

## SUMMARY

Accumulations of lithic artefacts and burnt fragments of hearth stones can be interpreted as evidence for late glacial and postglacial habitation structures without surviving constructional elements when a number of factors coincide to permit recognition of a former delimitation of the find concentration from its surroundings, i.e. to show the original ground plan of the dwelling. The discussed artefact concentrations are characterized by a clear reduction in the amount of material at their periphery. A rise in the quantity of finds from the centre to the immediate edge of a find concentration associated with a drastic fall in the amount of finds beyond this point merely represents a particularly favourable example of this phenomenon. The density of find distribution of many smaller concentrations of finds, with a maximum diameter of some 4 m, does not decrease gradually with the distance from the centrally placed hearth but instead tends to appear as a plateau which breaks off rapidly at the edge. The identification of this peripheral decrease in find density becomes clearer in direct relation to the number and small size of the excavation units with which the fine fraction of the material – which generally forms the largest component – was recovered. In the case of larger objects, the measurement of individual finds allows an optimal investigation of their distribution patterns. In conjunction with the clear demarcation of the find concentration and the decrease in material at its edge, which can be represented particularly well by find density isopachs, the location of former effective boundaries can also be shown by the positions of refitting lines and lithic tools relative to these. The presence immediately outside the concentration of specific objects such as large bones or unwieldy blocks of stone which would have formed hindrances within the dwelling space can also show the location of a wall. The combination of commonly accepted analytical methods for the investigation of Stone Age settlement structures and their synthetic graphic depiction enable the direct comparison of their differing evidence for irregularities in find distribution patterns. In this way it is possible to investigate those dwelling sites which are not amenable to meaningful analysis by the popular Ring-and-Sector Method, either because they are not circular in form or because their structure can not be subdivided due to their small size.

Six concentrations of finds were analysed within the framework of this study. In three cases it was possible to demonstrate the presence of a dwelling structure by the combination of previously established strands of evidence. At Orp Ost, a hexagonal Magdalenian dwelling structure was identified with a length of 5.5 m, a width of 3.8 m and a surface area of some 14 m<sup>2</sup>. This structure had a central hearth, close to which were located a further small hearth, two pits and two shallow depressions recognizable due to their content of finds. Thus there existed a centrally located hearth complex of a type previously known only from large Magdalenian tents at Gönnersdorf and Andernach, where the presence of paved areas favoured their preservation, and from Andernach IV. In the case of the Federmessergruppen site Rekem 10, R. Lauwers had already postulated the possible presence of a dwelling due to a ring of large stone blocks peripheral to the concentration of finds, a suggestion which was lent further weight by M. De Bie with his recognition of a clear rise in the number of finds towards the edge of the concentration in association with a fall in numbers beyond this. The shape of the tent ground plan can be more accurately reconstructed by the numerous refitting lines between conjoined finds. Rekem 10 appears as a trapezoidal zone distinct from the surrounding area measuring some 5 m in length and 4.5 m in breadth with a surface area of approximately 18 m<sup>2</sup>. A trapezoidal form was also established for a Federmessergruppen tent at Berlin-Tegel IX, which in this case measured 4 m in length and at most 4 m in breadth with a surface area of only some 15 m<sup>2</sup>. Parallel to this study, other colleagues have recognized further Federmessergruppen tent ground plans on the basis of find distribution patterns, so that the number of dwelling structures known from the

Allerød Interstadial has increased greatly over the past few years. In their ground plan and size, these tents correspond to those described here: Andernach 3 (hexagonal, 14m<sup>2</sup> surface area), Niederbieber I (narrow trapezoid, 12m<sup>2</sup> surface area) and Niederbieber IV (trapezoidal, 15m<sup>2</sup> surface area). The late Federmessergruppen dwelling at Bad Breisig might have had a polygonal or circular ground plan with a diameter of ca. 5m and a surface area of 20m<sup>2</sup>. All of these structures are appreciably smaller than the large trapezoidal tents of the Magdalenian and early Backed-Point Complexes marked by peripheral rings of large stones (tent weights?) which have surface areas of 25m<sup>2</sup> and the still larger constructions of the Magdalenian with a polygonal ground plan covering an area of 35-40m<sup>2</sup>. Tents with a trapezoidal ground plan and a generally similar internal organisation are also found during the Mesolithic, for which structures with circular and indeed rectangular forms up to 24m<sup>2</sup> in area are also known. While tents with a trapezoidal ground plan might be interpreted as possible evidence for surviving traditions of a dwelling construction, the great diversity in the shape of contemporary structures cannot be overlooked.

Two further find concentrations are interpreted as open air localities. Neither the Magdalenian find concentration around a hearth at Cepoy nor the concentration of artefacts at Geldrop 3-2 which is attributed to either the Ahrensburgian or the early Mesolithic produced any evidence that they were separated from the surrounding area by a wall. Numerous refitting lines between conjoined artefacts demonstrate that there were no barriers to obstruct the activities of the inhabitants. Hartmannsdorf 26-1 shows features only partially diagnostic of a peripheral barrier, so that the question whether this concentration of Mesolithic finds was associated with walls and a roof remains unanswered.

All the investigated find concentrations and the majority of the sites drawn upon for comparison had a centrally located hearth around which there could generally be distinguished discarded tools and production waste of two work zones representing the remains of distinct overlapping areas of activity. It is often astonishing how little the remains of these work places seem to have been disturbed, even allowing for the possibility of major cleaning-up activities and removal of waste. The persons present at the site had different focuses of activity, whereby specific artefact types were not limited to a single working area. In the majority of cases, the particularly abundant waste from the production of hunting equipment is concentrated in only one area. The work zones complement each other to a certain extent, since tools which are poorly represented in one area are more common in the other, while other find categories are present in the same quantity. Such complementary work areas are not normally represented more than once around a central hearth, so that it is probable that they are associated with the activity of only two main participants, suggesting an interpretation of each discussed find concentration as the remains of a (possibly multiple) occupation by a nuclear family. A different situation is given when several hearths are present surrounded by basically identical find distributions. However, this is the case for only a few large Magdalenian and Mesolithic tents which possibly housed several families. In the case of the large Magdalenian tents it has been possible to identify a temporal progression of hearth use, rendering their interpretation difficult. Nevertheless, it can be established that the few, particularly large structures which probably represent the dwellings of several families are so far known only from the Magdalenian and the Mesolithic. Also dating to these periods are those rare dwellings with surviving evident structures which were assembled with exceptional effort and probably for a long duration of use. The question as to why the construction of these large and extraordinarily costly dwellings should be favoured in such opposed biotopes as the steppe and deciduous forest must be addressed by future research.