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Bois Laiterie revisited: functional, morphological and technological analysis of a Late Glacial hunting camp in north-western Europe

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ABSTRACT

Previous exhaustive analysis of the remains at Bois Laiterie Cave resulted in the classification of this site as a Magdalenian hunting camp. However, during recent analysis of usewear-traces on selected artefacts, one of the authors [KS] noticed in the collection numerous backed points which are rather untypical for the classical Magdalenian. In light of this, a typological and technological reinvestigation of the Bois Laiterie assemblage was undertaken. Here, we present the results of this investigation and the traceological analysis. Further, implications of these results for the interpretation of the chronological, archaeo-cultural and functional position of the Bois Laiterie site within the context of the north-western European Late Glacial are discussed.

1. Introduction

Late Glacial north-western Europe is characterised by a high degree of cultural diversification. At the same time, the re-settlement of Central and Northwest Europe following the LGM also correlates with the gradual disappearance of the classical Magdalenian industry. Significantly, whilst very late assemblages of the late Magdalenian display new tendencies in lithic technology and typology (e.g. the *Cepoy-Marsangy* facies), these also co-exist with other distinct and apparently geographically restricted industries such as the Hamburgian and the Creswellian, which ultimately gives way to the subsequent Azilian and the *Federmesser* groups. Typically, archaeological remains of the Late Glacial period are regarded in the context of these distinct industries.

In this article we present a re-examination of the lithic remains from Bois Laiterie, a small-sized cave site in Belgium with a north-facing entrance and steeply sloping floor. Together with the relatively low number of artefacts and faunal remains, but at the same time numerous backed bladelets and some antler points, these features led to the interpretation of Bois Laiterie as a Magdalenian short-term hunting camp (Straus, 1997a; Straus and Otte, 1998). This hypothesis was tested and confirmed by Sano (2009a) in his analysis of fractures of lithic artefacts. However, in the course of the traceological analysis a variety of backed points was recognised. These points, usually interpreted as projectiles, are considered to be rather uncommon for classic Magdalenian sites in north-western Europe, but typologically diagnostic for other archaeological entities of the Late Glacial, such as the Creswellian or the Late Magdalenian *Cepoy-Marsangy* facies (Schmider, 1992a; Barton et al., 2003). Besides typological features, there are also technological aspects of blade production which permit a distinction to be made between sites of the classical Magdalenian, as are known from the Paris Basin, and those of a younger date (Pelegrin, 2000; Valentin, 2006).

Therefore, in a re-assessment of the chronological position and status of Bois Laiterie within the complex framework of Late Glacial archaeological cultures, first we outline briefly the setting of the cave and the context of its remains. Second, we present a typological comparison of the backed points with those of other Late Upper and Late Palaeolithic sites. Third, we outline the outcome of the technological analysis. In a fourth point, the results of the traceological analysis are presented. Lastly, we reconsider the chronological, archaeo-cultural and functional position of the Bois Laiterie site within the context of the north-western European Late Glacial.

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2. The context of occupational remains at Bois Laiterie cave

The Bois Laiterie cave is located on a steep hillside c. 120 m above sea level and c. 35 m above the present level of the Burnot, a tributary of the Meuse River (Straus, 1997b). This small cave is located in a Carboniferous limestone facies ca. 80 km upstream from Upper Cretaceous flint sources (Fig. 1). Magdalenian hunter-gatherers have left occupational remains at a number of caves in the region.

Most of the Magdalenian materials of Bois Laiterie were recovered from Strata YSS and BSC, which have provided radiocarbon dates ranging from 12,665 ± 96 to 12,625 ± 117 BP (Charles, 1996) (15,362–14,641 cal BP) (Fig. 2). Refits and distribution patterns of lithic and faunal material indicate the unity of the archaeological remains from YSS and BSC. The orientation analysis of slabs, artefacts and bones demonstrates that, whilst they may have been subject to some local movement, no major re-arrangement due to running water, solifluction or trampling occurred (Straus and Martinez, 1997). Additionally, backed bladelets representing a Magdalenian lithic type and projectile points common for the subsequent cultures show the same spatial and vertical distribution patterns (Fig. 3). Therefore, it would not be suitable to undertake a further subdivision of the archaeological record and it should be treated as one assemblage, though it might derive from several repeated occupations, redundant in their scope, nature and vestige spectrum.

A series of AMS dates from Magdalenian cave sites in Ardennes Massif has been compiled throughout the last few decades (Table 1). The radiocarbon determinations range from c. 13,300 to 12,200 BP, though there are some exceptions. Fig. 4 shows calibrated ^{14}C dates based on CalPal_2007_HULU (Weninger and Jöris, 2008), excluding obviously younger dates (outliers). The calibrated dates show that the occupation at caves in this region slightly predates the abrupt warming of the Late Glacial Interstadial 1e. The AMS determinations on antler points from Trou da Somme, on a sample of horse bones from Trou de Chaleux, and on a bone of Arctic Fox from Goyet Third Horizon 2 exhibit dates of about half a millennium younger and might show a later reoccupation of the caves at the beginning of the Late Glacial Interstadial 1e.

The dates at Bois Laiterie cave fall within the chronological range of the Magdalenian occupation in the Ardennes Massif and also of the German Magdalenian occupations in the Central Rhineland (Gönnersdorf, Andernach-Martinsberg) and Thuringian Basin (Kniegrotte, Nebra, Saaleck, Teufelsbrücke, Oelknitz). Yet, appreciable numbers of AMS determinations from Germany cluster around 13,000 BP (Housley et al., 1997; Street and Terberger, 2004; Higham et al., 2007; Stevens et al., 2009b), thus being somewhat older than the dates from Bois Laiterie. The reliable Magdalenian radiocarbon dates on charcoal from Champréveyres and Monruz at the Lake Neuchâtel, Switzerland also fall between 13,330 ± 110 and 12,840 ± 120 BP (Leesch, 1997). Whilst the Magdalenian sites in the Paris Basin, such as Étiolles, show the same range of AMS dates as the German Magdalenian (Gowlett et al., 1986; Rodriguez and Roblin-Jouve, 2004), there are also younger occupational remains, such as Pincevent Niveau IV, ranging from 12,600 to 12,000 BP (Gowlett et al., 1986; Bignon, 2006). Marsangy has produced an AMS date of around 12,000 BP (Schmider, 1992b).

The radiocarbon dates from earliest Azilian occupations in the Paris Basin, such as Le Closeau between c. 12,500 to c. 12,000 BP (Bodu et al., 2006a), overlap with measurements from Pincevent Niveau IV and Marsangy. The occupation at Bois Laiterie cave slightly predates the Hamburgian northward expansion (Grimm and Weber, 2008) and reoccupation of the British Isles during the Creswellian (Jacobi and Higham, 2009).

Consequently, the AMS dates from Bois Laiterie fall within the chronological range of the Late Magdalenian in north-western Europe, even though in its younger phase, and basically predate the

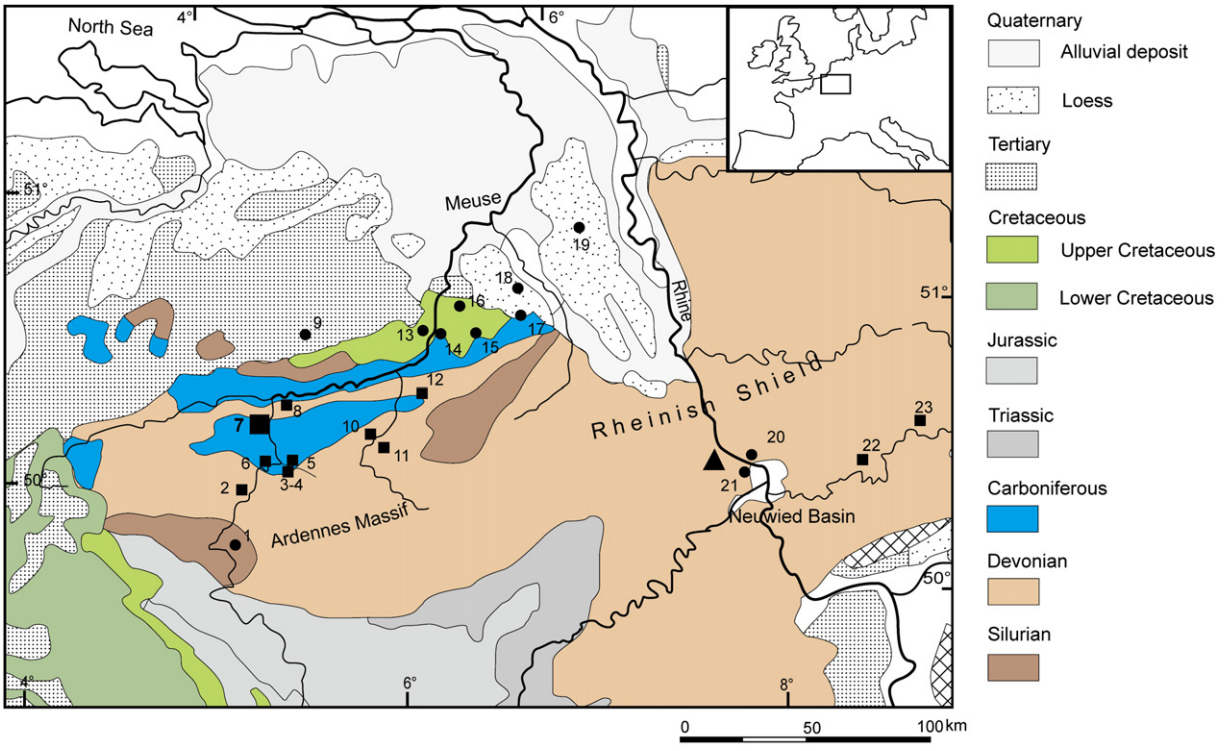

Fig. 1. Geological map showing the locations of the Magdalenian sites. Triangle = Laacher See volcano; Circle = open-air site, Square = cave site. 1 – Roc-la-Tour, 2 – Trou des Blaireaux à Vaucelles, 3 – Trou du Frontal, 4 – Trou des Nutons, 5 – Trou de Chaleux, 6 – Trou da Somme, 7 – *Bois Laiterie*, 8 – Goyet, 9 – Orp-le-Grand, 10 – Verlaine, 11 – Coléoptère, 12 – Fond-de-Forêt, 13 – Kanne, 14 – Mesch, 15 – Eyserheide, 16 – Sweikhuizen, 17 – Alsdorf, 18 – Beeck, 19 – Kamphausen, 20 – Gönnersdorf, 21 – Andernach-Martinsberg, 22 – Wildweiberlei, 23 – Wildscheuer V.