle, followed by sheep. Hunting was not an important subsistence activity (11% on average²), and the rate of use of wild animal bones to produce domestic tools is low but stable (tab. 1). A few of these are artefacts made from tooth and antler, but most are made from bone (fig. 1).

From the end of the Linear Pottery onwards, a new phenomenon appears, and this contradicts previous rules. While the average amount of hunting of wild animals significantly decreases (Sid  ra 1994, 16 ; Hachem 1999, 325), their bones are more frequently used for making objects. Furthermore, red deer are particularly valued, both for hunting and as raw material for artifacts. They become one of the most hunted preys (Tresset 1993, 247; Hachem 1999, 335). Their bones are used more frequently, partly replacing those of cattle and sheep, for making the most common tools (tab. 1 & fig. 2). This double phenomenon begins right at the end of the Linear Pottery and develops above all in the succeeding cultures. Thus in the cultural episode which immediately follows, Villeneuve-Saint-Germain in the Paris basin and Grossgartach in the Rhineland, as well as red deer bones,

shed antlers, rather than antlers removed from hunted animals, play an increasingly important role in the domestic industry (fig. 2). The use of raw materials from living as opposed to slaughtered animals, signifies a new trend within the Neolithic. It reflects changing mentalities and technical processes associated with new objectives in the use of animals (Sid  ra 1990, 264).

The increasing importance of wild animals is clearest in the graves from the very end of the Linear Pottery and from the Hinkelstein culture, its equivalent on the Rhine. They contain abundant and diversified material, including debitage products, tools and ornaments, evoking or representing hunting through the choice of raw materials. In these graves, arrowheads are common and objects made from red deer bone or teeth are very frequently encountered. This material mainly includes beads and pendants made from red deer canines or from more or less realistic imitations in shell or limestone, forming necklaces or dress ornaments (fig. 3.5). One ornament can be made up of several hundred of these items. For example, a woman buried at Trebur (Hessen, Germany) has a necklace of genuine canines from 115 red deer (Spatz 1997, 157). Another female burial, at Bucy-le-Long "la Fosselle" (Aisne, France), contains a headband decorated with genuine canines from 27 red deer, as well as some imitations in limestone (Collectif 1997). Red deer are not the only species represented by these objects. There are also whole or reworked canines of bear and wild boar (fig. 3.4). The wild bestiary is the most complete in the late Neolithic (Cerny culture) and in the Chalcolithic (Michelsberg and Chass  en, Seine-Oise-Marne cultures). In addition to red deer bone and antler, bear and wild boar teeth, there are now bird of prey claws, beaver teeth and hedgehog mandibles.

The significance of hunting expressed through the use of raw materials from hunted animals, at a time when there is an actual decrease in hunting activity, is of course a complex matter which cannot be rapidly explained. While the background of this double phenomenon is probably related to the development of social structures within the Neolithic, itself involving a change in ideology, a thorough overview of society is required, beyond the scope of this article. We can nevertheless add that probable burials of hunters (or warriors?), characterized by appropriate equipment (loaded quivers, sometimes a war-hammer, side-scrapers for shaping bows and arrows), appear two or three hundred years after the first signs of these new social trends which are more or less closely related to hunting (Sid  ra 1997, 499). Furthermore, these graves containing a large number of varied objects, a mark of esteem for the person buried, lend meaning to all the burials with objects made from hunted animals. These attributes probably act as a code relating to the person's status, especially since the variety of material is not random and bone artifact assemblages are always structured according to more or less invariable rules (Sid  ra 1997).



Tab. 1 Wild animal exploitation

2. Extraordinary grave-goods in the Neolithic

Although the artifacts just discussed certainly express very meaningful symbolic values, they remain quite ordinary. The beads that made up various kinds of ornaments worn while the person was alive generally show wear, and few beads, broken or simply lost, are found in settlement refuse (fig. 3.6). In the graves of the Neolithic, certain types of object are much rarer and occur exclusively in funerary contexts. These objects possess other meanings and symbolize complementary aspects of the social structure previously mentioned.

Different types of figurines made from cattle or sheep metapodia, radii or phalanges are completely new in the Linear Pottery culture. These miniatures show clear anthropomorphic attributes. Mother-of-pearl discs or incisions represent the eyes, mouth or nose (fig. 3.1 & 2). These items are associated with both adults and children.

The same applies to the large, long and pointed objects with wear showing that they were used as tools or weapons which occur in certain 5th millennium graves, exclusively in the Cerny culture (fig. 3.7 to 9). One of these objects can perhaps be interpreted as having small arms. The bulges on another clearly correspond to hips. All have a bifid ending probably representing legs. The examples made from long bones are perforated in the middle of the central, flat part. Two objects are made from shoulder blades and the scapular spine is perforated at an angle. On the best preserved examples, these perforations show a gloss which quite probably results from hafting, the position of which changed through time. Thus the instrument would have had a haft of indeterminate length that would have given the user a better hold. Given the nature of the macroscopic traces of wear on the points, very similar to wear on ordinary awls (*poinçons*), these instruments were certainly hand held rather than thrown, if they were weapons. Located next to the head in male burials, they were possibly unhafted before being placed in the graves. With these objects, which I propose to call hafted anthropomorphic perforating objects, it is interesting to note how the material and symbolic functions are associated. The combs carved in the cortical mass of a bone or an antler, form another rare type of object found only in funerary contexts. These artifacts, which occur in the Bavarian and Austrian Linear Pottery culture, are finely made and thus contrast with the domestic industry. The teeth of the combs are skilfully shaped, their edges cleverly notched and the known examples are decorated with incisions and round impressions (fig. 3.3). A whole set of materials that can be qualified as extraordinary, as opposed to the everyday production commonly used in settlements, thus occurs in graves, favouring universes which are, like ornament and dress, distinct from the purely material and everyday function exercised by the tools. The anthropomorphic figurines, tools or weapons had precise material functions and at the same time identified specific persons and social statuses within a cemetery. The fact that they are rare indicates the exceptional nature of the bearers of these objects.

3. Differential speed of diffusion of technical innovations in domestic and funerary contexts

Together with these extraordinary objects, common domestic types are used more frequently as grave-goods. Certain types appear in a precise chronological phase or stage and are worth commenting upon. For example, bone scrapers, awls and rings are the most common objects in both settlements and graves. Their use as grave-goods and their varied types reveal geographical, cultural and chronological variation that I will not discuss further here, as I would like to draw attention to a more original aspect of this material.

The graves contain artifacts of an ordinary, standard kind which display the same typology of shape and techniques as the material from contemporary settlements. Awls on small ruminant distal metapodia sawn in half are frequent in Linear Pottery graves and frequent in contemporary settlements, for example in Bavaria and Austria (Nieszery 1995; Lenneis et al. 1995). The situation is quite different, however with technical innovations that appear in settlements at a precise, well dated chronological stage, yet only reach the funerary domain much later.

Thus, the specific type of perforating tool made by abrasion of metapodia of small ruminants (*poinçons à la paire*: Poplin 1977, 85; fig. 4.3 to 5) is absent from the whole Linear Pottery sequence in Alsace. Further west, in the Marne, at a stage slightly later than the earliest settlement of Alsace, this type is still missing (Sidéra 1993). In the Aisne and the north-east Paris basin, it is still absent in the following stage, corresponding to the first Neolithic settlement here (Ilett & Plateaux 1995, 116). The type first appears associated with houses dated to the second settlement phase (Constantin & Ilett 1997, 281). The technique gradually becomes more frequent in the subsequent settlement phases. It becomes well attested in the final stage of Linear Pottery in the Aisne, Seine-et-Marne and Yonne and even more so in the succeeding Villeneuve-Saint-Germain stage. It disappears with the end of this culture. Awls made with this technique only appear in graves at the time of their maximum frequency in settlements, that is to say at the beginning of Villeneuve-Saint-Germain culture (Sidéra 1997, 499). This type of awl never occurs in burials which are dated to the Linear Pottery culture. Thus a century has passed between the appearance of this type of awl in settlements and their use as a funerary symbol. This means that technical innovations are integrated at a different rate between settlements and graves, as if the transfer of domestic objects to the funerary domain involved tried and tested objects, or only happened when they became very common in everyday life.

The case of the awl made by abrasion and the time-lag between the appearance of the technique in the settlement and the graves is not unique, since this also applies to a new technique of cutting metapodia of large ruminants to make awls and *ouils tranchants*: sawing in quarter. This new technique first appears in settlements of the final stage of the Paris

basin Linear Pottery and then becomes more frequent in the immediately succeeding cultural episode, the Villeneuve-Saint-Germain. This cutting technique scarcely appears in graves before the Cerny culture. The first examples to occur in graves are probably in the Loire and Yonne, and date to about 200 years after the first appearance of this cutting technique in settlements.

Can a rule be made from the difference in the timing of the appearance of technical innovations between settlements and graves, and could this apply to all types of grave-goods? In other words, were the only objects available for the graves objects that were already obsolete, and thus representative of earlier chronological phases? If the speed of diffusion of technical innovations, different between settlements and graves, is a rule which applies not only to bone artifacts but also to certain other types of grave-goods, this implies that, to date a grave, one has to rely on finds duly proven to be representative of a chronological phase or stage. In that case, perhaps unexpected elements could be used to date a grave, rather than the classic material generally employed for this purpose.

These two examples are enlightening, and question the reliability of using grave-goods to date burials precisely. This is particularly clear with the bone industry because technical innovations appear here in a context with detailed chronology, notably due to analyses of ceramics from settlements (Ilett & Constantin 1993, 94; Constantin & Ilett 1997, 281).

Conclusion

I have tried in this article to show differences in objects and inventories between settlements and graves, in order to demonstrate the necessity and the interest of research that takes into account all the types of context in which the modified animal material is found, if possible with the available evidence. The comparison is rewarding and a source of progress in the understanding of the remains with which we are confronted.

Translation: Mikael James Ilett

Notes

¹ This research is based on more than 5000 objects from almost eighty sites. The observations on over two-thirds of this material are unpublished.

² The average given here should be taken as indicating a trend. The frequency of hunted animals can vary from 0.5 to 25%, and exceptionally even more, depending on the site (Hachem 1999, 325).

References

- Audoin-Rouzeau, F. & Desse, I. eds. 1993. *Exploitation des animaux sauvages à travers le temps*. Actes des 13e rencontres internationales d'archéologie et d'histoire d'Antibes, 4e colloque international l'homme et l'animal. Édition du Association Pour la Diffusion des Connaissances en Archéologie, Juan-les-Pins, 539 p.
- Behrends, R.-H. 1997. La nécropole rubanée de Schwetzingen (Kr. Rhin-Neckar, Baden-Württemberg). In *Le Néolithique danubien et ses marges entre Rhin et Seine*. Actes du 22e colloque interrégional sur le Néolithique, Cahiers de l'association pour la promotion de la recherche archéologique en Alsace, supplément 1997, pp. 17-29.
- Bernardini, O., Delneuf, M., Fonton, M., Peyre, E. & Sidéra, I. 1992. La sépulture "Grossgartach" de la Sablonnière à Passy (Yonne). *Actes du 11e colloque interrégional sur le Néolithique*. Éditions Internéo, Paris, pp. 119-130.
- Collectif, 1997. *Bucy-le-Long "la Fosselle" (Aisne)*. Rapport des fouilles 1997, AFAN-ERA 12 du Centre National de la Recherche Scientifique, SRA Picardie, Amiens, 126 p. 2 vol.
- Constantin, C. & Ilett, M. 1997. Une étape finale dans le Rubané récent du Bassin parisien. In *Le Néolithique danubien et ses marges entre Rhin et Seine*. Actes du 22e colloque interrégional sur le Néolithique, Cahiers de l'association pour la promotion de la recherche archéologique en Alsace, supplément 1997, pp. 281-300.
- Farruggia, J.-P. & Guichard, Y. 1995. Les sépultures in Le site Néolithique de Berry-au-Bac 'le Chemin de la Pecherie' (Aisne). In *Monographies du Centre de Recherches Archéologiques* 15, eds. M. Ilett M. Plateaux. Éditions du Centre National de la Recherche Scientifique, pp. 157-164.
- Gallay, G. & Mathieu, G. 1988. Grabbeigaben der Bandkeramik von Ensisheim dep. Haut-Rhin (Elsass). *Germania* 66, pp. 371-389.
- Hachem, L. 1995. La représentation de la chasse dans les espaces villageois rubanés de la Vallée de l'Aisne (France). *Anthropozoologica* 21, pp. 197-205.
- Hachem, L. 1999. Apport de l'archéozoologie à la connaissance de l'organisation villageoise rubanée. In *Actes du colloque Habitat et société, 21e rencontres internationales d'archéologie et d'histoire d'Antibes*, eds. F. Braemer, C. Cleuziou A. Coudart. Association Pour la Diffusion des Connaissances en Archéologie, Juan-les-Pins, pp. 325-338.
- Ilett, M. & Constantin, C. 1993. Rubané récent du Bassin parisien et Rubané récent du haut-Rhin. In *Le Néolithique du nord-est de la France et des régions limitrophes*, Actes du 13e colloque interrégional sur le Néolithique, Documents d'archéologie française, 41, Paris, pp. 94-99.

- Ilett, M. & Plateaux, M. ed. 1995. Le site néolithique de Berry-au-Bac 'le Chemin de la Pecherie' (Aisne). *Monographies du Centre de Recherches Archéologiques* 15, éd. du C. N. R. S., 215 p.
- Jeunesse, C. & Arbogast, R. M. 1997. À propos du statut de la chasse au Néolithique moyen. La faune sauvage dans les déchets domestiques et dans les mobiliers funéraires. In *Le Néolithique danubien et ses marges entre Rhin et Seine*, Actes du 22e colloque interrégional sur le Néolithique, Cahiers de l'association pour la promotion de la recherche archéologique en Alsace, supplément 1997, pp. 81-102.
- Lenneis, E., Neugebauer-Maresch, C. & Ruttkay, E. 1995. *Junsteinzeit im Osten Österreichs*. Verlag Niederösterreichisches Pressehaus, Wien, 224 p.
- Lichardus-Itten, M. 1980. Die Gräberfelder der Grossgartacher Gruppe im Elsass. *Saarbrücker Beiträge zur Altertumskunde* 25, 217 p.
- Nieszery, N. 1995. Linearbandkeramische Gräberfelder in Bayern. *Internationale Archäologie* 16, 404 p.
- Poplin, F. 1977. Deux cas particulier de débitage par usure. In *Actes du premier colloque international sur l'industrie de l'os dans la Préhistoire*, ed. H. Camps-Fabrer. Éditions de l'Université de Provence, Paris, pp. 85-92.
- Schlichtherle, H. 1990. Aspekte der siedlungsarchäologischen Erforschung von Neolithikum und Bronzezeit im südwestdeutschen Alpenvorland. In *Siedlungsarchäologische Untersuchungen im Alpenvorland*. Berichte der Römisch-Germanischen Kommission 71, Verlag Philipp von Zabern, Mainz am Rhein, 208-244.
- Sénépart, I. 1993. Quelques remarques à propos de l'exploitation de la faune sauvage dans l'industrie de l'os néolithique du sud-est de la France (Languedoc oriental, basse-vallée du Rhône, Provence). In *Exploitation des animaux sauvages à travers le temps*, 13e rencontres internationales d'archéologie et d'histoire d'Antibes, 4e colloque international de l'homme et l'animal. Éditions de l'Association pour la promotion et la diffusion des connaissances archéologiques, pp. 293-301.
- Sidéra, I. 1989. *Un complément des données sur les sociétés Rubanées, l'industrie de l'os de Cuiry-lès-Chaudardes*. British Archaeological Reports, IS 520, Oxford, 163 p.
- Sidéra, I. 1990. La recherche des bois de cerf. Le reflet significatif de l'évolution du techno-complexe de l'exploitation de la faune protohistorique. *Bulletin de la société préhistorique française* 87/9, pp. 264-265.
- Sidéra, I. 1991. Mines de silex et bois de cerf. L'exemple de Serbonnes 'le revers de Brossard' (Yonne). *Revue archéologique de l'est et du centre-Est*, 42/1, 159, pp. 63-91.
- Sidéra, I. 1993. *Les assemblages osseux en bassins parisien et rhénan du VIe au IVe millénaire B. C. Histoire, techno-économie et culture*. Thèse de Doctorat de l'Université de Paris I, 3 vols. (multigraph).
- Sidéra, I. 1994. Les assemblages osseux en bassins parisien et rhénan du VIe au IVe millénaire B. C. Histoire, techno-économie et culture. *Bulletin de la société préhistorique française* 91/1, pp. 14-16.
- Sidéra, I. 1995. Relations minières-habitats: un problème de méthode. Le potentiel des artefacts osseux. *Actes de la Table ronde internationale Les mines de silex au Néolithique en Europe*. Avancées récentes, éd. du Comité des travaux historiques et scientifiques, Paris, pp. 115-134.
- Sidéra, I. 1997. Le mobilier en matières dures animales en milieu funéraire Cerny: symbolisme et socio-économie. In *La culture de Cerny. Nouvelle économie, nouvelle société au Néolithique*, eds. C. Constantin, D. Mordant & D. Simonin. Actes du colloque international de Nemours 1994, Mémoires du musée de préhistoire d'Ile-de-France 6, Nemours pp. 499-513.
- Spatz, H. 1997. La nécropole du Néolithique moyen (Hinkelstein, Grossgartach) de Trebur (Gross-Gerau, Hesse). In *Le Néolithique danubien et ses marges entre Rhin et Seine*. Actes du 22e colloque interrégional sur le Néolithique, Cahiers de l'association pour la promotion de la recherche archéologique en Alsace, supplément 1997, pp. 157-170.
- Tresset, A. 1993. Le rôle de la chasse dans la néolithisation de l'Europe tempérée: l'exemple de la vallée de la Petite-Seine. In *Exploitation des animaux sauvages à travers le temps*, 13e rencontres internationales d'archéologie et d'histoire d'Antibes, 4e colloque international de l'homme et l'animal. Éditions de l'Association pour la promotion et la diffusion des connaissances archéologiques, Juan-les-Pins, pp. 247-259.
- Vigne, J.-D. 1993. Domestication ou appropriation pour la chasse: histoire d'un choix socio-culturel depuis le Néolithique. L'exemple des cerfs (*Cervus*). In *Exploitation des animaux sauvages à travers le temps*, 13e rencontres internationales d'archéologie et d'histoire d'Antibes, 4e colloque international de l'homme et l'animal. Éditions de l'Association pour la promotion et la diffusion des connaissances archéologiques, Juan-les-Pins, pp. 201-220.

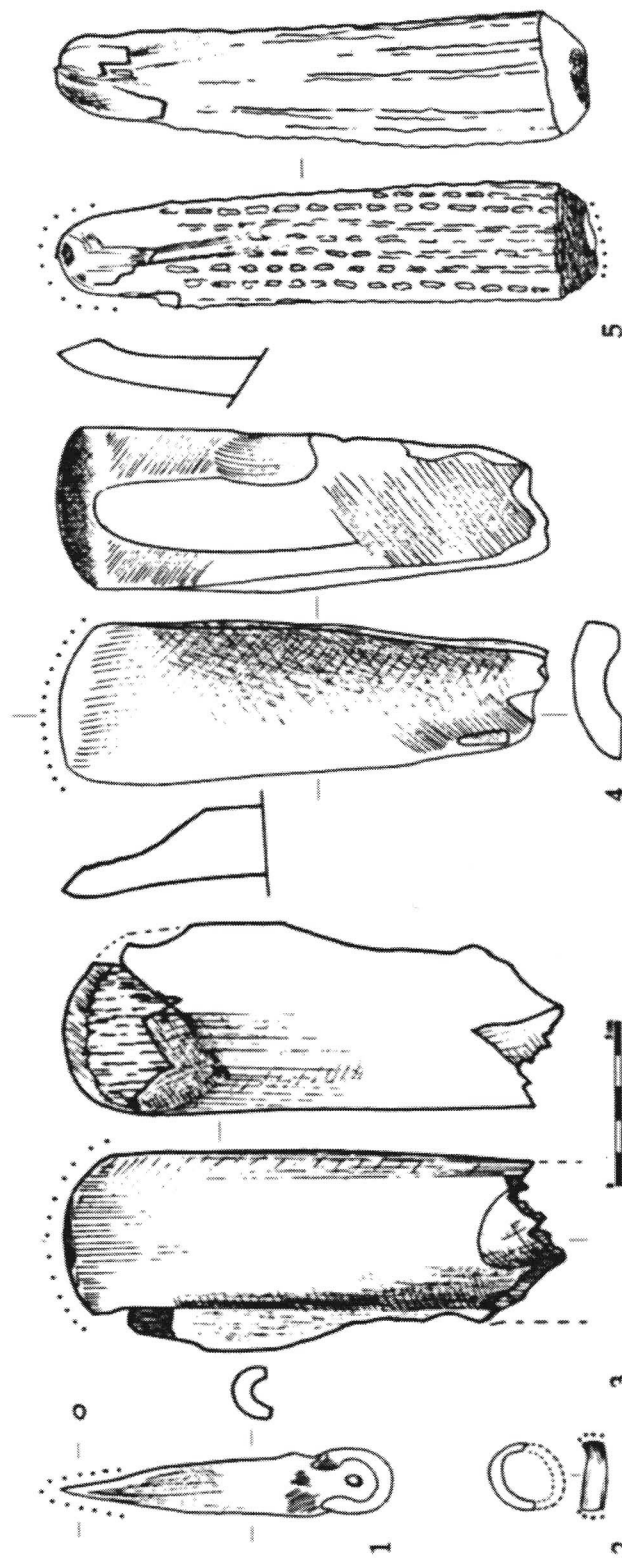


Fig. 1 Linear Band pottery culture settlement tool kit (principal types)
 1. Perforating tool made from a distal small ruminant metapodium, sawn in two (Cuiry-les-Chaudardes, Aisne, France). 2. Small ruminant tibia ring (Balloy, Seine-et-Marne, France). 3. Cattle rib scraper (Berry-au-Bac, Aisne, France). 4. "Shoe-last" scraper (Cuiry-les-Chaudardes, Aisne, France). 5. Tine pick (Chamly, Oise, France)

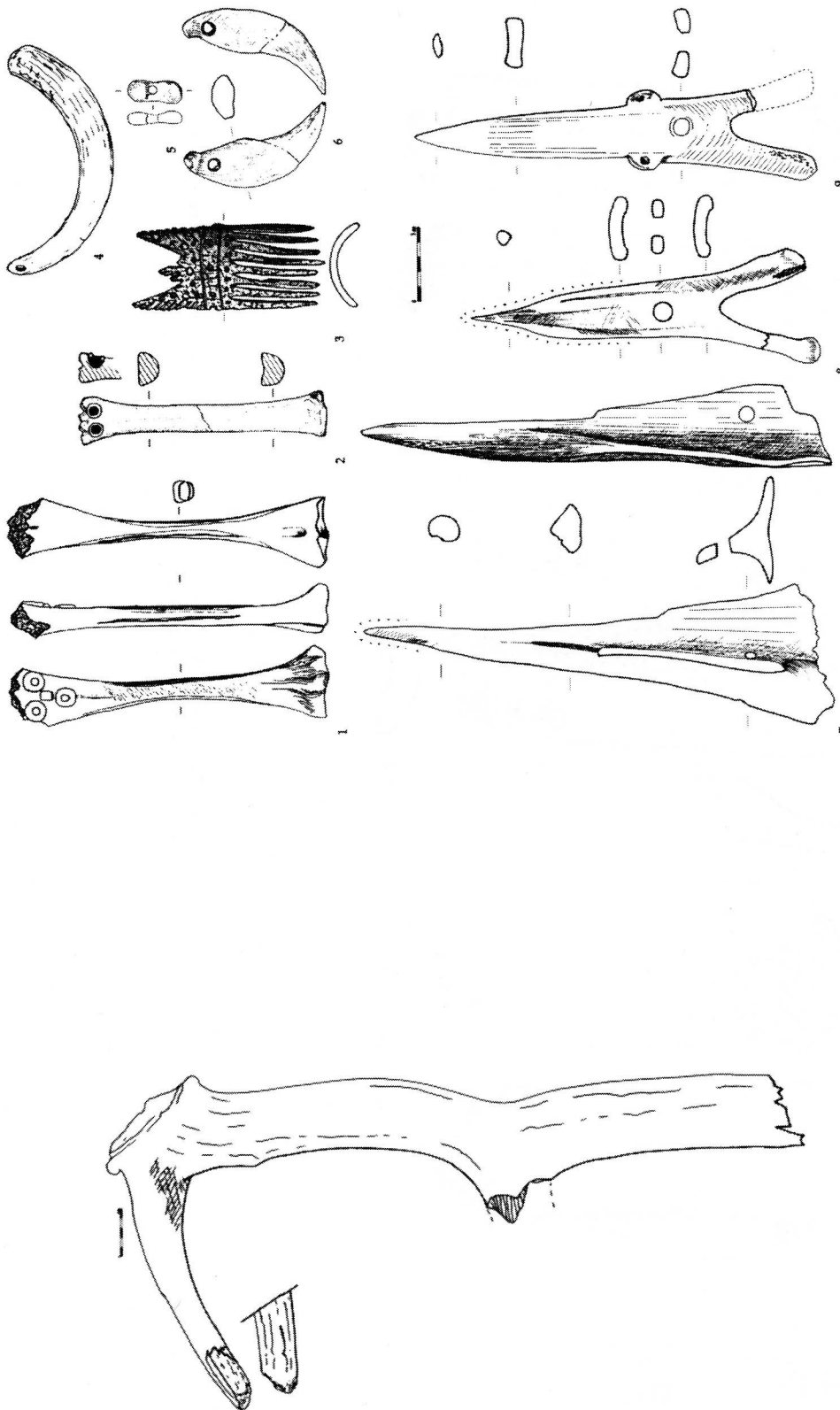


Fig. 2 Antler pick from the Villeneuve-Saint-Germain culture beginning of extensive antler use (Passy, Yonne, France)

Fig. 3 Rare and extraordinary artifacts

- 1 & 2 . anthropomorphic miniatures made from small ruminant metapodia with mother-of-pearl features
1. Berry-au-Bac grave 2566 (Aisne, France, final Linear Pottery culture)
2. Ensisheim "Les Octrois" grave 13 (after Gallay et al 1988, 371; Haut-Rhin, France late or final Linear Pottery culture)
3. Bone or antler comb, Alterhofen-Ödmühle grave 143 (Bavaria, Germany, middle Linear Pottery culture)
4. Perforated bear pendants, Trebur grave 1 (Hesse, Germany, Grossgartach; after Lichardus-Iten 1980)
5. Perforated bead made from a reworked deer canine (Berry-au-Bac, Aisne, France, late Linear Pottery culture grave 196; after Farruggia et al. 1995, 157)
6. Perforated bear canine bead (Cuiry-les-Chaudardes, Aisne, France, late Linear Pottery culture settlement).
- 7 - 9. Anthropomorphic perforating tools or weapons (Cerny culture). 7. Cattle scapula (Balloy, Seine-et-Marne, France, enclosure); 8-9. Long bones, (8. Passy, Yonne, France, grave 6.1) and (9. Passy, no context)

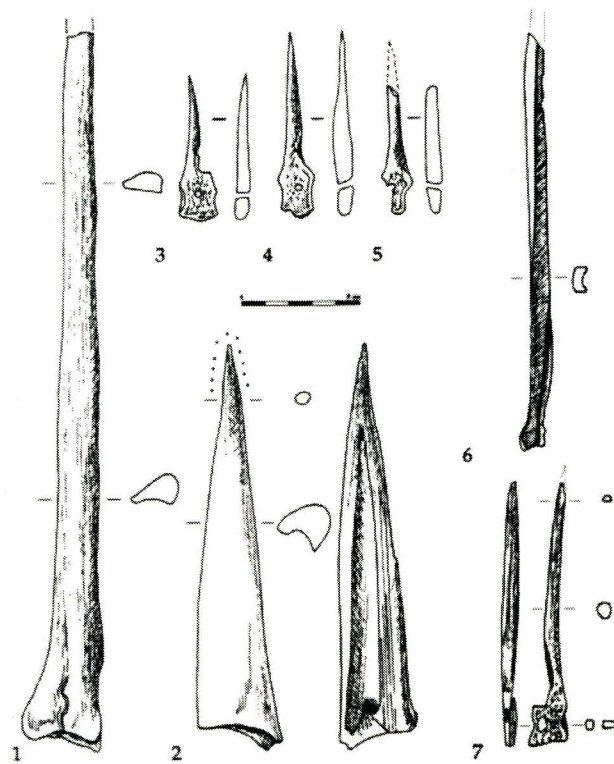


Fig. 4 New types of tools in the Paris basin Linear Pottery and Villeneuve-Saint-Germain cultures:
 1 & 2. Perforating tools made from proximal big ruminant metapodia, sawn in quarters (Jablins, Seine-et-Marne, France, Villeneuve-Saint-Germain settlement)
 3-7. Perforating tools made by abrasion of distal small ruminant metapodia (3-5. Jablins, Seine-et-Marne, France, Villeneuve-Saint-Germain settlement; 6. Cuiry-les-Chaudardes, Aisne, France, late Linear Pottery culture settlement; 7. Balloy, Seine-et-Marne, France, final Linear Pottery culture settlement)