Diversity Rules. On Late Prehistoric Settlement of the Eastern Netherlands and the Need for Regionally Specific Models

Beek, R. van

PROCEEDINGS OF THE PREHISTORIC SOCIETY

VOLUME 77

EDITED BY

JULIE GARDINER, B.A., Ph.D., F.S.A., M.I.F.A.
Wessex Archaeology
Salisbury

THE PREHISTORIC SOCIETY

Proceedings of the Prehistoric Society 77, 2011, pp. 25–47

Diversity Rules. On Late Prehistoric Settlement of the Eastern Netherlands and the Need for Regionally Specific Models

By ROY VAN BEEK[1]

General habitation models based on well-researched regions tend to be applied to other, less intensively studied regions, usually implicitly. However, whether they lend themselves to do that is hardly ever tested. It may even be that such general models prevent us from obtaining a clear view of patterns of supra-regional, regional, and local diversity. As a test case, this paper focuses on the development of landscape and habitation in the eastern part of the Netherlands from the Late Neolithic period until the start of the Middle Roman period (c. 2850 BC–AD 100). Special attention is given to site location, settlement development, and landscape organisation. The research area until now has hardly entered the archaeological debate on the habitation history of the Low Countries. It is demonstrated that even though some habitation characteristics are well-known from other parts of the Low Countries, and sometimes beyond, the organisation of later prehistoric societies in the research area also deviates in interesting ways. The case-study makes clear that leaning too heavily on research results from other regions brings the risk that specific characteristics of a region will be overlooked or that regional diversity will be ignored in order to make the data fit the expected pattern. One size does not fit all. The only way to prevent this is to build new, solid interpretative frameworks for regions that have so far received little attention, and to create an awareness that existing models should not be applied uncritically.

1. INTRODUCTION

Scientific debate on the habitation history of the Pleistocene coversand landscapes of the Netherlands is dominated by the results of intensive research in the province of Drenthe and the so-called Meuse-Demer-Scheldt region of the southern Netherlands and northern Belgium. The available information on these regions has increased immensely since the start, in the early 1970s, of several large-scale thematic projects with a regional focus (Bloemers 1999). For both regions a number of important syntheses and studies on long-term-patterns in landscape and settlement development are now available (eg, Waterbolk 1995; Spek 2004; Roymans & Gerritsen 2002). Research results from other Pleistocene parts of the Netherlands or adjacent parts of Belgium and Germany, however, have yet hardly entered the national archaeological debate. General habitation models based on well-researched regiond tend to be applied to other, less intensively studied areas, usually implicitly. Whether these models lend themselves to that is hardly ever tested. Is it justifiable to do so?

As a test case, this paper will focus on the development of landscape and habitation in the eastern Netherlands from the Late Neolithic period until the start of the Middle Roman period (*c.* 2850 BC–AD 100). This region is situated roughly between the two 'archaeological core areas' mentioned above. The data presented mainly result from an interdisciplinary research project, recently finished, by Wageningen University and the Dutch Cultural Heritage Agency (2004–2009). In this 'Eastern Netherlands Project' archaeologists, historical geographers, physical geographers, and palaeobotanists joined efforts to create an integral image of the development of landscape and habitation (Van Beek & Keunen 2006; Van Beek 2009). The

[1] Cultural Heritage Agency, PO Box 1600, 3800BP Amersfoort, Netherlands; Ghent University, Faculty of Arts and Philosophy, Department of Archaeology, Sint Pietersnieuwstraat 35, B-9000 Ghent, Belgium

goals of the present paper are twofold. First, to reconstruct the landscape and habitation development of the eastern Netherlands in late prehistory. Special attention will be given to site location, settlement development, and landscape organisation. Second, to analyse to what degree these characteristics agree with late prehistoric models and hypotheses developed for other regions, and what the implications of these observations are for late prehistoric archaeology in general.

In the first part of the paper the main physical geographical characteristics of the research area are introduced, in order to be able to analyse to what degree the landscape structure is comparable to that of other Pleistocene landscapes in the Netherlands (section 2). Since the period under discussion covers a time span of approximately 3000 years, we clearly cannot regard the eastern Dutch landscape as a stable and unchanged physical geographical backdrop to habitation development. One of the landscape dynamic processes that will be discussed is peat expansion, one of the most influential processes during late prehistory (section 3). Next, the most important patterns in settlement development and burial ritual will be reconstructed for the Late Neolithic period and Early Bronze Age (sections 4–5), the Middle Bronze Age (section 6), the Urnfield period (section 7–9), and the transitional period between the Middle Iron Age and Early Roman period (section 10). The reconstructions presented for each period are based on the combination and analysis of a wide variety of archaeological sources, including 'grey' literature, old excavation data, and reports of recent research by municipal archaeological services and commercial companies. The observed patterns will be compared with the most relevant and influential models developed for other Pleistocene parts of the Netherlands, in order to assess their applicability for the research area. Finally, the research results will be summarised and discussed.

2. THE EASTERN DUTCH ARCHIPELAGO

The research area consists of most of the Dutch province of Overijssel and the eastern part of the province of Guelders (Fig. 1). It is confined by the German border in the east and by three large rivers: the Overijsselse Vecht, the IJssel, and the Oude IJssel. Within this area three regions can be distinguished. The province of Overijssel is divided into Salland (west) and Twente (east), whereas the eastern part of the province of Gelderland is known as the Achterhoek.

Physical geographical research within the scope of the Eastern Netherlands Project has shown that the research area is far from uniform (Maas & Makaske 2007). The results of an analysis of landscape genesis in combination with the character of the modern-day landscape allow for a division into nine main physical geographical landscapes (Fig. 2). The so-called eastern Dutch plateau is situated in the eastern part of the Achterhoek. It was formed mainly during the Tertiary period. Within the Netherlands similar landscapes only occur in small parts of the province of Limburg. Most of Twente and some adjacent smaller parts of the Achterhoek are part of two distinct ice-pushed ridge landscapes. The ice-pushed ridges and glaciofluvial sediments in these areas are the result of geological and geomorphological processes that took place during and after the final stages of the Saalian ice age. Two small parts of the Twente region are classified as coversand landscapes. The first of these, situated near the city of Hengelo, is characterised by east–west oriented coversand ridges separated by stream valleys and depressions. The second coversand landscape in Twente is dominated by the north–south oriented Dinkel valley and the large coversand ridges running parallel to it. Large parts of Salland and the central part of the Achterhoek are classified as coversand landscapes as well. Together they form a broad zone running roughly parallel to the river IJssel. Finally, two fluvial landscapes can be distinguished. The old river landscape of the IJssel and Vecht was formed during the Weichselian. In the modern landscape Pleistocene river sediments are especially well represented in the south-western part of the Achterhoek. The Holocene landscape of the IJssel and Vecht rivers largely follows the modern course of these rivers.

From a physical geographical point of view, the eastern Netherlands form a highly diverse landscape. 'Diversity' is indeed the most appropriate term to characterise the research area. This is true at all levels, since the nine main physical geographical landscape units are each a mosaic of different landscape types (eg, stream valley landscapes, peat landscapes) which in turn are composed of different terrain forms (eg, raised bogs, coversand ridges). The research area is intersected by several rivers and stream valleys, and many former peat bogs and wet depressions are

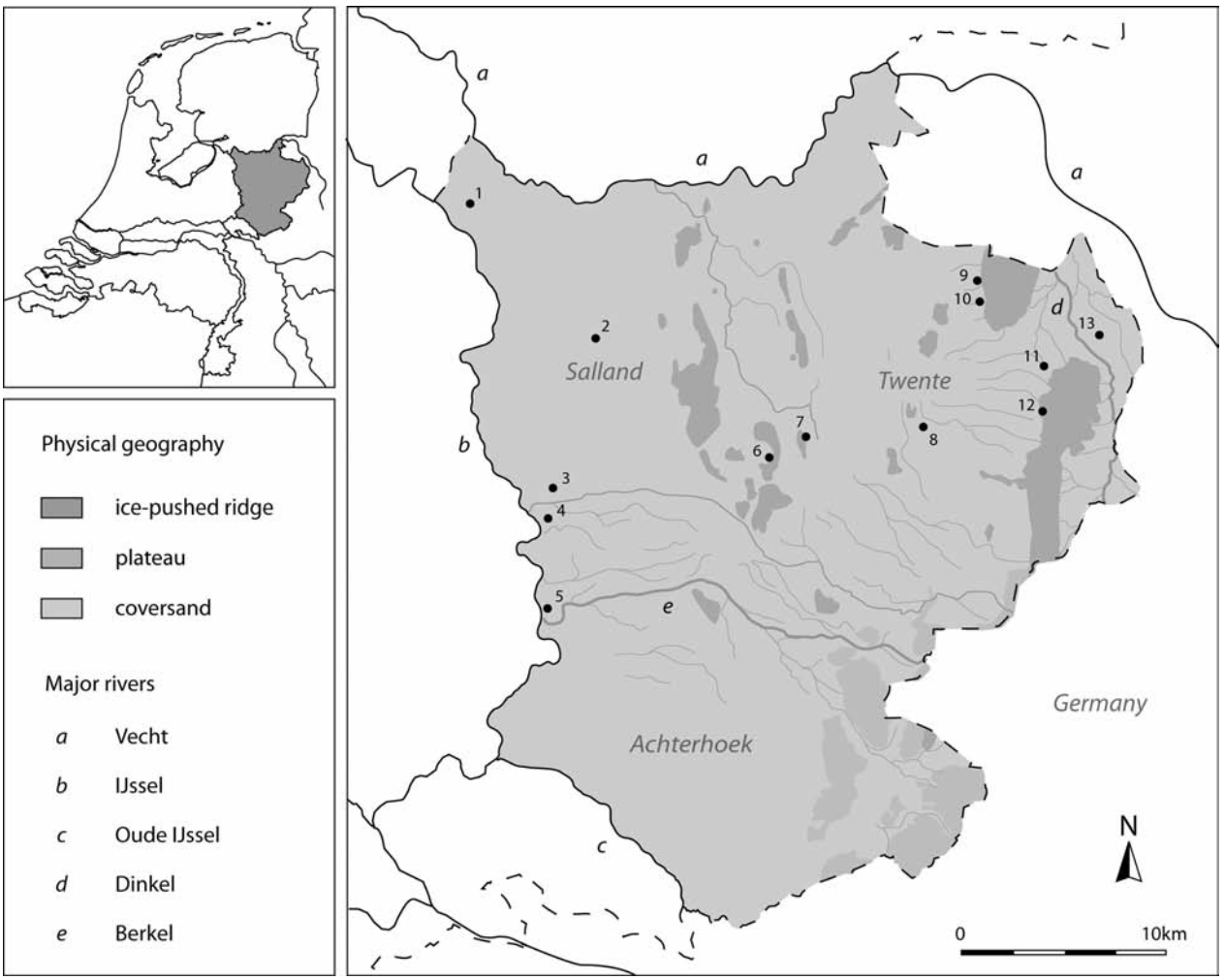

Fig. 1:
Position of the research area and the most important regions and sites mentioned in the text.
Sites: 1. Zwolle-Ittersumerbroek; 2. Raalte; 3. Colmschate; 4. Epse; 5. Zutphen; 6. Markelo-De Borkeld; 7. Enter; 8. Borne; 9. Vasse; 10. Haarle; 11. Rossum; 12. Oldenzaal; 13. Denekamp

scattered over the landscape. These low areas alternate with ice-pushed ridges, riverdunes, and coversand ridges. This distinctive, fragmented landscape structure has been described as a 'sandy archipelago' (Verlinde 1987, 308–15). It is fundamentally different than what is found in other Pleistocene landscapes in the Netherlands, such as the province of Drenthe, the Veluwe region (province of Gelderland) and the province of Noord-Brabant. These landscapes are mostly on a much larger scale and more homogeneous.

3. PEAT EXPANSION

Although the main structure of the landscape of the eastern Netherlands was formed during the Pleistocene and the initial phases of the Holocene (before *c.* 8000 BP), it has certainly not remained unchanged since then. A general distinction can be made between, on the one hand, natural changes and, on the other, developments triggered by human habitation and landscape exploitation. Some processes that fall within the latter category are deforestation, erosion, and sedimentation, and the

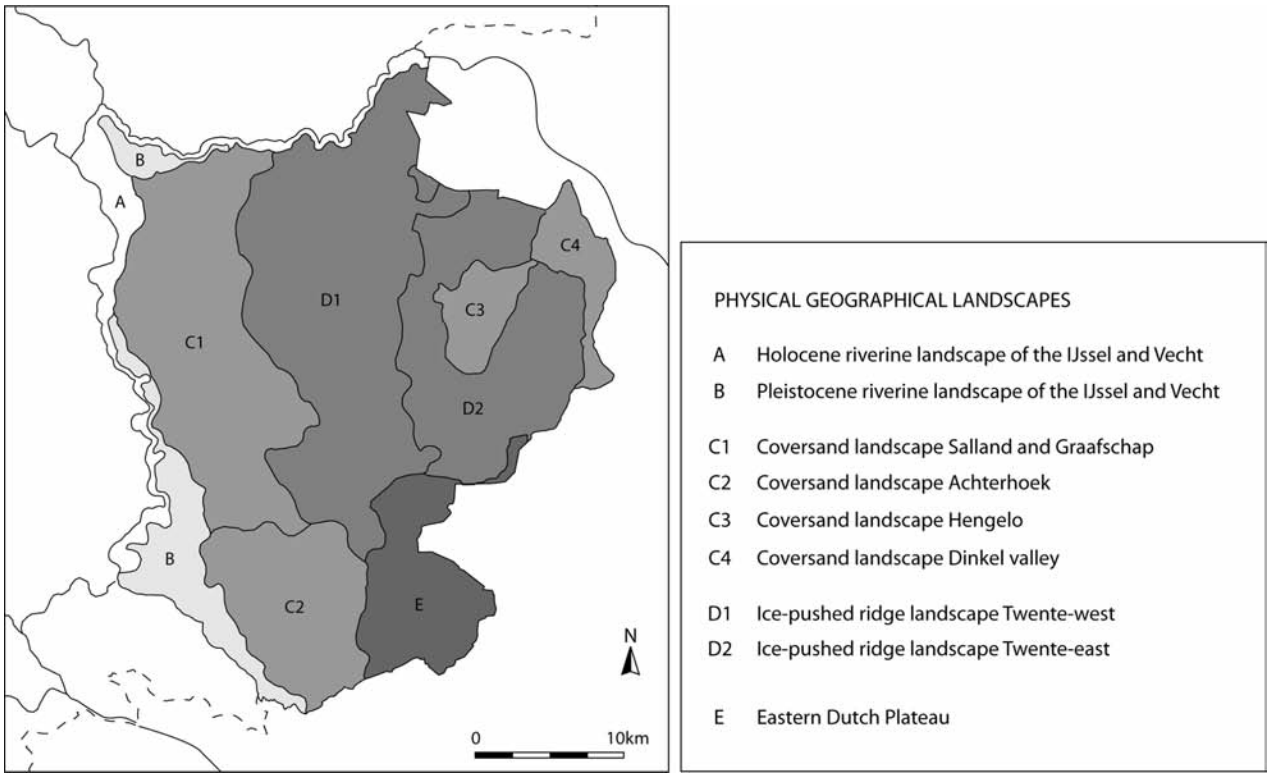

Fig. 2:
Main physical geographical landscapes of the eastern Netherlands

occurrence of drift sand. They have been described recently (Groenewoudt *et al.* 2008; Van Beek 2009, 469–508) and will not be discussed here in detail. One of the most important (partly) natural landscape formation processes is the development of peat bogs. Analysis of a number of pollen samples taken in raised bogs since the 1920s has shown that most of these peat landscapes have developed since the Atlantic and Subboreal periods, with the exception of a few small peat areas that developed locally in gullies and depressions in the late Glacial and early Holocene period (Van Beek 2009, 104–9).

The pollen samples mentioned above were taken in the few raised bogs that still exist in the research area. Only a tiny percentage of the original peat bogs has survived until today, as a result of peat cutting, reclamations, intensification of agriculture, and water management. Hardly any research has been done into the location and greatest extension of former peat bogs. It was recently demonstrated, however, that it is possible to reconstruct former peat areas globally by analysing and combining various sources such as historical maps, toponymical data, written descriptions and soil characteristics (De Rooi 2006; 2008; Van Beek 2009, 470–7). The picture that emerges from this research is quite remarkable (Fig. 3a): approximately 30% of the land surface was once covered with peat. This is much more than was assumed before (eg, Vos & Kiden 2005). Compared to the peat landscapes in some other parts of the Netherlands, such as the Bourtangerveen in the province of Drenthe which measured many hundreds of square kilometres, the many peat bogs in our research area were relatively small. Very large peat bogs only developed in relatively homogeneous landscapes, which the eastern Netherlands never were.

The exact chronological and spatial processes involved in the peat expansion have not yet been analysed. Since most peat bogs (and therefore sampling opportunities) have disappeared, these processes are difficult to reconstruct. Similarly, it cannot yet be established whether they are comparable

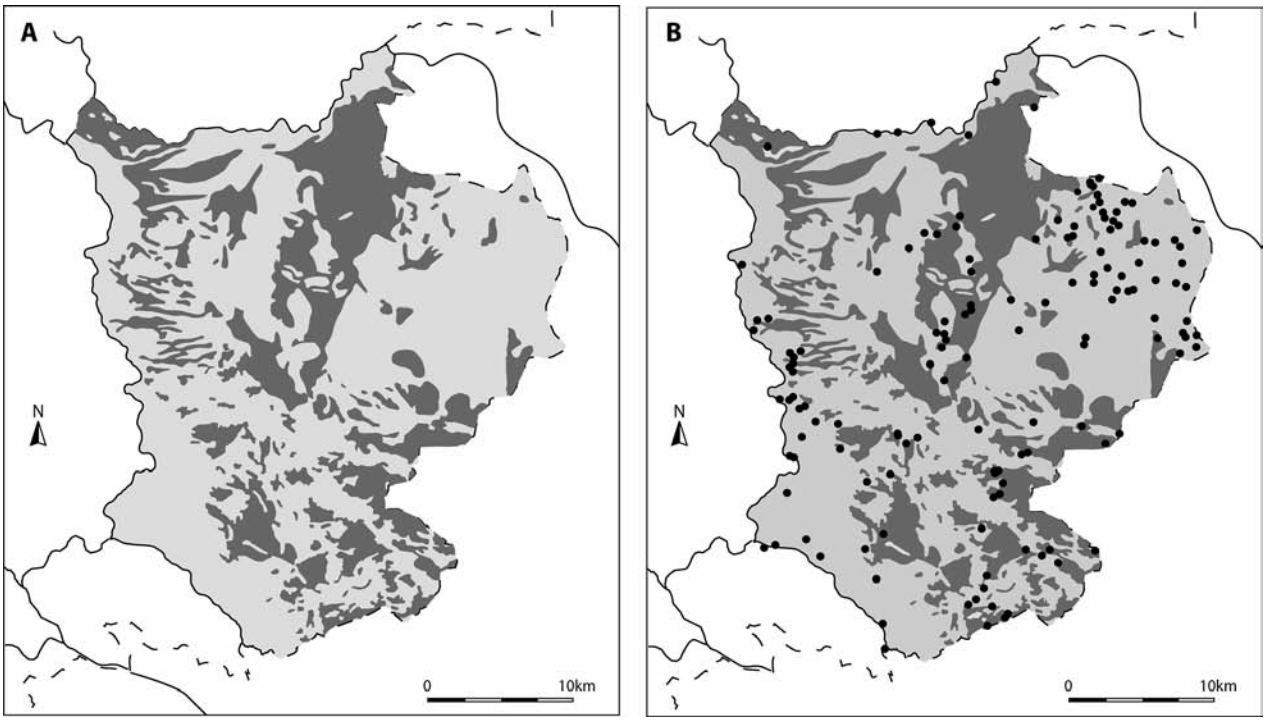

Fig. 3:
Maximum peat extension in the eastern Netherlands around AD 1000 (A, dark grey) and the distribution pattern of burial sites from the Urnfield Period (B, black dots)

to patterns observed in the province of Drenthe. With regard to the peat landscapes of the so-called Frisian-Drenthe Plateau, Waterbolk (2007) argues that the expansion rate of the peat was not constant but significantly higher in some periods, especially the Subatlantic. In general it is assumed that the peat bogs in the eastern Netherlands expanded continuously until peat cutting started in the late medieval period (Groenewoudt *et al*. 2007). The maximum extension of peat as reconstructed in Figure 3a therefore probably corresponds most closely to the situation around *c*. AD 1000. Most peat cutting was undertaken on an individual basis by local inhabitants (Van Beek 2009, 476–7). Peat cutting and reclamation on an industrial scale only took place on a few locations, such as near Vriezenveen in Twente (Gerding 1995). Even with the limitations of the present dataset in mind, it is clear that the scattered distribution of peat areas had a large impact on late prehistoric settlement patterns. This is demonstrated by the distribution of burial sites from the Late Bronze Age and Early Iron Age which shows a negative correlation with the peat areas (Fig. 3b). It has to be stressed that the peat extension during the Urnfield Period must have been smaller than depicted in Figure 3b, and that the distribution pattern of urnfields might have been influenced by post-depositional processes.

4. DISPERSED SETTLEMENTS

Late Neolithic and Early Bronze Age sites are abundant. Most of them are artefact scatters of varying size, composition, and density, discovered by amateur archaeologists. Small amounts of Late Neolithic and Early Bronze Age pottery and flint often turn up during excavations of younger settlements as well, but only a few Late Neolithic and Early Bronze Age sites have been excavated as such (Van

Beek 2009, 413–17). Although this lack of research makes it difficult to assess the general character of individual settlements in this period, let alone the settlement system as a whole, some general observations can be made.

Unlike late Middle Bronze Age and later settlement sites, Late Neolithic and Early Bronze Age settlements contain relatively few recognisable features. Only a few house plans and other buildings have been tentatively reconstructed in different parts of the eastern Netherlands (eg, Bouwmeester 2008). Most of these have been subject of severe discussion, unlike later structures that are generally easy to recognise and rarely disputed. The reliability of individual sites and reconstructions aside, it is clear that both the degree of settlement site variety and the spatial dynamics of settlements in the Late Neolithic period and Early Bronze Age were fundamentally different from those of later periods. Intensive investigation has shown that a number of large coversand ridges and riverdunes in the coversand landscapes of the research area were settled permanently from the second part of the Middle Bronze Age onwards (section 6). This is in contrast with the Late Neolithic period and Early Bronze Age and the first part of the Middle Bronze Age, for which those same areas have produced only evidence of special activity sites and short-term settlements. The latter will probably not have been inhabited for more than a few generations, even though this is difficult to pinpoint yet.

Furthermore, Late Neolithic and Early Bronze Age sites are found in a wider variety of landscape types than the later sites are. They are not only known from large sandy ridges but for example also from small coversand hummocks or lower coversand ridges near stream valleys. Both observations suggest a settlement system during the Late Neolithic period and Early Bronze Age that was characterised by a high degree of spatial mobility. The same can be concluded from intensive microregional research in the nature reserve De Borkeld, near the town of Markelo. This area is situated in one of the ice-pushed ridge landscapes of Twente, on the western slope of a large ice-pushed ridge on which several burial mounds lie scattered (Fig. 8, below; section 5). During field surveys several settlement sites from the Middle and Late Neolithic period and Early Bronze Age were found (Groenewoudt 1994, 110–35). The sites consisted of remarkably well-preserved artefact scatters that clustered around a moraine ridge. Although none of the scatters was completely excavated, it is clear that the settlements moved along the peripheral parts of the moraine sediments. Locations where these sediments were covered by sandy deposits were particularly selected for habitation, as these offered favourable conditions for agriculture. Sometimes old settlement locations were revisited, leading to palimpsest situations.

The data available at present clearly show that it would be too simple to interpret all sites with Late Neolithic and Early Bronze Age finds as residential sites. The completely excavated site Zutphen-Ooyerhoek, for example, which is situated on an elongated riverdune near a stream valley, consists of find scatter of scarcely 200 m^2 (Fig. 4). The collected pottery sherds and one ^{14}C-date of burnt bone produced a date of 2200–1900 cal BC (3655±45 BP; GrA-16798). With the exception of the pottery, the site is hardly any different than some Early Mesolithic hunting camps excavated in the direct vicinity (Groenewoudt *et al.* 2001). Although it is not clear whether this specific site should also be interpreted as a hunting camp, several isolated flint arrowheads found in different parts of the research area show that hunting still played a role in the subsistence economy. Sites that measure no more than a few hundred square metres also occur in several other parts of the landscape. Scholte Lubberink mentions, for example, a site that was discovered on one of the ice-pushed ridges of Twente, on a small sandy elevation surrounded by very wet deposits of Tertiary clay (Scholte Lubberink 1998, 117–18). Furthermore, at a small number of excavated sites isolated features with complete Early Bronze Age pots have been found (eg, Deeben & Groenewoudt 1999, 56–64). These sites are at present difficult to interpret but clearly do not represent either settlements or burials.

5. FUNERARY LANDSCAPES

The next question to be adressed is the relationship between the settlement data and burial sites. Roymans and Fokkens published a model of the spatial relations between settlements and burial mounds (Fig. 5a), which has been influential over the last two decades (Roymans & Fokkens 1991, 12). The model assumes that settlements moved regularly through the

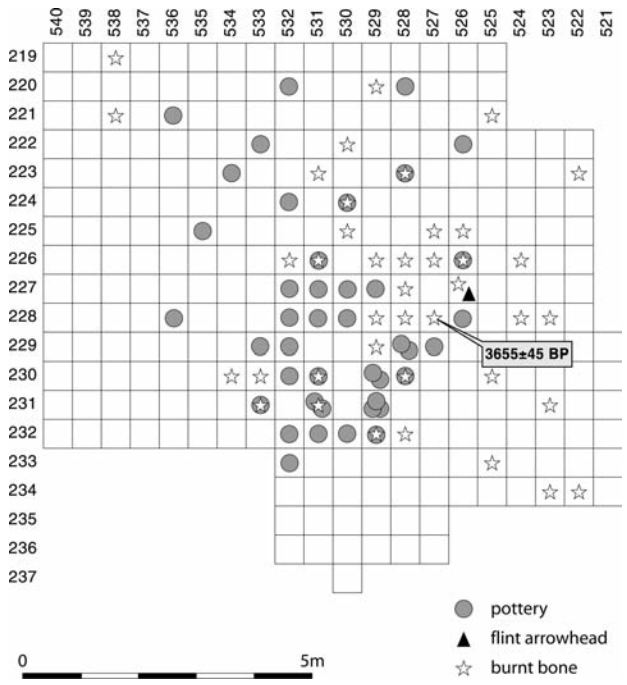

Fig. 4:
Small, Late Neolithic/Early Bronze Age artefact scatter excavated at Zutphen-Ooyerhoek

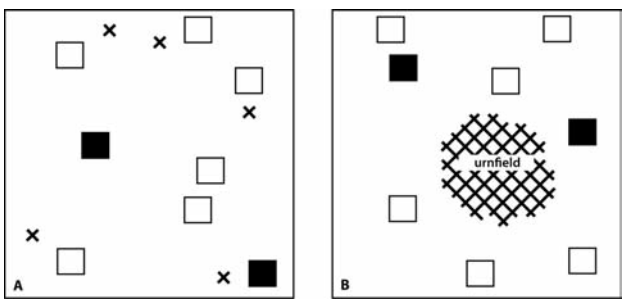

Fig. 5:
Model of the spatial relation between settlements and burial sites in the Middle Bronze Age (A) and Late Bronze Age and Early Iron Age (B). Cross: barrow; black square: settlement; white square: former settlement (after Roymans & Fokkens 1991, 12)

landscape and that burial monuments followed them. This produced a pattern of dispersed burial mounds and abandoned farmstead locations. The model is mainly based on research in the southern Netherlands and in the province of Drenthe, where, in particular, the excavation of a Middle Bronze Age settlement and burial mound in Elp (Waterbolk 1964) was quite influential. This model has recently been adjusted substantially. Among the most important new observations is the fact that, by far, most reliable radiocarbon dates for Bronze Age settlements with three-aisled farmhouses date from the second half of the Middle Bronze Age, and beyond (after 1500 cal. BC). At that moment hardly any new burial mounds were erected anymore which implies that that the relationships between both categories were not as direct as had been assumed (Bourgeois & Fontijn 2008; Fokkens & Arnoldussen 2008). Furthermore, there was an outspoken tendency to construct barrows in the near vicinity of older ones, instead of near settlements (Bourgeois & Fontijn 2008, 48–9). How do these patterns fit the archaeological reality in the eastern Netherlands?

Very few burial mounds in the research area have been properly excavated. The amount of available information is therefore extremely limited compared with other Pleistocene parts of the Netherlands. However, by assessing the dimensions and general appearance of burial monuments in combination with data from excavations, prospective research, and a small number of chance finds, it is possible to reconstruct the distribution pattern of those mounds that pre-date the Urnfield period (Fig. 6). When doing so, striking regional differences appear. Twente has the highest number of burial monuments by far, especially on the higher parts and slopes of ice-pushed ridges. In other parts of the research area, however, burial mounds are remarkably rare, particularly in the coversand landscapes of Salland and the central part of the Achterhoek. In the modern Salland landscape not a single Late Neolithic and/or Middle Bronze Age burial mound is visible.

It must be taken into account that the original distribution pattern of barrows may have been distorted quite heavily by post-depositional processes. For the southern Netherlands it has been argued that reclamations had a large impact on the distribution pattern of burial mounds there (Theunissen 1999, 48–54). The same process might account to some degree for the scarcity of burial mounds in the coversand landscapes of Salland and the Achterhoek, for these landscapes were subject to more intensive reclamations than the ice-pushed ridges in Twente. However, the differences between Salland and Twente are very unlikely to have been caused by post-

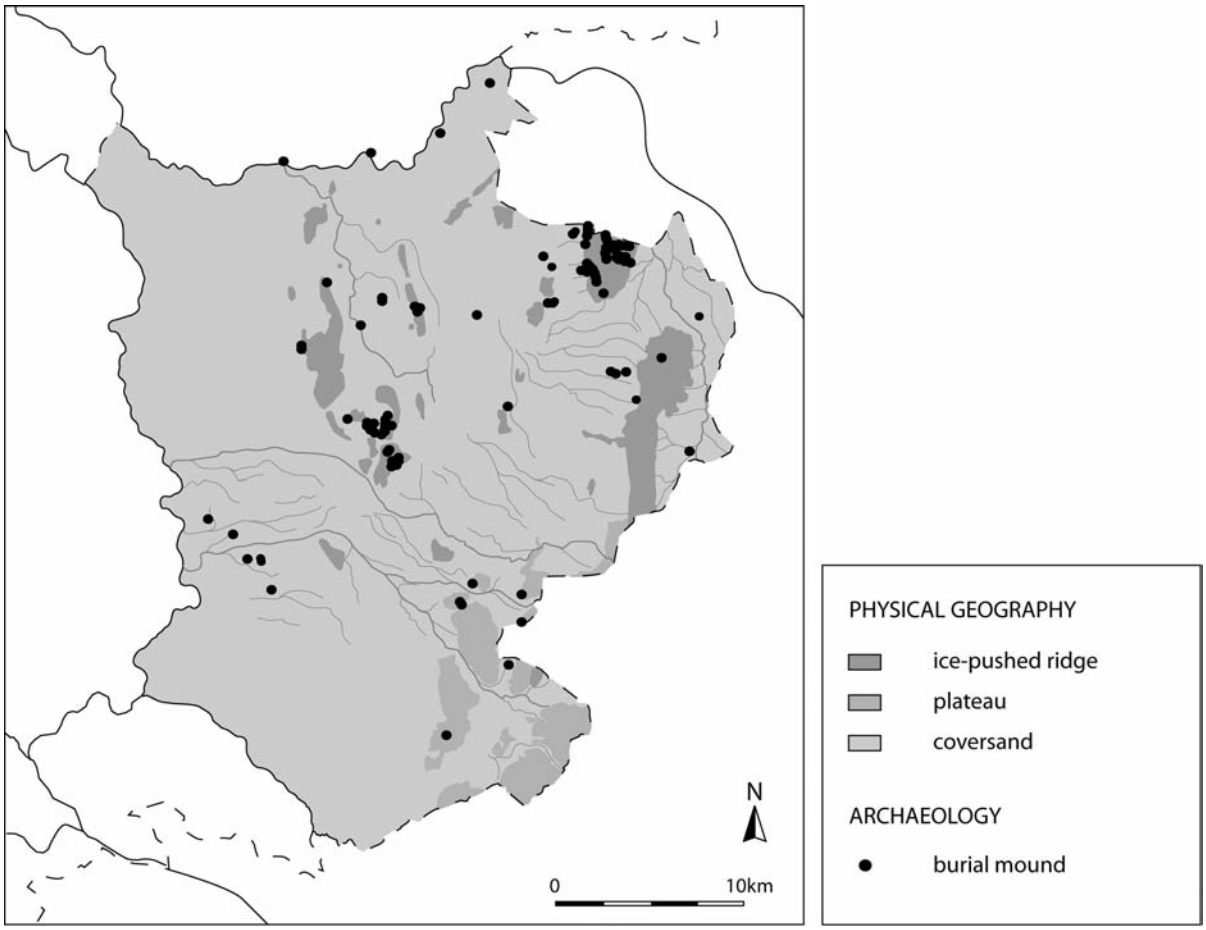

Fig. 6:
Distribution pattern of barrows from the Late Neolithic period, Early Bronze Age and Middle Bronze Age in the eastern Netherlands

depositional processes alone. Most large-scale excavations of late prehistoric settlements have taken place in Salland and the north-western part of the Achterhoek. While settlement remains from the Late Neolithic period to the Middle Bronze Age are definitely present, not a single undisputed burial mound has been documented. It seems hardly possible that we have simply been looking in the wrong places. In these intensively studied regions, large barrow groups such as those in Twente (see below) would certainly not have been overlooked. Furthermore, the fact that urnfields are regularly found in these same landscapes suggests that the apparent absence of barrows is probably not simply a result of chance.

It will not be argued here that burial mounds did not exist in the western coversand landscapes of the eastern Netherlands before the Urnfield Period, but the possibility must be considered that other, less conspicuous, forms of burial were much more common in these regions. Large-scale excavations at the site of Zutphen-Looërenk provide an interesting observation (Bouwmeester *et al.* 2008). On a large riverdune there, several small concentrations of Bell Beaker and Pot Beaker sherds were excavated, suggesting repeated occupation phases. Two or possibly three cremation burials were found as well (Fig. 7), one of which produced a radiocarbon date corresponding to the late Single Grave or the Bell Beaker period. The grave possibly contained a small copper dagger, which would suggest a Bell Beaker date

Fig. 7:
Cremation burials and concentrations of Bell Beaker and/or Pot Beaker pottery at the site Zutphen-Looërenk. The cremation burial in the eastern part of the excavated area produced a radiocarbon date corresponding to the Late Neolithic period (after Fermin 2008, 75)

(Fermin 2008). At the site of Zwolle-Ittersumerbroek (see also section 6) a pit with a small Protruding Foot Beaker was interpreted as a Late Neolithic child burial (Clevis & Verlinde 1991, 24–6). In a trial trench in Epse a small pit with human cremated remains was found that produced a radiocarbon date corresponding to the second part of the Middle Bronze Age or possibly the earliest phase of the Late Bronze Age (Appels 2002, 18). The evidence from these sites shows that an exclusive research focus on burial mounds will result in a narrow and incomplete image of the range of burial rituals that existed. Systematically dating cremation burials by radiocarbon may provide valuable results in the future, since without datable artefacts or peripheral structures, cremation burials from this period are almost indistinguishable from burials dating from other phases.

In Twente the picture is markedly different. There is a fairly large number of burial monuments on the higher parts and slopes of ice-pushed ridges. They partly cluster in quite substantial groups that frequently also include burials from the Urnfield period. This pattern of repeated re-use of burial sites, resulting in clusters of monuments, has created what may be called late prehistoric funerary landscapes. Burial mounds are not limited to ice-pushed ridges but also appear in the coversand landscapes of Twente, albeit in much lower numbers. Although the large clusters of burial monuments in Twente have attracted much attention since the 18th and 19th centuries, the available information on individual monuments is generally poor, and that on the structure and genesis of complete funerary landscapes is even more limited. But despite this lack of detailed archaeological data, some important observations can be made on the basis of an analysis of the distribution pattern of burial mounds and comparing these with settlement data.

The area near the nature reserve De Borkeld forms an illustration of what type of spatial relations between settlements and funerary landscapes may be expected in the ice-pushed ridge landscapes of Twente. As was mentioned before, Late Neolithic and Early Bronze Age settlements moved along the flanks of a large moraine ridge. Over 70 burial mounds are known in this microregion (Fig. 8). Most of them were erected on the higher parts and slopes of the ice-pushed ridges that are situated to the east, south-east, and south of the area with the highest density of settlement sites. The mounds partly cluster in groups of between three and 14, excluding those that date from the Urnfield period. Some series of monuments follow the contour lines of the ice-pushed ridges and can be seen from a far distance, which probably indicates that visibility was one of the criteria that influenced their location. Most burial mounds are situated in areas where no settlement sites have been found, even after intensive surveys. This is hardly surprising, since the slopes and higher parts of the ice-pushed ridges are rich in gravel and offer few large flat surfaces, making them unfavourable settlement locations for farming communities. The funerary areas were situated in the periphery of the settlements; or perhaps rather the other way round, for burial

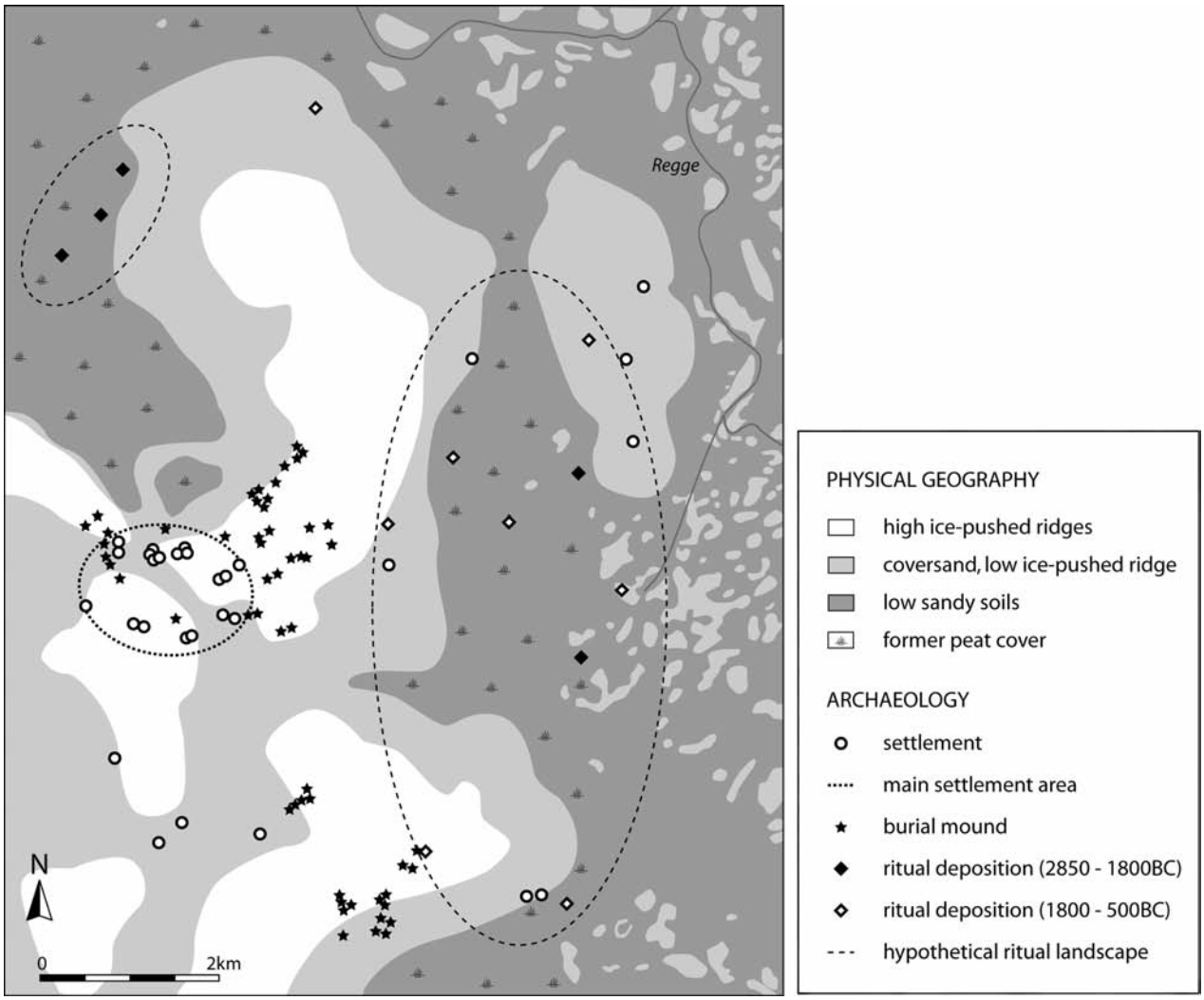

Fig. 8:
Distribution pattern of barrows, settlements and ritual depositions from the Late Neolithic period and Early Bronze Age at De Borkeld near Markelo. More recent late prehistoric ritual depositions have also been indicated

groups were the most stable elements in the late prehistoric landscape of Twente.

To this picture of the late prehistoric landscape can be added ritual depositions. From the Atlantic period onwards extensive low areas around the ice-pushed ridges became overgrown with peat, and these have produced an impressive number of finds (Verlinde 1980; Van der Sanden 2005; Van Beek 2009, 320–7). The repeated use of specific zones within these peat bogs for ritual practices allows the distinction of two separate late prehistoric ritual landscapes. A peat bog in the north-western part of the area appears to have been used only during the Late Neolithic period and Early Bronze Age, while the largest peat bog in the centre of the area remained in use until the Early or Middle Iron Age. Parallels for this clear spatial division between settlement areas, funerary landscapes, and ritual landscapes can be found in several other microregions in Twente that share the same physical landscape structure.

6. TOWARDS FAMILIAR LANDSCAPES?

A systematic re-analysis of Late Neolithic–Middle Bronze Age settlements recently led to the conclusion that several fundamental changes occurred in large parts of the Netherlands from the second part of the Middle Bronze Age onwards (Arnoldussen & Fontijn 2006; Bourgeois & Fontijn 2008). These 'innovations' included amongst other things the introduction of the three-aisled farmhouse and an intensification of agriculture. It is difficult to establish what started these processes, but it has been suggested that they were connected with ideological changes that ultimately led to another form of landscape organisation. Arnoldussen and Fontijn speak of a movement 'towards familiar landscapes' (2006). Can similar changes also be observed in the archaeological record of the eastern Netherlands?

In order to find out if such changes did occur there during the Middle Bronze Age, we should first concentrate on the larger coversand ridges and riverdunes in the research area on which settlement research since the 1960s has mainly been concentrated. A substantial number of these ridges have been transformed since the late medieval period into the open fields that are still common in the rural parts of the research area. The ridges usually have fairly fertile soils, offer large surfaces of potential agricultural land and are often situated near stream valleys (Groenewoudt & Scholte Lubberink 2007). The conditions for farming communities were therefore favourable, which has frequently resulted in a high density of archaeological remains. Large-scale settlement research has been carried out on several large coversand ridges and riverdunes in the west of the eastern Netherlands, and especially the excavations at the sites Colmschate-Weteringer Enk (Fig. 9; Verlinde 2000; Hermsen 2007) and Zutphen-Looërenk (Bouwmeester *et al*. 2008) have produced detailed information. Both sites display an almost identical settlement sequence. The Late Neolithic period, Early Bronze Age, and first part of the Middle Bronze Age were characterised by short-term settlements or special activity sites. From *c*. 1500 BC onwards both sites were continuously inhabited until the final stage of the Late Iron Age (Zutphen) or even well into the early medieval period (Colmschate). The differences in the situation before and after *c*. 1500 BC are very similar to what can be observed in other parts of the Netherlands. Also, at both sites house plans that are younger than the second part of the Middle Bronze Age are clearly visible and can easily be reconstructed, unlike those from earlier periods.

The pattern observable at Colmschate and Zutphen is probably typical for the settlement development on other large and fertile coversand ridges and riverdunes in the research area, especially in coversand landscapes. Such ridges are often very rich in finds from the Middle Bronze Age to the Roman period. Most sites confirm that late prehistoric settlements usually consisted of a single farmhouse with its associated outbuildings, wells, fences, and other structures. Such small settlements are well known from other parts of 'temperate' Europe (eg, Harding 2000, 22–72). Late prehistoric 'villages', settlements consisting of more than one contemporary farmstead, seem to be completely absent. This pattern only changes from the late 1st century AD onwards, when larger settlements appear in several parts of the eastern Netherlands (Van Beek 2009, 440–6). Interestingly, this process starts rather late compared to other Pleistocene parts of the Netherlands, where larger late prehistoric settlements presumably existed earlier (eg, Gerritsen 2003; Harsema 2005). Since there have as yet been only a few large-scale excavations of late prehistoric settlements, more research is necessary to establish the significance of this pattern. Late prehistoric settlements still display spatial mobility, as they sometimes move over distances up to several hundred metres. On the other hand, farmsteads sometimes are rebuilt at (approximately) the same location as well.

The picture presented above reflects the processes that were active on large coversand ridges and riverdunes, especially in coversand landscapes. However, the landscape includes other elements besides large sandy ridges, and that an exclusive research focus on those is too simplistic has already been demonstrated. Settlements from the second part of the Middle Bronze Age have for instance been found in various landscape zones, one striking example of which is the settlement at Zwolle-Ittersumerbroek, which is situated in a low and wet area along the river IJssel (Clevis & Verlinde 1991). At this site late prehistoric features are found only on sandy elevations within the undulating coversand landscape. It is uncertain whether the site was continuously inhabited from the Middle Bronze Age onwards. Another Middle Bronze Age settlement was discovered near the village of Vasse, on a relatively

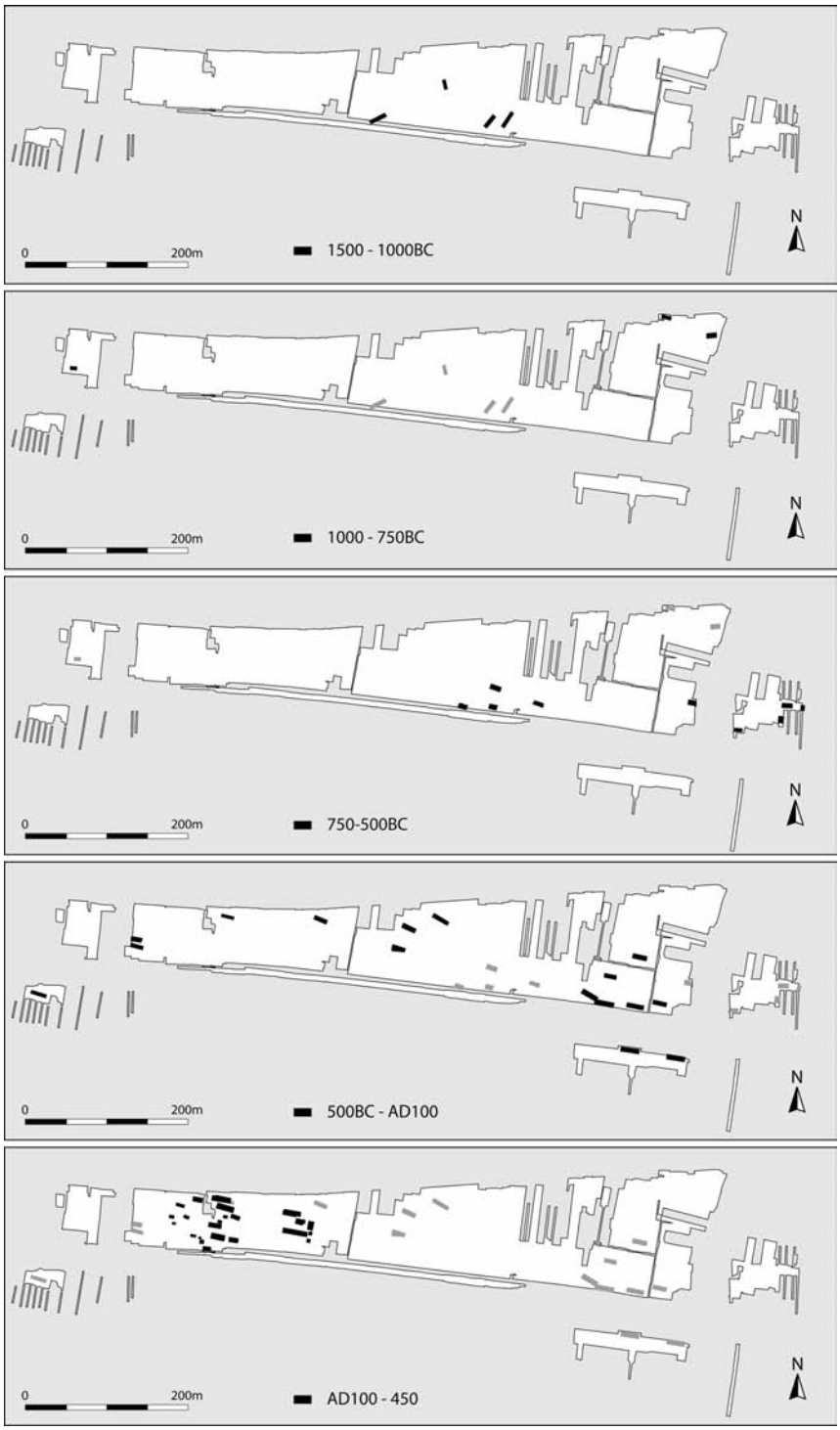

Fig. 9:
Settlement development at the site Colmschate-Weteringer Enk between 1500 BC and AD 450. Only the most important buildings have been indicated (black rectangles). For each phase the position of earlier buildings is indicated by grey rectangles (modified after Hermsen 2007)

high part of an ice-pushed ridge in Twente (Verlinde & Theunissen 2001). Only one farmstead was excavated there, which can partly be explained by the find conditions, for the site was discovered in the course of sand extraction. It is also clear, however, that because of the abundance of gravel in the subsoil the location was unsuitable for long-term habitation. Permanent settlements in glacial landscapes can be expected to be situated on coversand sediments deposited on or near the lower slopes of ice-pushed ridges, which are often rich in archaeological remains from different periods.

7. EXPANSION AND CONTRACTION

In the previous paragraph it was demonstrated that at least some of the large coversand 'islands' and riverdunes developed into permanently inhabited, microregional settlement cores after the second half of the Middle Bronze Age, but that other landscape zones were inhabited as well. The pattern during the Urnfield period is not clear-cut either, as a closer look at the Colmschate area will show. Most archaeological excavations in this microregion took place on the largest coversand ridge, the Weteringer Enk (Fig. 9). Excavations on a much smaller scale were carried out in some areas nearby. Especially the coversand ridges south of the Weteringer Enk, separated from it by a moist depression, produced interesting results (Fig. 10). Settlements consisting of a single farmstead from the Early Iron Age were found on four locations, besides an urnfield from the same period (Ten Bosch *et al.* 1997; Verlinde 1997; 2000). Finds from other periods are rare, except for a few features dating from the Middle Bronze Age and a Carolingian settlement. During the Early Iron Age habitation seems not to have been limited to the Weteringer Enk but to have expanded to the smaller sandy ridges that are present in the immediate vicinity.

The observations in Colmschate, together with the results of an excavation of a late prehistoric settlement in Raalte (which will not be discussed here; see Groenewoudt *et al.* 1998), led to the development of a new model for late prehistoric settlement dynamics. It is called the 'expansion and contraction' model and is thought to be applicable to the coversand landscape of Salland (Fig. 11; Ten Bosch *et al.* 1997; Groenewoudt *et al.* 1998, 147–9). Central to this model is the assumption of the existence of a microregional settlement core that was permanently inhabited from the Middle Bronze Age onwards. During so-called expansion phases, such as the Early Iron Age, nearby ridges with less favourable conditions (eg, smaller size, less fertile soils, further away from stream valleys), were also colonised. During contraction phases, such as the Middle Iron Age, the settlements retreated again to the largest coversand ridge, although more peripheral areas still played an important role in the subsistence economy, for example as pasture for cattle. Because only a few microregions have been intensively studied the hypothetical 'expansion and contraction' model has not been sufficiently tested yet in other parts of the research area. It is important to keep in mind that the model is based on information from areas with a particular landscape structure, where such 'hierarchical' distinctions can tentatively be made between favourable and less favourable potential settlement locations. Obviously, not every part of the coversand landscape answers to this description. Microregions with a different physical geographical structure are likely to display different habitation patterns. As the model depicts even within the same microregion the habitation history of different landscape units may vary. An exclusive research focus on large coversand ridges with high densities of archaeological remains is therefore too limited; different physical geographical landscape types must be studied in order to obtain a detailed and representative image of settlement development and landscape exploitation (Groenewoudt *et al.* 2006). It will be argued later that this also applies to later phases of the Iron Age (section 10).

The next question is why specific periods were characterised by settlement expansion and others by contraction. In Colmschate the Early Iron Age was clearly an expansion phase and in that this microregion does not seem to have been unique. Early Iron Age farmsteads have been excavated in many parts of the research area. At least some of these sites are situated on relatively small coversand ridges that were not continuously settled. Unfortunately, systematic and up-to-date catalogues of settlement sites are not yet available, and it is therefore impossible to establish whether the differences in settlement locations and frequencies between the Middle Bronze Age, the Late Bronze Age, and the Early Iron Age are statistically significant. It will be assumed here, however, that the relatively large

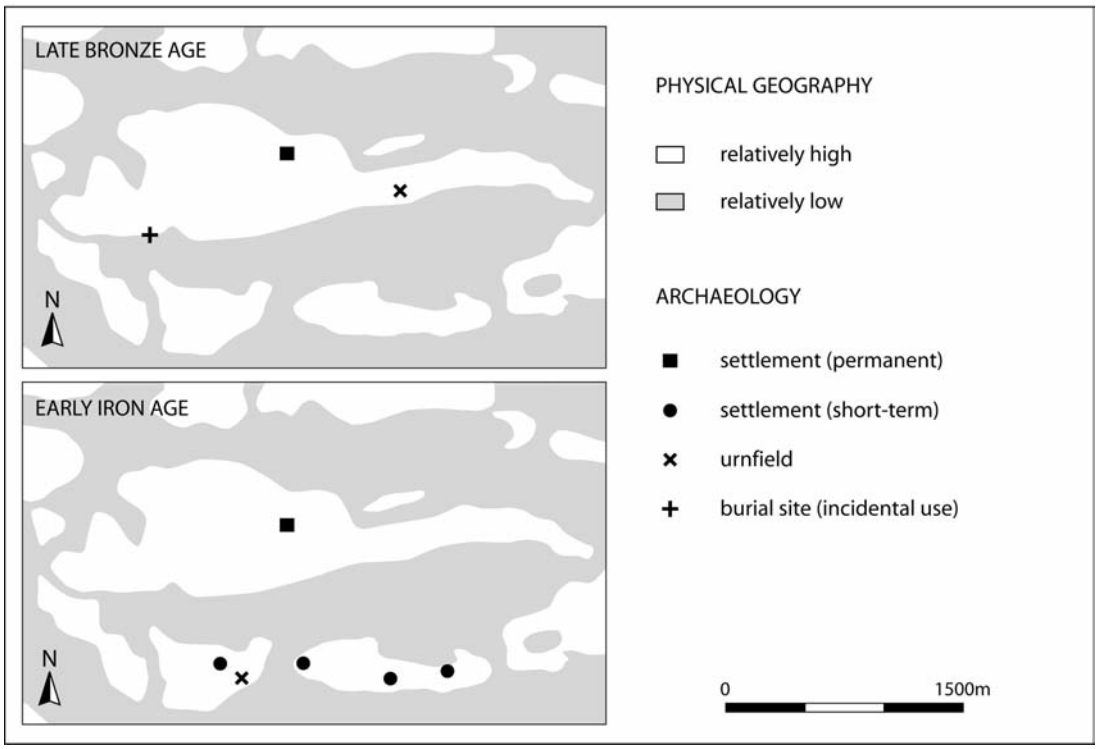

Fig. 10:
Schematic overview of the most important Late Bronze Age and Early Iron Age sites in the microregion of Colmschate. Only the central settlement area on the largest coversand ridge (Weteringer Enk) has been indicated (see Fig. 9 for more detail)

number of Early Iron Age sites does suggest a change in the settlement system relative to the Late Bronze Age. There are several possible explanations for this. The excavators of the Early Iron Age settlements in Colmschate have suggested that population increase during the Urnfield period may have been a key factor that led to the colonisation of previously unsettled areas (Groenewoudt *et al.* 1998, 147–9). Initially this may seem an attractive explanation. However, a population increase during the Late Bronze Age and Early Iron Age does not seem to be reflected in contemporary burial sites. Of the urnfields in the province of Overijssel for which reliable dates are available, 33 date to the Late Bronze Age and 14 to the Early Iron Age. Twelve were in use during (parts of) both phases (Verlinde 1987, 322–3, with recent additions). It has to be stressed, however, that only 23 of the approximately 90 burial sites have been excavated, which makes any conclusions with regard to demographic processes highly uncertain (Verlinde 1987, 170–1, with recent additions).

Interestingly, major shifts in the settlement pattern in the Early and Middle Iron Age can also be observed in the province of Drenthe and the Meuse-Demer-Scheldt region (eg, Van Gijn & Waterbolk 1984; Spek 2004, 139–50; Roymans & Gerritsen 2002). These shifts have been linked to population increase and agricultural intensification, in combination with a number of landscape formation processes such as the expansion of raised bogs (Drenthe), deforestation, soil degradation, sand drifts, and hydrological changes. Other researchers however stress that the assumed Early Iron Age population increase in these regions can not be proven convincingly, and that we are mislead by an increased 'archaeological visibility' of houses and urnfields dating to the period concerned (eg, Fokkens 1997, 363–4). According to Van Geel, Buurman, and Waterbolk, palaeo-ecological and climate research indicates that abrupt climatic fluctuations occurred during the earliest phases of the Iron Age (Van Geel *et al.* 1996). These fluctuations relate to the rise of ground water levels and the

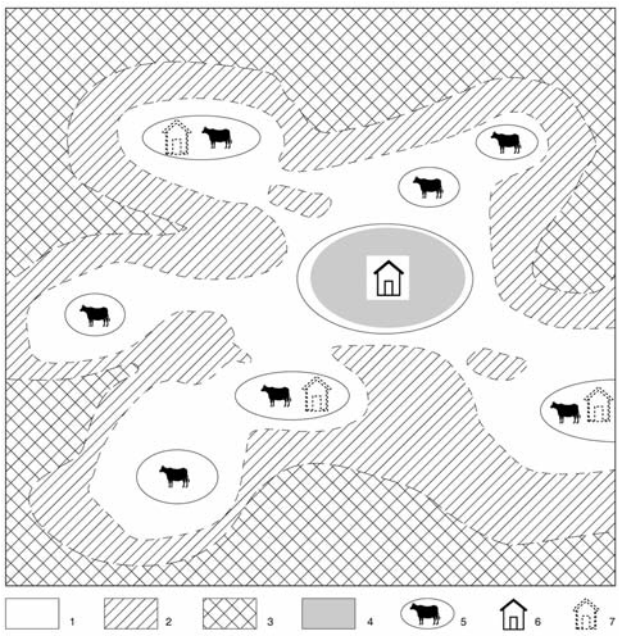

Fig. 11:
'Model of expansion and contraction', developed for south-west and central Salland, during a contraction phase. Peripheral coversand ridges are no longer settled, but being used as grazing areas. 1. Open landscape with woodland relics; 2. Woodland affected by wood cutting and grazing; 3. Dense woodland; 4. Arable fields; 5. Important grazing areas; 6. Settlement; 7. Former settlement (after Groenewoudt *et al.* 1998, 148)

expansion of raised bogs, which led to above-mentioned changes in the settlement pattern. Although a number of these landscape formation processes also occurred in the eastern Netherlands (Groenewoudt *et al.* 2008; Van Beek 2009, 469–503), it seems very unlikely that they were responsible for the settlement expansion during the Early Iron Age. The pattern reconstructed by Van Geel, Buurman, and Waterbolk indicates a general rise of groundwater levels and a decrease of areas suitable for habitation. However, if these natural causes were also the driving force behind settlement change in the eastern Netherlands, one would expect to see a settlement contraction, instead of the observed settlement expansion. This example demonstrates that some changes in late prehistoric settlement systems cannot simply be explained by referring to any single demographic, physical geographical, or climatic process.

This touches upon a fundamental difference between the above-mentioned regions and the research area. Major shifts in settlement patterns, such as those that were observed in the province of Drenthe and the Meuse-Demer-Scheldt area and were accompanied there by a complete abandonment of previously intensively occupied areas, do not seem to have taken place in the eastern Netherlands. The distribution pattern of late prehistoric, Roman, and early medieval sites, as well as toponymic evidence in the research area, all suggest a high degree of stability (Van Beek 2009, 368–94). Spatial processes such as changes in the preference for specific settlement locations, the movement of settlements through the landscape, or expansion and contraction phases as documented in late prehistoric Colmschate, can certainly be observed, but only on a microregional scale. The relative stability of the settlement pattern on a supraregional scale is very likely the result of the heterogeneity and the high degree of fragmentation of the landscape, which limited the possibilities for settlement.

8. URNFIELDS

In section 5, the spatial relations between Late Neolithic–Middle Bronze Age settlements and burial mounds were discussed. In this section the focus will be on those same relations during the Late Bronze Age–Early Iron Age. For this period there is also a model available, developed by Roymans and Fokkens (1991; Fig. 5b). This model is mainly based on patterns observed during large-scale excavations in the southern Netherlands, where both settlements and burial sites belonging to the same local communities have been excavated. During this period burial mounds were being replaced by large, collective urnfields. The latter became important focal points, structuring the movement of settlements through the landscape. As Roymans and Kortlang put it at a later stage, urnfields formed:

> 'a fixed reference point providing continuity and stability to the local group, and as such forming a counterbalance to the discontinuities that frequently occurred in the domestic sphere because of the practice of abandonment and small-scale displacement of farmhouses' (1999, 40).

To what extent is this model, developed for the southern Netherlands, applicable to archaeological patterns in the eastern part of the country?

The intensively studied microregion of Colmschate is once again an interesting starting point. During the Late Bronze Age only the large coversand ridge of the Colmschater Enk was inhabited (Fig. 10), and the local community used two burial sites. On the eastern section of the coversand ridge, approximately 600 m east of the nearest settlement, a – probably – large urnfield was partly excavated (Van Tent 1974; Verlinde 1987, 18). To the west of the settlement a second, smaller burial site was found, which was used intermittently during the Late Bronze Age, Middle/Late Iron Age, and Roman period (Verlinde & Erdrich 2006, 291–3; Van Beek 2009, 172–4). Only one of the four Late Bronze Age burials included an urn. This small cemetery, which produced no ditches in association with graves and hardly any urns, can hardly be called an urnfield. The observed Late Bronze Age pattern deviates from the model introduced above in the fact that the settlements at Colmschate did not move around the burial sites, and that the inhabitants used two (very different) burial sites instead of one. However, the burial sites are once again situated in the periphery of the settlement area.

Even more interesting patterns emerge in the Early Iron Age. Not only the small burial site remained unused in this period, but the urnfield on the eastern section of the coversand ridge was abandoned as well. It was succeeded by a large Early Iron Age urnfield situated on one of the smaller coversand ridges south of the Weteringer Enk. This site was completely excavated; it contained approximately 100 burials (Verlinde 1997). As was shown in section 7, the same ridges south of the Weteringer Enk were settled again in the Early Iron Age, and it seems likely that both the inhabitants of these settlements and the community on the large coversand ridge used this urnfield, since no other Early Iron Age burial sites have been found.

Some burial sites in the coversand landscapes of the research area are situated on locations that seem unsuitable for permanent habitation, as for example an Early Iron Age urnfield that was recently excavated in Epse (Hermsen 2006). This urnfield is situated on a narrow river terrace covered with a thin layer of sand (Fig. 12). This elongated ridge was intermittently inhabited during several periods, among which the Late Neolithic, Early Bronze Age, Middle and Late Iron Age, and Early Roman period. The low density of features and finds dating from each of these phases indicates that these habitation phases were never longer than a few generations. Only a small number of features from the Early Iron Age have been found, implying that the settlement was located elsewhere for most of the time the urnfield was in use. Remarkably, the exact location of the urnfield was re-used for settlement during the Middle or Late Iron Age. Sites like the Epse urnfield, which consists of approximately 40–50 cremation burials, are unlikely to have functioned as fixed reference points for many centuries. This applies even more to small cemeteries with only a few burials, such as the smaller of the two burial sites at Colmschate. At the site of Zutphen-Ooyerhoek, two isolated cremation burials were excavated, one of them containing shards of a Late Bronze Age bowl and fragments of a horse skull (Bouwmeester 2000, 16). The site is situated on a riverdune, large parts of which have been investigated. The excavation did not yield a single settlement feature from the Late Bronze Age.

All these sites are situated in coversand landscapes. In order to get a more complete picture we should ideally also look at data from the ice-pushed ridge landscapes of Twente. Unfortunately, however, intensively studied microregions with detailed information on both burial sites and settlements are virtually absent there (Van Beek & Louwen in prep.). Still, it is interesting to compare the distribution pattern of older burial monuments with that of burial sites from the Urnfield period. As Verlinde pointed out, several urnfields in the province of Overijssel are situated near older burial mounds (1987, 316). Most of these sites are in Twente, including the Late Bronze Age urnfield at Oldenzaal-De Zandhorst, which developed beside a Late Neolithic burial mound (Hijszeler & Verlinde 1975). In Twente these sites are found both in ice-pushed ridge landscapes and in coversand landscapes. Various forms of re-use of older burial sites existed. Sometimes large urnfields developed near groups of older burial mounds, or near a single mound. At other sites younger cremation burials were placed in the top section of burial mounds, without erecting a new monument. According to Fontijn re-use of older burial sites probably does not reflect genealogical connections with previous communities; often centuries passed between one period of use and the next. This suggests that although specific knowledge of the older burial mounds was probably lost, they still remained

Fig. 12:
Early Iron Age urnfield and Middle/Late Iron Age settlement features at the site Epse-Olthof Noord (after Hermsen 2006)

important elements in the late prehistoric cultural landscape (Fontijn 1996, 81).

On the basis of these and similar examples we can conclude that spatial relations between settlements and burial sites in the research area were complex and diverse (see also Van Beek & Louwen in prep.). Burial sites vary greatly in location, size, appearance, and duration of use. According to Fokkens the average number of burials in an urnfield is approximately 200 (1997, 363). That number, however, is clearly far too high for our research area (Van Beek & Louwen in prep.). Burial sites consisting of only a few burials occur in other Pleistocene regions as well (eg, Schinkel 2005, 524). These sites are unlikely to have been fixed reference points that structured the movement of settlements through the landscape. One reason why the complex eastern Netherlands patterns often do not fit the model of Roymans and Fokkens might be the fact that their model was based on relatively homogeneous, large-scale landscapes. In Pleistocene sandy landscapes dominated by large coversand plateaus, it is perfectly possible to live and bury the dead in the same landscape units for long periods of time. The landscape structure of the eastern

Netherlands, however, is fundamentally different, as was explained earlier. Late prehistoric communities lived in far more diverse and heterogeneous territories. Furthermore, a general observation has to be made on the appearance of burial sites. In general, urnfields are perceived as large, collective burial sites that were used for several centuries and consist of several urn burials with surrounding ditch structures (eg, Hessing & Kooi 2005). However, many burial sites in the eastern Netherlands do not conform to this 'classical' image at all. It seems that the uniformity of urnfields has been greatly exaggerated, and that we have to stay alert for much more diversity.

9. CELTIC FIELDS?

In areas adjacent to the research area, such as the province of Drenthe and the Veluwe region, numerous Celtic field systems have been detected (Brongers 1976; Spek *et al.* 2003; Spek 2004, 146–50). These usually large, highly structured complexes of agricultural fields divided by low earthen banks are assumed to have been used from the Late Bronze Age to the earliest stages of the Roman period. Recently, however, a systematic analysis of high-resolution digital elevation maps could only confirm the presence of three undisputed Celtic field systems in the eastern Netherlands (Kooistra & Maas 2008). One of them is in the Achterhoek region, while the other two complexes are situated on the slopes of ice-pushed ridges in the glacial landscape of the Twente region. The difference with the adjacent regions in the density of the Celtic field systems is striking, and raises the question whether perhaps the effects of post-depositional processes obscure our view.

The possibility cannot be ruled out that some Celtic fields are still hidden underneath the so-called *plaggen* soils that from the late medieval period onwards formed on the largest coversand ridges and riverdunes as a result of soil improvement measures (Pape 1970). However, archaeological excavations have produced hardly any evidence to support this hypothesis. Only for one site, Denekamp-Klokkenberg, has the existence of a Celtic field been postulated, on the basis of the presence of a late prehistoric agricultural layer (Van der Hammen 1965; Van der Hammen & Bakker 1971). No remains of earthen banks were documented. In this context it has to be mentioned that earthen banks are assumed to have developed during the later stages of the use of these field systems (Spek *et al.* 2003). As a rule Celtic fields can be assumed to be fairly easily recognisable, especially since at least some of them are associated with settlement remains, burial mounds, and road systems. Leaving the interpretation of the Denekamp site aside, the information available at present must lead to the conclusion that large Celtic field systems with earthen banks are far rarer in our research area than they are in adjacent regions, and were never common.

Well-preserved late prehistoric landscapes with groups of burial monuments (section 5), Celtic fields, settlement remains, and road systems, such as we know them in the province of Drenthe and the Veluwe area, are only found in our research area in the ice-pushed ridge landscapes of Twente. In several respects these ice-pushed ridge landscapes seem to have more in common with parts of the province of Drenthe than they do with the adjacent coversand regions of Salland and the Achterhoek. The striking scarcity of Celtic fields might point to a different form of landscape organisation than existed in regions where such field systems are common. On the basis of the results of a small number of excavations in Celtic fields it is assumed that these played an important part in the location, structure, orientation, and movements of farmsteads and settlements (Gerritsen 2003, 170–80; Harsema 2005). In some cases the location and orientation of road systems and burial monuments seems also to have been determined by the structure of field systems, or perhaps the other way round (Gerritsen 2003, 170–80). In large parts of the research area there are no indications for this specific form of landscape organisation. The reasons why are difficult to explain. It is perhaps relevant here that extensive areas of potential arable land are relatively rare in the heterogeneous landscape of the eastern Netherlands. The high degree of fragmentation, in combination with an abundance of natural boundaries, may have made formal boundary markers redundant (Jager & Verlinde 2001, 63).

10. DIVERSITY AS THE NORM

Most known Middle and Late Iron Age settlement sites are situated on the large coversand ridges and riverdunes that (presumably) functioned as microregional settlement cores. As was mentioned above, at least some of these locations remained

inhabited until the Roman and early medieval periods. It has also been argued that, although the largest and most fertile sandy ridges with their high density of archaeological remains were the most stable elements of the late prehistoric settlement system, an exclusive research focus on these landscape units alone would be unwise (section 7). This clearly applies to the Late Iron Age and Early Roman period.

During the last two decades a number of settlements have been discovered in supposedly less favourable landscape zones, some of which had previously even been regarded as wholly unsuitable for settlement. An interesting example is the site of Borne-Zuid Esch, which is located in one of the coversand landscapes of Twente (Scholte Lubberink 2007). The excavated settlement consists of a single farmstead from the final stage of the Late Iron Age and the first part of the Early Roman period, that had been rebuilt only once (Fig. 13). The most striking characteristic of this site is its remarkably low position in the landscape, near a stream valley. Some of the outbuildings are even situated on the floodplain. More settlements have been found that were situated in relatively low coversand areas and on the lower slopes of large coversand ridges. The excavated number of farmhouses and outbuildings, the general density of features and finds as well as the site locations, all suggest that they tended to be inhabited for no more than a few generations. In the province of Drenthe the same shift towards the lower parts of the landscape has been documented (Spek 2004, 150–3). Palaeo-ecological studies of raised bogs in this region led to the conclusion that the Late Iron Age and the Early Roman period were characterised by relatively 'dry' climatic conditions (Spek 2004, 152). These climatic changes allowed parts of the landscape to be settled that had previously been too wet. This hypothesis seems plausible for the eastern Netherlands as well.

Another question is how the Middle and Late Iron Age and Early Roman period settlements related to burial sites. Only 21 burial sites can be dated convincingly to the later phases of the Iron Age and the Early Roman period (Van Beek 2006; 2009, 432–40). This is a remarkable contrast with the 140 burial sites dated to the Urnfield period. The same contrast is observable in other parts of the Netherlands (Gerritsen 2003, 131–5; Hessing & Kooi 2005), where it has been argued that the decreased 'archaeological visibility' of burial sites negatively influenced their chances of discovery. Burial sites become smaller, most burials no longer have surrounding ditches, and urns were less frequently used. The same characteristics mark the burial sites in our research area. The youngest urnfields seem to have been abandoned during the initial stages of the Middle Iron Age. We have to be careful with this assumption though, as only few radicarbon dates are available and completely excavated urnfields are rare. Incidental reuse of older urnfields cannot be excluded.

The burial sites that 'replace' the urnfields display much variation. The number of cremation burials varies from only one to *c*. 40, which suggests a certain degree of variation in the time they were used and possibly in the size of the local communities using the burial site. Most burial sites however were used for short periods of time. They generally seem to be situated closer to settlements than they were during the Urnfield period, such as documented at Borne (Fig. 13). In parts of the Meuse-Demer-Scheldt area large, 'collective' burial sites reappear in the 1st century BC and later (Gerritsen 2003, 135–8), but similar sites are lacking in the eastern Netherlands. This might be a result of the difference in size of the local communities, as in the former region there are far stronger indications for settlement nucleation during the final stages of the Iron Age (Gerritsen 2003, 181–9) than in our research area.

11. DISCUSSION

This paper began with the observation that scientific debate on the late prehistoric habitation history of the Pleistocene coversand landscapes of the Netherlands has so far been dominated by research results obtained in two intensively investigated regions, whereas other areas have hardly entered into the archaeological debate. In general we might state that habitation models based on well-researched regions tend to be applied to other, less intensively studied areas, usually implicitly. However, whether these models lend themselves to do that is hardly ever tested. In this paper it was attempted to do so by building a new interpretative framework for the eastern Netherlands late prehistoric patterns in site location, settlement development, and landscape organisation, and by analysing to what degree these characteristics agree with influential models and hypotheses for other regions.

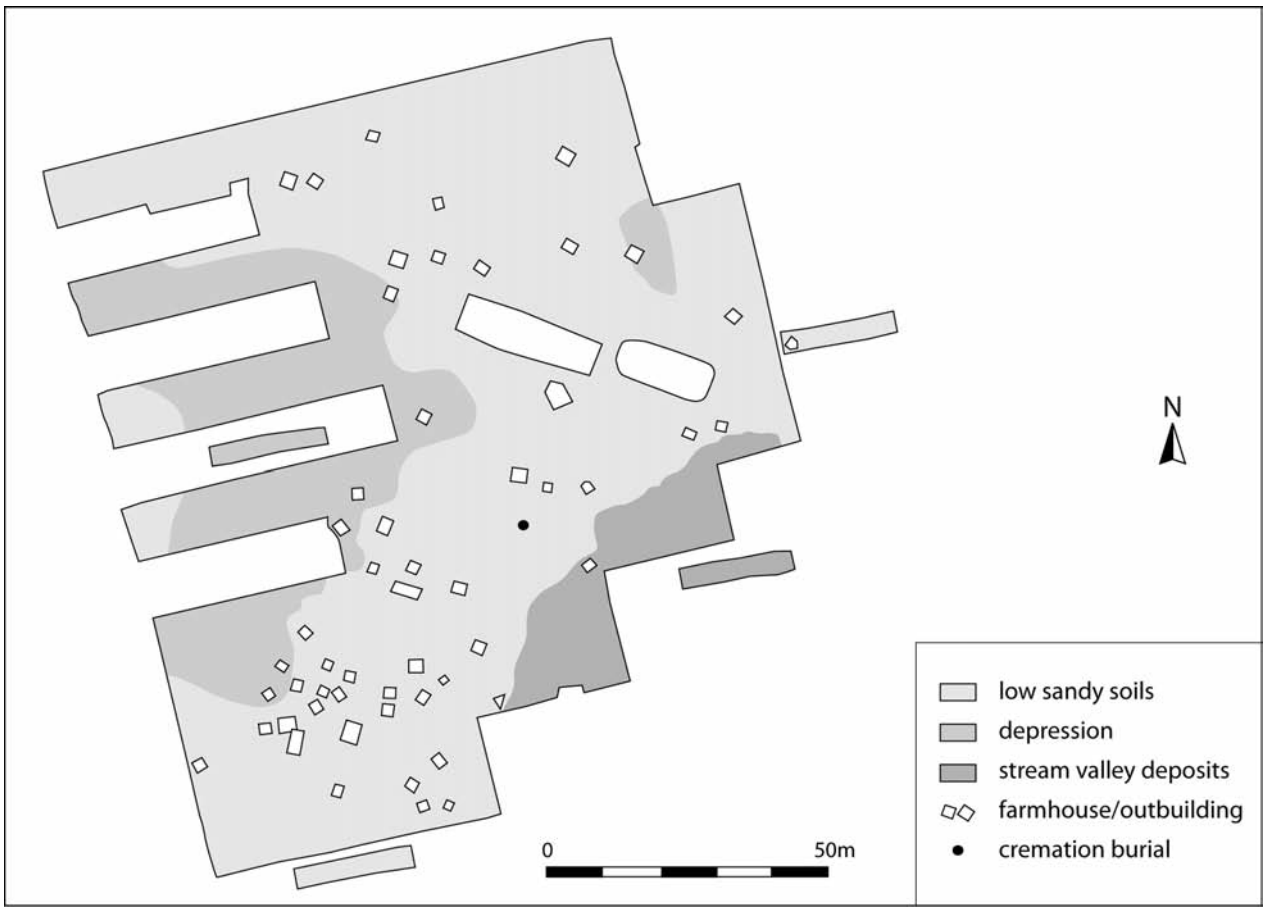

Fig. 13:
Late Iron Age/ Early Roman settlement site at Borne-Zuid Esch (after Scholte Lubberink 2007, 114)

Some general models seem to be valid for large parts of the Low Countries and clearly fit eastern Netherlands archaeological reality as well, such as the appearance of so-called 'familiar landscapes' after *c*. 1500 cal. BC (Arnoldussen & Fontijn 2006). In many other respects however the patterns clearly deviate from those observed in other regions. Especially the great regional and local diversity in physical geography as well as archaeology is a particularly striking characteristic. Even archaeological models developed especially for the eastern Netherlands are only valid for a limited area, implying that it is quite hard to create models that can be applied to the research area as a whole. The 'mosaic' character of both landscape and habitation development shows that, in fact, several 'landscape biographies' should be written and combined before a balanced picture of the late prehistoric habitation history can be obtained.

What does this case teach us with regard to late prehistoric archaeology in general? Clearly the research results are not only interesting for a national archaeological debate. They prove that, when carrying out regional studies, leaning too heavily on research results from other regions always brings the risk that specific characteristics of a region will be overlooked or that regional diversity will be ignored in order to make the data fit the expected pattern. One size does not fit all. The only way to prevent this is to build new, solid interpretative frameworks for regions that so far have received little attention, and to create an awareness that existing models should not be applied uncritically. We constantly have to ask

ourselves how widely the models and hypotheses that are used time and again in late prehistoric archaeology actually can be applied.

Obviously it will not be argued here that modelling late prehistoric habitation history is useless. It is probably important to first pinpoint the archaeological patterns that might result from, for instance, regional geological characteristics or climatological circumstances. The fragmented landscape structure of the eastern Netherlands for instance might be key to the appearance of late prehistoric settlement units that are smaller than 'average' in the Low Countries. The striking scarcity of Celtic field systems is a possible result of the abundance of natural boundaries, which may have made formal boundary markers redundant (Jager & Verlinde 2001, 63). Also the relatively 'dry' climatic conditions that seem to characterise the Late Iron Age (Spek 2004, 152) might especially have triggered site location changes in low-lying regions with a heterogeneous landscape structure and have had far less consequences elsewhere.

Contrary to such regional characteristics we can distinguish important changes that are recognised almost simultaneously across large parts of northwestern Europe. Among the most striking examples are the genesis and disappearance of urnfields. Urnfields in general display a remarkable uniformity over vast areas (Harding 2000, 111–14). Such large-scale changes are more likely to reflect radical ideological changes (eg, Fokkens 1997). Models explaining these phenomena therefore are more likely to be applicable to far larger regions.

Even so, as has been demonstrated, the appearance of these burial sites still varies greatly on a regional and even local scale, and the same applies to the exact way in which they were used by local communities.

Acknowledgements: The research that formed the basis of this paper has been conducted at Wageningen University and the Dutch Cultural Heritage Agency (Amersfoort) as part of the project *A Cultural Biography of the Coversand Landscapes in the Salland and Achterhoek regions*, funded by the Netherlands Organisation for Scientific Research. I wish to thank Dr Julie Gardiner and the three anonymous reviewers that have commented on this paper. My colleague Dr Bert Groenewoudt (Dutch Cultural Heritage Agency) provided helpful comments and suggestions. Gerre van der Kleij of GrondTaal Vertaalbureau edited the final English draft.

BIBLIOGRAPHY

Appels, F. 2002. *Tussen Deventer en Epse. 10.000 Jaar bewoningsgeschiedenis van het plangebied Epse-Noord*. Enschede

Arnoldussen, S. & Fokkens, H. (eds). *Bronze Age Settlements in the Low Countries*. Oxford: Oxbow

Arnoldussen, S. & Fontijn, D. 2006. Towards familiar landscapes? On the nature and origin of Middle Bronze Age landscapes in the Netherlands. *Proceedings of the Prehistoric Society* 72, 289–317

Beek, R. van. 2006. Het grafritueel in Oost-Nederland tussen de Vroege IJzertijd en de tweede eeuw AD (ca. 500 BC–100 AD). *Lunula* XIV (Mariemont), 61–9

Beek, R. van. 2009. *Reliëf in Tijd en Ruimte. Interdisciplinair onderzoek naar bewoning en landschap van Oost-Nederland tussen vroege prehistorie en middeleeuwen*. PhD-thesis, Wageningen University, Wageningen

Beek, R. van & Keunen, L.J. 2006. A cultural biography of the coversand landscapes in the Salland and Achterhoek Regions. The aims and methods of the Eastern Netherlands Project. *Berichten van de Rijksdienst voor het Oudheidkundig Bodemonderzoek* 46, 355–75

Bloemers, J.H.F. 1999. Regional research approach in the Netherlands since the early 70s. A fundamental decision with long-term effects. In H. Sarfatij, W.J.H. Verwers & P.J. Woltering (eds), *In Discussion with the Past. Archaeological Studies presented to W.A. van Es*, 317–27. Zwolle/Amersfoort

Bosch, F. ten, Groothedde, M. & Groenewoudt, B. 1997. De archeologie van 'het Swormink'. Over bewoningsexpansie en –continuïteit in Colmschate (gem. Deventer). *Westerheem* 46, 23–40

Bourgeois, Q. & Fontijn, D. 2008. Houses and barrows in the Low Countries. In Arnoldussen & Fokkens (eds) 2008, 41–57

Bouwmeester, H.M.P. 2000. *Eme in de Romeinse en Frankische tijd. Archeologisch onderzoek naar de nederzetting en het grafveld op de terreinen van het Laaksche veld en de Laaksche tuin in de Ooyerhoek, gemeente Zutphen*. s'Hertogenbosch: *BAAC-rapport* 98.045

Bouwmeester, J. 2008. Bronze Age occupation on coversand ridges of the Looërenk near Zutphen. In Arnoldussen & Fokkens (eds) 2008, 69–74

Bouwmeester, H.M.P., Fermin H.A.C. & Groothedde, M. (eds). 2008. *Geschapen landschap. Tienduizend jaar bewoning en ontwikkeling van het cultuurlandschap op de Looërenk in Zutphen, gemeente Zutphen*. s'Hertogenbosch: BAAC BV

Brongers, J.A. 1976. *Air Photography and Celtic Field Research in the Netherlands*. Groningen: Nederlandse Oudheden 6. Amersfoort, PhD-thesis Rijksuniversiteit Groningen

Clevis, H. & Verlinde A.D. (eds). 1991. *Bronstijdboeren in Ittersumerbroek. Opgraving van een bronstijdnederzetting in Zwolle-Ittersumerbroek*. Kampen: Stichting Archeologie IJssel &Vechtstreek

Deeben, J.& Groenewoudt, B.J. 1999. Vondsten uit de Steentijd onder esdekken. *Archeologie* 9, 53–98.

Fermin, H.A.C. 2008: Steentijd, in: Bouwmeester *et al.* (eds) 2008, 43–83

Fokkens, H. 1997. The genesis of urnfields: economic crisis or ideological change? *Antiquity* 71(272), 360–73

Fokkens, H. & Arnoldussen, S. 2008. Towards new models. In Arnoldussen & Fokkens (eds) 2008, 1–16

Fontijn, D.R. 1996. Socialising landscape. Second thoughts about the cultural biography of urnfields. *Archaeological Dialogues* 3, 77–87

Geel, B. van, Buurman, J. & Waterbolk, H.T. 1996. Archaeological and palaeoecological indications of an abrupt climate change in the Netherlands, and evidence for climatic teleconnections around 2650 B.C. *Journal of Quaternary Science* 11, 451–60

Gerding, M.A.W. 1995. *Vier eeuwen turfwinning. De verveningen in Groningen, Friesland, Drenthe en Overijssel tussen 1550–1950*. Wageningen: A.A.G. Bijdragen 35

Gerritsen, F. 2003. *Local Identities. Landscape and Community in the Late Prehistoric Meuse-Demer–Scheldt Region*). Amsterdam: Amsterdam Archaeological Studies 9

Gijn, A. van & Waterbolk, H.T. 1984. The colonisation of the salt marshes of Friesland and Groningen. The possibility of a transhumant prelude. *Palaeohistoria* 26, 101–22

Groenewoudt, B.J. 1994. Prospectie, waardering en selectie van archeologische vindplaatsen: een beleidsgerichte verkenning van middelen en mogelijkheden. Amsterdam: *Nederlandse Archeologische Rapporten* 17, PhD-thesis University of Amsterdam

Groenewoudt, B.J. Deeben, J, Geel, B. van & Lauwerier, R.C.G.M. 2001. An early Mesolithic assemblage with faunal remains in a stream valley near Zutphen, The Netherlands. *Archäologisches Korrespondenzblatt* 31, 329–48

Groenewoudt, B.J., Haaster H. van, Beek R. van & Brinkkemper, O. 2008. Towards a reverse image. Botanical research into the landscape history of the eastern Netherlands (BC 1100–AD 1500). *Landscape History* 29, 17–33

Groenewoudt, B., Groothedde M. & Velde, H. van der. 2006. *De Romeinse Tijd, Middeleeuwen en vroegmoderne tijd in Midden- en Oost-Nederlands zandgebied*. NOaA hoofdstuk 20 (versie 1.0)(www.noaa.nl), 1–59.

Groenewoudt, B., Kosian M., Laarman F. & Rensink, E. 2007. De 'fauna van de Linderbeek' opnieuw bekeken, *Beknopte Rapportage Archeologische Monumentenzorg* 7

Groenewoudt, B. & Scholte Lubberink, H. 2007. Essen en plaggendekken in Oost-Nederland vanuit een archeologisch perspectief. In: J. van Doesburg, M. de Boer, J. Deeben, B. Groenewoudt & T. de Groot (eds), Essen in zicht. Essen en plaggendekken in Nederland: onderzoek en beleid. *Nederlandse Archeologische Rapporten* 34, 53–77

Groenewoudt, B.J., Spek Th., Velde H.M. van der, Amen I. van, Deeben J.H.C. & Smeerdijk, D.G. van. 1998. Raalte-Jonge Raan: de geschiedenis van een Sallandse bouwlandkamp. *Rapportage Archeologische Monumentenzorg* 58

Hammen, T. van der. 1965. 'De Klokkenberg bij Denekamp'. *Tijdschrift van het Koninklijk Nederlands Aardrijkskundig Genootschap* 82, 123–36

Hammen, T. van der & Bakker, J.A. 1971. Former vegetation, landscape and man in the Dinkel Valley. In T. van der Hammen & T.A. Wijmstra (eds), *The Upper Quarternary of the Dinkel Valley*, 147–58. Mededelingen Rijksgeologische Dienst, nieuwe serie 22

Harding, A.F. 2000. *European Societies in the Bronze Age*. Cambridge: University Press

Harsema, O. 2000. Farms amongst Celtic fields. Settlements on the northern sands. In Louwe Kooijmans *et al.* (eds), 2000, 543–55

Hermsen, I. 2006. Steentijdjagers en prehistorische boeren langs de Dortherbeek. Archeologisch onderzoek aan de noordkant van boerderij de Olthof in Epse-Noord (gemeente Deventer). *Archeologie in Deventer* 6

Hermsen, I. 2007. Een afdaling in het verleden. Archeologisch onderzoek van bewoningsresten uit de prehistorie en de Romeinse tijd op het terrein Colmschate (gemeente Deventer). *Rapportages Archeologie Deventer* 19

Hessing, W. & Kooi, P. 2005. Urnfields and cinerary barrows. Funerary and burial ritual in the Late Bronze and Iron Ages. In Louwe Kooijmans *et al.* (eds) 2000, 631–54

Hijszeler, C.C.W.J. & Verlinde, A.D. 1975. Das Urnenfeld 'De Zandhorst' in Oldenzaal. *Berichten van de Rijksdienst voor het Oudheidkundig Bodemonderzoek* 25, 37–50.

Jager, S.W. & Verlinde, A.D. 2001. Prehistorische akkers (celtic fields) in Twente. *'t Inschrien* 33 (2), 59–66

Kooistra, M.J. & Maas, G.J. 2008. The widespread occurrence of Celtic Field systems in the central part of the Netherlands. *Journal of Archaeological Science* 35, 2318–28

Louwe Kooijmans, L.P., Broeke, P.W. van den, Fokkens, H. & Gijn, A. van (eds). *The Prehistory of the Netherlands,* vol. 2. Amsterdam

Maas, G. & Makaske, B. 2007. *Het natuurlijke landschap van Oost-Nederland. Geomorfologische detailkarteringen van de gebieden Deventer-Colmschate, Neede-Eibergen, Markelo-Rijssen, Zutphen-Warnsveld en Ruurlo*. Wageningen: Internal Report Alterra

Pape, J.C. 1970. Plaggen soils in the Netherlands. *Geoderma* 4, 229–55

Rooi, C.-J. de. 2006. *Waar de venen groeiden. De situering en transformatie van veengebieden in de Achterhoek*. Unpublished MA thesis Wageningen University, Wageningen

Rooi, C.-J. de. 2008. Waar de venen groeiden: de Achterhoek. *Historisch-Geografisch Tijdschrift* 26–3, 117–129

Roymans, N. & Fokkens, H. 1991. Een overzicht van veertig jaar nederzettingsonderzoek in de Lage Landen. In H. Fokkens & N. Roymans (eds), Nederzettingen uit de bronstijd en de vroege ijzertijd in de lage landen. *Nederlandse Archeologische Rapporten* 13, 1–19

Roymans, N. & Gerritsen, F. 2002. Landscape, ecology and mentalités. A long-term perspective on developments in the Meuse-Demer-Scheldt region. *Proceedings of the Prehistoric Society* 68, 257–87

Roymans, N. & Kortlang, F. 1999. Urnfield symbolism, ancestors and the land in the Lower Rhine region. In F. Theuws & N. Roymans (eds), *Land and Ancestors. Cultural dynamics in the Urnfield period and the Middle Ages in the Southern Netherlands*, 33–61, Amsterdam

Sanden, W.A.B. van der. 2005. Hof van Twente, Markelo (Elsenerveen). Veenlijken in Overijssel: twee skeletten uit het Elsenerveen. In H. Clevis & S. Wentink (eds), *Overijssels Erfgoed. Archeologische en Bouwhistorische Kroniek 2004*, 29–34

Schinkel, K. 2005. Hamlets on the move. Settlements in the southern and central parts of the Netherlands. In Louwe Kooijmans *et al*. (eds) 2000, 519–41

Scholte Lubberink, H.B.G. 1998. De landschappelijke ligging van archeologische sites uit de steentijd en de Vroege Bronstijd in Noordoost-Twente, Provincie Overijssel. In J. Deeben & E. Drenth (eds), Bijdragen aan het onderzoek naar de Steentijd in Nederland verslagen van de 'Steentijddag' 1. *Rapportage Archeologische Monumentenzorg* 68, 111–22

Scholte Lubberink, H.B.G. 2007. Plangebied Bornsche Maten-Zuid Esch, gemeente Borne. Een nederzetting uit de Late IJzertijd en Vroeg Romeinse tijd. s'Hertogenbosch: *RAAP-rapport* 1432

Spek, T. 2004: *Het Drentse esdorpenlandschap. Een historisch-geografische studie*. PhD-thesis Wageningen University, Wageningen

Spek, T., Groenman-van Waateringe, W., Kooistra, M. & Bakker, L. 2003. Formation and landuse-history of Celtic fields in North-West Europe. An interdisciplinary case study at Zeijen, The Netherlands. *European Journal of Archaeology* 62, 141–73

Theunissen, E.M. 1999 *Midden-bronstijdsamenlevingen in het zuiden van de Lage Landen. Een evaluatie van het begrip 'Hilversum-cultuur'*. PhD-thesis Leiden University, Leiden

Tent, W.J. van. 1974. A cremation cemetery at Colmschate, Municipality of Deventer, Province of Overijssel. *Berichten van de Rijksdienst voor het Oudheidkundig Bodemonderzoek* 24, 133–41.

Verlinde, A.D. 1980. Prehistorische depots uit het Enterveen en Elsenerbroek in West Twente. *'t Inschrien* 12, 17–25.

Verlinde, A.D. 1987. *Die Gräber und Grabfunde der späten Bronzezeit und frühen Eisenzeit in Overijssel*. PhD-thesis Leiden University, Leiden

Verlinde, A.D. 1997. Deventer-Colmschate-'t Bramelt. In A.D. Verlinde (ed.), *Archeologische Kroniek Overijssel 1996*, *Overijsselse Historische Bijdragen* 112, 156–8

Verlinde, A.D. 2000. Inventarisatie en onderzoek van archeologische locaties op en rond de Colmschater Enk te Deventer. *Rapportage Archeologische Monumentenzorg* 75

Verlinde, A.D. & Erdrich, M. 2006. Het Germaanse grafveld te Deventer-Colmschate, opgraving 1984. In B.J. Groenewoudt, R.M. van Heeringen & G.H. Scheepstra (eds), Het zandeilandenrijk van Overijssel. Bundel verschenen ter gelegenheid van de pensionering van A.D. Verlinde als archeoloog in, voor en van Overijssel. *Nederlandse Archeologische Rapporten* 22, 271–382

Verlinde, A.D. & Theunissen, E.M. 2001. Tubbergen-Vasse. In A.D. Verlinde (ed.), *Archeologische Kroniek Overijssel 2000*, *Overijsselse Historische Bijdragen* 116, 165–9

Vos, P. & Kiden, P. 2005. De landschapsvorming tijdens de steentijd. In J. Deeben, E. Drenth, M. van Oorsouw & L. Verhart, *De Steentijd van Nederland (Archeologie* 11/12*)*, 7–37

Waterbolk, H.T. 1964. The Bronze Age settlement of Elp. *Helinium* 4, 97–131

Waterbolk, H.T. 1995. Patterns of the peasant landscape. *Proceedings of the Prehistoric Society* 61, 1–36

Waterbolk, H.T. 2007. Zwervend tussen de venen. Een poging tot reconstructie van het woongebied van de hunebedbouwers op het centrale deel van het Fries-Drents Plateau. In J.H.F. Bloemers (ed.), *Tussen D26 en P14: Jan Albert Bakker 65 jaar*, 181–208