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Human occupation of the southern Netherlands during the Younger Dryas (extended abstract)

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Introduction

This review about the human occupation of the southern Netherlands during the Younger Dryas is part of a study concerning the adaptation of mobile hunter-fisher-gatherer societies from the Late Glacial to the Early Holocene (about 13 000–8450 BP) in the Netherlands' provinces of Noord-Brabant and Limburg.

In archeological terms, this period is considered to be the transition between the Late Paleolithic (about 35 000–10 000 BP) and the Mesolithic (about 10 000–6400/6000 BP). The purpose of the study is to test the current explanation of this transition, which is based primarily on data concerning changes in the natural environment. At the change from stadial to interstadial conditions, new groups of people moved into the southern Netherlands, or existing groups changed their cultural practices, resulting in a decrease in population of the area at the beginning of the Holocene.

A brief introduction to the cultural prehistory of the Younger Dryas in northwestern Europe is followed by a discussion of the nature of the paleobotanical and archeological data to draw preliminary conclusions about the occupation of the southern Netherlands during the Younger Dryas.

Cultural history of the Late Dryas Stadial

Traditionally, the occupation of northwestern Europe during the Younger Dryas is ascribed to the Ahrensburg culture, a subset of the Tanged Point techno-complex. Excavations of the organic sediments of the Ahrensburger Tunneldal, not far from Hamburg, Germany, were conducted by Alfred Rust in the 1930s. By combining archeological, archeozoological, and palynological information, Rust (1943) described the Ahrensburg culture and its economy, and the natural environment. Because of the large number of reindeer remains, the bearers of this culture were labelled 'reindeer hunters'. Faunal remains from Callenhardt (Germany) and Remouchamps (Belgium) associated with Ahrensburgian artifacts, however, have shown that the subsistence base was broader (Deeben 1988). The reindeer remains found at the Ahrensburger Tunneldal are presumably seasonally and locationally specific. Recent ^{14}C dates show that the Ahrensburg culture was also extant at the beginning of the Preboreal on the Northwest European Plain (Fisher & Tauber 1986). A growing number of ^{14}C dates and stratified sites are now indicating that representatives of the Federmesser techno-complex also occupied this area during the Younger Dryas. Not so long ago, the Federmesser culture was thought to be limited to the Allerød Interstadial because many Federmesser artifacts were found associated with the Usselo soil.

The material culture of Federmesser hunter-fisher-gatherers differs somewhat from the Ahrensburg material culture, and the subsistence base seems to have been more diverse and based more on resident species, such as elk, roe deer, aurochs, horse and beaver. We know little about the role of plants and fish in the diet in either culture.

About 35 Ahrensburg and 150 Federmesser sites have been found in the southern Netherlands. The Federmesser and Ahrensburg occupations are part of the more or less permanent human presence in the area beginning with the Bølling Interstadial.

Research strategy

The research strategy for investigating prehistoric behavior during the Pleistocene-Holocene transition

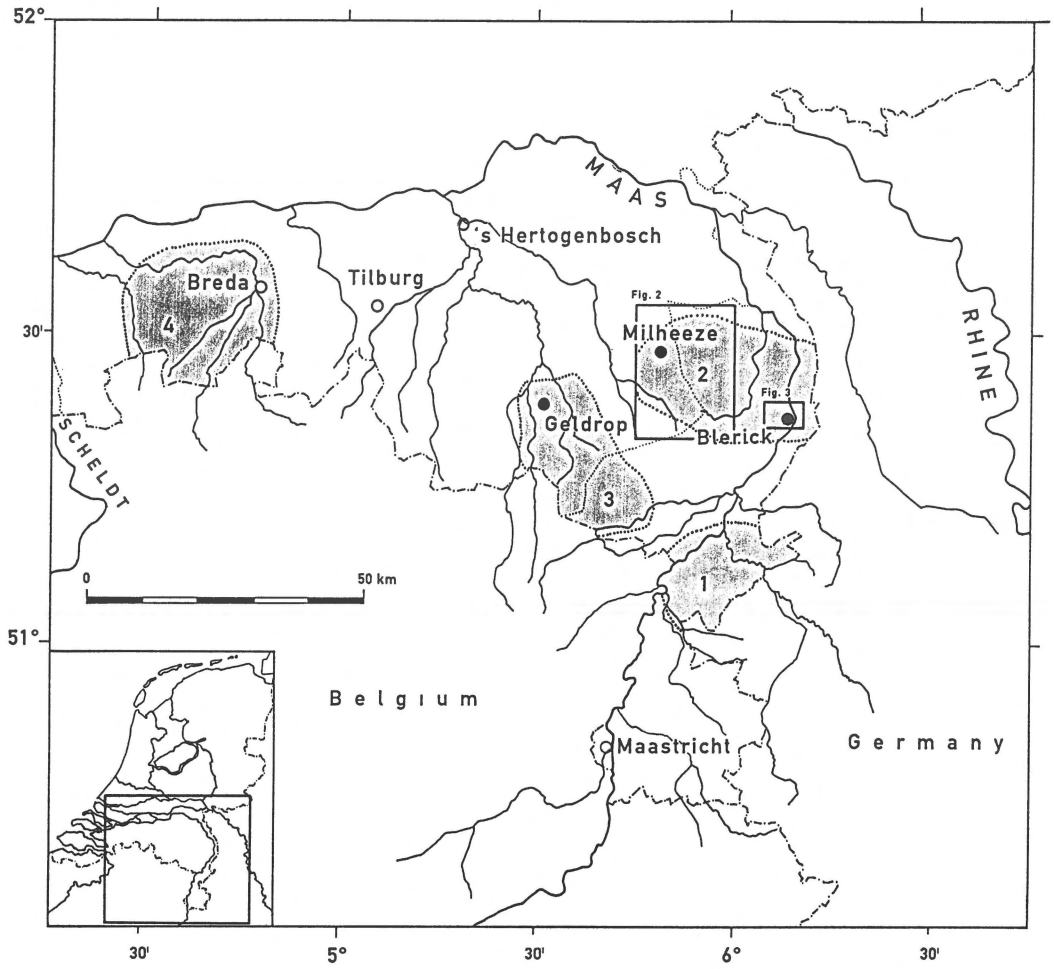

Fig. 1. Map showing the areas of archeological investigation (1–4) in the southern Netherlands.

in the southern Netherlands included a field program for collecting and integrating archeological and paleobotanical data. The region was subdivided into four areas, two of which have been investigated to date (Fig. 1, areas 2 and 3). The palynological data (Van den Broek & Maarleveld 1963; Van Leeuwaarden 1982) show that these two areas had different ecological characteristics during the transition from the Paleolithic to the Mesolithic. Area 3 consists of Weichselian coversands dissected by rivers; area 2 covers part of the watershed on the Peel Horst in the west and the Maas Valley in the east. The ecological variation would have offered different economic possibilities to the prehistoric occupants. Archeological excavations and collections of palynological samples were carried out at Geldrop in 1986, Milheeze in 1988, and Blerick in 1989. The sites were selected on 1) the basis of settlements dating from the periods of interest: Late Paleolithic and Early Mesolithic, 2) the way materials were recovered (with preference given to excavated collections), and 3) the presence of organic sediments from former lakes and stream beds preserved in depressions in the immediate vicinity.

The paleobotanical research focussed on the reconstruction of the development of local environmental circumstances and human influence on the prehistoric environment. Pollen samples were collected from the organic sediments along transects that ran from the edges of the depressions filled with organic sediments to their centers, in order to make a distinction between the local, extra-local, regional and extra-regional component in the pollen deposition (Janssen 1981).

The archeological field work was limited to the reconstruction of how each settlement area developed

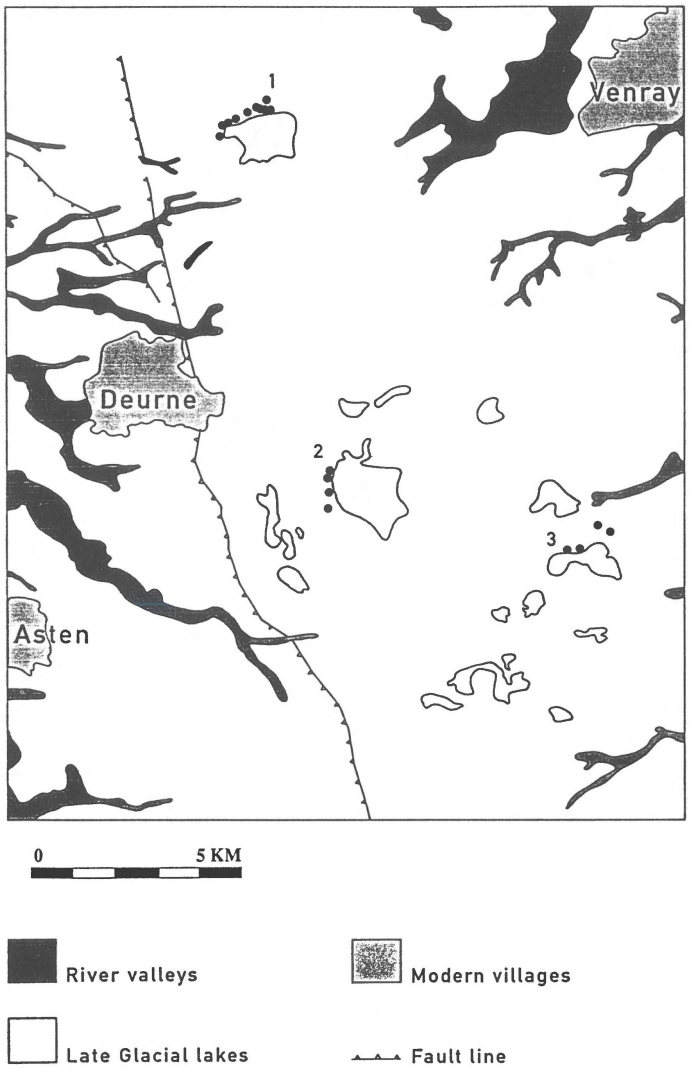

Fig. 2. Distribution of reoccupied Late Paleolithic settlement areas along the north and west sides of Late Glacial lakes in the western part of research area 2 (Fig. 1). 1 = Milheeze–Bakelse dijk, 2 = Deurne–Leegveld, 3 = Horst–Zwarte Plak. Black dots represent archeological sites.

and to a reexamination of the stratigraphy of the sites that had been previously excavated (most of them in the 50s and 60s). In addition, the artifacts and environmental location of other Paleolithic and Mesolithic sites were inventoried in the two areas, most of them by surface collections.

Nature of archeological data

The nature of archeological materials from the southern Netherlands is due to their preservation in sandy soils and the traditional research strategy.

Only 15% of the known Federmesser and Ahrensburg sites in the southern Netherlands have been completely or partly excavated. Most of the collections consist of surface finds, which were exposed by plowing or activities connected with land reclamation and road or building construction. Assignment of the surface finds to a prehistoric culture is done only on the basis of their typo-morphology since absolute dating of their original context is either not possible or unreliable.

Virtually all of the sites excavated in the past were located in the Weichselian coversands, high above the ground water table, where only carbonized organic

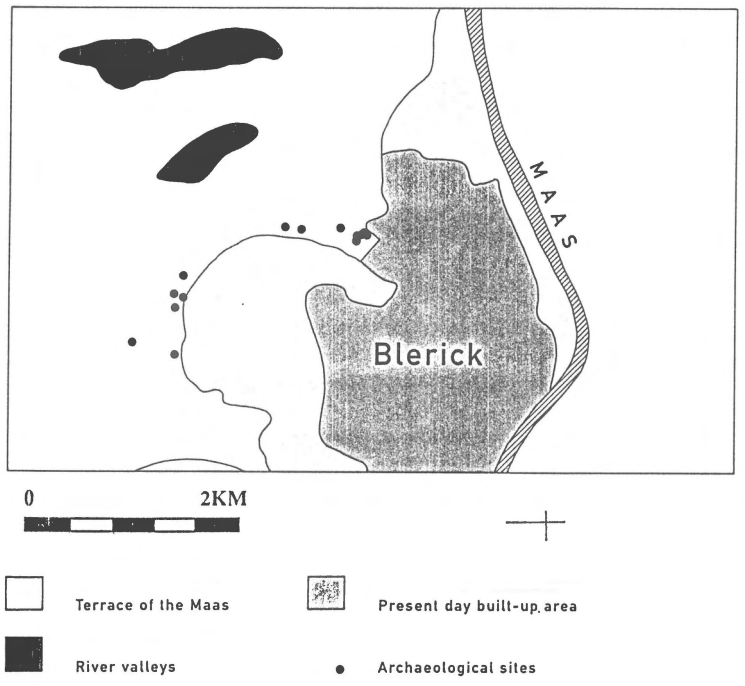

Fig. 3. Distribution of Late Paleolithic sites along an oxbow near Blerick in the eastern part of research area 2 (Fig. 1).

remains not destroyed by post-depositional processes, mainly charcoal and small fragments of burnt bone, are found. These remains do not allow determination of either the resources used or the season of occupation of the settlement. The major evidence for the settlement usually consists of the extent of the distribution of the artifacts combined in some cases with concentrations of charcoal and patches of red ochre. In many cases, the relationship between the charcoal and the artifacts is unclear; for example, a Younger Dryas occupation may have taken place on an exposed Usselo soil or the charcoal from a Younger Dryas occupation may be mixed with charcoal eroded from the Usselo soil (Deeben 1994). It is also possible that forest fires or re-use of the settlement area during the Holocene are responsible for some concentrations of charcoal, which would explain why some ^{14}C dates for Late Paleolithic levels deviate from their expected values (Deeben 1988).

In many places with little coversand sedimentation, Paleolithic, Mesolithic and Neolithic levels are mixed, making it difficult to determine either the contents of the site or its original extent.

The investigation of the nature and extent of the Late Dryas occupation on the NW European Plain is furthermore hindered by being limited to modern remnants of the Pleistocene landscape. The post-glacial isostatic lowering of the continental landmass, the consequent inundation of the prehistoric coastline by the sea, and the flooding and dissection of the landscape by rivers have buried or eroded an unknown number of settlements of this period. Within the Pleistocene area accessible today, the evidence is unevenly distributed due to differences in archeological research intensity.

Preliminary conclusions

The relationship between the archeological cultures and ecological periods is not simple because archeological cultures or techno-complexes existed in more than one period defined on ecological grounds.

In spite of the assumed expansion of prehistoric occupation of the region during the relatively optimal Allerød Interstadial, it is probable that a number of sites dated by absolute methods to that time were in fact occupied during the Younger Dryas Stadial.

Younger Dryas and Preboreal organic sediments in the surroundings of the settlements investigated so

far are either absent or adversely affected by post-depositional processes, so that reconstruction of the environment is problematic (Bos 1992). Allerød organic sediments on the other hand, are relatively common and show at Milheeze a number of periods with low pine pollen counts that could be interpreted as the result of repeated human occupation of the coversand ridge (Bos 1992).

Most of the reoccupied settlements are located on the ridges of elevated, well-drained coversands bordering the north or west banks of lakes (Fig. 2) and oxbows (Fig. 3). Most of these ridges were reoccupied by the 'same' cultural group, which apparently returned to a place with which they were familiar. The extent of the artifact distribution and the number and type of artifacts in the settlement area indicate that within a cultural period there was variation in the duration of occupation and/or the size of the co-resident group, and in the activities conducted.

The Ahrensburg occupation in the southern Netherlands is represented by relatively few settlements, which are mainly concentrated in three areas: south-east of Tilburg, in the vicinity of Geldrop (area 3), and immediately north of area 1 where a number of rivers join the Maas (Fig. 1). The Federmesser occupation was more extensive over the landscape. Some sites were located on the watershed of the Peel Horst (Fig. 2), where vegetation developed more slowly and was less diverse (Van Leeuwaarden 1982). These sites were possibly occupied for a longer time. Sites along the Maas are often smaller and their artifacts more specialized (Deeben 1992).

Due to poor chronological control, it is not (yet) possible to establish whether the Ahrensburg and Federmesser occupations during the Younger Dryas were simultaneous or successive, nor to relate changes in settlement patterns to changes in the natural environment.

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