Wil Roebroeks

appendix IV
A note on Middle Palaeolithic surface sites in South Limburg

This section contains a short discussion of the (Lower and) Middle Palaeolithic surface sites in the immediate neighbourhood of Belvédère, i.e. in South Limburg and the bordering parts of Belgium.

The possibilities of discovering Palaeolithic (and later) sites in this and, for that matter, any other region are determined by the presence of geological outcrops which can be divided into natural and man-made features.

Natural features are sites where geological processes caused the removal of the sediments burying and embedding archaeological assemblages. The currently known distribution of Middle Palaeolithic surface sites in our working area, for instance, is, as we will see below, the product of Pleistocene (and modern) human activities, but also of geomorphological processes. As we will illustrate in figure 158, almost all Palaeolithic surface finds were found in areas in which Late (and often Middle) Pleistocene loess deposits (if at all present) have almost completely disappeared. This is usually the case on top of the steeper slopes between the different terraces of the terrace system of the river Maas.

Man-made geological outcrops consist of quarries, trenches made in road-construction, canals, pipelines, etc.

In this context it is worth discussing the theoretical composition of the archaeological assemblages from Lower and Middle Palaeolithic sites in this region. As already stated earlier in this volume, the character of an archaeological assemblage is only to some extent determined by processes in the systemic context (Schiffer 1975), the burial of archaeological material generally being a natural process, at least in the time periods dealt with in this volume. As Binford (1982a) has stated, burial processes strongly condition the character of association in buried deposits, i.e. the composition of stratigraphically defined assemblages. Human activities in areas with a high sedimentation rate cooperate with natural sedimentation processes in creating what will here be called very *fine-grained* assemblages which -ideally- may be interpreted as the material consequences of *one* uninterrupted use of a single site. The assemblages from the Unit IV sites at Belvédère presented above were formed in a fluviatile environment with a high sedimentation rate and are interpreted as relatively fine-grained assemblages. Binford (1982a) has stressed that intersite variation in lithic debris can be expected to be greatest in regions with a high sedimentation rate, whereas human activities in areas with a low sedimentation rate may result in the production of palimpsest assemblages, occurring as thin lenses on a stabilized surface. These coarse-grained stratigraphical assemblages are assumed to show far less variability.

Before the flint assemblages of the sites in our working area can be evaluated the sedimentary regimes of those sites must be discussed.

Generally speaking, no significant Pleistocene deposits from 'temperate' periods are to be expected outside the sedimentation area of the river Maas and its tributaries; we may therefore safely assume that fine-grained archaeological assemblages dating from Pleistocene 'temperate' periods are in this area limited to river-valley sites.

Loess deposits formed in glacial periods may affect the grain of archaeological assemblages produced outside the river valleys, rendering them more fine-grained. The Pleistocene loess record in our working area, however, shows large erosional inconformities and no signs of continuous sedimentation at all. Pre-Weichselian loess, whether or not exposed, is rare, and (if at all present) occurs in layers of only modest thickness, while the larger part of the Weichselian loess dates from the second half of the Weichselian Pleniglacial. Belvédère is one of the places where this relatively late date has been established. The age of the approximately 6 metres thick Unit VII loess cover was found to be 17.5 ± 3.5 ka (cf. chapter 2). Lower and Middle Palaeolithic occupation at the time of the deposition of this loess is not to be expected in view of the then prevailing severe climatic conditions.

To summarize, in this working area fine-grained archaeological assemblages may first be expected in the sedimentation plains of rivers, because in temperate periods fluviatile sedimentation is virtually the sole preservation agent of fine-grained assemblages. In cold phases loess deposition could theoretically have buried an assemblage 'on the fine-grained side' of the fine-grained – coarse-grained continuum.

It is to be stressed that, purely theoretically, any material remains of human activities can preserve their fine-grained character without being buried by sediments. It is however very unlikely that this situation will ever be encountered for

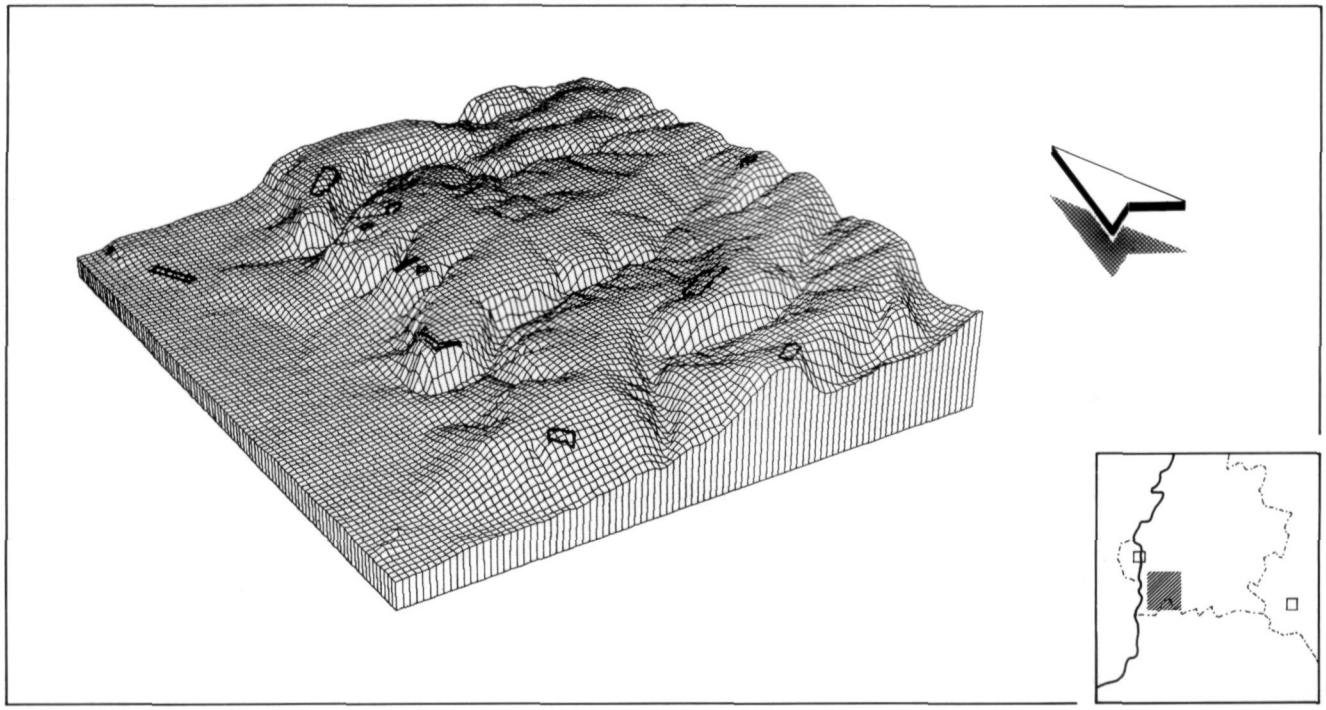

Fig. 158. Situation of the major Middle Palaeolithic surface sites in the area shown in figure 11, southeast of Maastricht. x between 178000 and 184500, y between 308200 and 315500 in the topographical map system. Vertical scale magnified 8x. Drawing made by -and published by courtesy of- Dr J. Hartman, Amsterdam.

the period and the working area we are dealing with. Therefore, the assemblages of surface sites must in the first place be considered extremely coarse-grained, having been formed as the results of multiple, unrelated depositional events, widely spaced in time.

Focussing our archaeological attention on the -usually better preserved- fine-grained 'sites' may eventually result in the construction of land-use models based on the -generally short-term- sites produced in areas with a high rate of sedimentation (cf. Gifford 1978). For this important reason surface sites in the surroundings of Maastricht-Belvédère must also be incorporated in this study.

In the course of the past 100 years, but mainly during the past two decennia, a large number of artefacts have been found in South Limburg, which are characterized by the combined presence of three attributes:

1. They all have a porcelain-like surface, caused by the combination of a white patina and wind-gloss (Stapert 1976, 1981a), and often show traces of frost action.
2. They are found exclusively in areas where the loess has been eroded or is only present as a thin layer covering the Pleistocene terrace gravels.
3. Typologically and technologically they can be placed in the Lower and Middle Palaeolithic.

Artefacts with these three attributes date from the Lower and Middle Palaeolithic. In 1980-1984 the author, assisted in 1983 and 1984 by Mr F. Brounen (I.P.L.), collected data on sites that had yielded such artefacts. The data are now stored at the Institute of Prehistory of Leiden University. On the basis of these data a distribution map was drawn of sites in an area to the southeast of Maastricht.

The area shown in figure 158 is the most prolific in this context. At the sites shown on the map artefacts were collected in numbers varying from a dozen to several thousands. The richest of these sites is Sint Geertruid 'De Hej', where good workable flints were found in the chalk exposed in a steep cliff between a high and a middle terrace of the Maas terrace system, and in the same chalk exposed in a dry valley. The flint must have attracted Palaeolithic hominids, like, milennia of years later, the Neolithic groups that exploited the flint mines of Ryckholt-Sint Geertruid (Roebroeks 1980, 1981c; Wouters 1980). The Sint-Geertruid 'De Hej' site is characteristic of the surface sites in this region: they are all restricted to areas lying on top of the steep cliffs between the river terraces or at the top of the steep slopes of dry valley systems. Figure 158 clearly visualizes the geomorphology of these sites. The figure was drawn with the help of Dr J. Hartmann (Amsterdam).

In the author's opinion it is very probable that there are

more Palaeolithic cultural remains farther away from the edges of the terrace plateaus, towards the centre of the plateau, where the loess layer is up to 20 metres thick. In these areas geological outcrops are, however, very rare, but a few data indicate that these plateaus were also visited. This is for instance attested by the Weichselian evidence from the Belgian site Kesselt, 4 km west of Belvédère, (cf. chapter 7). Weichselian finds from the ENCI pit at Maastricht (Roebroeks 1981a) are further evidence of this. The German plateau site 'Rheindahlen', about 60 km northeast of Maastricht, has several Middle and Late Pleistocene archaeological find layers (Thieme 1983a).

The various Belvédère sites were discovered thanks to the presence of a geological outcrop that is very rare in the working area, namely a quarry cut into the slopes between a lower and a middle terrace of the river Maas. The well-preserved Unit IV sites owe their state of preservation to the fluviatile environment in which they were formed, but the state of preservation of the Site E assemblage may be more common of cold-stage accumulations produced outside river sedimentation areas, as shown by, for instance, the evidence from Kesselt (Lauwers/Meijs 1985). Leaving this site out of consideration, the only information provided by the known sites outside the river-valley areas on palaeoenvironment, dating or human behaviour is that 'at some time in the Lower and Middle Palaeolithic human groups were present here'. The data obtainable from these surface sites and from the plateau region in general are partly dependent on the questions asked by the archaeologist studying this topic. An important question in this context is whether it is justified to treat the assemblages from the plateau sites as having been at least partly produced in environments completely different from those with 'full interglacial' conditions. It could be inferred that in 'glacial' periods exploitation of the environment was significantly different from exploitation in full interglacial conditions. In interglacial periods the river Maas and its tributaries may have formed the basic lines of communication through a widely forested area. Exploitation of the environment was probably largely based on the presence of these natural ways, which were also the source of important inorganic resources like water and flint. In colder periods at least the flint outcrops in steep cliffs would be easier to discern, and in any case easier to exploit in the absence of a deciduous forest vegetation cover. On the basis of these considerations the hypothesis can be formulated that in our working area Middle Palaeolithic land use was centred around the river valleys in interglacial phases, while the higher plateaus outside the river valleys were more significantly integrated in the land use of Palaeolithic groups in (colder) periods with less vegetation.

However, as already stated above, the overall absence of sedimentation outside the river valleys in interglacial periods makes it rather difficult to test this hypothesis. Theoretically, Palaeolithic assemblages dating from Middle or Late Pleistocene interglacials will simply not have been preserved in a way which now makes them recognizable as evidence of occupation of our working area in a 'temperate' climate unless they were situated in sediment traps like caves, abris, karst depressions and dry valleys. However, so far no such preserved evidence has been recovered.

In the author's opinion, archaeology must at least try to develop the means for relating the few well-preserved sites to the data from the much less informative (surface and other) sites providing the bulk of archaeological evidence. Focussing our archaeological attention on the spectacular well-preserved sites can be compared with the approach in history concentrating on the description of the lives of 'well-documented' members of the upper class, kings and princes, without even trying to analyse the social and economic context in which these well-documented persons (sites) functioned and flourished.

In view of all the discussed problems, South Limburg and the neighbouring Belgian and German loess areas are an ideal region for studying the topics mentioned above: in the first place the Belvédère research, as presented in this volume and in Van Kolfschoten and Roebroeks (eds.) 1985, has provided us with a framework which can be filled in in greater detail in later research. Secondly, the State Geological Survey has invested a tremendous amount of energy in a detailed mapping of Quaternary and pre-Quaternary deposists in South Limburg (Felder/Bosch 1984, 1988). Finally, the activities of the local amateur archaeologists enabled the drawing of a distribution map of Middle Palaeolithic surface sites, a few of which deserve further research.