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## Latent dwelling structures in the Final Palaeolithic: Niederbieber IV, Andernach-Martinsberg 3, Berlin-Tegel IX

Frank GELHAUSEN, Jan F. KEGLER & Stefan WENZEL

### Résumé

Pour les concentrations d'objets lithiques de *Federmessergruppen* dans les sites de Niederbieber IV, Andernach-Martinsberg 3 et Berlin-Tegel IX, la présence d'habitats humains peut être démontrée par la combinaison de différents indices. Chacune de ces quatre concentrations est relativement compacte tandis que la quantité des objets lithiques diminue rapidement en périphérie. La distribution des objets de taille supérieure et des lignes de raccordement entre les remontages se rapporte à la périphérie de l'étendue lithique. En partie, la concentration d'objets lithiques se trouve sans rapport avec la répartition des ossements. Nous interprétons ces indices comme une ancienne barrière effective entre les répartitions qui indique l'existence des structures habitats humains.

**Mots-clés :** Interstade d'Allerød, Paléolithique final, *Federmessergruppen*, structures de campement, structures d'habitat, répartition de la densité des artefacts, lignes contours de la densité, remontages des artefacts.

### Abstract

At the Final Palaeolithic (*Federmessergruppen*) sites of Niederbieber (Area IV), Andernach-Martinsberg 3 and Berlin-Tegel IX a combination of different methods of spatial analysis reveals indications for a former separation of the main accumulations of finds from the surrounding area. All three find scatters are very dense and show a marked sudden decrease at their edges. The distribution of larger objects and refitting lines between artefacts respect the edges of the find scatters. In some cases certain finds like unburned larger bone fragments or larger stones are not found within the artefact find scatter. We interpret these indications for a formerly effective limitation of the find concentrations as showing the former presence of dwelling structures.

**Keywords:** Allerød Interstadial, Final Palaeolithic, *Federmessergruppen*, settlement structures, dwellings, mapping of artefact density, density contour lines, refits of artefacts.

### 1. Introduction

Several dwelling structures of the Magdalenian and an early phase of the Final Palaeolithic (*bipointe* phase) are characterized by floors made of slabs of schist (Bosinski, 1979; Street, 1995) or by stones in lateral position used as weights (Jöris & Terberger, 2001). Such unambiguous dwelling structures are first known again in the Mesolithic, for example the dwelling of Ulkestrup I with a preserved bark floor and stakes (Andersen, Jørgensen & Richter, 1982; Grøn, 2003). For the time of the *Federmessergruppen* such evident dwelling structures are missing in Western and Central Europe.

Fundamental considerations for the evaluation of latent settlement structures, which are handed down as simple find scatters, have been discussed by A. Leroi-Gourhan and M. Brézillon (1972) in the context of the analysis of the Magdalenian site of

Pincevent. On the basis of mapping and the refitting of finds it was possible to reconstruct activities and work areas can be defined. Furthermore the position of the walls of a dwelling can be detected by finds which were trapped within the walls (Leroi-Gourhan, 1984: fig. 27). Under the influence of the work of A. Leroi-Gourhan dwellings were sought in the find-poor area behind the fire places and surrounded by adjacent waste zones (e.g. Bolus, 1992). However, the evident structures mentioned initially are in fact dwellings characterised by a large quantity of internal finds (Grøn, 2003: 698), in particular the trapezoid tent of Etiolles W11 from the Magdalenian (Jöris & Terberger, 2001) and the Mesolithic dwellings of Ulkestrup type (Grøn, 1995), which contained numerous waste around their internal fire places.

On the basis of L. R. Binford's criticism (1984) of Leroi-Gourhan's concepts, D. Stapert (1992) tried to develop a method to distinguish find concentrations

derived from former dwelling locations from those concentrations which reflect open air camp sites. Stapert's ring & sector method divides the area around a central fireplace into sectors and circular zones. It examines the frequency of artefacts according to distance classes relative to the fire place. Has the fire place been in a dwelling, a zone comparatively poor in finds shows up between fire place and the former wall. At the wall the number of artefacts rises again in order to finally fall again outside. A bimodal distribution of the find frequency is the result. In contrast to this, at an outdoor hearth the number of finds does not rise again beyond the waste zone around

the hearth, but falls steadily towards the periphery, leading to a unimodal distribution of the find density. Stapert's method is unsuitable in its basic principle for demonstrating dwellings which do not have a circular ground plan, since these cannot meaningfully be picked up by circular zones. However individual latent dwellings of Allerød age were detected by the ring & sector method, so Rekem 10 (de Bie & Caspar, 2000) and Andernach-Martinsberg (Street & Stapert, 1997).

In order to also be able to evaluate find concentrations which are neither round nor have a central fire place, we have combined already well-known methods of the analysis of settlement structures for three sites from the Allerød (fig. 1). Our investigation is based on following considerations and observations:

1. A sudden change from high to small find density at the edge of a find concentration points to a former delimitation. A rising number of finds directly inside the border of a concentration of artefacts, connected with a clear drop of the find numbers outside, both demanded by Stapert (1992) for proof of the barrier effect, represents only a special case as an indication of the delimitation of a settlement structure. Whether a find concentration is clearly limited can be demonstrated particularly clearly if one represents the find quantity per unit of area (here quarter square meters) by isopachs (find density lines).
2. If the connecting lines of refitted artefacts often run along the border of a concentration or end there, where a clear decrease of the find numbers is registered, this is likewise a indication of an obstacle, which prevented a diffuse distribution of the finds.
3. In evident dwelling structures retouched artefacts are essentially limited to the extent of the concentration. Cores are rather found at the edge of the concentration or beyond of it. In some cases tools also concentrate at the edge of the find concentration.
4. Larger boulders and faunal remains lie at the edge of a concentration or outside it, so that the concentration of the distribution is, to a large extent, left empty of this type of finds.

## 2. Niederbieber – Area IV

The Late Palaeolithic Site of Niederbieber (Neuwied Basin, Rhineland-Palatinate, Germany) was discovered during industrial pumice quarrying in 1980. The pumice came from the huge eruption of

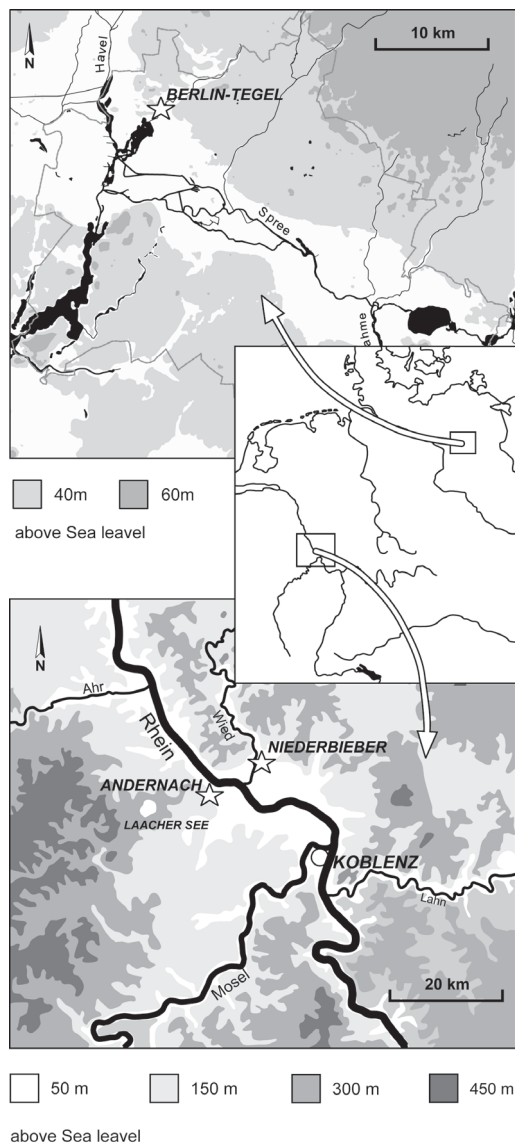


Fig. 1 – Position of the Sites of Niederbieber and Andernach within the Middle Rhine Valley and the Position of Berlin-Tegel.

the Laacher See volcano which is dated quite precisely to about 10.966 cal. BC. The Late Palaeolithic Allerød surface was covered and also well preserved during the following millennia by the erupted pumice. Niederbieber is, with an excavated surface of more than 930 m<sup>2</sup>, one of the best examined sites of the Late Palaeolithic *Federmessergruppen* in Central Europe (e.g. M. Bolus, 1992; M. Baales, 2001, 2002). Together with the sites of Rekem (Belgium) and Le Closeau (France), Niederbieber offers unique insights into settlement patterns during the Allerød warm period at the end of the Pleistocene. Evaluations so far show 17 clear find concentrations of different shape and density (F. Gelhausen, in prep.). Of special interest are the concentrations of *Area I* and *IV*. These two concentrations reveal hearths at their centre not only because of burnt artefacts but also because of changes in colour of the underlying sediment. Until recently it seemed proven that all activities around these hearths and within the concentrations were open air activities. A considerable argument for this interpretation came from D. Stapert's ring & sector method (D. Stapert, 1992), since both concentrations displayed a unimodal distribution of the lithics. In this paper, the spatial analysis of Niederbieber IV suggests that all the recognized features in fact point to activities within a dwelling.

The 46 m<sup>2</sup> large surface of Niederbieber IV was excavated between 1982 and 1984 and analysed by D. Winter (1986, 1987) and M. Bolus (1992). In *Area IV* 2,088 stone artefacts >1 cm were plotted in three dimensions and 16,827 chips were counted per ¼ m<sup>2</sup> and analysed using isopachs. Additionally faunal remains and larger pebbles were also three-dimensionally plotted and analysed.

The distribution pattern displayed by the artefacts shows an almost square shape measuring about 4 x 4.5 m with a marked, sudden decrease at the edges. The highest density of artefacts is directly south and north of the hearth with 822 / 782 pieces per ¼ m<sup>2</sup> (fig. 2a). Most of the retouched tools lie within the surface displayed by the isopachs. Some pieces scatter to the northeast and southwest and lie outside the isopachs. The cores are tendentially rather at the edge of the concentration, whereas six pieces at the northeast and two at the south are within the concentration (fig. 2a). Pebbles > 5 cm are limited to two areas at the southwest and northeast of the excavation surface (fig. 2b). In Addition, some pebbles are positioned in a way suggesting a «ring of stones» (perhaps stone weights) around the concentration. Nine of these pebbles were classified as retouching tools with clear scar fields on their surfaces.

Faunal remains are distributed in two larger zones at the southwest and northeast of the excavation surface. They almost align with the distribution of the pebbles but they are slightly more diffuse. In any case, they are distributed outside the find concentration shown by the isopachs (fig. 2b). Refitting lines show that activities have obviously taken place within the find scatter. They often run along the edges of the concentration, ending there and demarcating its boundary (fig. 2c).

The arguments specified before permit a reconstruction of the features of Niederbieber IV as a polygonal floor plan of a former dwelling. Particularly remarkable is the relatively sudden change from high to low find density at the edges of the find scatter (fig. 2c). Particularly the heavier objects, such as cores and pebbles are deposited here. The conjoining lines also point to a barrier at the edges of the find scatter. It seems to be clear that all the activities have taken place within the find concentration. This interpretation is also supported by the distribution of the retouched tools, which are mainly deposited inside the concentration. Overall, the recorded artefacts show that a wall or a barrier prevented their wider distribution.

In summary, spatial analysis at Niederbieber IV is suggestive of a former dwelling structure with a polygonal floor plan (fig. 2d).

### 3. Andernach-Martinsberg 3 – Upper find horizon

Between 1994 and 1996 a surface of 113 m<sup>2</sup> was examined on the *Martinsberg* in the city of Andernach (Rhineland-Palatinate) and a lithic concentration of the *Federmessergruppen* was documented (Kegler, 2002). The observations presented here are based on the combined representation of different find categories from this horizon: chalcedony artefacts > 1 cm (n=2,417), finds, including those recovered by wet sieving < 1 cm (n=14,614), bone fragments > 3 cm (n=535). Three basalt blocks approximately 25 cm in diameter found at the northwest end of the concentration (m<sup>2</sup> 27/19 and 27/20), are the only bigger objects. They can probably be connected with different working areas and less with the deliberations about dwelling structures presented here.

During the excavation two hearths were documented, each about 50 cm in diameter. The southern fire place – within the main concentration of the chalcedony artefacts – is characterised by a much higher occurrence of micro fragments of calcined bones.

A further fire place, northwest of the main concentration, is marked by a highly burned and

clearly reddened sediment. A special feature is a small, circular pit approximately 10 cm in diameter in square 28/19, which was completely filled with Allerød sediment, a pararendzina «Pseudo-gley». This probable «post hole» has a cylindrical form and a convex base. At the bottom of this feature were found

some charcoal pieces, a bone fragment, a flat plaque of quartzitic schist as well as some lithic chips. The «post hole» attains a depth of around 20 cm below the surface of the Allerød soil.

Mapping all individually measured stone artefacts of the dominant raw material, chalcedony, shows

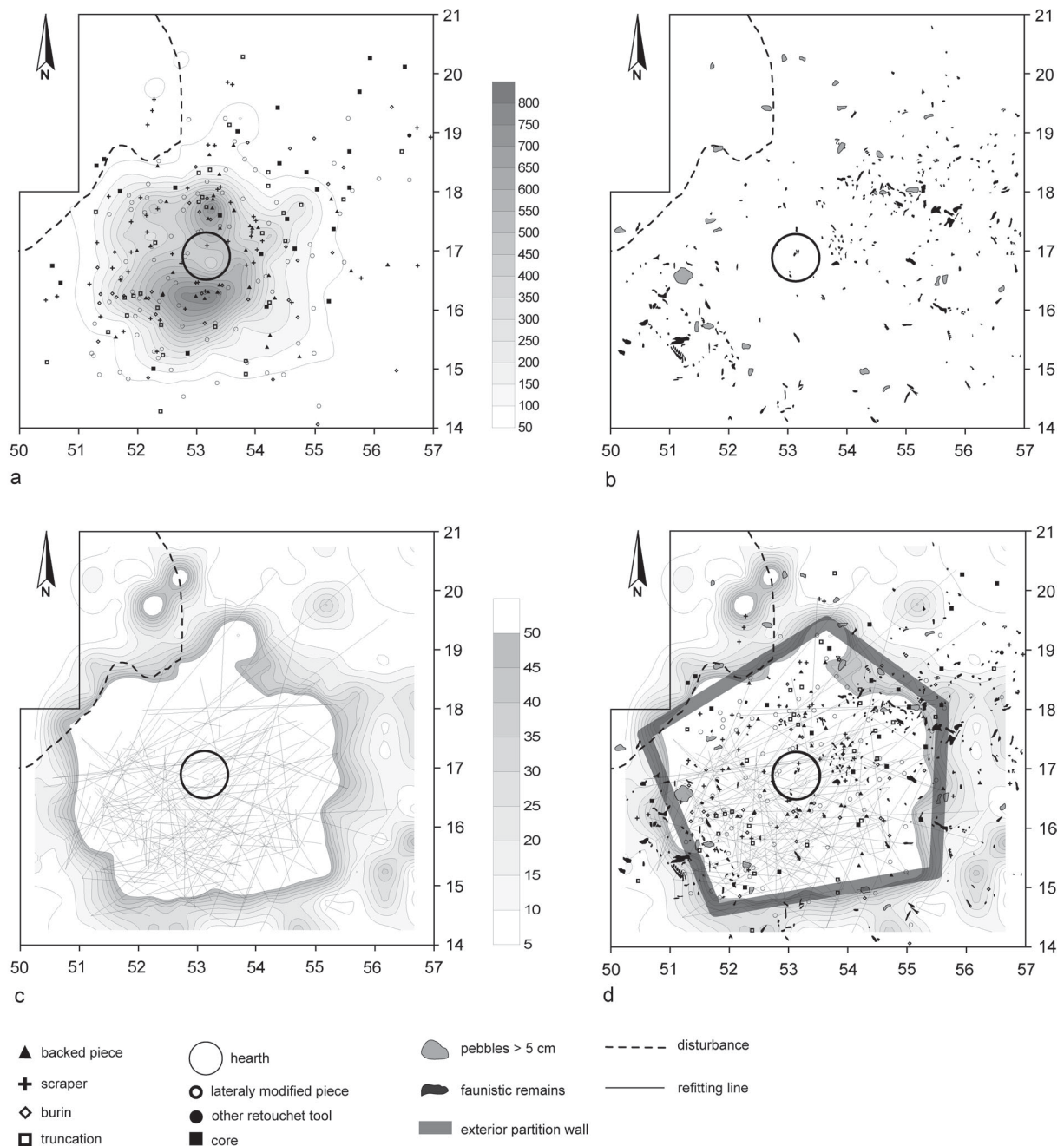


Fig. 2 – Niederbieber IV: a: distribution of Isopachs of all lithic finds < 1 cm recovered by wet sieving per 1/4 square meter. Distribution of retouched tools and cores; b: distribution of faunistic remains and pebbles > 5 cm; c: distribution of Isopachs of all lithic finds < 1 cm recovered by wet sieving, limited at 50 pieces per 1/4 square meter. Conjoining lines of all included pieces; d: suggested exterior partition wall.

a north - northwest oriented, rectangular concentration. At first view it seems to be very compact, covering about 3 x 3 m around the central fire place. With, at most, 1,385 pieces / ¼ m<sup>2</sup>, the peak of find density is directly southwest of the central fire place. About 3.5 meters to the north-west of this main concentration, a thinner distribution of finds can be observed around the second fire place (fig. 3 a).

The bone fragments are concentrated directly adjacent to the fire places, as well as being dispersed randomly over the entire excavation area. The combination of the distribution of the bones and the stone artefacts clearly shows a pattern. Between the main concentration of stone artefacts and the exterior spread of the bones is a zone with noticeably fewer finds, approximately half a meter in width (fig. 3b).

This find-poor area could have resulted from a kind of barrier between the main stone artefact concentration and the areas lying outside its western and the eastern edges. In the south, this border cannot be pursued with same clarity, because here the site has been excavated in units of 1/16 m<sup>2</sup>. However, mapping the find densities of stone artefacts with isopachs makes very clear that their distribution was not substantially impaired in this area (fig. 3a). No statement can be made within this area about the distribution of the bone fragments. In the north the information of the bones and the stone artefacts is not so clear since the plots of these two find categories show a greater degree of overlap. Some of the 67 refits of stone artefacts prove the close connection of activities within the main concentration and the area with the second fire place at the north.

The impression of a closely defined spread of stone artefacts is confirmed by mapping all 17,031 chalcidony artefacts (single finds and finds recovered, partly, by wet sieving) by density isopachs. Their distribution corresponds to a NNW oriented form, as long as it is wide, with a length of approximately 4.5 m along the edges (fig. 3c). At the edges of the feature the find distribution is remarkable: to the south, the west and the east of the main concentration, the number of pieces decreases from more than 50 artefacts / ¼ m<sup>2</sup> to less than 5 pieces over a distance of only 30 cm (fig. 3c). This reduction is clearly shown by the isopachs, whose lines are very close to each other. In the northern area – within the area of the exterior fire place – the isopachs enclose the working area in front of the main distribution. Here, such a clear decrease of the find density cannot be observed.

Following these indications, the distribution of the isopachs shows a concentration limited on three sides. The exterior line of the isopachs (figs. 3c and 3d) does not pass the suggested barrier line between the main lithic concentration and the (exterior) distribution

area of the bone fragments. The hearths are situated within the zones of the distribution of the isopachs and are, in each case, characterized by a smaller artefact density. The micro fragments of calcined bones are also concentrated here. Both boundaries, of the compact distribution of the stone artefacts on the one hand and the exterior distribution of the bone fragments on the other hand, run more or less parallel in a north-north-western direction on the western as well as on the eastern side. In this context, the distribution of bone fragments outside the main concentration of stone artefacts appears not to be arbitrary, but to show objects deposited against the outside of a barrier.

The distribution of the retouched stone artefacts also permits some conclusions regarding spatial delimitation. A series of backed pieces at the eastern side of the main concentration is oriented along a north western line, which could show an internal wall boundary to the east. They are almost parallel with the bone fragments, which could have accumulated at the eastern external edge of the dwelling. On the opposite side in the west, nearly all scrapers are limited to a concentration about 4 m<sup>2</sup> in width. Together with some other backed pieces they mark the interior border of the concentration in this part. However, the exterior wall is less clearly shown by the scatter of bones in the western part. Northward, no limitation can be recognized on the basis of the distribution of stone artefacts. Since the find distribution within this area extends far to the northwest, the exit of the dwelling can be postulated here. The outside hearth, together with the thin spread of finds and the scatter of retouched forms, speak for the fact that there was an open air zone of activities. The delimitation is very obvious at the south of the distribution. Although this area has been documented using a different method during excavation, the south-western corner, in particular, is quite clearly visible. Mapping finds recovered by wet sieving, confirms that the concentration suddenly ends within this area (m<sup>2</sup> 29/15).

The distribution of the cores does not show the suggested structure. Some cores are positioned within the concentration. Refitting involving some of these both inside and outside the main concentration did not show parallel lines reflecting the delimitations mentioned above. The remaining cores were outside the concentration and are not discussed here.

For the reconstruction of a possible dwelling feature the combination of different find types and their depiction both as single finds and by isopachs are of substantial importance. Possible post holes for the placement of tent stakes are normally not preserved. An exception might be the possible «post hole» in m<sup>2</sup> 28/19. Therefore, the observations are based only on latent find distributions.

The position of boundaries west, south and east of the main concentration allows an interpretation of the *Federmessergruppen* site Andernach 3 as a former

tent location. To the northwest a boundary cannot be clearly recognized. Only by using the position of the possible «post hole» can the construction be closed.

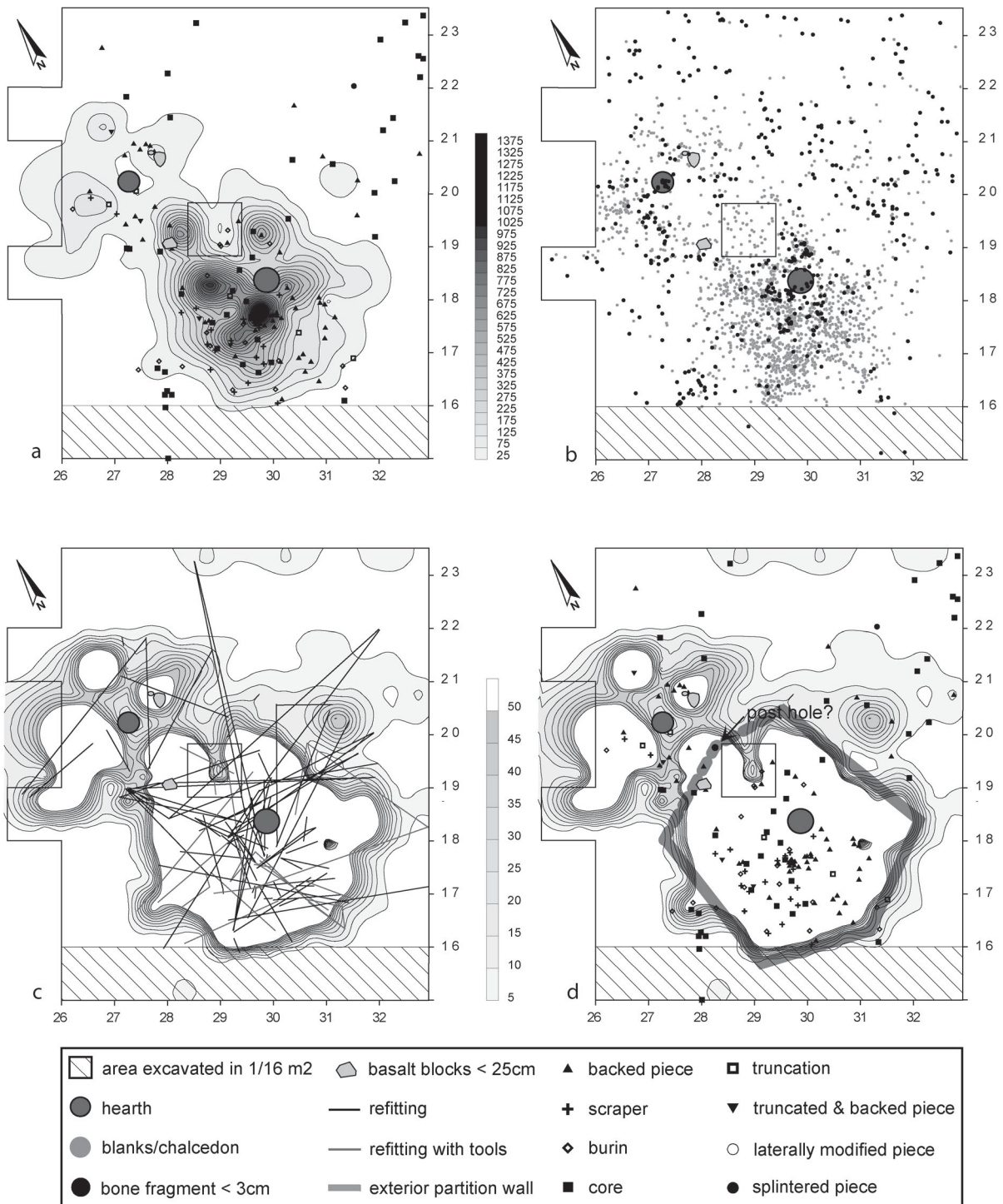


Fig. 3 — Andernach-Martinsberg 3 - Upper find horizon (section of the excavated area): a: distribution of Isopachs of all finds recovered by wet sieving < 1 cm per 1/4 square meter. Distribution of tool and cores; b: distribution of blanks (Chalcedon) > 1 cm and bone fragments > 3 cm; c: distribution of isopachs of all finds recovered by wet sieving, limited at 50 pieces per 1/4 square meter. Conjoining Lines of all included pieces; d: suggested exterior partition wall.

The distribution of the finds does not show the clear position of a wall in this area – with the exception of the location of the bone fragments – so that the «post hole» might have served only as a constructional element for the stability of the construction. The structure was therefore closed on three sides and occasionally open to the northwest. The entrance at the north, with a working area in front of it, allows a free view of the north exit of the Neuwied Basin (the so-called «*Andernacher Pforte*») and of the Rhine valley floor.

Following the sum of the evidence, we regard the upper find horizon of Andernach 3 as showing a northwest - southeast orientated polygonal structure, with a central fire place (fig. 3d). The approximately parallel walls at the east and the west suggest several possibilities for the form of the dwelling: on the one hand a pentagonal shape or, on the other hand, under consideration of the possible post hole, a slightly oblong hexagonal shape. The dwelling therefore encloses a surface of approximately 4.5 x 4.5 m with a maximum inner surface of 14 m<sup>2</sup>.

#### 4. Berlin - Tegel, Concentration IX

The site of Berlin Tegel A is situated to the north of Berlin immediately above a small brook, the Tegeler Fließ (fig. 1). The site was excavated in the years 1961 and 1962 under the direction of Werner Mey and Adriaan von Müller. 22 concentrations of artefacts of the *Federmessergruppen* and of the Ahrensburgian were examined over a surface of 4,000 m<sup>2</sup>. The excavation results have been published in detail by Barbara Probst (1989).

In the southern part of the excavation area lay concentrations IX (with 1,738 flint artefacts), which will be illustrated and discussed here, and the smaller concentrations X and XI (with 173 and 51 flint artefacts respectively). They were excavated in ¼ m<sup>2</sup> after the removal of the plough horizon and after establishing a level. The sediment was not sieved or screened (Probst, 1989: 16). Both the concentrations IX and X contained backed points. Concentration XI is connected with concentration IX by refitting.

Concentration IX has an extension of 7 x 8 meters (fig. 4a). Mapping the horizontal find distribution with circles representing evenly divided (equidistant) groups by find density (Cziesla, 1990) clearly shows an accumulation of finds inside concentration IX. Close to the area of highest density of finds in concentration IX a red coloration of the sand was noticed in the western part of m<sup>2</sup> 216 (Probst, 1989: 46). In this square and in the neighbouring squares burned bone fragments were concentrated, as is indicated on the find notes. Unfortunately nearly all

burned bone fragments were thrown together into a box immediately after the excavation. Around the reddish discoloured feature the proportion of burned artefacts was particularly high. The red colouration differed from recent traces left by burning woodland, which were not observed in connection with any concentration of finds (Probst, 1989: 18). The red-coloured feature in concentration IX was also still visible after the area was levelled. It must therefore have been a pronounced feature. Since thermally altered archaeological material is also present, at least two criteria for an intentional fire place are present (Bellomo, 1993: 549).

About 80 % of the stone artefacts from the entire concentration IX are burned (n = 1,384). This is an unusually high portion in comparison with other sites (Löhr, 1979: 26, 270.). B. Probst (1989: 92) saw in the high portion of burned flint artefacts a possible indication for burned dwellings. Refitting fragments of burned flint artefacts were found far away from each other and, not uncommonly, exhibit different states of surface preservation. They therefore became dispersed by settlement procedures in an already burned and broken condition. This suggests that the burnt artefacts are rather material cleared out from the fire place and do not represent unaltered areas of activity. Perhaps waste was thrown in the fire, as practised by the Chippewa in North America (Murray, 1980).

The density of all artefacts of concentration IX was mapped with Excel 97 in equidistant groups. All groups with more than 70 artefacts were united and a small distance was chosen in order to identify the periphery of this concentration (fig. 4b). The find density lines show clearly the prominent western part of concentration IX, in contrast to the thin spread of artefacts in the eastern part.

Scrapers and fragments of scrapers form an accumulation near the fire place within concentration IX (fig. 4c). Here lie many burned fragments of scrapers. In addition, many scrapers have been found at the edge of the actual concentration in the western part of concentration IX. The horizontal distribution of the burins (fig. 4d) offers a similar picture. Many burins were found near the border of the actual find concentration. Scrapers are also found there, and burins sometimes almost compensate gaps between them. There is no prominent cluster of burins near the fire place, but some lie east of the find-rich western part of concentration IX. The cores (fig. 4e) and the retouched flakes (fig. 4f) were also frequently found at the edge of the actual concentration of finds. These types of artefacts were also well represented near the hearth. The backed pieces were found near the fire place as well as somewhat south of it (fig. 4g).



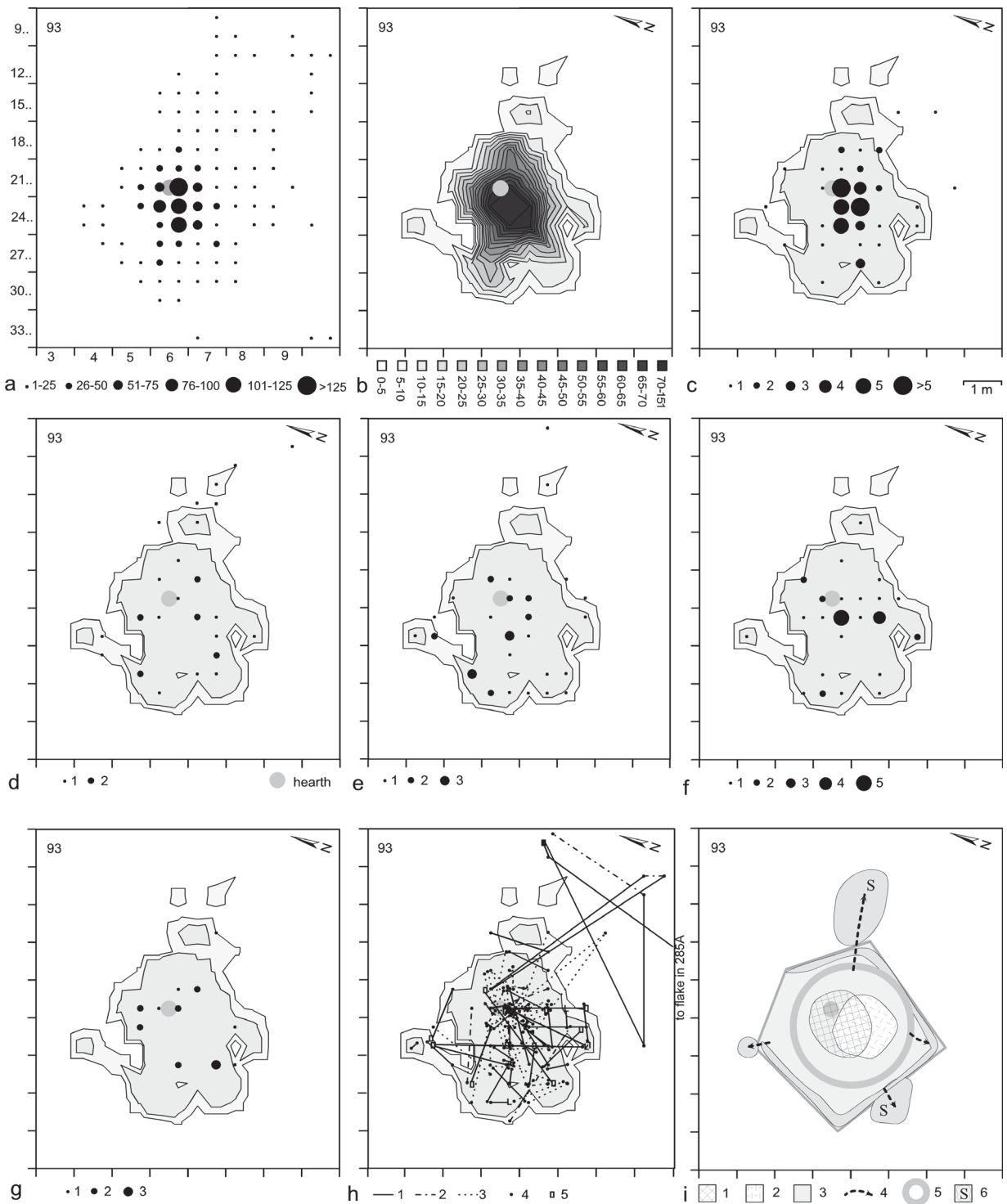


Fig. 4 — Berlin - Tegel A, concentration IX. a: horizontal distribution of all artefacts; b: isopachs of all artefacts; c-g: horizontal distribution of the scrapers (c), burins (d), cores (e), retouched flakes (f) and backed pieces (g); h: all refit lines (1 production sequences, 2 breaks, 3 breaks of burned artefact fragments, 4 artefacts, 5 shatter); i: interpretation (1: Zone of activity around the fire place, 2 backward toss zone, 3 areas of cleared out material, 4 supposed direction of clearing activities, 5 find-rich zone around the central fire place, 6 clusters of stone artefacts). (With b-h the find density lines for 5-10 artefacts and for 10-15 artefacts are underlaid).

For mapping the refits of artefacts (fig. 4h), the artefacts involved were positioned as closely as possible to the centre of the respective  $\frac{1}{4}$  m<sup>2</sup>. There are many short refit lines within the range of the largest accumulation of finds, southwest of the fire place. In addition, numerous refit lines end at the border of the concentration of finds or run closely parallel to it. They stress also the association of the left wing of the concentration with this structure. At the edge of the find accumulation, larger objects, such as tools, accumulated. Refit lines, which reflect more the distribution of larger objects, also stress the boundary. Delimitation in the sense of the barrier effect of D. Stapert (1992: 36) must have been effective. The isopachs of find density, the distribution of larger objects at the border of concentration IX and the refit lines stressing this border define a zone which was formerly limited to this space and thus suggest a dwelling. It had a trapezoidal ground plan of 4 m length and maximally 4 m breadth, whereby the largest width was reached in its northern section (fig. 4i).

The longitudinal axis of this structure was orientated NNE - SSW. The fire place still lay on the longitudinal axis or immediately east of it. At the back (in the SSW) of concentration IX the isopachs seem to be reflected along their longitudinal axis, having small find-poor zones on both sides. The proposed dwelling of Berlin Tegel has this «symmetrical component» in the find distribution within the rear area in common with other evident (Jöris & Terberger, 2001: pl. 1, 2) and latent (Wenzel, 2002) trapezoidal tent structures. The designations «front area» and «rear area» follow the trapezoidal contour of the supposed dwelling deduced from distribution of finds and refit lines. Neither a front nor a rear exit can be located by refits of artefacts. However a small accumulation of artefacts located to the northeast of concentration IX might be seen as related to a tent entrance. A small cluster of artefacts (concentration X) lies on the longitudinal axis of the reconstructed dwelling and could derive from activities within the rear range of the tent. This would match with better documented tent structures, which often exhibit a greater deposition of finds outside the rear range (Jöris & Terberger, 2001: 168).

## 5. Results and Outlook

The three find scatters presented here show indications of the presence of former dwellings.

At the edge of the artefact concentrations of Niederbieber IV a clear decrease in find density can be observed. This is quite evident if equidistant

groups of quantities are selected, with only small distances between the find density lines. Numerous connections of refitted artefacts end where the find density decreases or are parallel to these zones. Many modified artefacts are concentrated within the find concentrations and along their edges. Unburned bones and larger stones are found at the edge or outside the find concentrations. Niederbieber IV has a trapezoidal shape of 4.5 m length and maximally 4 m width (fig. 2).

The area around the southern fire place in *Andernach 3* also shows clear delimitations. Around this hearth is a very compact (3 x 3 m) concentration of artefacts with the majority of the larger pieces, slightly oriented north-northwest. This concentration is surrounded by an area containing a still considerable number of small stone artefacts. Except for small accumulations around the fire places, bone fragments are found outside the range of stone artefacts, with a clear border between them, and are sometimes oriented along straight lines. This exterior border encloses a surface of slightly elongated pentagonal or hexagonal shape more or less 4.5 m in length and width (fig. 3 d).

At *Berlin-Tegel IX* the actual find concentration has a trapezoidal shape of 4 m length and a maximum width of 4 m. Its borders are accentuated by many refitting lines that end there and which are parallel with the edges of the concentration. Many of the larger tools have also accumulated at these edges.

The dwelling features discussed in this paper are smaller than trapezoidal dwellings of the Magdalenian and the early *Federmessergruppen*. We could nevertheless identify some features common to both: the trapezoidal floor plan, partitioned into rich and poor sectors and a clearly defined area with a high density of finds around the hearth (fig. 5). The settlement structures presented here differ among themselves with regard to small-scale artefact concentrations, which indicate working areas, and in their degree of dispersion and in the intensity with which the interior area of the dwellings has been used (Gelhausen, Kegler & Wenzel, in press). Even if a certain «temporal trend» might be reflected by this dispersion of finds and by the different amounts of tool types, it doesn't appear to be too important. Although Final Palaeolithic dwelling structures hardly left any traces, those which are already known from the second half of the Allerød period, not only *Rekem 10* and *Andernach 2*, but also *Bad Breisig* (Grimm, in press), *Rüsselsheim 122* (Loew, in press) underline, in conjunction with several other arguments (Baales, 2002), the high degree of mobility of late glacial European people and the regularity of their shifting their dwelling sites.

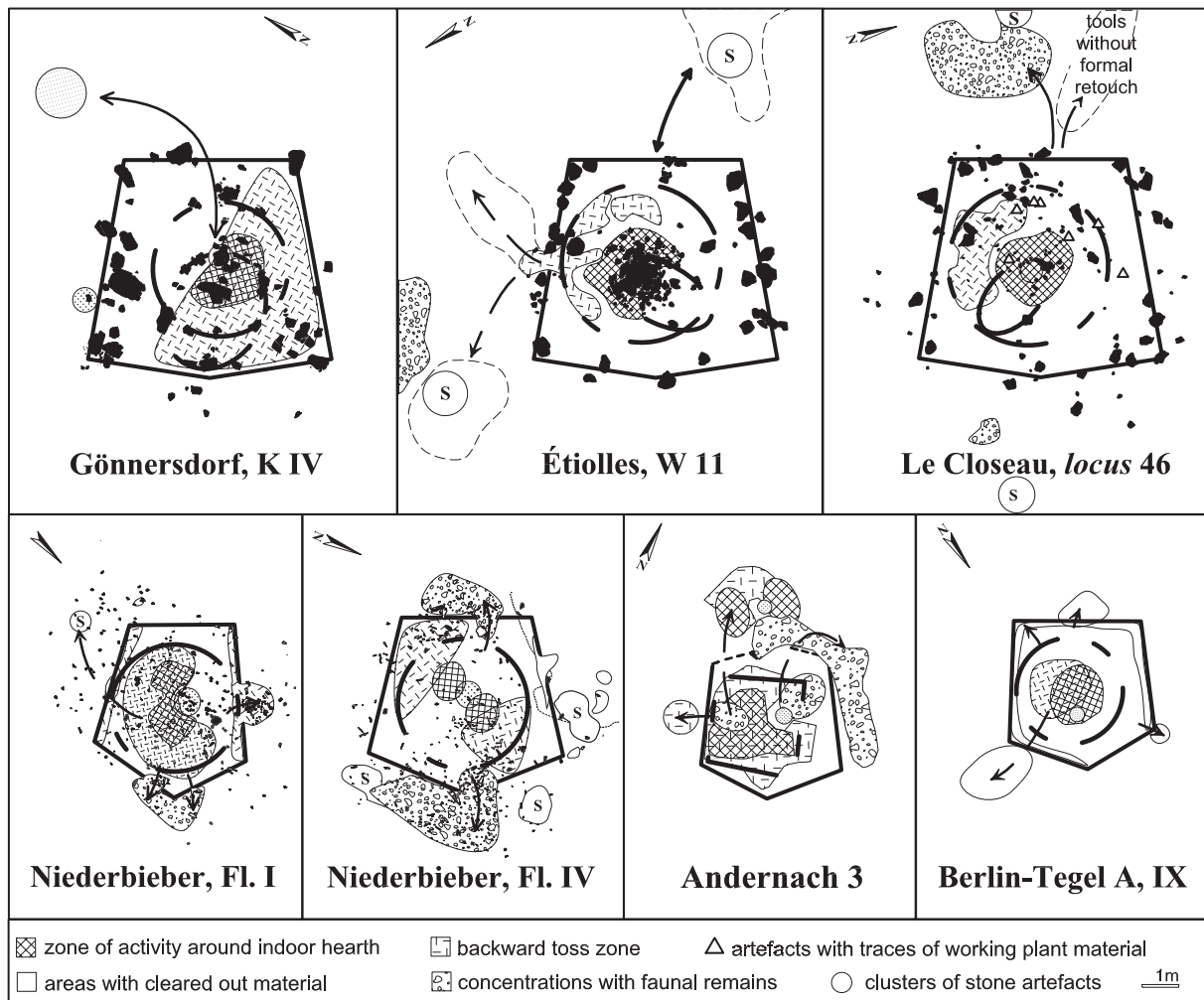


Fig. 5 — Comparison of reconstructions of evident and latent trapezoidal tent structures. Broad black line: idealized ground plans of the tents; shaded zones: fire places; zones inside the tents circled by broad black dotted lines: find-rich zones around the central fire place. (Supplemented after O. Jöris & Th. Terberger, 2001: pl. I.1).

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