""A veil of stones"": on the interpretation of an early Middie Palaeolithic low density scatter at Maastricht-Belvédère (The Netherlands)

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At Maastricht-Belvédère an attempt was made to document the low-density scatter of flint artefacts against which the 'rich' sites are present within the 250,000 years old interglacial deposits there. A short presentation and interpretation of the low-density scatter (Site N) is followed by a brief discussion of the implications this work might have for our understanding of the archaeological record.

1. Introduction

The majority of Palaeolithic fieldwork is heavily site-oriented, rather than on studies of the way palaeolithic foragers moved through former landscapes. Raw material studies however begin to shift our attention towards such a landscape perspective (*cf.* Geneste 1985, 1988; Roebroeks *et al.* 1988; Féblot-Augustins 1993), which has always been rather central in many ethno-archaeological studies of the spatial organization of hunter-gatherers. Such studies resulted in concepts like Binfords distinction between *collecting* versus *foraging* modes of landuse, coupled with logistical and residential forms of settlement mobility (Binford 1980). Though implicitly or explicitly used by many archaeologists such concepts are in fact hard to work with: the differences between actually observing people moving through landscapes and interpreting material remains of such former activities — encased in various forms in a variety of sedimentary envelopes — make for a big discrepancy between the two levels of analysis: in the archaeological practice we have to deal with problems such as the contemporaneity of sites, their horizontal and vertical integrity and other aspects of site-formation. These factors, together with the very patchy exposure of sediments, the scarcity of well-studied sites and the absence of a solid chronological framework, are among the reasons for the domination of site-oriented studies in Palaeolithic archaeology (*cf.* Villa 1991).

Furthermore, most of the excavated sites are, in the words of the late Glynn Isaac, "... concentrated, localised accumulations of refuse which represent acts of discard repeated by numbers of individuals over a span of time." (Isaac 1981, 133-34). These concentrated patches of relics, however, represent only a part of the traces of earlier human behaviour, as they are mostly present against a background of low density scatters of isolated or small sets of artefacts, subtle marks with a low visibility, the kinds of things one occasionally encounters when surveying sections (*i.e.* cross-sections through earlier landsurfaces).

Isaac (1981) has described these isolated artefacts as the archaeological correlates of fundamental particles. In his hierarchical model of the structure of the spatial array, these isolated artefacts form the first level. The next level is formed by single action clusters, for instance a set of conjoinable flakes from one knapping episode. The third level can be of a very variable scale, but it is always a complex cluster of first and second level occurrences, representing a number of episodes or a number of different actions. Most archaeological sites are composed of materials at this level, *i.e.* clusters of clusters. Such entities can be *organized* or *compound*, as discussed by Kroll and Isaac (1984). At a still higher level are the regional site configurations. Isaac sees sites as forming a patterned set across the face of a region, with locations determined by such factors as distribution of resources, networks of communication and population density. This fourth level is commonly referred to as a 'settlement pattern' or 'regional system'.

This model (see Isaac 1981 for more details) stresses the importance of treating the distribution of sites and of isolated artefacts as parts of one single system (see also Foley 1981a, 1981b). Study of the overall distribution of artefacts on the palaeolandscape was for instance a main part of Isaac's Koobi Fora research project. Apart from this project, the 'scatters and patches' approach has received little attention however (but see: Stern 1993), although its importance for the study of former land use patterns has been well advocated by Isaac (1981).

This short paper takes up some elements of Isaac's approach by presenting and discussing the results of the excavation of a "scatter between the patches": a very low-density distribution of stone artefacts and some bone fragments, excavated over a large area in 250,000 years old river sediments at Maastricht-Belvédère (The Netherlands). We recorded this distribution in order to document the 'off-site' character of the former usage of the river valley at

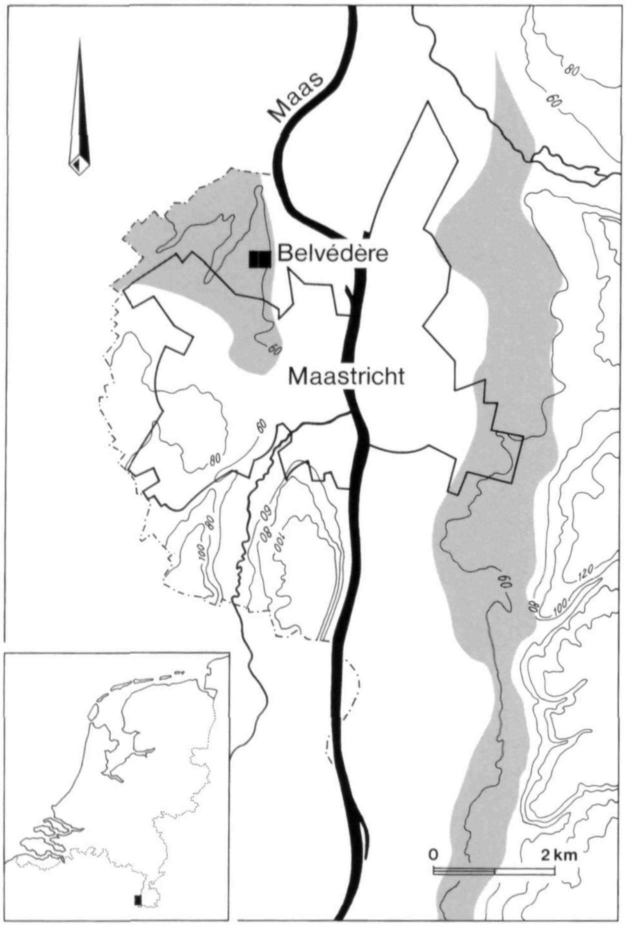


Figure 1. Situation of the Maastricht-Belvédère pit. The shaded area shows the distribution of the Caberg Middle Terrace sediments (after Brueren 1945). The Caberg plateau coincides with the western distribution of the Middle Terrace sediments.

Belvédère. By doing this we hoped to obtain an impression of the overall lithic 'output' of Middle Pleistocene hominids within a small segment of the river valley, which comprised both the patches and the scatters, essentially the 'Veil of Stones' left on the landscape. We were interested in the distribution of these finds and in comparing them in technological and typological terms and in terms of raw material with the assemblages from the patches, the 'classical' sites excavated at Belvédère.

The paper first gives a short presentation of this scatter (Site N): its geological context, excavation method and description of the flint assemblage. Next, the interpretation of this kind of artefact distributions will be discussed briefly, by comparing the scatter with previously excavated Maastricht-Belvédère patches, and by a more general discussion pertaining to the value of the information generated by the study of these scatters.

2. Maastricht-Belvédère: Site N

2.1. The topographical and geological setting of the Belvédère site

The Maastricht-Belvédère project focussed on an interdisciplinary study of 250,000 years old fine grained river deposits, exposed in a loess and gravel quarry about 1 km north-northwest of the Dutch town of Maastricht (fig. 1). These deposits yielded a rich, full interglacial fauna and abundant traces of human activities, in the form of sites (first to third level entities) containing middle palaeolithic flint assemblages, occasionally associated with faunal remains (see Roebroeks 1988; Vandenberghe *et al.* 1993). Over an area of about 6 hectares a dozen scatters and patches were discovered and excavated (tab. 1 and fig. 2), amongst them Site N, presented here. As stated above, this scatter was recorded specifically to get an impression of what happened between the patches.

The geological context of the Maastricht-Belvédère sites has been described in detail elsewhere (Roebroeks 1988; Vandenberghe *et al.* 1993). Here, it suffices to say that the archaeological material from the main find level was recovered in the upper fine grained part of sediments, deposited by a meandering river in a late Middle Pleistocene interglacial. These sediments are well dated and correlated with oxygen isotope Stage 7 (Roebroeks 1988; Kolfschoten *et al.* 1993). The fine grained interglacial river deposits were subsequently covered by a thick sequence of Saalian and Weichselian silt loams (*i.e.* reworked and primary loess).

The fluvial sequence at Belvédère (fig. 3) started during a Saalian cold period with an aggrading braided river system, followed by an incision at the end of this period, and a slight accumulation by a meandering system during the succeeding warmer period. Sedimentological analyses resulted in the division of the deposits of the meandering system into three phases. The last two phases are associated with full interglacial conditions and with abundant traces of human activities. The meander infillings show a fining upward sequence for each phase, with the uppermost meander filling being the finest. In this final phase the meander depression terminates with an extensive clay/silt loam deposition in standing water.

The Site N artefacts were present in these clayey silts, layer 7 in the section drawing in figure 4. The meander would have run dry occasionally, as attested by the large dessiccation cracks and abundant traces of biological activity present in the deposits (*cf.* Vandenberghe 1993). It is possible that the artefacts were discarded on temporary dry surfaces in what had become a very shallow meander loop.

Although the fauna recovered from the Site N matrix itself is very poor (see below), sedimentological analysis

Table 1. Survey of the Maastricht-Belvédère sites.

site	field designation	date	excavated area (m^2)	period of excavation
A	Trench East I	Saalian	5	March 1981
B	Trench North	Saalian	19/23	July-Sept.1981
C	Trench South	Saalian	264	1981-1983
D	Trench East II	Saalian	-	August 1982
E	Trench WG	Weichselian	50	Nov.-Dec.1982
F	Trench East III	Saalian	42	June-July 1984
G	Site G	Saalian	50	1984-1985
H	Site H	Saalian	54	March 1987
J	Site J	Weichselian	210	May-June 1986
K	Site K	Saalian	370	Dec.1986-July 1987
N	Site N	Saalian	765	Feb.1988-Sept.1989

Figure 2. Situation of the archaeological sites (A-N) in the Belvédère pit, scale 1:2500 (the numbers refer to the coordinates of the topographical map, sheet no. 61 F, 1:25,000).

Figure 3. Photo of the southern part of the Belvédère pit, summer 1987, showing units III to VII. This section in fact was the northern boundary of the excavated Site N area.

showed a continuity of deposition within a single climatic and environmental regime, strongly suggesting that the climatic conditions at the time of the formation of the deposits were interglacial, similar to the lower, non-decalcified part of the meander infilling (*cf.* Kolfschoten *et al.* 1993).

2.2. The site N scatter and its finds

In total an area of 765 square metres was excavated in the period from February 1988 to September 1989 (fig. 5). All finds were recorded three-dimensionally and several long sections were studied. The excavation yielded in total the low number of 450 flint artefacts, tiny chips included, and some badly preserved faunal remains. More than 500 square metres did not contain any artefact at all.

The faunal remains from the scatter are few in number and badly preserved. They were studied by T. van Kolfschoten, who was able to identify thirteen of them, virtually all consisting of teeth and fragments of teeth. Among these are remains of red deer (*Cervus elaphus*), horse (*Equus* sp.) and a bovid (*Bos* sp.). The left half of a lower jaw of red deer was relatively well preserved (*cf.* fig. 6), though broken and twisted in the matrix, while the teeth and molars from the right half were distributed over an area with a diameter of approximately 7 metres.

The flint artefacts from Site N display in general a white patination. About three quarters of the assemblage has a maximum dimension smaller than 2 cm (fig. 7). About one fifth of the larger pieces are tools and tool fragments (n= 26), with many scrapers (fig. 8). Of these larger pieces around 60% was recovered broken. The artefacts were made out of at least 8 different nodules, judging from the characteristics of the flint material (texture, inclusions, cortex, colour). Compared to other artefact distributions at Belvédère this is a high number, especially when the low number of artefacts at Site N is taken into consideration.

Decortication flakes are virtually absent in the assemblage (only 3.3% (n= 15) of the flakes had 50% or more cortex on their dorsal side, and 84.4% had no traces of cortex at all), indicating that the first stages of the core reduction occurred elsewhere. Technological and typological details on the assemblage are given in tables 2 and 3 and figures 9 and 10.

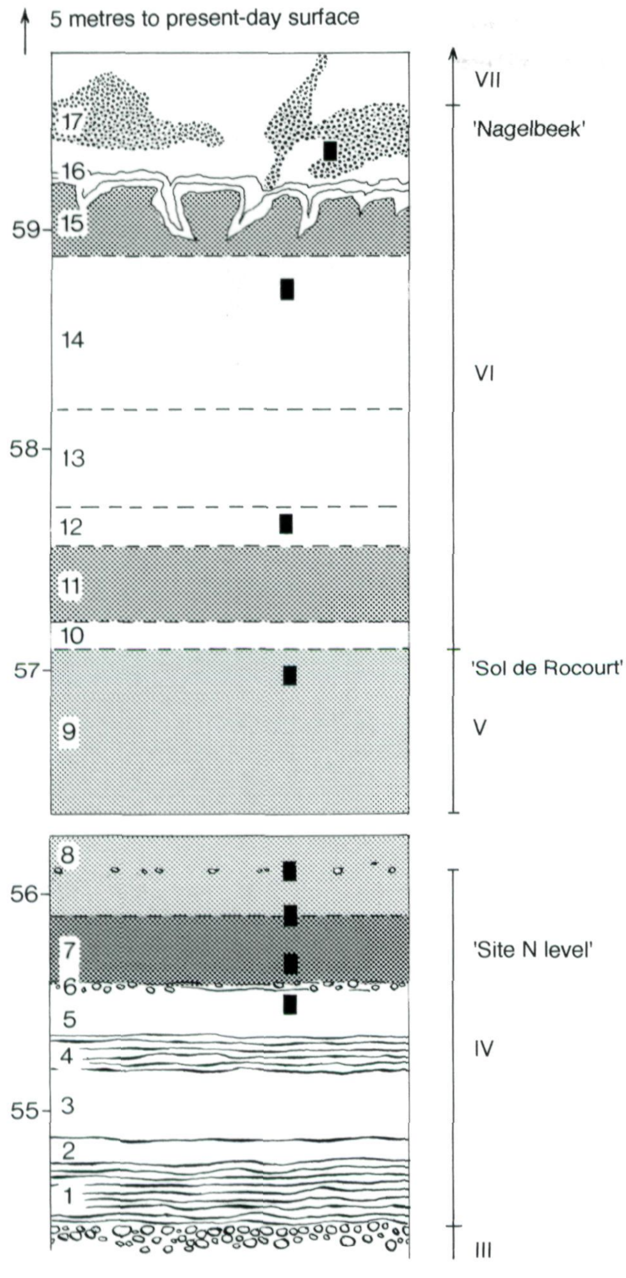


Figure 4. Site N: composite section of the sediments above the Unit III gravels, at the southern limit of Site N (square 51/476; description by H. Mücher and W. Roebroeks, July 24th 1989, conform FAO Guidelines for soil description). To the left: height in m above NAP, to the right interpretation in lithostratigraphical units (III to VII). The boxes are thin section samples for micromorphological analysis, the Site N finds were recoverd in layer 7.

1. Sand (10 YR 8/1), calcareous, slight horizontal lamination, massive, loose-very friable (C-horizon).
2. Sandy loam (10 YR 7/2), with Fe mottles (5 YR 6/6) of abt. 1 cm. Massive, friable, with few common Mn-nodules (<5 mm). A smooth and clear boundary with the horizon below (C-horizon).
3. Silty clay (10 YR 7/2), with Fe mottles (5 YR 6/8) <10 mm, grey (10 YR 7/1) mottles <10 mm and very few Mn-mottles (10 YR 2/1), 5 mm, massive, firm. Lower boundary smooth and clear (C-horizon).
4. Sand (10 YR 7/6-7/4), weakly laminated, with common Mn-mottles <5 mm, loose, with a smooth and clear lower boundary.
5. Silt loam (7.5 YR 6/2), with Fe mottles (5 YR 5/8) <5 mm, massive, firm, abrupt and smooth boundary with the horizon below (thin section 100).
6. Gravel layer with loam (7.5 YR 4/4), no mottles, loam massive and friable, with common to many rounded rocks <15 mm, and a smooth and abrupt lower boundary.
7. Silt loam (10 YR 5/6, towards the base: 10 YR 4/6), no mottles, massive, firm, Mn-nodules <5 mm, concentrated in a horizontal layer of 10 cm, the lower 15 cm pan, very firm to firm, **with artefacts**. Lower boundary smooth and abrupt. Thin section 154 and 122.
8. *Silt loam (10 YR 6/8), no mottles, massive firm, common pores* (medium, 2-5 mm and very fine), few Mn-Nodules (<5 mm), lower boundary smooth and clear. Thin section 160 (B_3 of the Eemian *Sol de Rocourt*).
9. Silt loam (10 YR 5/6), few distinct, medium sized, sharp silt mottles (10 YR 7/4), massive friable, cutans, clay in ped surfaces, common very fine (<1 mm) and few medium (2-5 mm) Mn-nodules, few to common pedotubules (<5 mm), lower boundary not observed. Thin section 10 (B_t of the Eemian *Sol de Rocourt*).
10. Silt loam (10 YR 7/4-7/6), few mottles (10 YR 6/6), massive, very friable, very few very fine pores, Mn-nodules <5 mm, very locally excrements, lower boundary clear and wavy.
11. Silt loam (10 YR 5/6), weak platy, very friable, very few very fine pores, few to common Mn-nodules <5 mm, lower boundary smooth and clear.
12. Silt loam (10 YR 5/4-5/6), platy structure, very friable, very few aggritubules, lower boundary smooth and gradual. Thin section 3 (dark horizon of the *Sol de Warneton*).
13. Silt loam (10 YR 6/6), very friable, platy structure, Mn-cutans, continuous and thin, in vertical root channels. Few very fine pores, lower boundary smooth and gradual.
14. Silt loam (10 YR 6/6), with coarse Fe-mottles (7.5 YR 5/8), common in the lowermost 20 cm, coarse grey reduction mottles (7.5 YR 6/2), common in the lowermost 20 cm, very friable, locally patchy cutans, very fine very few pores, rounded gravel (c. 1 cm), few Mn-nodules, lower boundary smooth and clear. Thin section 148.
15. Silt loam (10 YR 6/8), very friable, massive, very few to common pores, few vertical root imprints, lower boundary smooth and diffuse. *Thin section 101* (B_2 horizon).
16. Silt loam layered in laminae <1 cm (colour varies with laminae: 10 YR 6/6 and 10 YR 5/8), with mottles, very friable, very calcareous, lower boundary abrupt and irregular.
17. Silt loam, grey 10 YR 7/4, cryoturbated with an amplitude of c. 30 cm, common medium prominent and clear Fe-mottles (7.5 YR 7/8) very few medium (2-5 mm) and very few very fine pores, very calcareous, lower boundary irregular and abrupt. Thin section 123 (*Nagelbeek Horizon*).

Figure 5. A view of the Site N excavation area seen from the west, July 1988.

Refitting of the small assemblage resulted in the conjoining of 71 artefacts, distributed over 23 groups. Eighteen of these groups consist of refitted *broken* artefacts (n= 54). Seventeen (non-modified) flakes could be incorporated in 5 groups of ventral-dorsal refits, with a group of 5 being the largest.

A very conspicuous element of the Site N assemblage is the presence of core trimming flakes, struck from the side of the core's working surface. They present a sharp cutting edge on one margin and a back, a surface perpendicular to the flaking surface of the blank, on the other. Struck from Levallois-like cores, these are called *éclats débordants* by Beyries and Boëda (1983). There are two of these typical *éclats débordants* present in the assemblage, and nine flakes with a comparable form, *i.e.* triangular in cross-section and with a clear back, thus resembling 'backed knives' (although not all cutting edges present traces of utilization). The implications of the presence of these objects in the scatter will be discussed below.

2.3. Site formation

The sedimentary envelop of the Site N scatter consists of a silty clay, deposited in a very low energy environment in shallow, almost standing water, within a depression that occasionally fell dry. While the geological evidence indicates that the assemblage might have been recovered in primary context, the results of refitting studies of the small assemblage indicate that some horizontal displacement of the artefacts took place. The horizontal distribution of these

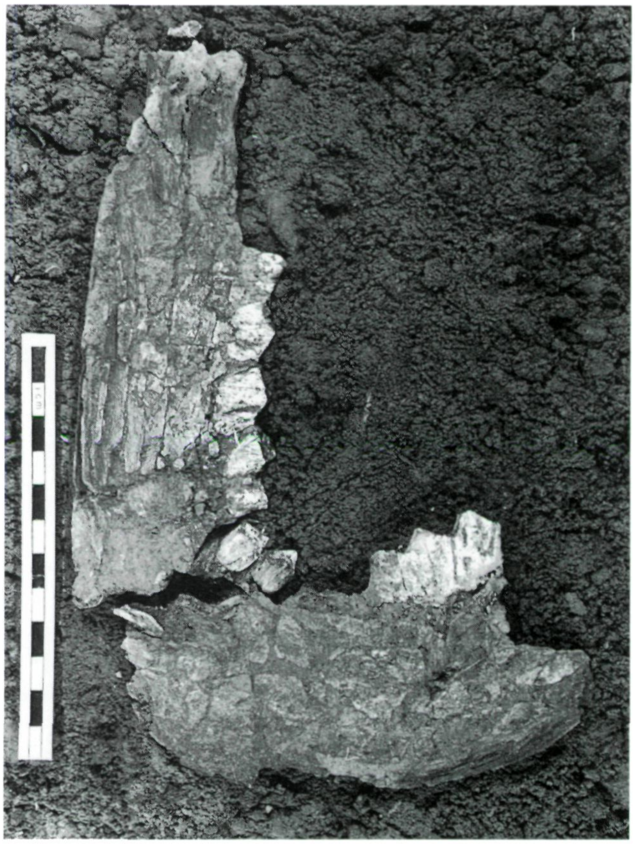


Figure 6. The left half of a red deer mandible, broken and twisted in the matrix (square 55/500). Scale in cm.

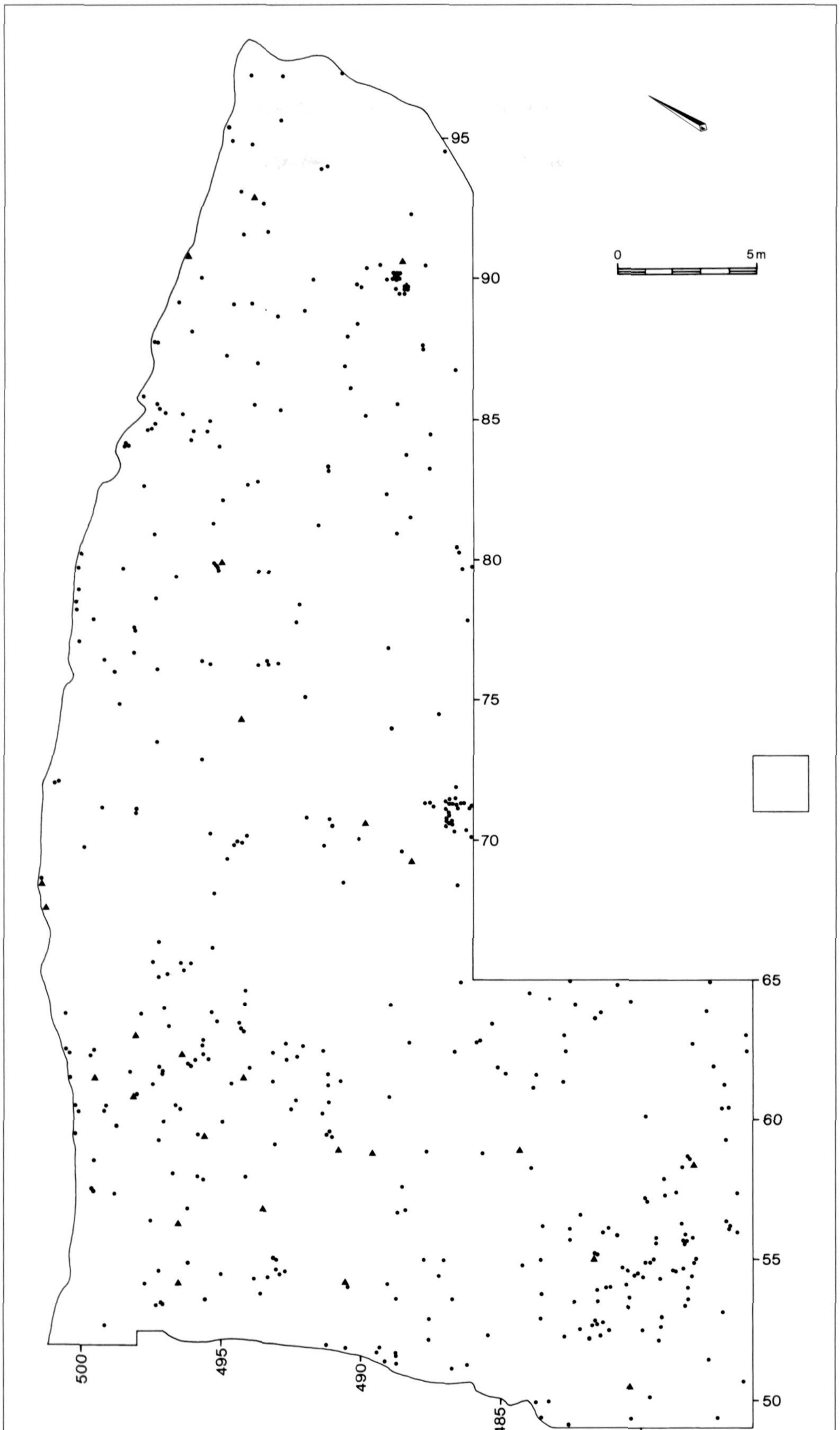


Figure 7. Map of the Site N excavation area, showing the horizontal distribution of flint artefacts (triangles stand for tools, dots for other artefacts, including tiny chips). Coordinate system in m.

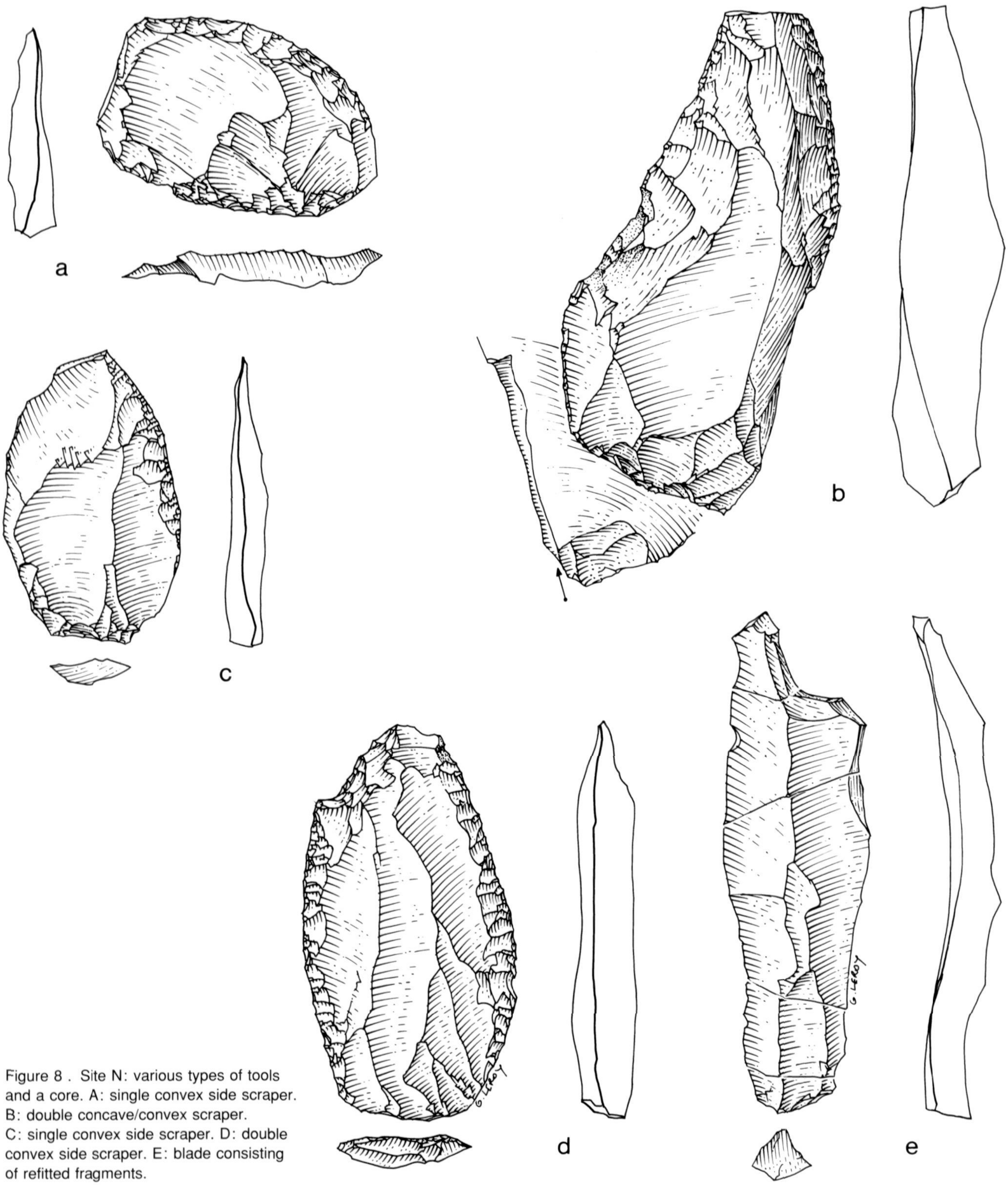
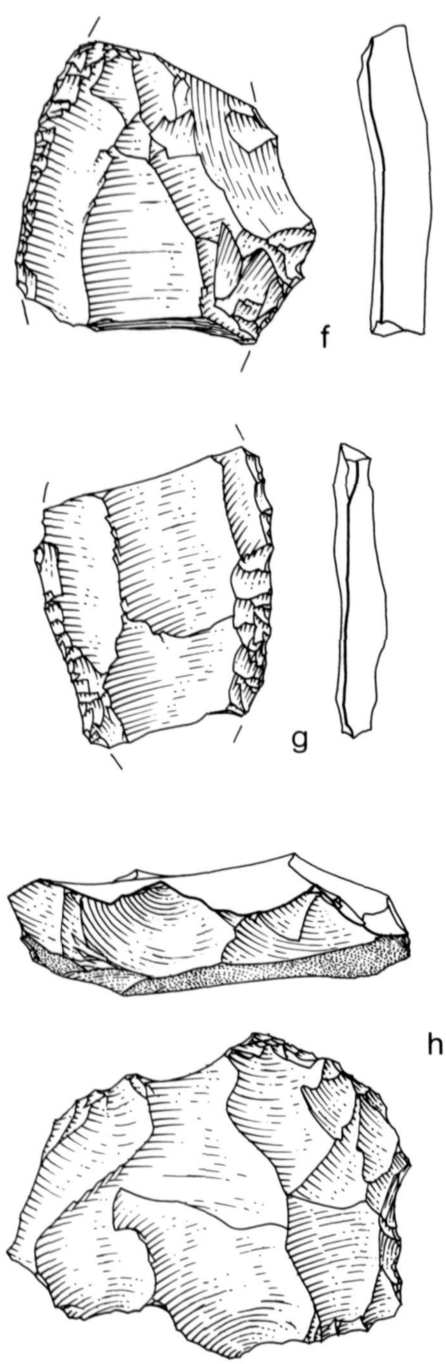


Figure 8 . Site N: various types of tools and a core. A: single convex side scraper. B: double concave/convex scraper. C: single convex side scraper. D: double convex side scraper. E: blade consisting of refitted fragments.



F&G: double straight/convex side scraper.
H: disc core. Scale 2:3.

and of the broken artefacts are shown in figure 11. The rather large distances between conjoining broken fragments and between dorsal/ventral refits can be seen as indicating some reworking of the material in the shallow meander depression.

Study of the distribution of faunal remains supports this interpretation. The best example is provided by the distribution of the remains of the lower jaw of a red deer mentioned above. The distribution indicates a lateral displacement in the same order of magnitude as that recorded for the flint artefacts.

In an area as large as the Site N scatter some parts may be less disturbed than others; the concentration of very small debris in and around square 85/497 in the central-southern part of the excavation might for instance indicate that a small knapping event was well preserved there, while the horizontal distances between refitted elements in the eastern part of the excavated area (fig. 12) are considerably smaller than those from the western half.

3. Interpretation and discussion

Judging from the variety of the raw materials present and the refitting data of the small assemblage, a large part of the artefacts discarded were introduced to the site as isolated pieces. Among them are tools that had been previously resharpened many times. These tools were made elsewhere, and discarded away from their place of manufacture. Here Isaac's distinction (1981) between locations where the technology was maintained and locations where it was used in direct subsistence or 'non-maintenance' activities seems to make sense. At the denser patches like Site C, F and K maintenance of technology took place, as reflected in the accumulations of flint debitage, while the Site N scatter might reflect the use of technology in other activities. This interpretation has some implications for our understanding of the archaeological record and these will be discussed here briefly in terms of four issues: firstly, the implications for our understanding of ancient technologies, secondly the interpretation of the 'classical' sites (patches) as related to the scatters, thirdly, the data used in the current discussions on former subsistence strategies, and fourthly, the implications for fieldwork and aspects of site conservation in the domain of cultural resource management.

Firstly, low-density sites can give us new kinds of information on the 'function' of stone artefacts. Almost all of the artefacts present at the Site N scatter were imported, selected from the products of previous knapping episodes. This makes the presence of 'core trimming flakes' conspicuous. As mentioned above, 11 of such backed knives are present in the assemblage, flakes with a sharp cutting edge and a back consisting of the side of a core.

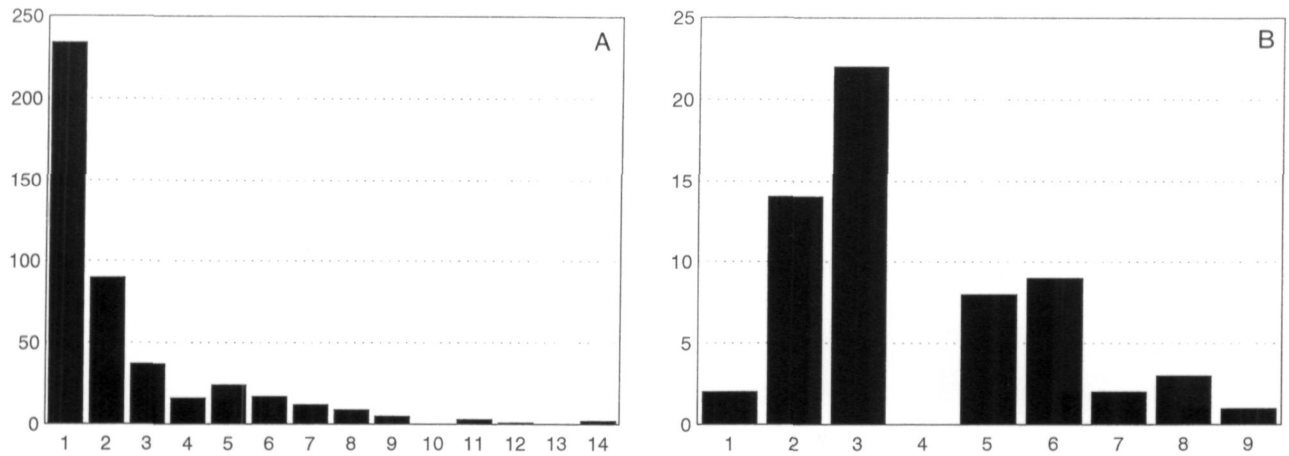


Figure 9. Size distribution of the Site N flint assemblage (a; n=450)) and of the refitted artefacts (b; n=71); maximal dimension in cm.

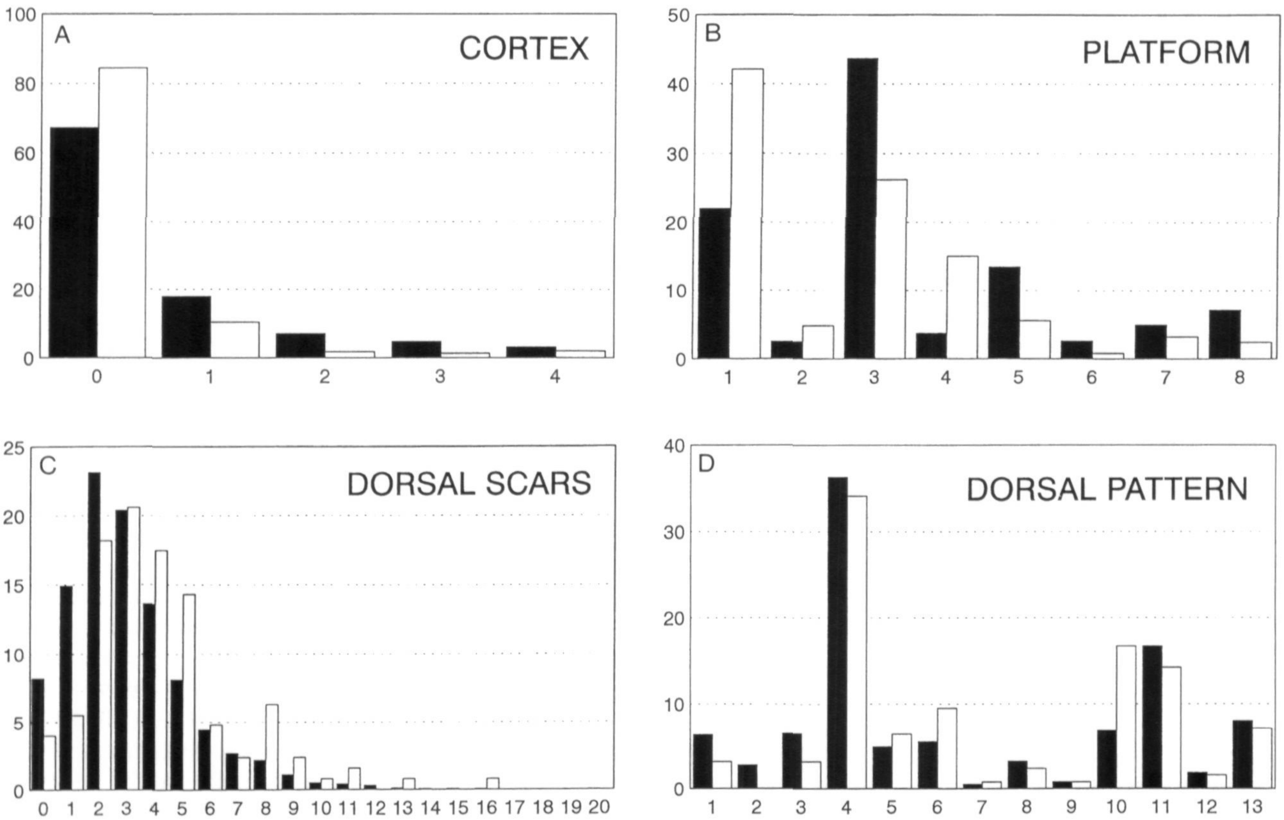


Figure 10. Some technological characteristics of Site N flakes larger than 2 cm (white bars, n=126) compared to the same variables from the Site K assemblage (black bars, n=3687).
A: Cortex: 0= no cortex, 1=< 25% of the dorsal surface, 2=25 to 50%, 3=50 to 75%, 4=75 to 100%.
B: Platform: 1=missing, 2=cortical, 3=plain, 4=facetted/retouched, 5=dihedral, 6=polyhedral, 7=punctiform, 8=indeterminate
C: Number of dorsal scars
D: Dorsal pattern: 1= Cortical, 2=natural cleavage plain, 3= plain, 4="parallel" unidirectional, 5=convergent unidirectional, 6= centripetal or radial, 7=ridge, 8=lateral unidirectional, 9="parallel" opposed unidirectional, 10="parallel" bidirectional, 11="parallel" + lateral unidirectional, 12=opposed + lateral unidirectional, 13=indeterminate.

Table 2. A comparison of the Unit IV primary-context sites.

	area	number of artefacts found				ratio		density/m²	
site	excavated (m²)	tools & -fragments	cores	flakes & chips	total	tools:waste	cores:waste	artefacts	tools
B	20	-	-	5	5	-	-	0.25	-
C	264	3	4	3060	3067	1:1020	1:765	11.6	0.01
F	42	1	1	1213	1215	1:1213	1:1213	28.9	0.02
G	50	3	-	48	51	1:16	-	1.0	0.06
H	54	12	-	254	266	1:21	-	4.9	0.22
K	370	137	91	10684	10912	1:79	1:117	29.4	0.37
N	765	26	1	423	450	1:16	1:423	0.6	0.03

Table 3. A typological survey of the Site N flint assemblage.

	type	number	%	number complete	% complete
6	Mousterian point	1	3.9	1	16.7
10	simple convex-side scraper	6	23.1	1	16.7
13	double straight-convex side-scraper	2	7.7		
15	double convex side-scraper	1	3.9		
17	double convex-concave side-scraper	1	3.9	1	16.7
37	atypical backed knife	3	11.5		
38	naturally backed knife	1	3.9	1	16.7
43	denticulate	1	3.9		
98	pieces with signs of use	9	34.6	2	33.3
99	retouched pieces	1	3.9		
TOTAL		26	100.3	6	100.1

Judging from the variety of their raw materials they derive from at least 6 different cores, and they must have been struck outside the excavated area, as no debris could be refitted to them. In the context of this site — and certainly at Site G, discussed below — they were obviously more than just waste of the *remise en forme du nucléus pour une deuxième série d'enlèvements*, as technologists studying the *chaînes opératoires* often describe them (*cf.* Boëda *et al.* 1990, 61; but see also: Beyries/Boëda 1983). Such an observation puts the whole practice of ordering debitage products into "preparation" and "selected" items into question.

The second issue is related to the fact that, at least at Belvédère, "rich sites" are present against the background scatter of isolated artefacts. This implies that at least some of the artefacts excavated in the patches have nothing to do whatsoever with the activities that produced the majority of the finds from these patches. And in fact, one can actually 'see' these isolated objects within the 'richer sites'. About 100 metres to the north of the Site N scatter, for instance, we excavated Site K, a patch with about 11,000 artefacts recovered from an area of 370 square metres, in a stratigraphic position comparable to Site N (De Loecker 1992, 1994; Roebroeks 1988). 91 Cores were present in the assemblage — mainly discs and discoidal ones — and 111 *sensu stricto* tools, mainly scrapers. Judging from the large amount of refits and their spatial patterns the material was recovered in primary context. In the more than 1,100 refits established at present hardly any of the 111 *sensu stricto* tools and tool fragments have been incorporated, and judging from the raw materials — different from those of the refitted knapping debitage and cores — this will not change significantly. We do not suggest here that all these tools were discarded during events totally unrelated to the production of the 99% rest of the material, as part of the background scatter produced before and/or after the knapping events took place. The 'Veil'-model however implies that we have to deal with this possibility, and that we can not simply assume that the tools and debitage were discarded in one continuous use of the place: simply put, tools could have been discarded in activities that had nothing to do with the visits during which the huge accumulation of flaking debris was produced and this shows the importance of dealing with the Veil for the interpretation of a site, be it on aspects of typology, technology, spatial distribution of tools, *etc.*

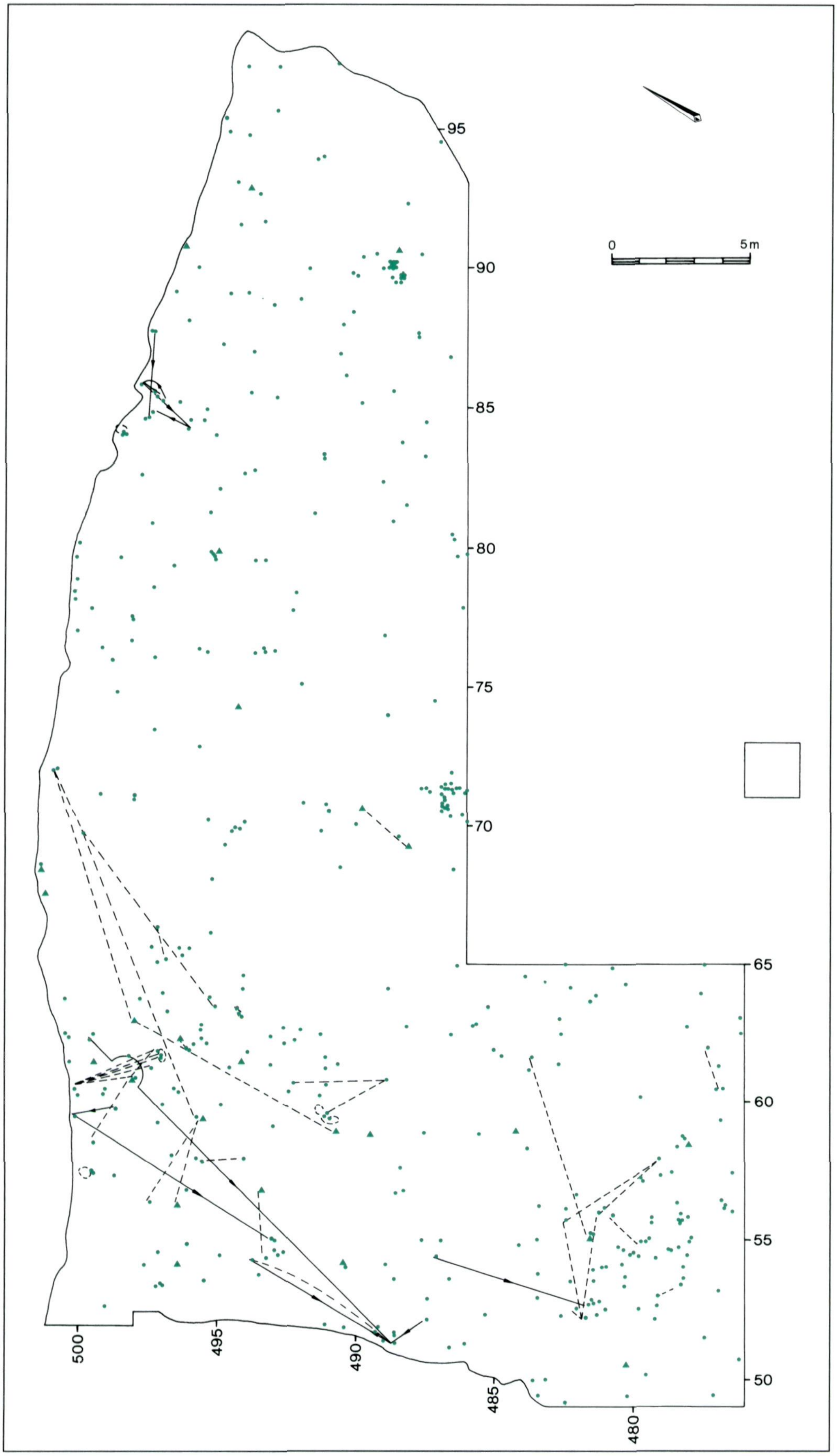


Figure 11. Map of the Site N excavation area, lines indicating the liaisons between refitted artefacts: dashed lines indicate refits between broken artefacts, dorsal/ventral refits are indicated by solid lines following the reduction sequence as indicated by the arrows.

Figure 12. A group of five refitted flakes, from the eastern part of the excavated area (scale 2:3).

Another perspective given by the Veil-approach is its focus on the context of a "site", assessable in terms of the character of the Veil surrounding it. In the main level at Belvédère the background scatter is conspicuously present, very probably with significant variations in density according to such factors as rate of sedimentation, accessibility of specific areas and distributions of former resources. Higher up in the stratigraphy a flint rich patch was excavated in a rescue dig in 1986, encased in Early Weichselian loess with an estimated age of about 80,000 years (Roebroeks 1988; Roebroeks *et al.* 1987). This site, only partially excavated, yielded 2,800 flint artefacts of which about 40% was refitted sofar. In comparison to the Early Saalian scatters and patches, this Early Weichselian patch Site J was surrounded by sediments that over the pit area were considerably less rich in terms of the background scatter, and the site really seems to have been 'parachuted' there. One could suggest that in the Early Weichselian the Belvédère area was used in a completely different way by the hominids responsible for the formation of the Site J assemblage: 170,000 years earlier the Veil was formed in a river valley whose waters covered the finds with finegrained deposits. Around 80,000 BP the river had cut metres deeper and the site was on the edge of a terrace, vertically separated from the main find level by about three metres of Saalian loess-like sediments. The Veil-model thus adds a new attribute to describe and analyze sites: the character of the background scatter, that can testify to a rather intensive use of an area or, alternatively, can tell us whether a site fell out of the air, so to speak. Differences like these are, of course, important to assess the former uses of landscapes, and to detect chronological shifts in these. The Belvédère main-level scatters and patches seem to have been formed in a riverine area that was frequently visited by late Middle Pleistocene hominids. Comparable evidence is known from many Middle Pleistocene sites. In fact, almost all well preserved palaeolithic sites come from such fluvial settings, but only rarely does one pay explicit attention to the background scatters there. Studying these background scatters is relevant for our understanding of how earlier humans moved through the landscape, whether they operated out of base camps, like modern hunter-gatherers, or whether "rich sites" are just the results of accumulations of materials over many, independent episodes of use of a location.

Thirdly, if it makes sense to differentiate between places where technology was maintained and places where it was used, one could argue that we use a biased sample of archaeological sites for answering questions on earlier subsistence strategies, as the majority of the data on this topic are coming from various forms of flint rich patches and only few are from low density distributions. At Belvédère there was only one site where we could make rather positive statements about the relationship between bones and stones. Other sites yielded only a spatial relationship between lithics and faunal remains. The site just mentioned was a low-density distribution again, Site G. This site (Roebroeks 1988) contained some very fresh artefacts, that were studied for traces of use (Van Gijn 1988). For one of the artefacts, a typical *éclat débordant*, Van Gijn inferred that it had been used to cut the hide of an animal with a thick skin, a rhino or an elephant. The traces observed matched traces for instance obtained in her own experiments with elephant skin. At the time of her study of the artefacts Van Gijn had no knowledge of the presence of faunal remains at this scatter. In actual fact, the backed knife was indeed found amongst rhino remains. The artefact distribution of Site G was also very clearly only a small part of a larger horizontal continuum, reflecting the former, spatially continuous, use of the landscape by mobile groups.

Finally, the Veil-model has implications for the way we deal with archaeological remains both in terms of fieldwork and in cultural resource management. It is clear that, in order to put sites in their larger spatial context, we will have to pay more attention to the background scatter. Whether such a documentation has to take place by means of excavation, as reported here for the Site N scatter, or by means of the section-surveying techniques described by Isaac (1981) is another, secondary problem. Paying attention to this kind of distributions is a logical outcome of the trend in increasing the scale of excavations and digging larger surfaces in order to obtain better and new information on earlier forms of land use. This trend reflects the recent shift in palaeolithic archaeology towards the development of a kind of 'landscape archaeology' (*cf.* Villa 1991). In cultural resource management we should not only try to preserve the 'classical' patches, but indeed also the relatively sterile blankets of sediments surrounding them. This already is important for geological and palaeoecological studies, but the "Veil" adds an extra dimension to this discussion: for the interpretation of a site knowledge of the character of its artefactual surroundings is of crucial importance.

In short, we have to start discussing the incorporation in our studies, as well as in the management of the archaeological 'heritage', of the 'non-site' distributions discussed here. These distributions, preserved in sediments or even as surface scatters, yield important information on earlier land use patterns and earlier subsistence strategies. By concentrating only on the 'classical' patches, we might, to paraphrase the title of a paper by Binford (1987) indeed be "Searching for Camps, but Missing the Crucial Evidence".

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references

Beyries, S., E. Boëda — 1983 — Etude technologique et traces d'utilisation des 'éclats débordants' de Corbehem (Pas-de-Calais), *Bulletin S.P.F.* 80, 275-279.

Binford, L.R. — 1980 — Willow smoke and dogs' tail: hunter-gatherer settlement systems and archaeological site formation, *American Antiquity* 45, 4-20.

1987 — Searching for Camps and Missing the Evidence? Another Look at the Lower Paleolithic. In: O. Soffer (ed.), *The Pleistocene Old World. Regional Perspectives*, 17-32. New York, Plenum Press.

Boëda, E., J.-M. Geneste, L. Meignen — 1990 — Identification de chaines opératoires lithiques du Paléolithique ancien et moyen, *Paléo* no. 2, 43-80.

De Loecker, D. — 1992 — Site K: A Middle Palaeolithic Site at Maastricht-Belvédère (Limburg, The Netherlands), *Archäologisches Korrespondenzblatt* 22, 449-460.

1994 — On the refitting analysis of Site K: a Middle Palaeolithic findspot at Maastricht-Belvédère (The Netherlands), *Ethnographisch Archäologische Zeitschrift* 35-1, 107-117.

Féblot-Augustins, J. — 1993 — Mobility Strategies in the Late Middle Palaeolithic of Central and Western Europe: Elements of Stability and Variability, *Journal of Anthropological Archaeology* 12, 211-265.

Foley, R. — 1981a — Off-site archaeology: an alternative approach for the short-sited. In: I. Hodder/G.Ll. Isaac/ N. Hammond (eds), *Pattern of the Past: Studies in Honour of David Clarke*. Cambridge: Cambridge University Press, 157-183.

1981b — A model of regional archaeological structure, *Proceedings of the Prehistoric Society* 47, 1-7.

Geneste, J.-M. — 1985 — *Analyse lithique d'industries moustériennes du Périgord: une approche technologique du comportement des groupes humaines au Paléolithique moyen.* Doctoral thesis, University of Bordeaux, Bordeaux.

1988 — Systèmes d'approvisionnement en matières premières au Paléolithique moyen et au Paléolithique supérieur en Aquitaine. In: J.K. Kozlowski (ed.), *L'Homme de Neandertal: La mutation.* Liège: ERAUL, 61-70.

Gijn, A. van — 1988 — A functional analysis of the Belvédère flints. In: W. Roebroeks, *From Find Scatters to Early Hominid Behaviour. A Study of Middle Palaeolithic Riverside Settlements at Maastricht-Belvédère (The Netherlands).* (= Analecta Praehistorica Leidensia 21), 151-157, Leiden, Leiden University Press.

Isaac, G.Ll. — 1981 — Stone age visiting cards; approaches to the study of early land use patterns. In: I. Hodder/ G.Ll. Isaac / N. Hammond (eds), *Pattern of the Past: Studies in Honour of David Clarke.* Cambridge, Cambridge University Press, 131-155.

Kolfschoten, T. van, W. Roebroeks, J. Vandenberghe — 1993 — The Middle and Late Pleistocene Sequence at Maastricht-Belvédère: The Type Locality of the Belvédère Interglacial, *Mededelingen Rijks Geologische Dienst* 47, 81-91.

Kroll, E.M., G.Ll. Isaac — 1984 — Configurations of artifacts and bones at early Pleistocene sites in East Africa. In: H.J. Hietala (ed.), *Intra-site* spatial analysis in archaeology. Cambridge, 4-31.

Roebroeks, W. 1988 *From Find Scatters to Early Hominid Behaviour. A Study of Middle Palaeolithic Riverside Settlements at Maastricht-Belvédère (The Netherlands).* (= Analecta Praehistorica Leidensia 21). Leiden, Leiden University Press.

Roebroeks, W., J. Kolen, D. De Loecker 1987 An Early Weichselian site at Maastricht-Belvédère (Site J), *Analecta Praehistorica Leidensia* 20, 1-9.

Roebroeks, W., J. Kolen E. Rensink 1988 Planning depth, anticipation and the organization of Middle Palaeolithic technology: the "archaic natives" meet Eve's descendants, *Helinium* 28, 17-34.

Stern, N. 1993 The Structure of the Lower Pleistocene Archaeological Record. A Case Study from the Koobi Fora Formation, *Current Anthropology* 34, 201-225.

Vandenberghe, J. 1993 River terrace development and its relation to climate: the Saalian Caberg terrace of the Maas river near Maastricht (The Netherlands), *Mededelingen Rijks Geologische Dienst* 47, 19-24.

Vandenberghe, J., W. Roebroeks, T. van Kolfschoten (eds) 1993 Maastricht-Belvédère: Stratigraphy, Palaeoenvironment and Archaeology of the Middle and Late Pleistocene Deposits; Part II, *Mededelingen Rijks Geologische Dienst* 47, 1-91.

Villa, P. 1991 Middle Pleistocene Prehistory in Southwestern Europe: The State of our Knowledge and Ignorance, *Journal of Anthropological Research* 47, 193-217.

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