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The Lower to Middle Palaeolithic transition and the onset of prepared-core technologies in Belgium

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ABSTRACT

The Belgian territory has yielded a rich archaeological record related to the Ancient Palaeolithic, with 442 locations from this period. Of these, some were recovered in stratigraphic position and provide archaeological, chronostratigraphic and palaeoenvironmental data on the Lower to Middle Palaeolithic transition. In this paper, we present the oldest archaeological remains from the Belgian territory, from the first documented human settlements to the beginning of the Middle Palaeolithic (MIS 8). We then discuss the chronostratigraphic distribution of the sites, land-use strategies, and the Lower to Middle Palaeolithic transition in relation to the issue of the emergence of sophisticated prepared-core technologies, such as Levallois, in the North-Western European context.

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1. Introduction

A recent inventory of the Lower and Middle Palaeolithic record from Belgium highlighted that 442 locations yielded archaeological material related to the Ancient Palaeolithic (Fig. 1; Di Modica, 2010; Pirson and Di Modica, 2011). Most of this material derives from surface gatherings and ancient excavations, and therefore cannot be attributed with certainty to a precise period. However, technological characteristics suggest that the majority of these locations relate to the Middle Palaeolithic. A critical analysis of the available documentation indicates that 26 of 442 locales, representing 51 sites (sensu Depaepe, 2010), provide contextual data allowing a secure chronostratigraphic attribution (Fig. 2; Pirson and Di Modica, 2011). Among these sites, relatively few (8/51; Figs. 1–2) pre-date MIS 7. They nevertheless allow discussion of the end of the Lower Palaeolithic and the transition to the Middle Palaeolithic in relation to the emergence of sophisticated prepared-core technologies including Levallois. The reexamination presented in this paper is based exclusively on literature data and should be considered as the starting point of a wider project aiming at revising in details the pre-MIS 7 archaeological material and its chronostratigraphic context. Comparisons with neighboring regions contribute to

contextualizing the data from Belgium into the wider framework of North-West Europe.

2. Geographical and geological background

Belgium is located at the heart of North-West-Europe and lies at the border of two worlds. The northern half of the country is made of unconsolidated Cenozoic sediments and is dominated by plains and plateaux related to the European Plain, while the southern half presents a completely different situation with deep valleys incised in a consolidated substratum mainly formed by Devonian and Carboniferous rocks belonging to the Rhenohercynian fold-and-thrust belt (Pirson et al., 2008).

This territory centres on a small area of ca 30,000 km² of contrasting natural regions where both the relief and the geological substratum vary rapidly, implying changes in the vegetal cover and the fauna, as well as in raw material availability. This situation has been highlighted as having implications for prehistoric settlement and the archaeological record (de Heinzelin, 1984). Of peculiar importance in terms of Palaeolithic occupations are 1) the existence of large areas where Cretaceous formations outcrop, yielding numerous good quality flint resources (Fig. 1), 2) a thick loess cover in Middle Belgium, allowing good palaeoenvironmental and chronostratigraphic controls of assemblages, as well as 3) the presence of numerous caves in the Meuse Basin, constituting attractive natural shelters for human populations

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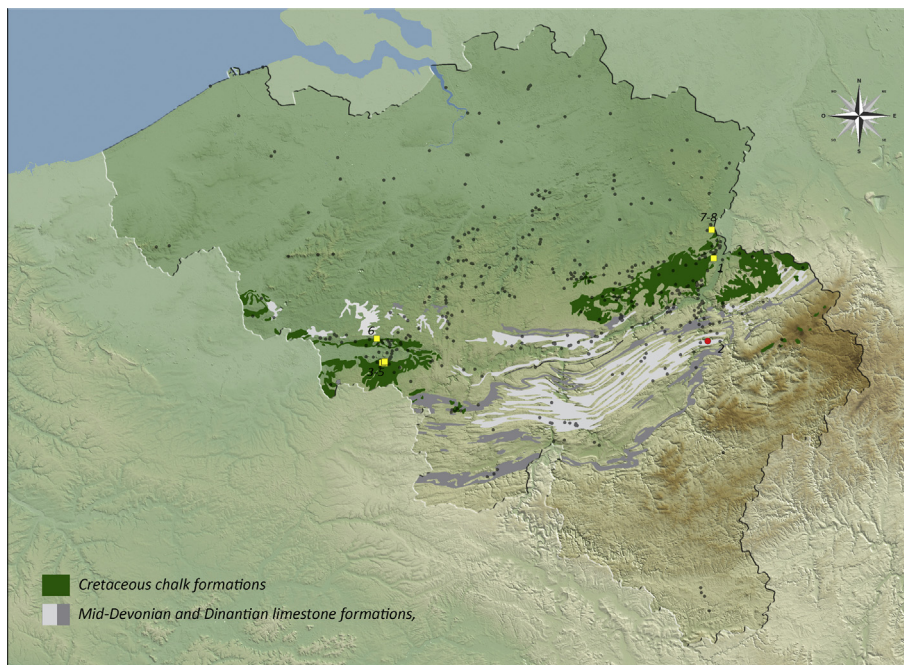


Fig. 1. Map of Belgium with the 442 locations related to the Lower and Middle Palaeolithic (grey dots), Mid-Devonian and Dinantian limestone formations, Cretaceous chalk formations and sites discussed in the text: 1. Hallembaye; 2. La Belle-Roche cave; 3. Pa d'là l'iau terrace; 4. Petit-Spiennes terrace; 5. Mesvin terrace; 6. Saint-Symphorien-Le Rissori Series IV; 7. Kesselt-Op de Schans archaeological level 3; 8. Kesselt-Op de Schans archaeological levels 4 and 5. Red circle: cave site; yellow square: open-air site. (For interpretation of the references to colour in this figure legend, the reader is referred to the web version of this article.)

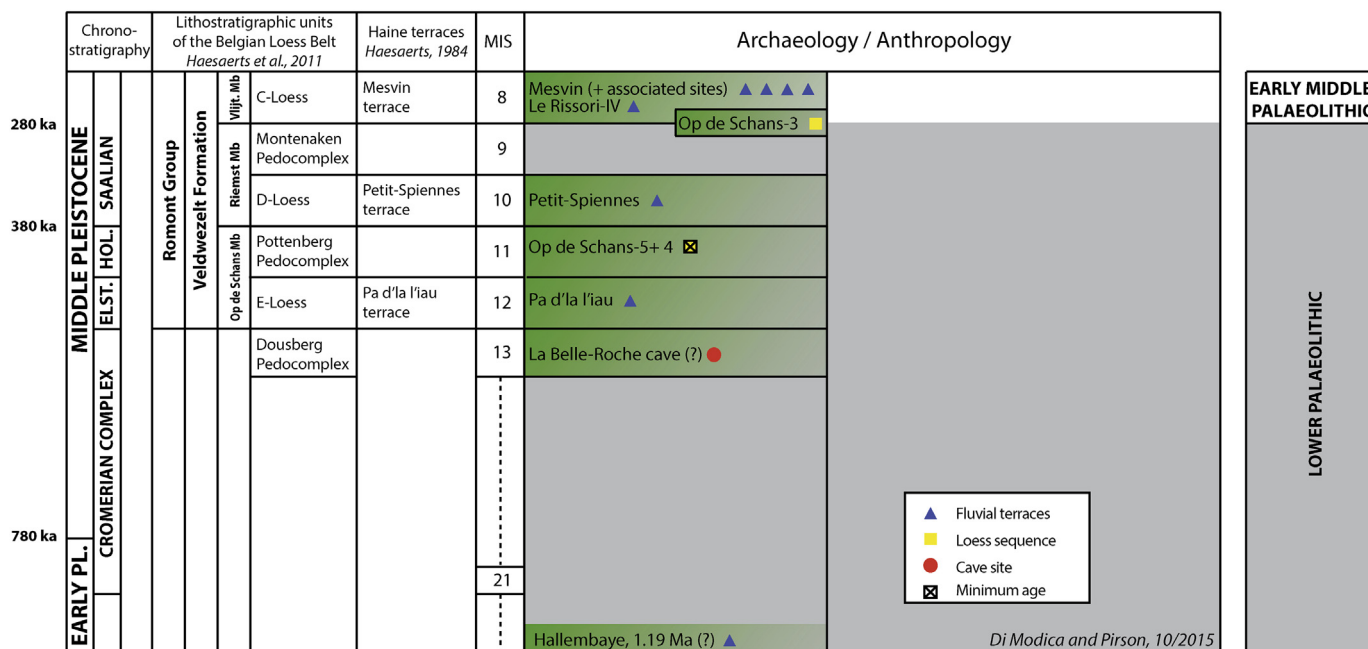


Fig. 2. Chronostratigraphic distribution of the sites discussed in this paper. Ages and correlations between NW European stages and MIS according to *Cohen and Gibbard (2011)*.

(Fig. 1). In two specific areas only, Cretaceous outcrops and caves occur together, while the loess zone and cave zone partially overlap. It has been shown that the presence of loess in the surroundings of caves offers interesting advantages in terms of chronostratigraphy and palaeoenvironment for cave entrance sequences (*Pirson et al., 2006; Pirson, 2007, 2011*).

Concerning research on Lower Palaeolithic sites and the transition to the Middle Palaeolithic, the most important contexts are

fluvial terraces, the loess cover, and caves. The fluvial terraces of the Haine Basin and the Middle Belgium loess belt yielded archaeological findings in relatively well controlled chronostratigraphic and palaeoenvironmental frameworks (*Haesaerts, 1978, 1984; Pirson et al., 2009; Haesaerts et al., 2011*). Caves from Central and Upper Belgium represent suitable places for the preservation of Palaeolithic items as well as animal and human bones (*Toussaint and Pirson, 2006, 2007*).

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