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# Ancient Magdalenian of the Massif central revisited: A reappraisal of unit F2 of the Rond du Barry cave (Polignac, Haute-Loire, France)

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## The site :

The Rond de Barry is a cave located inside the massif of Sainte-Anne composed of hyaloclastic tuffs that form the ancient volcanic cone at Sinzelles in Haute-Loire (Auvergne, France). Today, this cavity is smaller than previously due to the ceiling collapse during the Pleistocene. The Magdalenian population settled on the surface created by this huge rock-fall. Today, the cave is almost 42 metres long and 14 metres wide at the entrance. The excavation made by Bayle des Hermens never reached bed-rock but the levels that were excavated revealed successive Magdalenian layers lying above a discrete Mousterian occupation zone with several loci near the entrance as well as deeper inside the cavity. Among the six main archaeo-stratigraphic units, "F2" presents important evidence for understanding human behaviour at the end of the late glacial, as it contains an extensive lithic assemblage associated with a large fauna sample and an extremely well preserved bone industry, which is very rare in the Auvergne.

## Previous studies of unit F2 :

Unit F2 was first studied by its excavator Roger de Bayle des Hermens. In considering the characteristics of the lithic assemblage, he situated F2 in the middle part of the Old Magdalenian period. With regard to the sources for the raw materials, Torti (1980) and Masson (1991) debated whether they came from a strictly local origin (Torti, 1980) or mainly from further afield in the Paris Basin (Masson, 1991). Costamagno (1999) carried out an archaeo-zoological study on the bone remains, underlining a preference for hunting horse and ibex.

## New data and a contrasting cultural attribution:

### The bone industry :

Reindeers appear to have been the main source of materials for bone tool manufacture. At this stage, the study of the bone artefacts raises questions about the age of the technological complex, especially with regard to the extraction techniques of the blanks. Indeed, along with the classical Magdalenian techniques (figure, 1 and 2), those known in older techno-complexes (figure, 3) remained in use.

### Origins of lithic materials :

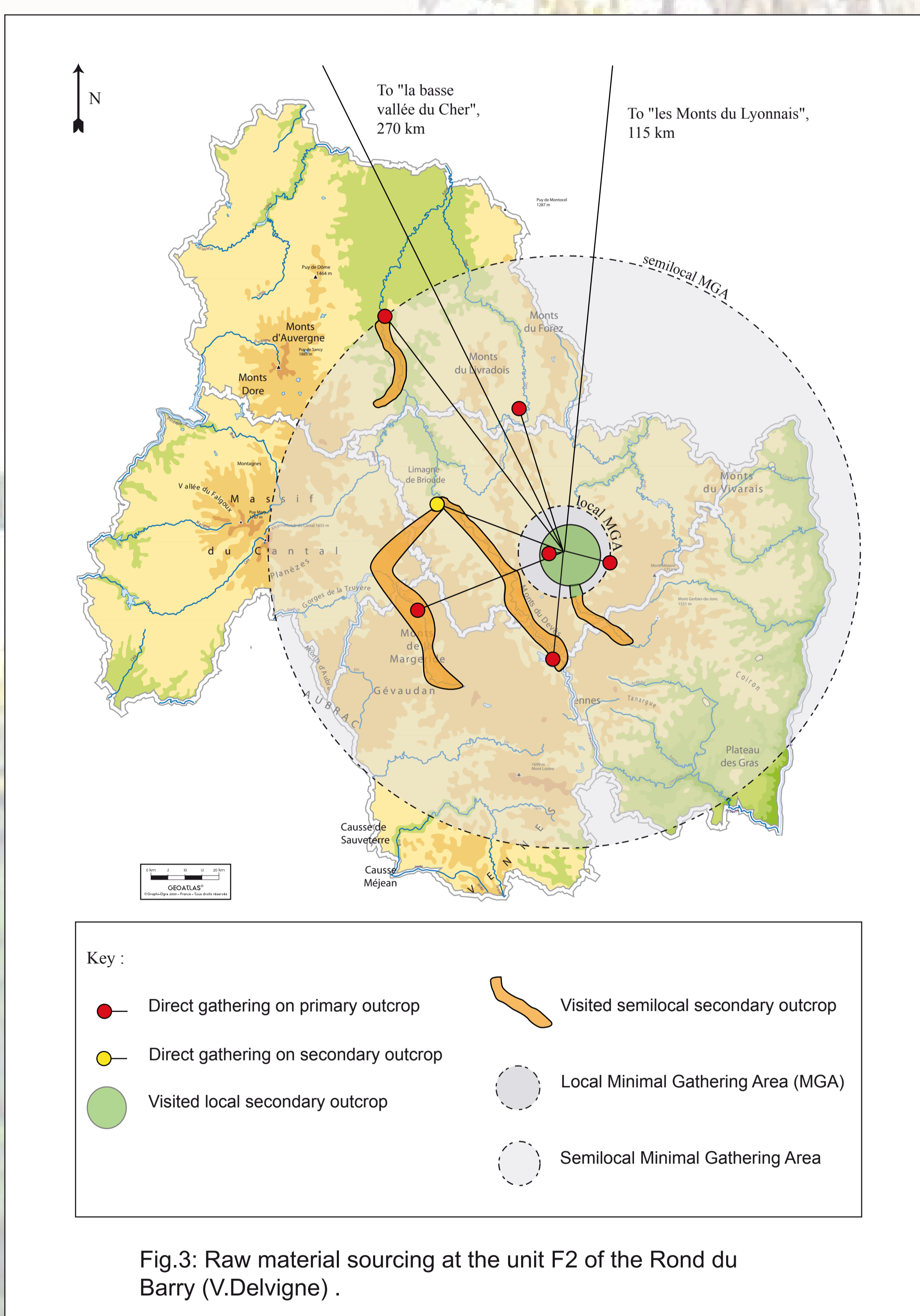
Analysis of the Rond du Barry flint artefacts based on the optimization of the observation techniques commonly used in petrography, mineralogy, micropalaeontology and morphoscopy at different

scales, (Fernandes 2006, Fernandes et Raynal 2006) reveals different results than those of previous studies (Torti 1980, Masson 1981). Our analysis indicates significant use of semilocal flint (35%) whereas distant sources represent only 22% of the total supply. Similar results have been obtained for the diversity of the material where previously just 14 types of flint were recognized, there are now 42 varieties.

### The lithic industry :

The lithic assemblage of F2 is composed of 10,488 elements which although a relatively homogenous set is nevertheless complex. The reduction sequence resulted in debitage consisting of medium-sized, small and tiny flakes pieces, an individualized production of flakes. The latter corresponds to the transformation of one category of flakes into "raclettes". The technological evidence is much too weak to attribute this particular industry to Old Magdalenian, a conclusion that seems confirmed by recent studies on the Badegoulian (Ducasse, 2010).

This new analysis seems to support an attribution of the Rond du Barry F2 lithic industry with blade-bladelet characteristics to the Badegoulian, despite the rarity or absence of some characteristic tools of this period (transversal "burin", "pièce de la Bertonne").



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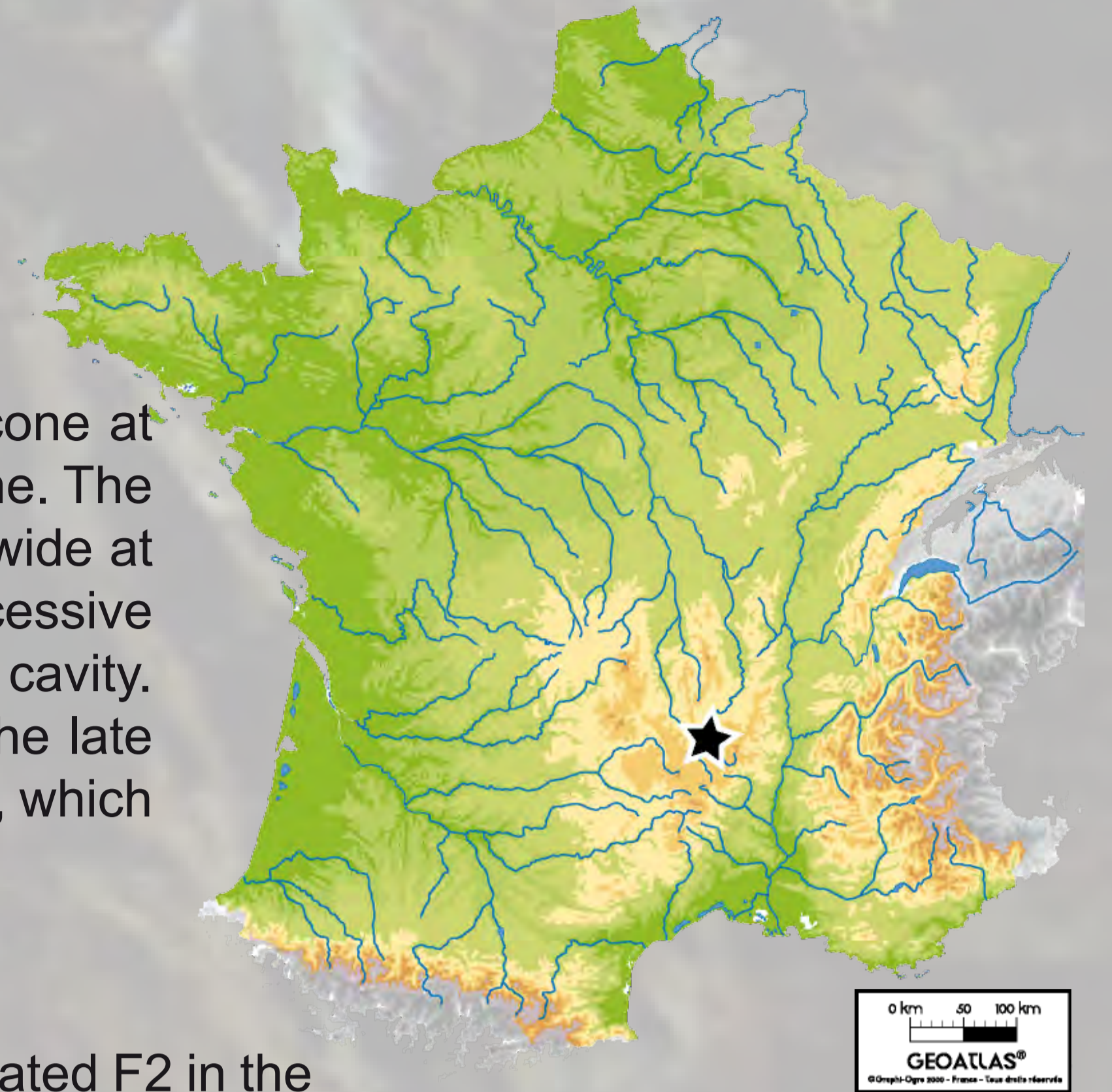


Fig.1: Location of Rond du Barry cave



Fig 2: Antlers from Rond du Barry cave. 1- Blank of extraction on reindeer antlers. 2- Stick extracted by double-grooving. 3- Stick extracted by fracturation. (D.Rémy)

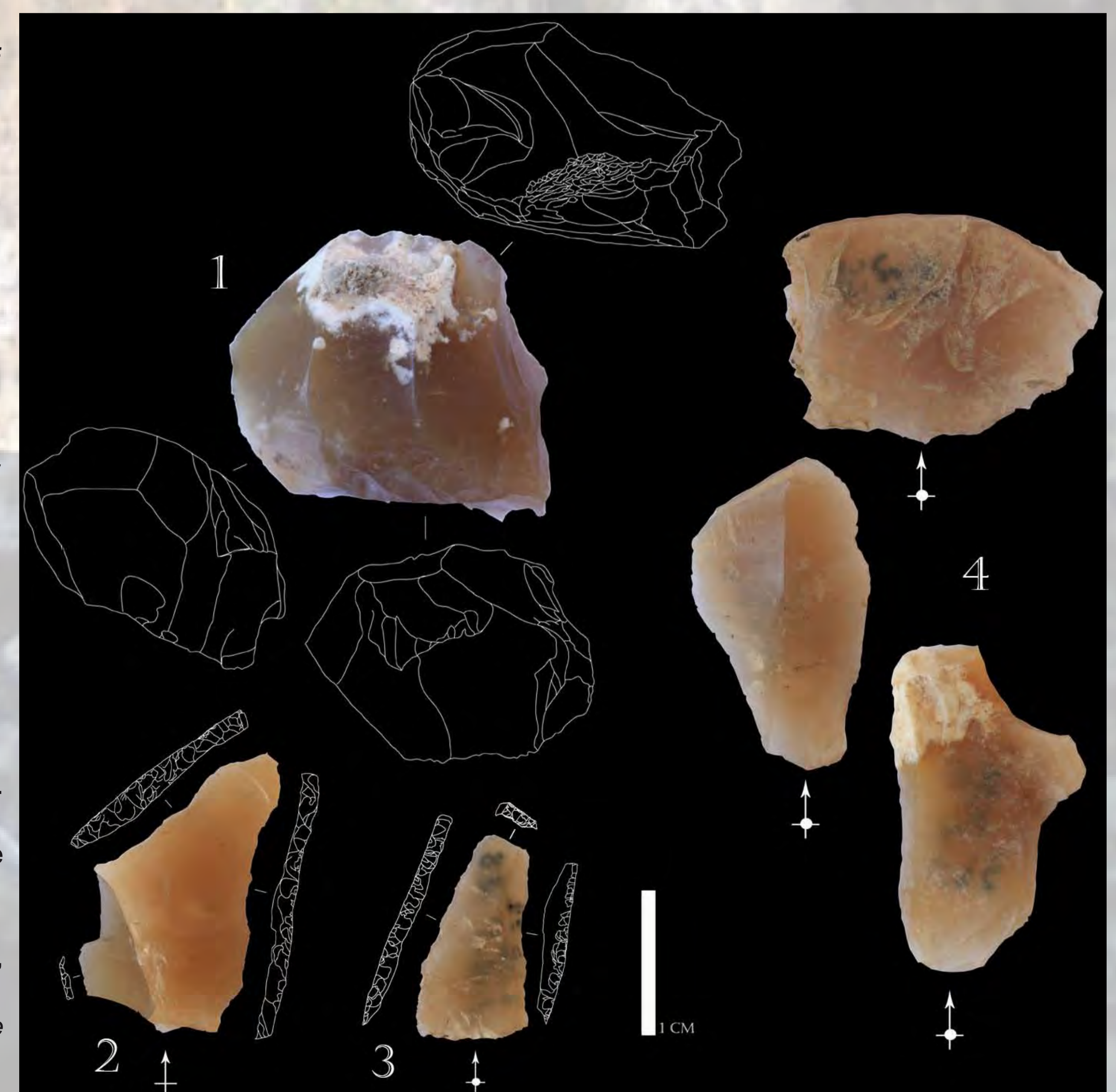


Fig 4: Examples of transformation of a category of flakes into "raclettes" in F038 flint type. 1- Core for flakes production. 2- "Raclette" with a retouched fracture (grey zone). 3- "Raclette". 4- Flakes. (A.Lafarge)