

Fig. 3 – Veldwezelt-Hezerwater: VLL-Site: 1. Core for blades with two opposite striking platforms and two refitted cortical blades; 2. Core for blades with two opposite striking platforms; 3. Core for blades; 4. Notched piece; GRA-Level: 5. Denticulated piece (Drawings: Bringmans, 2001).

flaking. All the artefacts out of the VLL and the VLB soil horizons, but also those artefacts, which come out of the gravel (GRA-Level), are not patinated. Especially the artefacts out of the VLL and the VLB soil horizons represent a fresh conservation condition. Most of the artefacts found in the gravel (GRA-Level) are also rather fresh, which suggests that they have not been rolled over long distances, but are still near the place where they have been discarded by prehistoric man.

On the VLL and VLB Sites we found complete

flint nodules, tested nodules, cores and blanks, as well as large quantities of lithic waste material. Only a few tools, mostly denticulated pieces, were found. The raw material found at these two sites is of low quality and sometimes frost-cracked. In many cases, the flint nodules show an elongated shape. There is clearly evidence for a deliberate selection of raw material, because those elongated nodules were preferentially worked into cores. We think that prehistoric man came here to search the gravel and to pick out

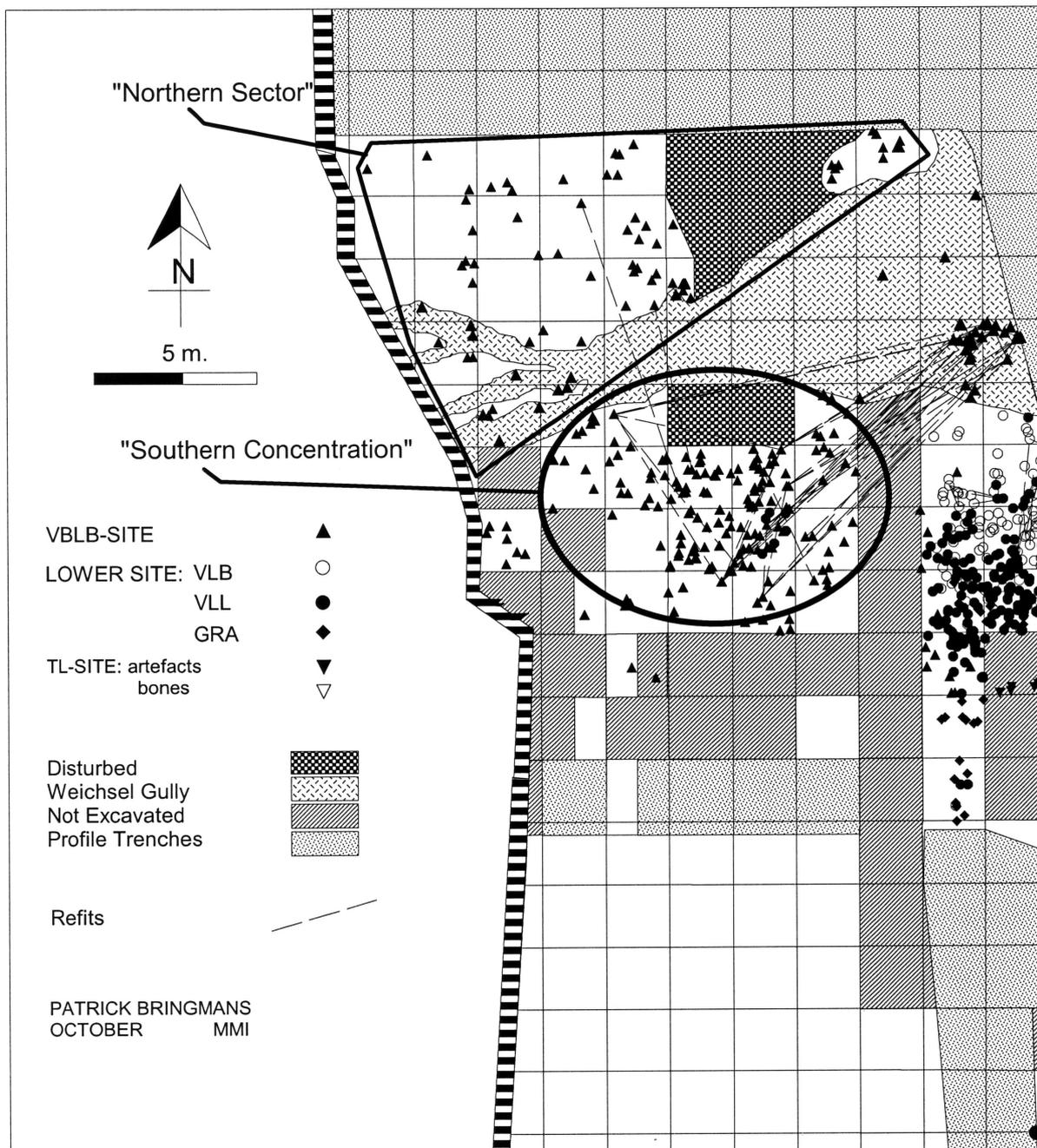


Fig. 4 – Veldwezelt-Hezerwater: Horizontal distribution of the artefacts at the VBLB-Site.

preferentially, elongated flint nodules, which were to be found here in the Hezerwater gravel. The hypothesis, that surface quarrying was going on at the VLL and the VLB Sites at Veldwezelt-Hezerwater, seems to be valid.

4.2. The Upper Site (the VBLB-Site)

A succession of several B-horizons separated by bleached and humic zones can be observed (fig. 1). Only the VBLB B-horizon contains artefacts and many charcoal pieces, identified as *Betula sp.* (determination by F. Damblon, KBIN Brussels - 1998). The dark humic zone (OHZB) contains the expected volcanic minerals with enstatite. This very detailed succession of mature soils and humic horizons, representing the Rocourt soil covered by the Warneton soil complex, gives a fairly complete image of the complex terrestrial climatic fluctuations during the Last Interglacial *s.l.* (MIS 5).

This year we finished the excavations at the VBLB-Site (fig. 4). Some flakes, a Levallois core, a notched piece and a Levallois core-edge flake were excavated (fig. 5). The artefacts of the VBLB Site were excavated in the upper B-horizon (fig. 1) of the Rocourt Soil (MIS 5) with a maximal vertical artefact distribution of less than 30 cm. The lithic assemblage of the VBLB-Site ($n = 350$), which was excavated during this and the previous campaigns, is primarily characterised by the predominance of the Levallois knapping technique. The lithic material comprises one Levallois core, used as a sidescraper and one discoidal core, with

several refits, which is in fact a totally exhausted Levallois core. Ten larger Levallois flakes and several smaller flakes were also found. Some larger non-Levallois flakes were present in the lithic assemblage as well. The toolkit is made up of two single sidescrapers, one *déjeté* side scraper, one notched piece, one bifacial single convex sidescraper and one bifacial foliate. None of these tools seem to have been produced on Levallois blanks.

An important feature that blurs our image of the horizontal artefact distribution is the deep Weichselian gully (fig. 1, 4) that cuts through the centre of the VBLB-Site. It is now clear that most of the artefacts found in this gully belong to the VBLB lithic assemblage. All long-distance refits (fig. 4), mostly the larger Levallois flakes of the relatively poor “northern sector” of the VBLB-Site are connected with the relatively rich “southern concentration” of the VBLB-Site, whereas all the short-distance refits were established within the “southern concentration” and none in the “northern sector”. It is important to note that several long-distance refits were established with artefacts found in the Weichselian gully (fig. 4). These refits should not be considered as being “meaningful”, because these “gully-artefacts” were of course not found *in situ*. Nevertheless, for the “northern sector” we could make out that all the retouched tools, the larger Levallois flakes and the larger non-Levallois flakes were found in relation with each other. For the “southern concentration” we could notice that the core, the cortical flakes, the small Levallois preparation

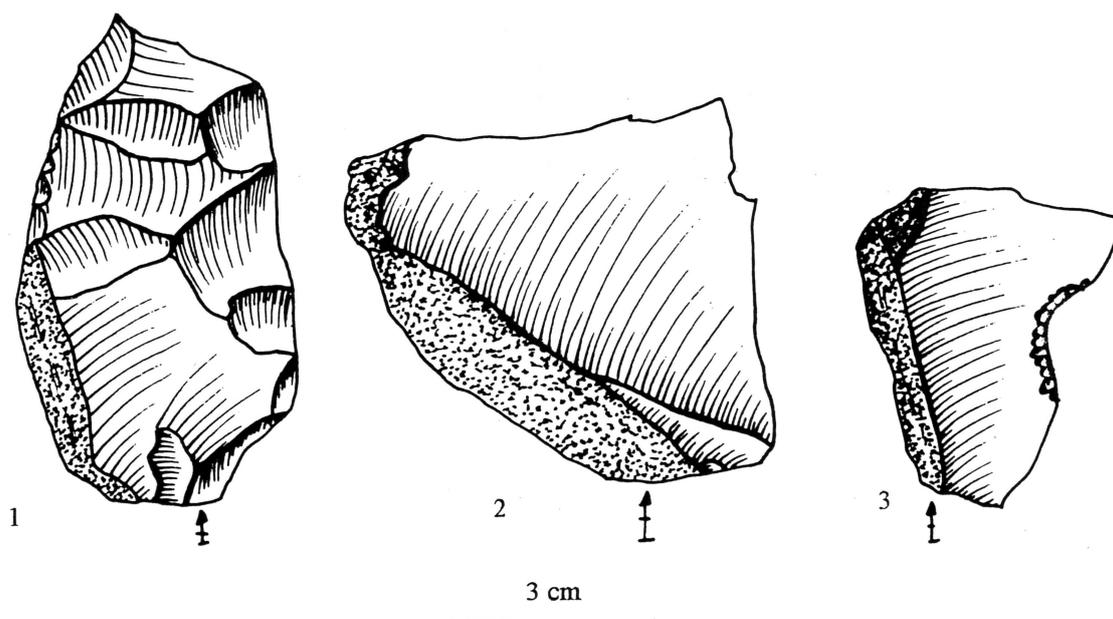


Fig. 5 – Veldwezelt-Hezerwater: VBLB-Site: 1. Levallois core-edge flake; 2. Cortical flake; 3. Notched piece (Drawings: Bringmans, 2001).

flakes, the chips and the knapping waste were also found in relation with each other.

We thus can distinguish a “rich” and a “poor” area on the VBLB-Site at Veldwezelt-Hezerwater. For the “rich area” one RMU with many short and long-distance refits is attested and at the “poor area” at least

14 RMUs with only long-distance refits are present. At the “rich area” the Neanderthals were beyond any doubt aiming to manufacture large Levallois blanks, while the “poor area” is where the Neanderthals utilised their tools *s.l.* in a variety of tasks. The “southern concentration” could therefore be interpreted as a

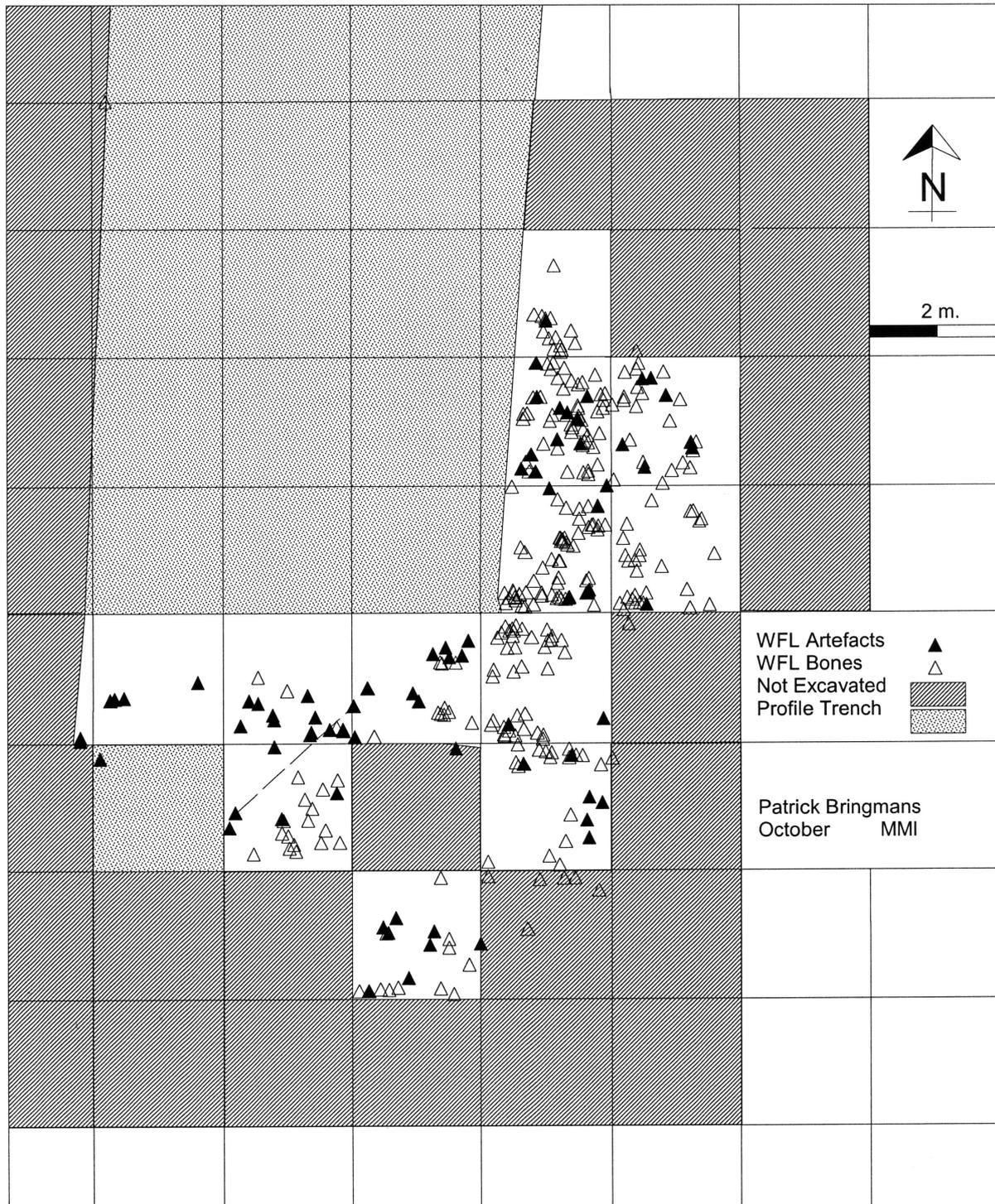


Fig. 6 – Veldwezelt-Hezerwater: Horizontal distribution of the artefacts and bones at the WFL-Site.

knapping workshop, whereas the “northern sector” could be explained as the “tool utilisation zone”, where the presence of numerous pieces of charcoal also indicated the proximity of a hearth.

4.3. The Rocourt Island Site (the VBLB-South Site)

This year we did not excavate at the VBLB-South Site. Last year we were able to recover most of the larger artefacts of the VBLB-South Site in the upper part of the Rocourt Soil (MIS 5). The lithic assemblage ($n = 55$) is primarily characterised by the dominance of the Levallois knapping technique. Several Levallois flakes, blades, core-edge flakes and some Pseudo-Levallois points have been excavated.

4.4. The TL-R and the TL-GF Sites

The loess, loess-derived sediments and the many intercalating fossil soils overlying the Rocourt soil and the Warneton soil complex belong to the Weichselian s.s., representing the terrestrial equivalent of MIS 4, 3 and 2. Here a complex stratigraphy (fig. 1) has been established, with several horizons containing microfauna and abundant mollusc shells. The TL-R and the TL-GF Sites are situated on the east facing valley-side of a Middle Weichselian Hezerwater valley (MIS 3). The excavated artefacts are related to the fill of this gully-system and not to the erosional process.

The TL-R Site was partly excavated two years ago and last year’s research concentrated on the TL-GF Site. This year’s excavation campaign focussed on both sites. Several artefacts and some fragmentary faunal remains have again been excavated, but chips are nearly lacking. The most interesting piece found at the TL-GF Site was a large core. At the TL-GF Site artefacts, including Levallois products and Quina side scrapers, are found at three distinct levels.

4.5. The WFL-Site

In the WFL-horizon, an incipient brown soil of Middle Weichselian age (MIS 3), several artefacts and an important number of mammalian remains have been recovered (fig. 6). The lithic material is made up of unipolar lineal and bipolar recurrent Levallois cores, Quina side scrapers, several flakes and chips. One of the highlights of this year’s excavation campaign at the WFL-Site was the recovery of another Quina side scraper with a faceted butt (fig. 7).

The faunal assemblage of the WFL-Site comprises, based on preliminary assessments, cold period fauna including species such as horse, woolly rhino and mammoth. Gnawing marks of hyena have been

observed (personal communication J.-M. Cordy, *Université de Liège* - 2001). Although no cut marks have been identified on the bones at present, evidence for the anthropogenic origin of these finds is provided by systematic bone cracking, probably for extracting marrow.

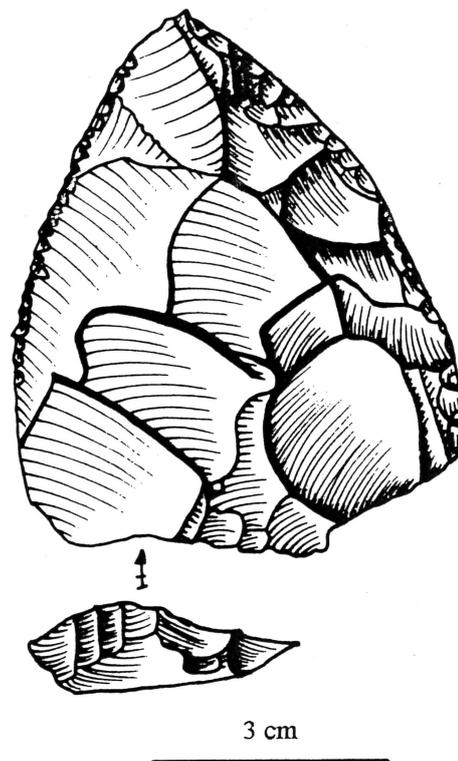


Fig. 7 – Veldwezelt-Hezerwater: WFL-Site: Quina side scraper (Drawing: Bringmans, 2001).

4.6. The Patina Layer

In the Patina Layer, which is the orange horizon of the “Kesselt Suite” (THB: fig. 1), 59 reworked and heavily wind glossed and white patinated artefacts have been found. Finally, the characteristic “Kesselt Suite” was covered by up to 5 meters of aeolian Brabantian loess (fig. 1), in which the Holocene soil developed.

5. Conclusions

The Veldwezelt-Hezerwater Excavation Campaign 2001 disclosed further remains of at least five different Middle Palaeolithic valley settlements. It is amazing to realise that at the multi-level site of Veldwezelt-Hezerwater, humans were living and producing their tools at different times during the late

Saalian (MIS 6), the late Last Interglacial *s.l.* (MIS 5) and the Middle Weichselian (MIS 3).

The oldest occupation phase present at the base of the Hezerwater gravel (GRA-Level) at the Lower Site seems to have been influenced by the Levallois technology. Throughout the Hezerwater gravel (GRA-Level), one sees the presence of a non-Levallois flake technology. These artefacts are likely not *in situ*. But, the younger occupation phase at the Lower Site at Veldwezelt-Hezerwater, found on top of the Hezerwater gravel and in the VLL find horizon, generally characterised by non-Levallois blade and bladelet industries, may indeed be *in situ*. The same goes for the artefact assemblage of the VLB find horizon, which is very similar to the lithic assemblage of the VLL find horizon. Both the VLL and VLB Sites at Veldwezelt-Hezerwater could be interpreted as surface flint extraction sites with several knapping workshops. It is still difficult to tell something about the absolute chronology of these different find horizons, because the time resolution is still not detailed enough. But, on stratigraphical grounds, we think that it is safe to say that they all should be dated into a late Saalian context (MIS 6). This hypothesis is stressed by the presence of charcoal (*Pinus silvestris*), which suggests that the climate during this Pre-Eemian occupation stage was temperate or even cool.

On the VBLB-Site at Veldwezelt-Hezerwater situated at the top of the Rocourt soil, which is the terrestrial equivalent of the late Last Interglacial *s.l.* (MIS 5), we can distinguish a "rich" and a "poor" area. For the "rich area" one RMU with many short and long-distance refits is attested and at the "poor area" several RMUs with only long-distance refits are present. At the "rich area" the Neanderthals were beyond any doubt aiming to manufacture large Levallois blanks, while the "poor area" is where the Neanderthals utilised their tools *s.l.* in a variety of tasks. The "southern concentration" could therefore be interpreted as a knapping workshop, whereas the "northern sector" could be explained as the "tool utilisation zone", where the presence of numerous pieces of charcoal also indicated the proximity of a hearth.

The loess, loess-derived sediments and the many intercalating fossil soils overlying the Rocourt soil and the Warneton soil complex belong to the Weichselian *s.s.*, are representing the terrestrial equivalent of MIS 4, 3 and 2. The TL-R, the TL-GF and the WFL Sites can all be dated to the Middle Weichselian (MIS 3) and they all reveal the presence of lithic material in connection with the remains of large mammals. The lithic assemblage of those three sites is clearly characterised by the presence of Levallois products in association with Quina sidescrapers.

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The Veldwezelt-Hezerwater Excavation Campaign 2001 has been a great success thanks to the generous support of all the scientific institutions involved. We especially would like to thank Prof. Dr. Guy De Boe, Director of the Institute for the Archaeological Heritage (*I.A.P.*) of the Flemish Community, the Province of Limburg (Belgium), the Province of Limburg (The Netherlands), the communities of Lanaken and Riemst and the City of Maastricht.

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7. References

- BRINGMANS P. M. M. A., 2000. *De Midden-Paleolithische bewoning van Veldwezelt-Hezerwater in een Noordwest-Europese context*. Licence Dissertation. K.U.Leuven.
- BRINGMANS P. M. M. A., 2001. The Veldwezelt-Hezerwater Project (Belgium). *Prehistoria 2000. Journal of the International Union for Prehistoric and Protohistoric and Protohistoric Sciences U.I.S.P.P.*, 1 (1): 180.
- BRINGMANS P. M. M. A., BUBEL S., GROENENDIJK A. J., MEIJS E. P. M., DE WARRIMONT J.-P. & GULLENTOPS F. & VERMEERSCH P. M., 2000. The Middle Palaeolithic Valley Settlements at Veldwezelt-Hezerwater, Belgian Limburg: Excavation Campaign 2000. *Notae Praehistoricae*, 20: 7-19.

BRINGMANS P. M. M. A., VERMEERSCH P. M., GROENENDIJK A. J., MEIJS E. P. M., DE WARRIMONT J.-P. & GULLENTOPS F., 2001. Preliminary Report on the Excavations of the Middle Palaeolithic Valley Settlements at Veldwezelt-Hezerwater (Belgium). In : P. M. M. A. Bringmans (ed.), *Stratigraphy and Prehistory of the River Maas Valley in Limburg – Belgium. Excursion Guide. XIVth Congress of the International Union of Prehistoric and Protohistoric Sciences – U.I.S.P.P. Member of the International Council for Philosophy and Human Studies UNESCO. 2 – 8 September 2001 Liège - Belgium.* Leuven: 21-29.

CONARD N. J., 2001. River Terraces, Volcanic Craters and Middle Paleolithic Settlement in the Rhineland. In : N. J. Conard (ed.), *Settlement Dynamics of the Middle Paleolithic and Middle Stone Age.* Tübingen: 221-250.

CZIESLA E., EICKHOFF S., ARTS N. & WINTER D., (eds), 1990. *The Big Puzzle: International Symposium on Refitting Stone Artefacts. Studies in Modern Archaeology, 1.* Bonn.

GULLENTOPS F., 1998. Geomorphological Expression of the Last Interglacial in the Belgian Loess Region. *INQUA-SEQS Symposium. The Eemian. Local Sequences, Global Perspectives. Volume of Abstracts.* Kerkrade: 31.

GULLENTOPS F., GROENENDIJK A. J., MEIJS E. P. M., MÜCHER H. J., VERMEERSCH P. M. & DE WARRIMONT J. P., 1998. Preliminary Report of an Exceptional Catena of the Last Interglacial in the Loess Area of Belgian Limburg near Veldwezelt. *INQUA-SEQS Symposium: The Eemian. Local Sequences, Global Perspectives. Excursion Guide.* Kerkrade: 35-39.

VERMEERSCH P. M., 2001. Middle Paleolithic Settlement Patterns in West European Open-Air Sites: Possibilities and Problems. In : N. J. Conard (ed.), *Settlement Dynamics of the Middle Paleolithic and Middle Stone Age.* Tübingen: 395-417.

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Scladina : le niveau d'occupation moustérien 1A

Isabelle LOODTS & Dominique BONJEAN

Depuis plus de vingt ans, le programme des recherches à la grotte Scladina (Sclayn, province de Namur) est ininterrompu et les études se succèdent qu'elles soient de nature archéologique, paléontologique, paléoclimatique ou anthropologiques. Sous la tutelle du Service de Préhistoire de l'Université de Liège, les fouilles ont mis en évidence un remplissage sédimentaire complexe qui retrace de manière quasi continue les fluctuations climatiques du Nord-Ouest de l'Europe, depuis le début de l'interglaciaire éémien (stade isotopique 5E) jusqu'au milieu de la dernière glaciation (stade 3).

Deux niveaux d'occupation moustériens, localisés en couche 5 (± 130.000 ans B.P.) et en couche 1A (± 40.000 ans B.P.) permettent des comparaisons intéressantes puisqu'ils furent l'œuvre de deux groupes ethniques et culturels a priori similaires, utilisant des matières premières et des techniques de débitage identiques, mais au sein de biotopes différents.

Le présent article est une synthèse des caractères techno-typologiques de l'industrie moustérienne weichselienne de la couche 1A, doublée d'un essai de répartition spatiale des artefacts à la lumière des récentes découvertes. De plus, elle contribue à réhabiliter cette collection jugée, à sa découverte, en position secondaire par à un important remaniement sédimentaire.

1. La couche 1A

Datée de 38.560 ± 1.500 B.P. du C14 sur collagène dissout (LV-1377 bis), la couche 1A a livré une industrie lithique de plus de 3200 pièces au sein de laquelle on distingue sept matières premières aux caractéristiques minéralogiques, aux aptitudes à la taille et aux origines géographiques diverses (fig. 1). Chacune de ces matières lithiques a été gérée par un type de débitage adapté, démontrant une grande richesse comportementale traduite par une formidable aptitude à l'évaluation et l'adaptation des ressources selon les besoins (Loodts, 1998).

Les deux chaînes opératoires les plus complexes de cet ensemble ont été mises en évidence

sur le silex maestrichtien, provenant de Hesbaye, et sur le grès bruxellien probablement récolté dans la région des sables tertiaires brabançons.

Les nucléus et les produits en silex sont issus d'un débitage Levallois récurrent géré selon plusieurs modalités : unipolaire parallèle ou convergente en majorité, parfois bipolaire et plus rarement centripète. Des changements de modalité ont probablement eu lieu en cours de débitage d'un même nucléus pour obtenir plusieurs séries d'enlèvements successives sans avoir recours au réaménagement des convexités. Le débitage, adapté au volume et à la morphologie des blocs initiaux, est caractérisé par la présence de nombreux éclats débordants et un nombre restreint de produits Levallois de premier ordre. Les nucléus sont exploités systématiquement jusqu'à exhaustion.

Les supports en silex maestrichtien sont généralement plats, de section triangulaire asymétrique, présentant un dos cortical ou débité. De tendance laminaire, ils restent généralement de petite taille. La retouche est y peu envahissante, semi-abrupte ou abrupte, très rarement écaillée scalariforme.

Les produits en grès bruxellien, parmi lesquels il faut souligner l'absence de nucléus, et leurs remontages sont typiques d'un débitage Quina (Bourguignon, 1997) dont un des caractères principaux est l'alternance des enlèvements sur deux surfaces de débitage sécantes non hiérarchisées.

Les supports en grès bruxellien sont massifs, épais, asymétriques et de plus grande taille que ceux en silex. Ce type de supports permet en pratique une retouche plus intense et développée, de type écaillée scalariforme ou Quina typique. Celle-ci reste néanmoins rare et peu envahissante, peut-être à cause de la nature même du grès qui, par sa micro-denticulation naturelle au tranchant, minimise l'impératif d'une retouche.

D'un point de vue typologique, l'industrie présente un faible pourcentage de pièces retouchées (4,29 %), parmi lesquelles la catégorie des racloirs domine (simples, droits ou convexes). Les encoches et les denticulés sont peu fréquents et les couteaux à dos (atypiques) sont rares. Deux petits

bifaces subcordiformes en silex campanien complètent la série. Enfin les outils de type "paléolithique supérieur" sont totalement absents. Cette industrie se classe au sein de la grande famille du Charentien (Otte, 1983; Moncel, 1998).

2. Problématique

A sa découverte, la couche 1A ne révéla pas d'emblée tout son intérêt. Les premières fouilles (1978 à 1982) localisèrent l'industrie dans toute

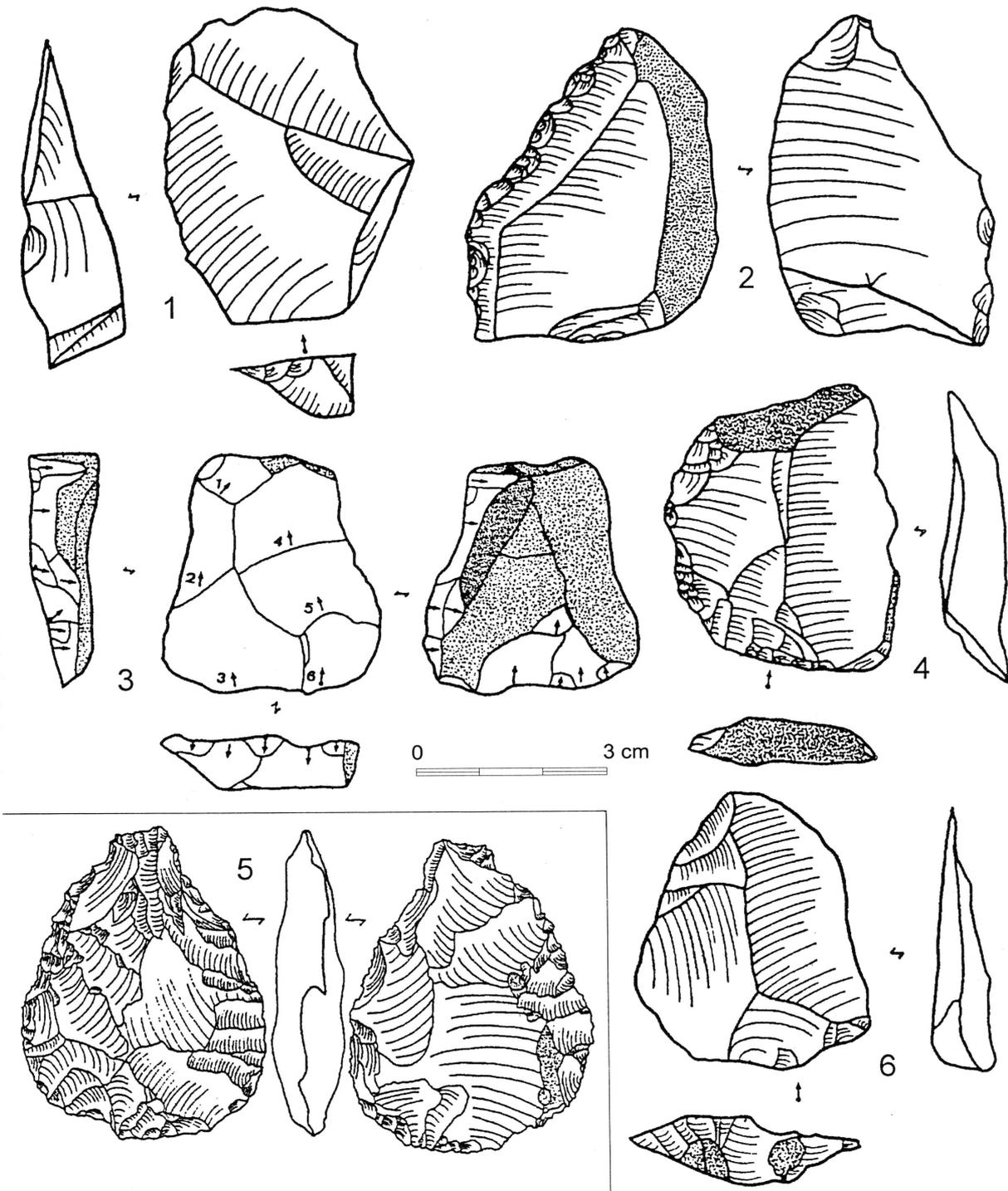


Fig. 1 – L'industrie de la couche 1A : 1. enlèvement débordant de type Quina en grès bruxellien; 2. racloir simple convexe en grès bruxellien; 3. nucléus Levallois récurrent unipolaire; 4. enlèvement préparé de type Levallois en silex maestrichtien; 5. biface subcordiforme en silex campanien (taille réelle 8 cm); 6. couteau à dos atypique en grès bruxellien.