

Press release  
27 January 2011

## Recent developments in the Aurignacian Culture at the *Trou de la Mère Clochette*



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From 1905 to 1909, Julien Feuvrier, a scholar from Dole, carried out rapid excavations in a modest cave in the Jura, known locally as the « Trou de la Mère Clochette », at Rochefort-sur-Nenon. The prehistoric material found has since been kept in the *Musée des Beaux Arts* of Dole. Today, three researchers, including Luc Jaccotey of Inrap, have just carried out new studies of these goods and have dated the oldest levels of the cave. These belong to the Proto-Aurignacian period, a culture of the first modern men in Western Europe, the *Homo Sapiens*. These results have now been published in the *International Journal of Archaeological Science*.

### Excavations of a hundred years ago : 37 days for 35 000 years

Feuvrier spent 37 days excavating this small deposit on the right bank of the River Doubs. Only a few publications resulted from this discovery. In his notebooks and articles Feuvrier recorded the discovery of a 1.7 metre thick stratigraphy, consisting of three layers. The first one, black and loose, containing rough glazed pottery, is recent; the second, yellow clayish, is the most interesting because its base, coloured with iron-oxides, contains prehistoric material. Lastly, a white layer is sterile.

Several thousand lithic pieces and bone tools were collected in the former context. They were reworked bladelets of the Dufour type, of bladelets core, of six “split-based” points of bone antler and ivory.

In 1907, the amateur archaeologist situated this industry in the Magdalenean culture (circa 17,000 to 11,000 BC) as he did not have, at that time, knowledge of the discoveries in Aurignac (Haute-Garonne), which brought to light the more ancient Upper Paleolithic culture, the Aurignacian.

### The Aurignacians of the « Mère Clochette »

Situated in the Aurignacian period, the industries of the « Trou de la Mère Clochette » have been studied by Carolyn Szmidt, Laurent Brou and Luc Jaccotey. This deposit is henceforth one of the rare sites, with those of the caves of the « Renne » (Reindeer) and of the « Trilobite » at Arcy-sur-Cure (Yonne) and a few others in South Burgundy, which testify undeniably Aurignacian occupations in Northeastern France.

Prehistorians detect, above all in the lithic industry technology, the beginnings of this Aurignacian culture: the “Proto-Aurignacian”, which developed in western Mediterranean 38,000 to 34,000 years ago.

In order to obtain direct radiocarbon dating, two ochre-coloured bone fragments, “split-based points”, characteristic artefacts of this culture, were subjected to Accelerator Mass Spectrometry (AMS) analysis in Oxford (United Kingdom).

If the first dating (circa 37,400 to 39,600 BP) is within chronological bracket of Classical Ancient Aurignacian, the other, much older, is clearly different (circa 40,000 to 41,000 BP).

Henceforth these two datings are now the oldest known for Aurignacian artefacts. These results thus give a basic point for the appearance of these “split-based points” wings, real “directive fossils” of this culture. Moreover, this illustrates the enormous capacity of technical innovation by the Aurignacians. These new datings of the “Trou de la Mère Clochette” could renew the models of prehistorians concerning the emergence of the “First Aurignacian” culture in Western Europe.

**Reference :**

Szmidt, C.C., Brou, L., Jaccotey, L. 2010. « Direct radiocarbon (AMS) dating of split-based points from the (Proto) Aurignacian of Trou de la Mère Clochette, Northeastern France. Implications for the characterization of the Aurignacian and the timing of technical innovations in Europe ». *Journal of Archaeological Science* 37 (12), 3320-3337.

**Inrap**

With more than 2,000 collaborators and researchers, Inrap is the largest French archaeological organization of research and one of the foremost in Europe. A national institute of research, it carries out most of the archaeological evaluations and excavations in France in partnership with private and public developers: i.e. nearly 2,000 sites a year in Mainland France and in the Overseas Departments. Its missions include the scientific exploitation of results and the diffusion of archaeological knowledge to the public at large.

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