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The Tools Made from Wild Boar Canine in the French Mesolithic: Technological and Functionnal Study

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As of 1929, in a short footnote, M. Boule evoked the presence, on French Mesolithic sites, of very particular tools, made from wild boar lower canine (fig. 1). He considered them as a kind of "fossile directeur" (Péquart et Péquart, 1929). But then, no clear consensus emerged of the study of these artefacts. There were known under various names, which reflected various functional assumptions: leather knife (Lacam et al., 1944), stitching awl (Péquart et al., 1937 and Rozoy, 1978), awl (Barrière, 1956), sharp awl (Barbaza, 1989), burin (David, 2005).

This poster summarized results of two recent academic studies, which bring new information about these artefacts. One focused on technological aspects of French Mesolithic osseous material industry (Marquebielle, 2014). The other focused on functional aspects of tools made from wild boar lower canine of the French site of Cuzoul de Gramat (Fabre, 2015), a key sequence for the early Holocene of southwest France (Valdeyron et al., 2014).



Fig. 1: artefacts from Téviec (Britannic region) "De tels objets, si spéciaux, aussi bien par leur matières premières que par leur forme et leur mode de fabrication [...] m'ont fait dire, en effet, qu'il s'agit là d'une sorte de fossile directeur pour caractériser le Mésolithique, au moins dans nos régions françaises" Boule in Péquart et Péquart, 1929 p. 397 © Péquart et Péquart, 1929

Raw material

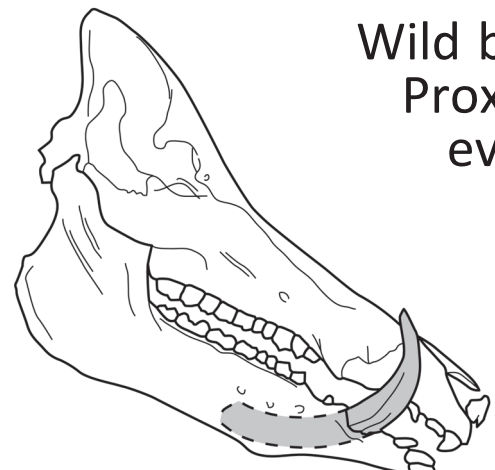


Fig. 2: a tooth deeply embedded in mandible © BM

Wild boar lower canines are deeply rooted in the mandible (fig. 2). They are long and curve backwards, with a tapered shape and a triangular section (fig. 3). Proximal part of tooth is hollow. The three sides gradually become thicker to the distal end of the tooth, which is a dentine block, out of the jaw. Canines are ever-growing teeth, then become larger and longer as wild boar ages. Only two sides of the section are coated with enamel.

Mesolithic population of Cuzoul de Gramat worked mainly:

- right canines (15 artefacts was made from right canine, of a total of 22)
- lingual side of canine (9 artefacts)
- proximal and mesial part of canine

Estimate original dimensions of canines is difficult because of the important transformation of blocks. But 3 artefacts could come from high dimension teeth, that belonged to adult males of 8 years old or more, and 2 artefacts could come from a little smaller teeth, that belonged to young adults. To obtain raw material, Mesolithic population have had to hunt adults, or old, male wild boars. But the current lack of archaeozoological study of faunal remains of Cuzoul de Gramat do not allow to conclude if there is a possibility of match between game bring back on the site and teeth worked to produce tools.

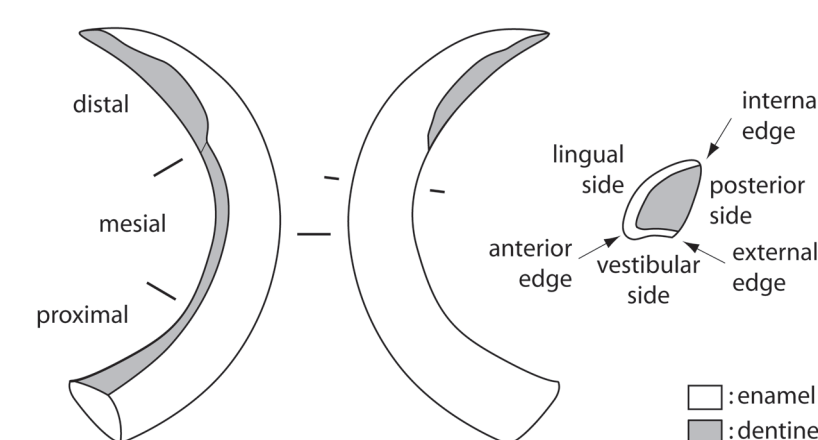


Fig. 3: description of a right canine © BM

Tools production and typology

Extraction of canines

Extract the whole canine is a necessary precondition for the achieving of tools. It is easier to extract canine from a jaw coming from an animal recently killed because when the soft tissues are drying, they paste the tooth to the bone. We completed our experimental extraction in three steps (Fabre, 2015), using modern metal tools (hammer and chisel):

- 1 - breakage of the complete mandible into left and right halves
- 2 - breakage of vertical ramus until canine basis
- 3 - gradual breakage of horizontal ramus to free canine

Tools production

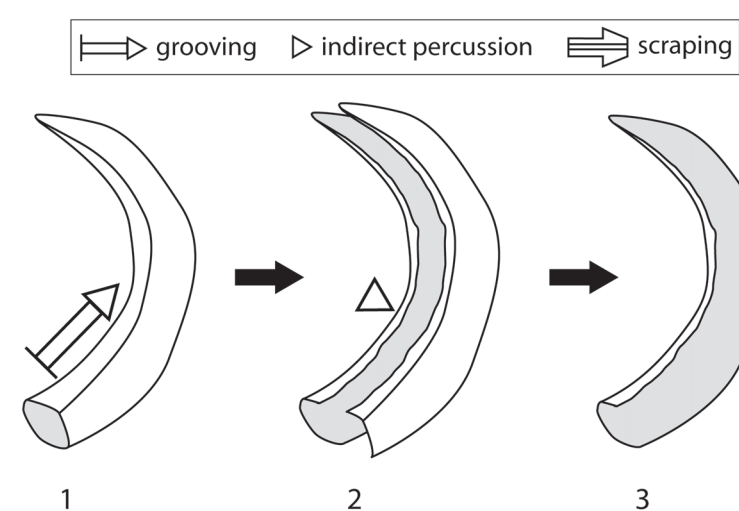


Fig. 4: technical transformation scheme of canine © BM

(bone?) wedge inserts in the groove, perpendicular to the longitudinal axis > two fractures: one following the bottom of grooving, the other following the anterior edge of the canine (fig. 4.2)

3 - shaping: unifacial scraping thanks to lithic sharp tool, localization of scraping is different depending to finished object (fig. 4.3)

A new typology

We identified 4 types of bevelled tools characterized by the morphology and the localization of the active part:

- object with unilateral convex bevel (fig. 5.1)
- object with straight bilateral bevel (fig. 5.2)
- object with convex-concave bilateral bevel (fig. 5.3)
- object with convex-concave bilateral bevel and spur (fig. 5.4)

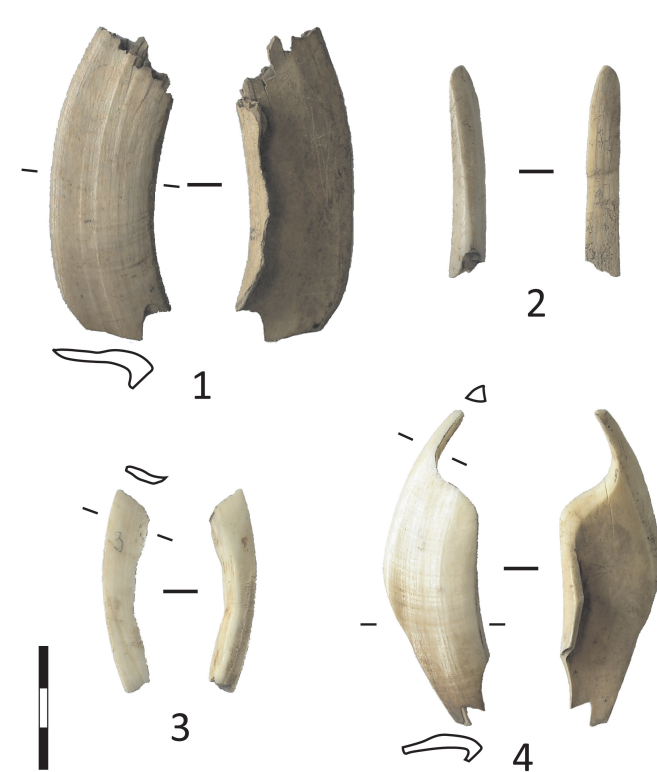


Fig. 5: 4 types of bevelled tools © BM

Tools function and functioning

Functioning

Archaeological tools have their active part on one of the edges. Only three of them also have use-wear traces on their distal part. The active part has a convex, sometimes straight, delineation, with upper side, covered by enamel, as rake face. All tools were employed as scraping tools, with a unidirectional gesture, and an obtuse to very obtuse rake angle (fig. 6).

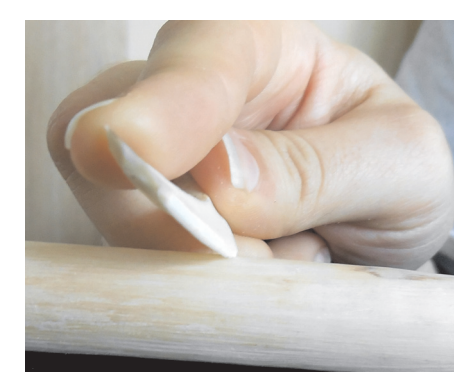


Fig. 6: functioning of experimental tool on green pine branch © EF

Function

Only five artefacts show no use-wear traces. Comparing experimental and archaeological results enabled us to partially understand the function of these tools (Fabre, 2015).

- two objects with convex-concave bilateral bevels were used to work dry hides (fig. 7) (a rounded bifacial dissymmetric blunting; a unifacial micro-polish, with a blurry and irregular contour)
- two tools with a straight bilateral bevel can be associated to bone work (fig. 8) (a blunting marginal and flattened; a micro-polish numerous, short and shallow)

unifacial with a blurry delineation; macroscopic striations are numerous, short and deep whereas the microscopic striations are few, short and shallow)

- one object with a unilateral convex bevel could correspond to the work of green wood (a polish slight, unifacial with a distinct and regular contour; striations numerous, discontinuous, short and shallow)
- for the twelve other tools, no precise function can be determined, they have been used with soft materials (with the exception of a third straight bilateral bevel tool used to work hard or medium-hard materials)

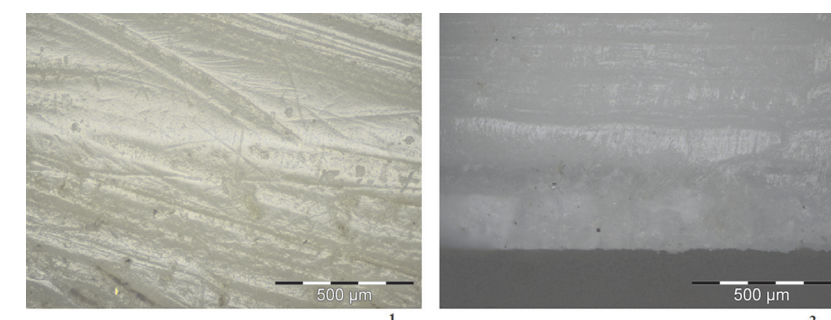


Fig. 8: work of bone (1- archaeological use-wear traces 100x; 2- experimental use-wear traces 100x) © EF

Handling and the haft question

Most Cuzoul tools were hand-held, and show on their upper sides a covering polish of grained aspect, corresponding to the grasping traces observed on our experimental material. However, some tools present traces that could be equated to a hafting (flaking or longitudinal striation in relation to the edge of the proximal portion).

Synthesis

A better knowledge of the tools made from wild boar canine thanks to complementary studies of Cuzoul de Gramat artefacts:

- very specific raw material: lower canine of adult male wild boar
- extraction of the whole canine from the mandible
- transformation scheme by bipartitionning
- production of bevelled objects
- one functioning: as scraping tools
- different functions: no strict relation between typology and function

Of course lots of questions remain (how acquisition of male wild boar teeth was linked with hunting? Can we identify characteristic teeth extraction waste among faunal remains? Can we precise variations of transformation scheme? What is the exact range of worked material? What about the hafting?)

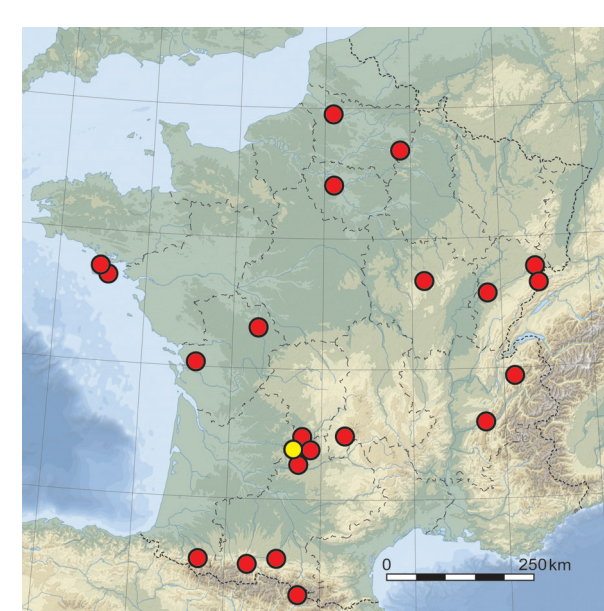


Fig. 9: French sites with tools made from wild boar canine (Cuzoul de Gramat: yellow dot) © BM

Wild boar canine was used in Europe as technical raw material in other time (see Maigrot, 2003 for Neolithic examples) and space (see David, 2005 for North European examples). But the French exploitation we highlighted seems to be very specific. Our complementary study has to be extended to artefacts from others sites, in France (at least 22 sites with tools made from wild boar canine fig. 9) and beyond (for example in Swiss (Curdy et Praz (ed.) 2002).

Barbaza M., 1989 - Cultures et société au Paléolithique terminal, au Mésolithique et au début du Néolithique ancien dans le sud-ouest de l'Europe, Mémoire d'habilitation à diriger les recherches, Toulouse, Université Toulouse II - Le Mirail, 3 vol., 1 192 p.
Barrière C., 1956 - Les civilisations tardenoisennes en Europe occidentale, Bordeaux, Editions Bière, 441 p.
David E., 2005 - Technologie osseuse des derniers chasseurs préhistoriques en Europe du Nord (Xe-VIIIe millénaires avant J.-C.), Le Maglémosien et les technocomplexes du Mésolithique. Monographie de thèse. Nanterre, Maison Archéologie Ethnologie, 667 p.
Curdy P., Praz J.-C., ed., 2002 - Premiers hommes dans les Alpes de 50 000 à 5000 avant Jésus-Christ. Catalogue de l'exposition, Sion 2002, Lausanne, Payot, 199 p.
Fabre E., 2015 - Approche fonctionnelle des outils dur dents de sanglier du Mésolithique. Etude de la série du site du Cuzoul de Gramat (Lot). Mémoire de Master II. Toulouse, Université de Jean Jaurès, 76 p.
Lacam R., Niederlender A., Valois H., 1944 - Le gisement mésolithique du Cuzoul de Gramat, Paris, Archives de l'Institut de paléontologie humaine mémoire, 21, 92 p.
Maigrot Y., 2003 - Etude technologique et fonctionnelle de l'outillage en matières dures animales : la station 4 de Chalain (Néolithique final, Jura, France). Thèse de doctorat. Paris, Université de Paris I Panthéon-Sorbonne, 284 p.
Marquebielle B., 2014 - Le travail des matières osseuses au Mésolithique. Caractérisation technique et économique à partir de séries du Sud et de l'Est de la France. Thèse de doctorat. Toulouse, Université de Toulouse II - Jean Jaurès, 508 p.
Péquart M., Péquart S.-J., 1929 - La nécropole mésolithique de Téviec (Morbihan). Nouvelles découvertes, L'Anthropologie, 39, 373-400.
Péquart M., Péquart S.-J., Boule M., Valois H., 1937 - Téviec : station-nécropole mésolithique du Morbihan, Archives de l'Institut de paléontologie humaine, 18, 227 p.
Rozoy J. G., 1978 - Les derniers chasseurs. L'Épipaléolithique en France et en Belgique, Charleville, n° spécial du Bulletin de la société archéologique champenoise, 1257 p.
Valdeyron N., Henry A., Marquebielle B., Bosc-Zanardo B., Gassin B., Michel S., Philibert S., 2014 - Le Cuzoul de Gramat (Lot, France). A key sequence for the early Holocene in southwest France, in Frederick W. F., Drinkall H., Perri A., Clinck D., Walker J. (ed.), Wild Things: Recent Advances in Palaeolithic and Mesolithic Research, Oxbow Books, 94-105.