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HUMAN MODIFICATIONS ON CAVE BEAR BONES FROM THE GARGAS CAVE (HAUTES-PYRÉNÉES, FRANCE)

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Abstract: In this paper, we are going to examine seven cave bear remains modified by prehistoric men. These remains come from the Aurignacian and Gravettian levels of the Gargas Cave (Hautes-Pyrénées, France). They were discovered during the excavations carried out by H. Breuil and E. Cartailhac from 1911 to 1913. One Aurignacian artefact and three Gravettian objects were unpublished and other pieces were only briefly described in the 1958 publication (Breuil & Cheynier, 1958). These osseous artefacts allow us to discuss the status of *Ursus spelaeus* for the Aurignacian and Gravettian human populations, which lived in the Gargas Cave.

Key words: *Ursus spelaeus*, modified remains, bear status, Gargas Cave, Aurignacian, Gravettian.

INTRODUCTION

The site of Gargas (Aventignan, Hautes-Pyrénées, France) is located in the centre of the Pyrenean piedmont (fig. 1) at the same distance from the Mediterranean zone (to the east), the Atlantic one (to the west) and the Périgord (to the north).

It's a cave that became famous for its painted hands, discovered 100 years ago. The studies about the Gargas Cave are a part of a collective research project, which deals with the Gravettian-Solutrean complex in the Pyrenees. It includes multidisciplinary studies on the archaeological material from old collections (Breuil & Cheynier, 1958; San Juan-Foucher, 2003; 2004; Foucher, 2004; San Juan-Foucher & Vercoutère, 2005) and from new excavations in order to:

- elaborate a detailed chronostratigraphic sequence that takes the palaeoenvironmental data into account;
- obtain a better characterization of the regional lithic and bone industries;
- understand the relations between rock art and settlement levels (Foucher & San Juan, 2004; Foucher, 2006).

The bottomset clay bed of Gargas (older than the Mousterian level; fig. 2) is rich in cave bear remains. The cave was then a den for bears that came there to hibernate. Over the centuries, these carnivores left some traces: wallows, claw marks on the walls and polishing of certain narrow ways. During the Upper Palaeolithic, Man and carnivore have alternately lived in the cave. Sometimes, the former used the remains of the latter as raw material.

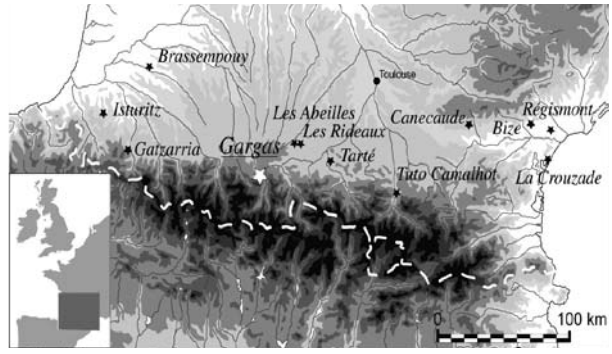

Figure 1. Geographical localisation of the Gargas Cave (Hautes-Pyrénées, France; star) and of the other Aurignacian and Gravettian sites of the Pyrenean piedmont (Map background: F. Tessier; Data: P. Foucher).

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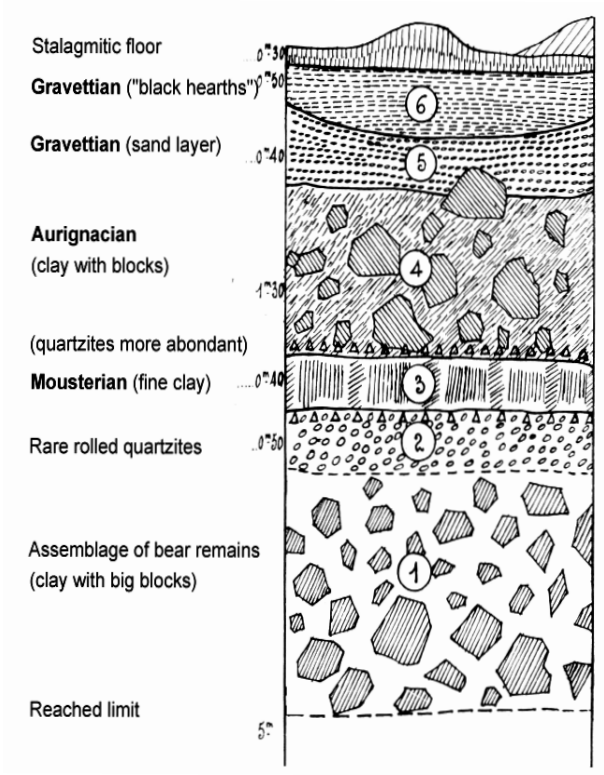

Figure 2. Stratigraphic sequence (after Breuil & Cheynier, 1958).

Moreover, there is a stalagmitic concretion in the lower part of the cave, the form of which takes on a bear, hence the name of the "Salle de l'Ours". Therefore, everyone understands the special status of the cave bear, both for the prehistoric men and for the prehistorians who studied and are still studying this famous Pyrenean cave.

MODIFIED CAVE BEAR REMAINS

The archaeological material from the old excavations composes the Breuil-Cartailhac collection, which is retained at the Institute of Human Palaeontology (Paris) and at the Toulouse Museum of Natural History.

We have one radiocarbon (AMS) date for the Early Aurignacian level: 31 540 BP ± 720 (GRA-19731/Lyon 1624; Foucher, 2004) got from a fragment of a *Bos*/*Bison* long bone. Also, two radiocarbon (AMS) dates are available for the Middle Gravettian level:

- 26 860 BP ± 460 (Clottes *et al.,* 1992) obtained from a piece of bone pushed into a crack of the "Panneau des Mains" in the main chamber;
- 25 050 BP ± 170 (GRA-19506/Lyon 1625; Foucher, 2004) taken from a reindeer antler fragment.

The osseous artefacts from the Breuil-Cartailhac collection are studied by two of us (C. V. for the Aurignacian objects and C. S. J. - F. for the Gravettian ones). Among these pieces, seven correspond to *Ursus spelaeus* remains modified by prehistoric men:

Figure 3. Gargas, Aurignacian level - Cave bear fibula sawn by prehistoric men: IPH-90 (Breuil & Cheynier, 1958, p. 359, Pl. VIII, 90), distal part of a left fibula with the same red patina as *Ursus spelaeus* bones from the bottomset clay layer (Pictures: P. Foucher, 2006).

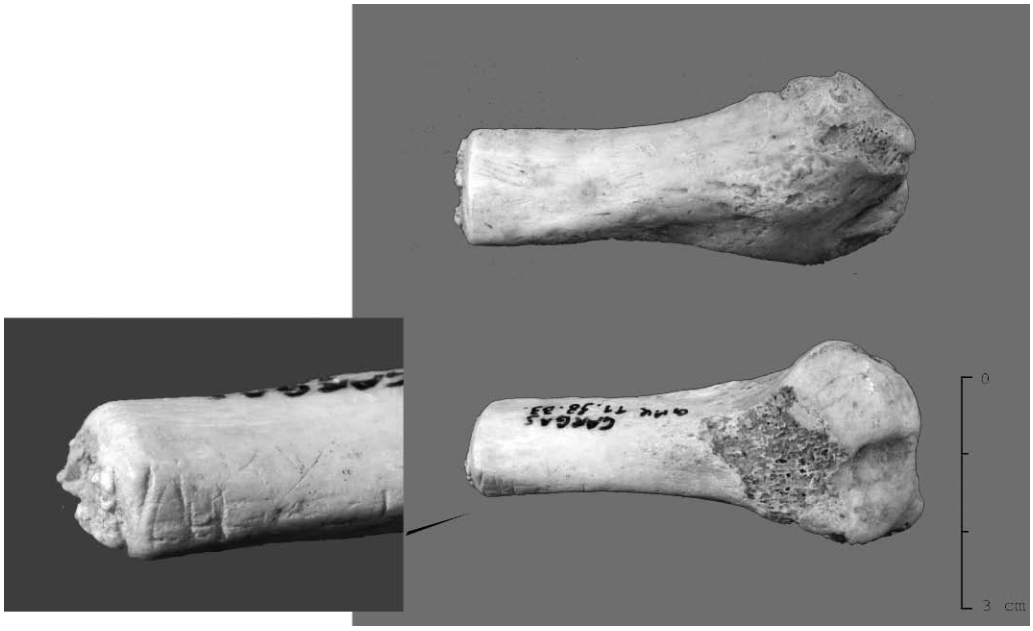

Figure 4. Gargas, Aurignacian level - Cave bear fibula sawn by prehistoric men: MHNT 99.38.33 (Breuil & Cheynier, 1958, p. 361, Pl. IX, 112), distal part of a left fibula with cutmarks probably due to the "cleaning" of the bone to make the sawing easier (Pictures: P. Foucher, 2006).

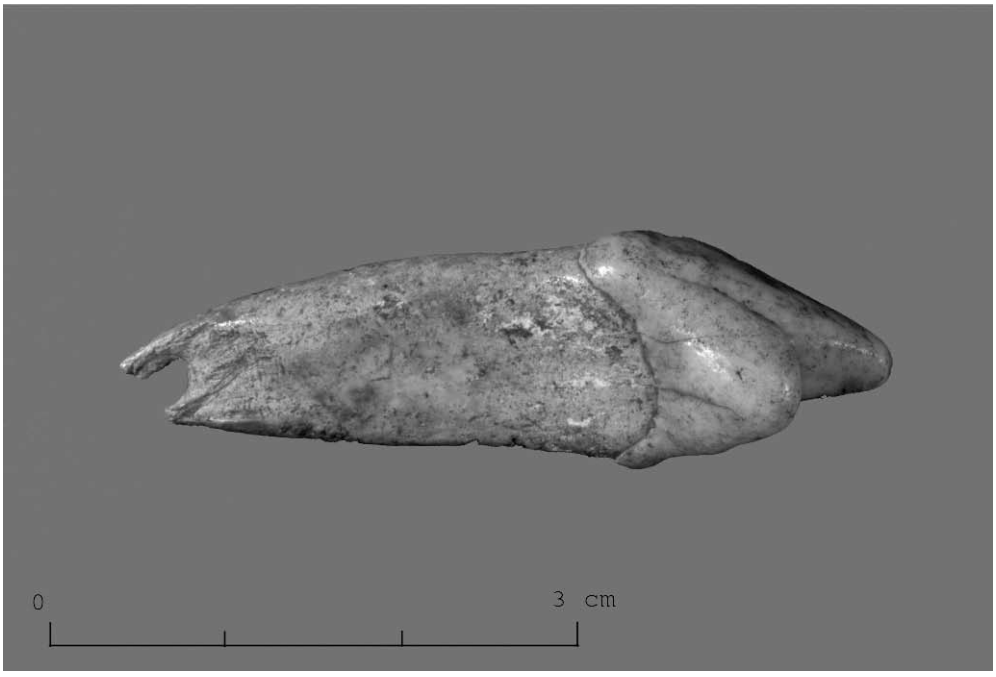

Figure 5. Gargas, Gravettian level - Cave bear tooth modified by prehistoric men: IPH-298 (Breuil & Cheynier, 1958; p. 378, Pl. XVIII, 298), pierced lower left third incisor (Picture: P. Foucher, 2006).

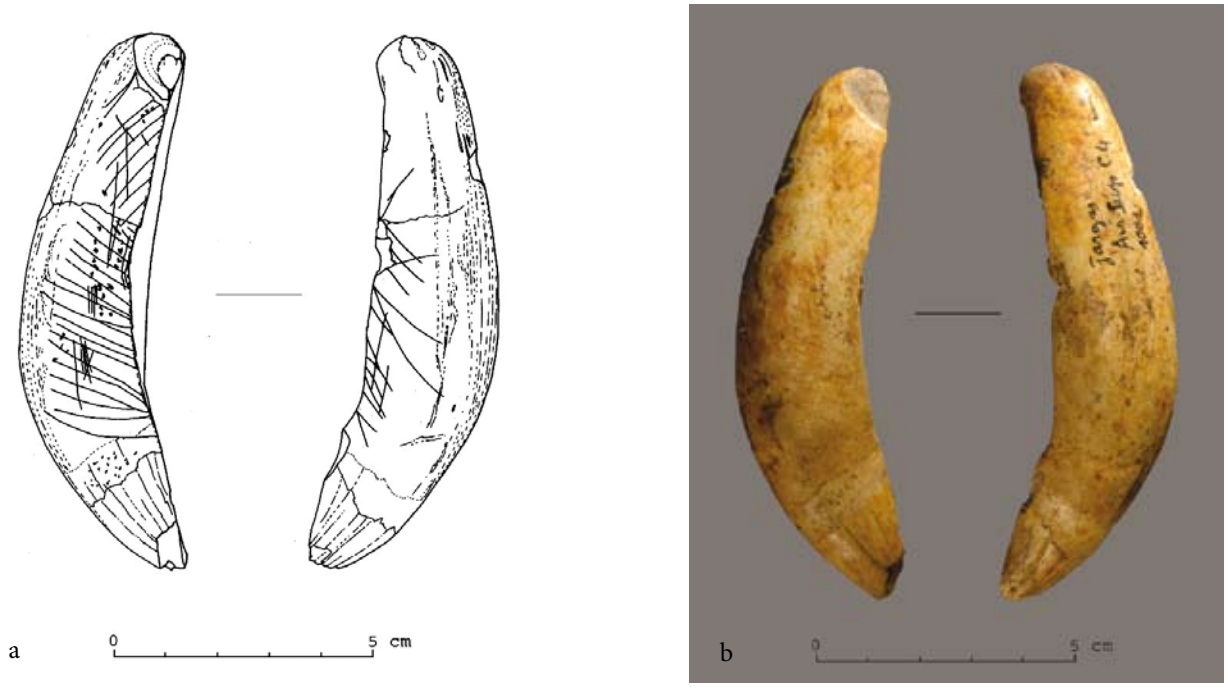

Figure 6. Gargas, Gravettian level - Cave bear tooth modified by prehistoric men: a & b IPH-1001, engraved canine longitudinally split (Drawings: C. San Juan-Foucher; Pictures: P. Foucher, 2006).

Figure 7. Gargas, Gravettian level - Cave bear tooth modified by prehistoric men: IPH-1778, canine with elongated impact scars resulting from knapping (Pictures: P. Foucher, 2006).

Figure 8. Gargas, Gravettian level - Cave bear tooth modified by prehistoric men: IPH-1787, canine with man-made striae (Pictures: P. Foucher, 2006).

- three Aurignacian fibulas were sawn and seem to be blanks for tubes or tubular beads (fig. 3 & 4);
- four Gravettian teeth were also used: one incisor served as a pendant (fig. 5), one engraved canine (fig. 6), one canine with elongated impact scars resulting from knapping (fig. 7), one canine with man-made striae (fig. 8).

Furthermore, the taphonomic study allowed us to point out at least two origins for the Aurignacian artefact blanks. One of the fibulas (IPH-90; fig. 3) has the same red patina as the *Ursus spelaeus* bones from the bottom-set clay layer (fig. 2), where it was probably picked up by the Aurignacian before being modified (note that the sawing marks have not the same red colour as the surface of the bone). The fibula MHNT 99.38.33 (fig. 4) doesn't present this red patina but seems to come from a more recent bear carcass. Its distal shaft shows cutmarks probably due to the "cleaning" of the bone to make the sawing easier.

CONCLUSION

We have never observed any cutmarks on *Ursus spelaeus* bones that could give us some clues about the consumption of bear meat by Aurignacian and/or Gravettian men from the Gargas Cave. Indeed, the majority of bear remains from both levels (Aurignacian and Gravettian) corresponds with bones and teeth picked up by prehistoric men on the carcasses of the carnivores that had died there of natural causes for a more or less long time. The only remains voluntarily modified by men are those that served as raw material for the manufacture of seven objects. Because of the artefact small number and the nature of the osseous objects (six pieces linked with adornment and also one utilitarian tool), we are not able to put forward any hypothesis about the exact status of cave bear either for the Aurignacian or for the Gravettian human settlements.

The 2005 excavations near the cave entrance provided two fragments of Gravettian cave bear crania (Foucher & San Juan, 2005). These crania wear some impact marks that prove a breakage by prehistoric men, who might have taken the front part of these heavy bones with teeth and especially canines served as raw material. Therefore, the continuation of the old collections studies and the analysis of the material from the recent excavations should give us more information about the "image" of this impressive carnivore for the Aurignacian and Gravettian populations that lived in the Gargas Cave.

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