

Stratigraphy	MIS	Loess unit	Quota of wall area %	Quota of finds %
Late Würmian maximum 2				
MIS 2	Brabant	40	0	
Late Würmian maximum 1		Hesbaye	5	50
Middle Würmian	MIS 3	Ahrgau	0,01	0
Early Würmian maximum	MIS 4	Keldach	27	49
Rhein Interglacial Complex	MIS 5	Rheingau	1,5	0,5
Pre-Eemian	MIS 6 to ?11	Pre-Eemian loess	25	0,5

Tab.1: Shares of the loess units in the Garzweiler open-cast mine and shares of Paleolithic finds

no longer be considered a single Pan-European industrial complex, but rather represents a number of local early Upper Paleolithic industries. In this light the association of Neandertals and Early Upper Paleolithic is not surprising. Unfortunately the relatively short time frame of the populational overlap between late Neandertals and early moderns, possible differential site use, and taphonomic factors, (erosion etc.) will make such *in situ* evidence unlikely to be preserved. Therefore, the Vindija G1 layer is a rare and important find. Anthropological analyses demonstrate that the late Neandertals at Vindija exhibit a more modern pattern of morphology compared to most other European Neandertals. We believe that both the anatomical and archaeological characteristics of Vindija are best explained by the Assimilation model of modern human origins.

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Relation between the mass of loess units and prehistoric find density in the Garzweiler open-cast mine

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Within the years 1998-2001 a variety of geological documentations was made in the loess cover beds of the Garzweiler open-cast mine in context of the APA project ("Archäologische Prospektion der Abbaukanten", archaeological prospection of the mine walls) (H. Kels and W. Schirmer). The recognition and subdivision of different loess units and their stratigraphical attribution was only possible by drawing of long wall sections.

Through three years two to three collectors (U. Böhner, H. Kels, T. Uthmeier) yielded numerous finds of Paleolithic artefacts and bones from the Garzweiler loess wall with its average height of 8.7 m. About 130 finds were assigned to the local loess stratigraphy.

The distribution of the finds in the Garzweiler open-cast mine was extremely surprising (Tab. 1): Only a few finds are from the Pre-Eemian loess which covers a quarter of the complete loess mass. The same applies to the Rheingau Loess (Rhein Interglacial Complex = MIS 5). Therein few finds are from its middle part, the Holz Soil. The first cold maximum of the Last Glacial (MIS 4) is represented by the Keldach Loess. Surprisingly the half of all finds was yielded here. Therein the finds are common in all horizons with a distinct concentration to its deeper part. The Ahrgau Loess only sparsely preserved was free of finds. On the other hand, the very thin preserved uppermost Hesbaye Loess representing the mature stage of the second cold maximum of the Last Glaciation yielded the other half of all finds in Garzweiler. Unlike this the Brabant Loess, deposited since the maximum of the Last Glacial, didn't deliver one single find.

It is conspicuous that the finds of both big find complexes, the Keldach find complex and the Hesbaya find complex, appear mainly in colluvial and solifluctional loess layers. This points to a certain post-depositional concentration of finds. A certain reworking from older loess units may also occur. Since the material is mostly still sharp-edged and likewise bone finds do not show rounding effects only little transportation over meters or decameters is estimated. As consequence the share of reworking from older strata should be low.

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A case of blade debitage in the first phase of the Middle Palaeolithic to the site of Bapaume-les-Osiers (Pas-de-Calais, France)

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Recent research has clearly demonstrated the existence of volumetric blade reduction techniques during the Middle Palaeolithic, including the «Early Weichselian blade production in northern France», which is primarily characterized

by northern sites during oxygen isotope stage 5 (110,000-80,000 BP) (Locht & Antoine, 2001). The phenomenon appears to end at the beginning of the Lower Pleniglacial (OIS 3) (Tuffreau 1983; Loch 2002). However, some slight evidence of blade production is present at the end of the Middle Pleistocene, between OIS 8 and 6. The typological aspects of this assemblage were initially studied by A. Tuffreau in 1976. Can we see in such evidence the first indications of a technical capability that would subsequently be further developed? What are the characteristics of such blade production in the early phase of the Middle Palaeolithic?

By contrast, other cores are more similar to volumetric blade core conceptions known from the Upper Palaeolithic. Deliberate preparation of cores is attested, notably by transversal removals creating a curved flaking surface and a keel. The use of crests is confirmed by the presence of two crested blades. These cores were subject to bipolar and rotating reduction. Blades are fairly common in the assemblage and vary in size. Platforms are primarily faceted, wide and thick, suggesting the use of a stone percussor. Finally, bladelet production is attested by the presence of a single core and four bladelets.

The lithic assemblage from this site thus demonstrates that blade production was managed according to structured volumetric conceptions since the early phase of the Middle Palaeolithic (OIS 7) and identical to that observed during OIS 5. There is no evidence for a „proto“ phase of blade production. In addition, this assemblage is far from being an isolated case during this period, since we also find highly structured blade production in the contemporaneous sites of Le Rissori in Belgium (Révillion 1995) and the recently discovered site of Therdonne in Oise (OIS 7, Loch et al. 2000). Were such examples of blade production anecdotal during the initial phase of the Middle Palaeolithic?

It is plausible that future research will reveal new evidence of blade production during the Saalian period of the early Middle Palaeolithic. Moreover, like the study of the Bapaume assemblage, re-analysis of other sites may reveal previously obscured evidence of blade production. In effect, recognition of non-Levallois blade industries presenting a volumetric structuring comparable to that seen in the Upper Palaeolithic is recent. Once alerted, it is probable that researchers will identify more examples, extending in age such production, which was until now rather the privilege of the more recent phases of the Middle Palaeolithic, mainly situated at the beginning of the Early Weichselian (OIS 5). As a result, the chronological position of this phenomenon would be less well defined, since it is present from OIS 7 to the beginning of OIS 4.

The lithic assemblage from this site thus demonstrates that blade production was managed