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Flint mining and blade management in the Blicquy/Villeneuve-Saint-Germain culture through the earliest mines of Normandy and Northwest France settlements

François CHARRAUD

Abstract

The discovery of the 'Foupendant' mining site at Espins (Normandy, France) offers an opportunity to throw light on the socio-economic behaviours that characterise the neolithisation of western France through the lens of Cinglais flint exploitation. This raw material is represented by blade products on the majority of sites belonging to the Linear Pottery Culture (LBK), Villeneuve-Saint-Germain (VSG) and Early Cerny cultures, particularly in Normandy and Brittany. The discovery of the Espins site allows us to identify, for the first time, the precise geographical and geological origin of Cinglais flint and the initial stages of its exploitation.

Keywords: Neolithic, Normandy, technical system, flint mines, flint tools, blades.

Résumé

La découverte de la minière de « Foupendant » à Espins offre l'opportunité de jeter un regard nouveau sur les comportements socio-économiques qui caractérisent la néolithisation de l'ouest de la France, à travers l'exploitation du silex du Cinglais. Ce matériau est présent sous forme laminaire sur la majorité des sites du Rubané, du Villeneuve-Saint-Germain et du Cerny ancien, en particulier en Normandie et en Bretagne. La découverte d'Espins nous permet d'identifier pour la première fois l'origine géographique et géologique précise du silex du Cinglais, et les premières étapes de son exploitation.

Mots-clés : Néolithique, Normandie, système technique, minières, outils, lames.

Espins is situated in the south of the Caen Plain, within the Cinglais area, at the interface between the Jurassic plains of western Normandy and the Armorican Massif (Fig. 1). It constitutes one of the few sources of good quality flint close to the vast Armorican territory, which is itself devoid of this resource (MARCHAND, 1999). This type of flint was used solely for the production of blades, which were manufactured using indirect percussion. This production supplied the majority of Early Neolithic settlements in western France.

The Cinglais Plateau is characterised by flint-bearing clays which are rich in good quality flint nodules. The 33 extraction shafts found during the archaeological testing bear witness to the exploitation of these nodules (Fig. 2). The extraction shafts were simple in shape (Fig. 3), without niches, nor bell-shaped room at the bottom of the

shaft or galleries like those observed at Bretteville-le-Rabet or Ri (MARCIGNY *et al.*, 2011).

Blade debitage waste has been found throughout the plateau, around the shafts and within their fill deposits (CHARRAUD, 2015). The waste fragments are characteristic of a production site: their abundance contrasts sharply with the lack of finished products which would have been systematically removed from the site. Their distribution on the surface marks out the extent of a vast mining complex of approximately 30 ha (Fig. 1). The blades produced were small (between 7 and 12 cm long) and were neither transformed nor used on site. The mining site itself, and its immediate environs, have produced no evidence for other productions or for domestic occupation (ceramics, personal ornaments, domestic tools).

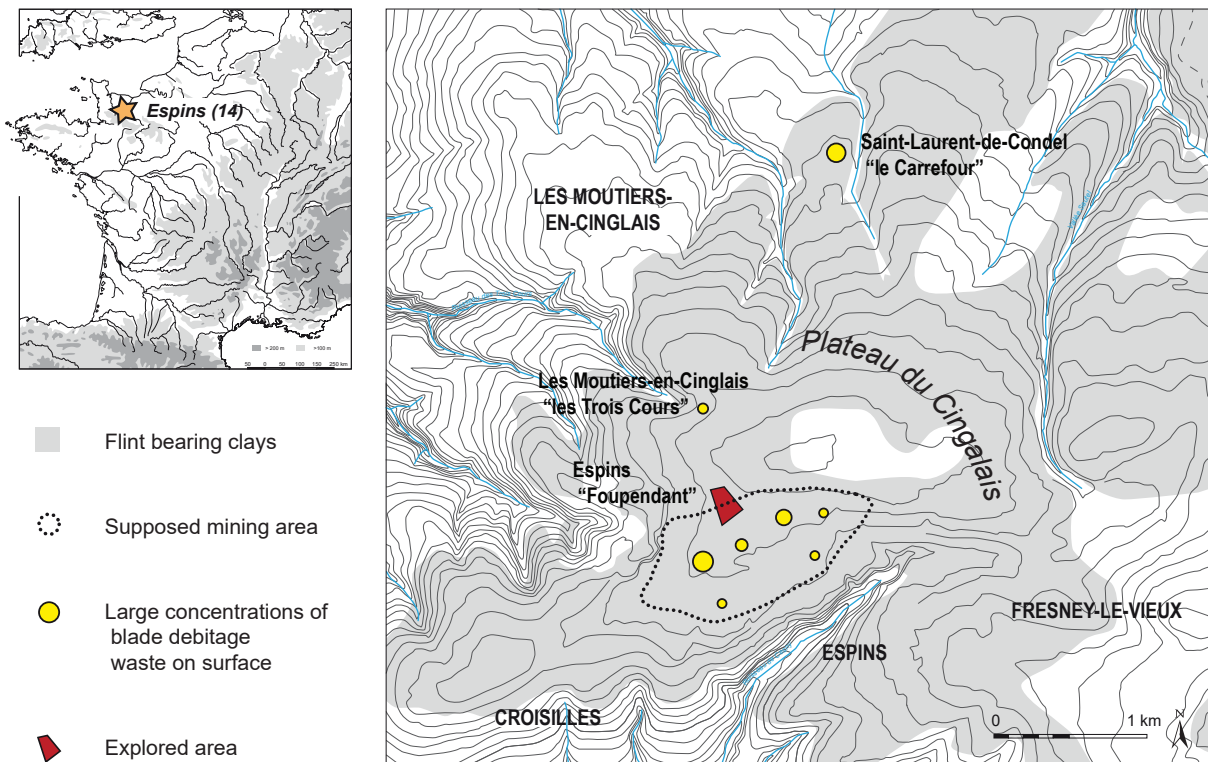


Fig. 1 – Location and topographical and archaeological contexts of the 'Foupendant' site at Espins (Normandy, France). CAD: F. Charraud.

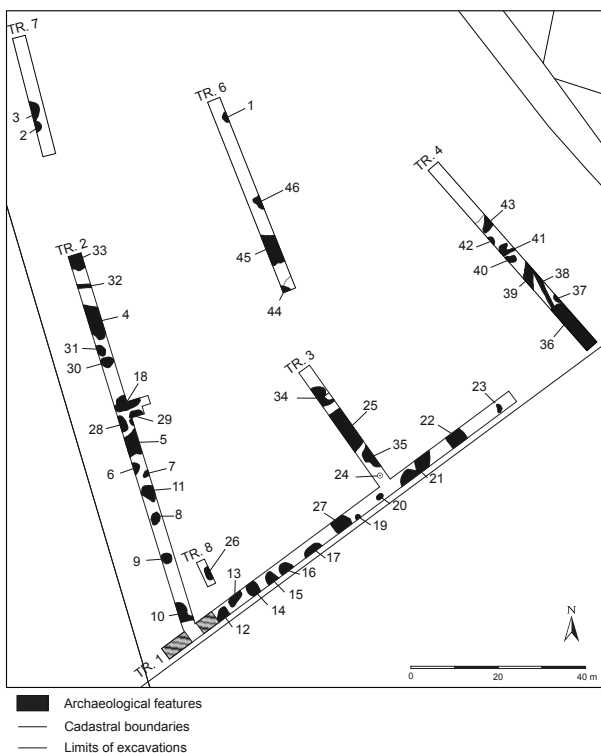


Fig. 2 – Map of archaeological testing undertaken at 'Foupendant', Espins, and location of the Neolithic remains. CAD F. Charraud.

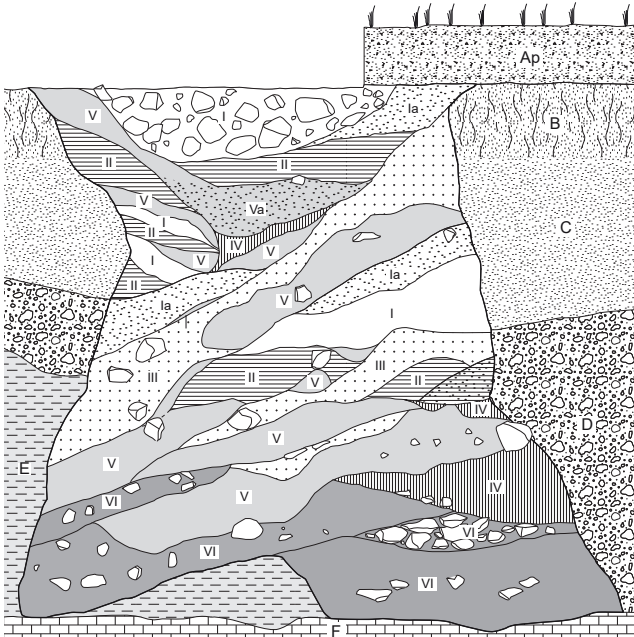
The blade production is similar to that of LBK and Blicquy/Villeneuve-Saint-Germain sites (Fig. 4) in the Paris Basin and Belgium (BOSTYN, 1994; ALLARD, 2005; AUGEREAU, 2005). The chrono-cultural attribution of this site is based on this similarity and on two ^{14}C dates which fall within the period between 5000 and 4750 BC. Therefore, the mining site forms part of the technical system of the Danubian Neolithic tradition which has been identified over much of north-western Europe. It is one of very few flint extraction sites known for belonging to this chrono-cultural period since the discoveries made in Central Europe.

On Villeneuve-Saint-Germain settlements, there is striking homogeneity in the products made from Cinglais flint, either in Brittany (MARCHAND, 1999; JUHEL, 2014) or in western Normandy (CHANCEREL *et al.*, 2006; GERMAIN-VALLÉE *et al.*, 2014). The flint always travels as prepared blocks or blade blanks, which are then worked and transformed on the destination site. These sites were not involved in the redistribution of the flint. The supply distance involved did not

FEATURE 18

West

East



Sedimentary context:

Ap: Organic material bearing, bioturbated grey silt, with a prismatic structure, containing artefacts from different periods, a. o. numerous struck flint.

B: Light orange clayey silt, mottled with beige-brown patches.

C: Light brown clayey-sandy silt, containing rare particles of manganese oxides (decarbonated loess).

D: Heterometric flint gravel, with indurated clay matrix, highly oxidated.

E: *In situ* red flint-bearing clay, from which the exploited flint material comes from.

F: *In situ* Bathonian limestone.

Feature backfilling:

I: Ochre-yellow homogeneous silty sediment.

Ia: *Idem* I, occurrence of little stones and flint chips.

II: Brown clayey silt.

III: Grey-light brown homogeneous clayey silt.

IV: Grey clayey silt, mottled with red clay patches.

V: Light-red clayey sediment.

Va: *Idem* V, occurrence of little stones and flint chips.

VI: Dark red clayey sediment.

VII: Layer rich in charcoal.

Stars: Location of 14C samples.

FEATURE 26

North

South

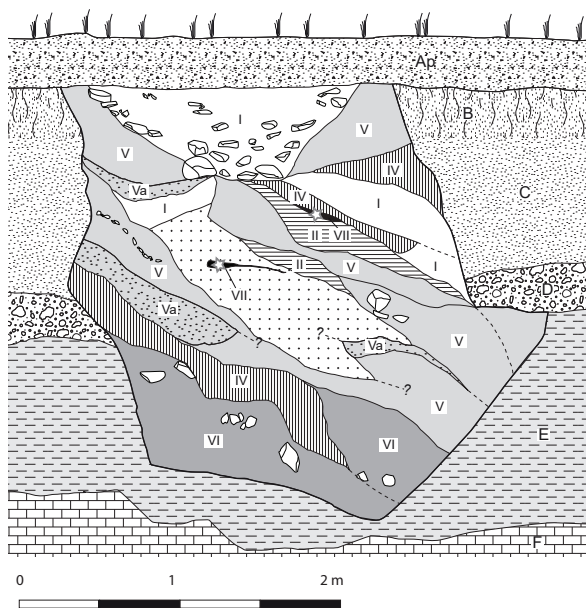


Fig. 3 – Stratigraphic cross-sections of two flint extraction shafts at Espins: Features 18 and 26.

CAD F.Charraud.

fundamentally alter the behaviour of Neolithic people with regard to the raw material. The *chaîne opératoire* for blade production, which remained constant in Western Europe for centuries, is governed by constraints involving expertise. Consequently, we can suppose that

this knowledge, and its transmission, were controlled in the same way as the lithic resources themselves and their extraction. Such constraint may have had a significant impact on distribution patterns of Cinglais flint. In this case, we may postulate the existence of itinerant flint knappers

based on the fact that knapping waste is present on the Breton sites and that there are clear differences between the perceived know-how applied in Cinglais flint productions and those applied in local productions (MARCHAND, 1999).

These knappers would have been the guardians of a specific technical know-how, which would explain the homogeneity of these industries throughout their distribution area and over the entire Early Neolithic period. In any case, such

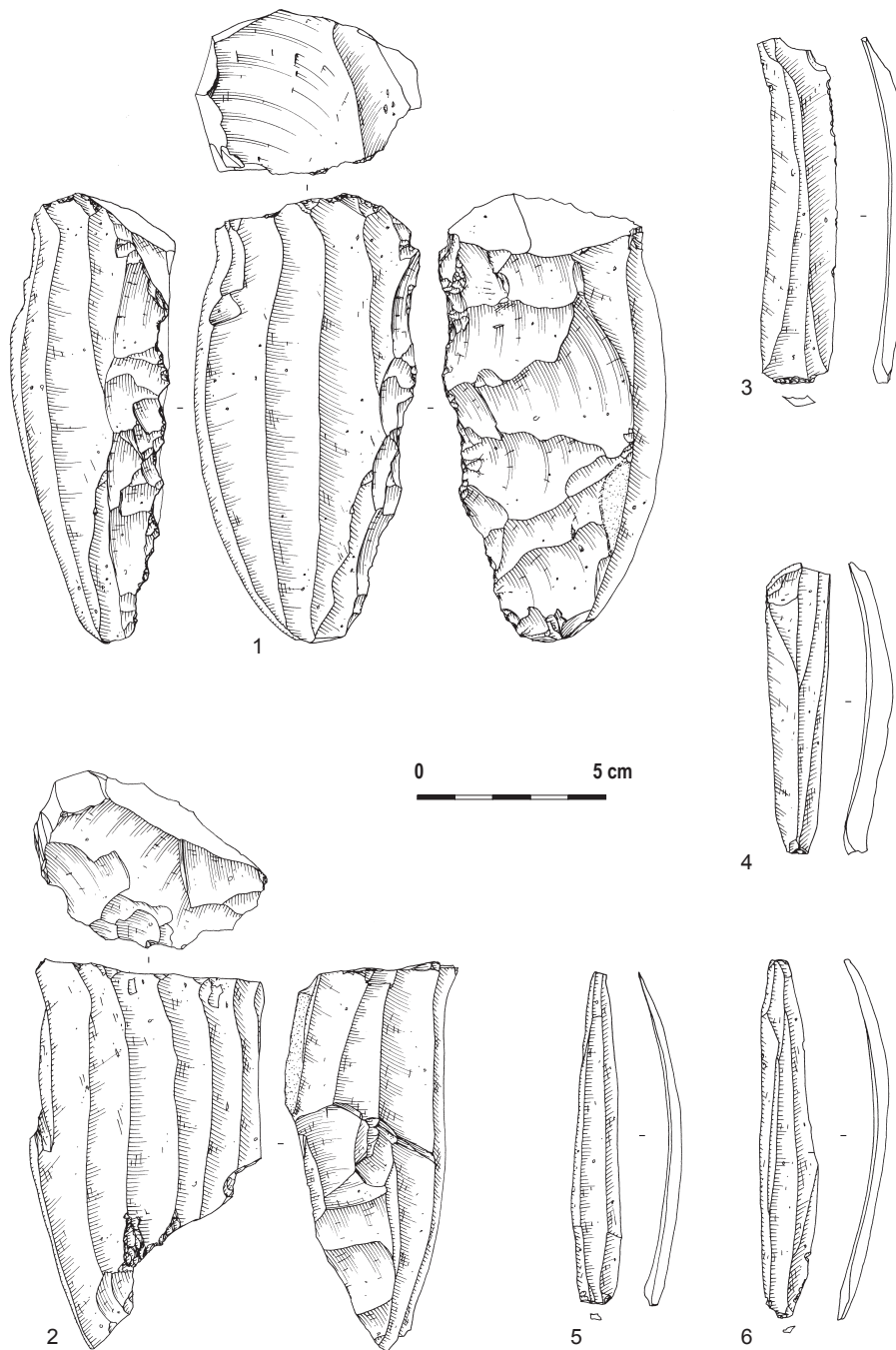


Fig. 4 – Blade debitage waste of Cinglais flint found in extraction shafts (cores) and within the close distribution area (blades). Drawings: F. Charraud.

constancy in the procurement and management of blade industries, regardless of distance from the flint source, indicates the dynamic nature of lithic raw material exploitation in this period.

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