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THE
PREHISTORY
OF THE
NETHERLANDS

VOLUME 1

Edited by

J.P. Louwe Kooijmans



The Prehistory of the Netherlands

Volume I

Edited by

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Note on the dates used in this book

Dates before 50,000 are based on various physical dating techniques, other than radiocarbon, and expressed as 'years ago'.

Dates in the period 50,000-10,000 years ago are based on uncalibrated radiocarbon dates and expressed as 'years ago' or 'years BP' (= Before Present).

Dates in the last 10,000 years are based on calibrated radiocarbon dates and expressed as 'years BC'. Only these dates can be equated with calendar or solar years.

See chapter 1, section 'periods and dates' for the principles of radiocarbon dating.

Part III

Mixed farming societies

By the end of the Middle Neolithic crop cultivation and animal husbandry had become the mainstays of the subsistence system over almost the whole of the Netherlands, but it was only in the Late Neolithic that mixed farming proper, including cattle breeding and plough (ard) agriculture, started to be practised. The latter development went hand in hand with the introduction of innovations associated with this form of agriculture: the use of ox-drawn vehicles and the production of milk and wool. By the Middle Bronze Age the house-cum-byre had become the centre of the farmstead. The impact of man on the environment is clearly visible in the pollen diagrams in the form of indications of the development of heathlands and podzols due to the shorter fallow periods in the crop rotation cycles.

One of the many changes that took place in the Late Neolithic involved the replacement of collective funerary monuments such as hunebedden by barrows. It is for this reason that the first Late Neolithic culture is also referred to as the Single Grave culture; from this time onwards the standard burial rite comprised the inhumation of a single corpse.

As also in the areas surrounding the Netherlands, metal (copper and gold) started to be forged and used for the first time in the context of the Bell Beaker culture. That was followed shortly after by the introduction of bronze, the metal that gave the Bronze Age its name. The exchange networks that had to be established to obtain that bronze will certainly have played an important part in the social developments that took place in the Bronze Age communities. Competition for the leading positions within those communities was probably the impetus behind the emergence of more complex societies in later periods.

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Harry Fokkens

2900-1100 BC

ENVIRONMENT AND SETTLEMENT

The Late Neolithic and the Early and Middle Bronze Age cover the part of the Holocene that is called the Sub-Boreal. In this period the climate was probably a little warmer than it is today. Although the difference in temperature will have been only small – a few degrees in terms of the annual average² – it may have had some influence on the vegetation and crop yields. What will have had a greater effect on the development of the landscape was the relative rise in sea level. Around 2000 BC the rate at which the sea level rose started to decrease, enabling the fen peat to expand further towards the sea. With time, a layer of infertile peat (raised bogs) developed on top of these fertile fen peat and gradually expanded inland. The resultant wide peat zone was not yet fit for occupation, but it was visited by the occupants of other areas. The many finds that have been recovered from this peat show that the raised bogs in particular occupied important places in what could be called the 'ritual landscape'.

From an economic viewpoint – and hence also from the viewpoint of settlement – the higher sandy soils and the clay regions will undoubtedly have appealed more to the Late Neolithic and Bronze Age farmers than the marshy parts of the Netherlands. Until the Late Bronze Age at least, mixed deciduous forests including oak and beech were dominant on the sandy soils. The vegetation of the transitional zones between the higher sands and the lowlands and stream valleys was more open, with lower trees like willows, alders and hazels. In the clearances that were created in the forests for crop cultivation on the marginal sandy soils heath began to grow, if still on a relatively small scale. The formation of these permanent clearances must be associated with changes in farming practices, in particular the introduction of the plough as a means for breaking up the ground and the intensive use of the clearances for pasturing.

Conditions in the coastal regions were also attractive for occupation when the sea permitted it. The higher parts were suitable for house construction and crop cultivation, while the low-lying parts constituted excellent pastures. That will have been a favourable combination of conditions for Bronze Age farmers in particular, in view of their heavy reliance on cattle breeding. The coastal deposits of West-Frisia, as these were silted up to a high level, were, for example, ideal settlement areas for cattle farmers. The dunes and the sandy deposits in the rivers area were also intensively used, as they had been in the previous period. The sediments of the tidal flats in the north of the Netherlands, however, were not yet sufficiently consolidated to allow occupation; they were not colonised until in the Iron Age.

In view of the great size of the coastal peatland, the expanding swamps in the area of the river Vecht in Overijssel and the poor accessibility of the rivers area, the occupants of the different parts of the Netherlands will not have maintained frequent contacts with one another (plate 4). It was probably still possible to travel from the northern Netherlands to the coastal area of West-Frisia across dry sand in the Late Neolithic, but by the Middle Bronze Age this route had been closed off as a consequence of the development of the raised bogs. The southern part of

the plateau of Friesland and Drenthe was also increasingly enclosed by the peat expanding from the valley of the Vecht.

The rivers area constituted a distinct environmental unit whose specific settlement conditions led to unity in cultural terms, too. The same holds for the clay region of Westfrisia and the sandy soils of Brabant. The occupants of those different regions will undoubtedly have maintained contacts with one another, but it is likely that each region was occupied by different tribes, with their own regional traditions and their own cultural identity. As the economic basis of these regions was more or less the same, there were no great differences between the individual regions. Nevertheless, regional variations are observable in, for example, the motifs used to decorate the pottery, the plans of the houses, the burial rite, etc.

SOCIAL AND ECONOMIC CHANGES

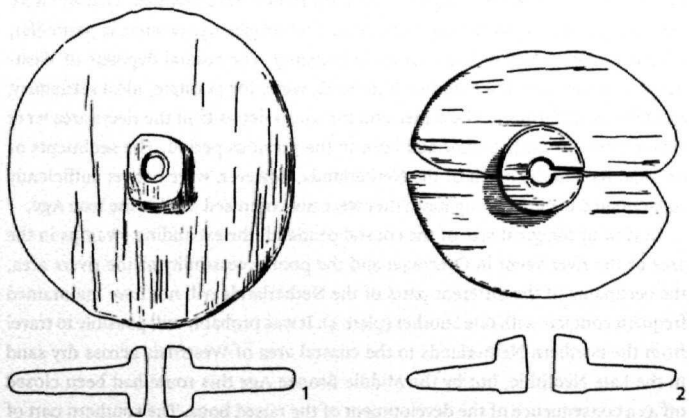
The Late Neolithic: consequences of the 'secondary products revolution'

The early third millennium BC saw a number of – presumably closely related – developments. Around 3000 BC indications of the frequent use of ards, the introduction of the wheel, the development of wool production, etc. started to appear all over Europe.² Sherratt called this 'the secondary products revolution', by which he meant to indicate that although these innovations may have been introduced at an earlier date already, it was around this time that they found widespread acceptance.³ The phase of experimentation was over: in the Late Neolithic the plough and wheeled vehicles – both drawn by a team of oxen – became integral parts of the agricultural system (fig 16.1). A little later, around 2300 BC, metal started to be used and forged in the Netherlands. The Late Neolithic is hence a period of major technological advance, too.

These innovations of course not only affected the food production, but also the social structure and the related framework of beliefs.⁴ The changes observable in the material culture and burial rite are probably attributable to these same innovations. Some twenty years ago, however, it was still generally assumed that the sudden appearance of the Battle Axe or Corded Ware cultures over large parts of temperate Europe reflected the migration of tribes of warrior herdsmen, probably from the Pontic steppes bordering the lower reaches of the Volga; they were thought to have been the first speakers of an Indo-Germanic language to have arrived in this part

fig. 16.1

Two wooden one-piece disc wheels from the peat of the Smeulveen near Emmen (1) and Weerdinge (2). Scale 1:15. The earliest known wheels in Europe date from around 3000 BC. Fourteen of such wheels are known from the Netherlands. They were intentionally deposited in peat bogs, sometimes in pairs and in one case close to a trackway. All but one were found in the eastern part of the province of Drenthe, and all date from the same short period of around 2600-2500 cal BC.



of Europe.⁵ Likewise, the bell beakers were associated with people who had spread over Europe from the Iberian peninsula via the Atlantic coast, bringing along the knowledge of metal working together with their pottery. This picture has however recently been overthrown – in particular by evidence obtained in the Netherlands, discussed by Lanting and Van der Waals. The population movements which were in the past invariably invoked to explain all cultural changes are becoming increasingly less obvious explanations for such phenomena. That is not to say that population movements are always unacceptable as explanations for cultural changes, but in the cases discussed here a different explanation is now preferred. The model proposed by Lanting and Van der Waals assumes a continuous development from the Single Grave culture to the Bell Beaker culture.⁶ Since its introduction, many archaeologists have adopted this 'Dutch Model', as Harrison called it.⁷

The Bronze Age: mixed farming

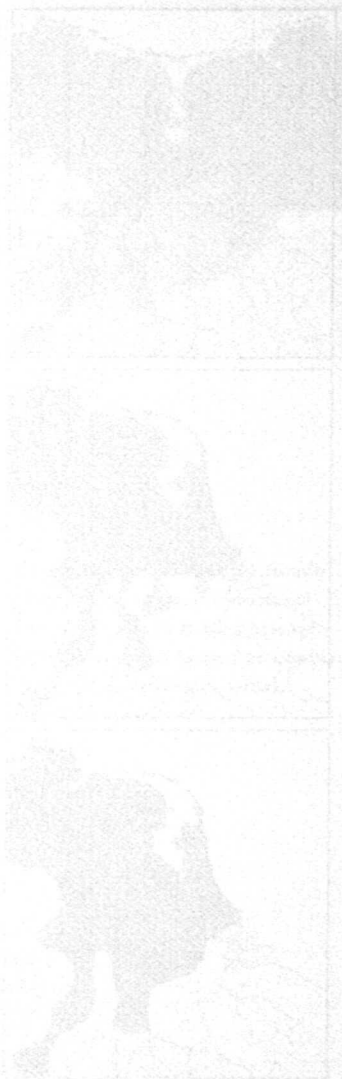
Within about a thousand years from the introduction of the innovations agriculture evolved into what may be called true integrated mixed farming. The sustainable balance of integrated crop cultivation and animal husbandry that was established in those early days was to remain the economic basis of many farms in the sandy part of the Netherlands until the 1960s. The changes that took place in the material culture and burial rite in the Late Bronze Age are hence more likely to have been the consequences of developments associated with the use of bronze than of economic instability.

The production and 'consumption' of bronze are indeed important aspects of the Bronze Age, if aspects about which we are still poorly informed. What is particularly difficult for us to understand is how the bronze objects found in the Netherlands were obtained and why they were 'discarded' in graves and deposits. This last problem has been the subject of extensive theoretical treatises on the functioning of the exchange networks: we prefer to use the word 'exchange' rather than 'trade' in this period. What does seem to be fairly certain is that the regional differentiation observable in the Late Neolithic persisted in the Bronze Age. Typological studies of the bronzes in particular have shown that the northern and eastern parts of the Netherlands formed part of the Scandinavian and northern German networks, whereas the southern part of the country belonged to the Belgian-French and, more generally speaking, the Central European exchange area. But how those networks functioned, who played the leading parts in them, what goods were circulated, these are still topics of discussion which will require further research.

CULTURAL UNITS: UNITY IN DIVERSITY

The Beaker cultures: uniformity in appearance only

Throughout long periods of prehistory, cultural differences were observable in the Netherlands, in particular between the two parts of the country separated by the major rivers. The differences in question were not all that great, though; in fact, they were rather comparable to the differences that are still observable between those parts today: the population of the area to the south of the rivers is largely Catholic and speaks a slightly different dialect from the people to the north, who are predominantly Protestant. Those differences cannot be traced back to a fundamental contrast between the two parts, but the division they imply is characteristic



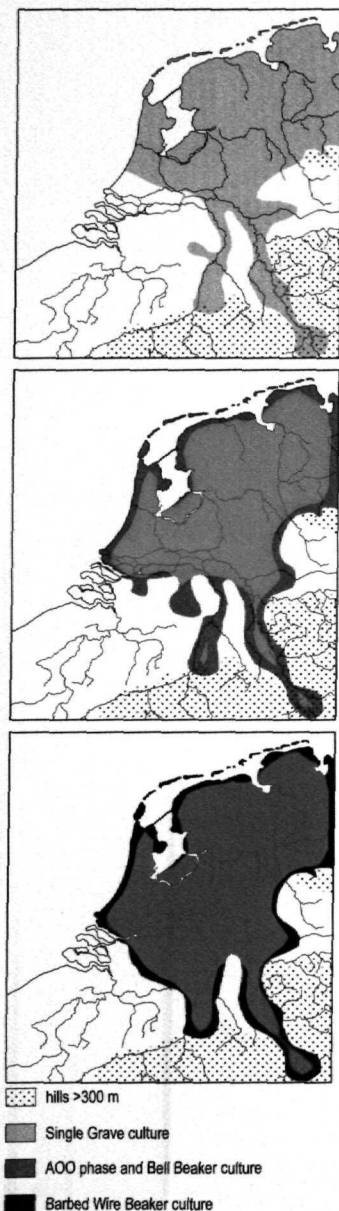


fig. 16.2
Distribution of finds from three main phases of the Beaker cultures in the Netherlands and its environs.

of the Netherlands. We assume that the differences between the two parts of the country were of a similar nature in prehistoric times, only then natural and social barriers will have been less easily surmountable than they are today.

Hardly any signs of such differences are observable in the Late Neolithic; there are certainly no differences enabling us to distinguish different cultural groups within the Netherlands in this period. On the contrary, in fact: at first sight, there seems to be very little relation between the distribution areas of the Beaker cultures and the areas of the different cultures of the Middle Neolithic. Beaker pottery steadily spread across the whole of the Netherlands with the exception of the southernmost part. Finds of the Single Grave culture have been traced in the valley of the Meuse down to the central part of Limburg (fig 16.2), but none are known from the central part of Brabant; not many Bell Beaker sites have been found in that area, either. It is indeed not inconceivable that this area was only sparsely occupied in the Late Neolithic. That would agree with the evidence suggesting that the situation in the Middle Neolithic was very much the same, as that would imply that very little of the woodland had been cleared and made suitable for plough agriculture.

This picture of uniformity began to crumble in the late phase of the Bell Beaker period, when a distinct style of pottery decoration emerged in the Veluwe region and the hills of Utrecht. Beakers of this Veluwe type have also been found in north-east Brabant and the central part of Limburg, but only few findspots are known in the eastern and northern parts of the Netherlands and the adjacent part of Germany, where different types of bell beakers prevailed in this period.

The distribution pattern of the Corded Ware that is characteristic of the last phase of the Beaker cultures is largely the same as that of the Bell Beaker culture, but although Corded Ware has been found at many locations up to the Atlantic coast, its overall distribution area is much smaller than that of the bell beakers. The Netherlands occupies a special place within that area as the earthenware appears to have been distributed from here. As Corded Ware has been found both in barrows and in pits within settlements, archaeologists increasingly tend to speak of a Corded Ware culture, even though the number of finds so far recovered, especially the number of settlement finds, is actually quite small.

The Middle Bronze Age: regional differences

In the Middle Bronze Age, from c. 1800 BC onwards, regional differences became so pronounced as to enable us to distinguish different cultures, although it is not really possible to draw sharp lines between those cultures. The culture distinguished in the northern sandy region has been called the Elp culture, that observed in the central and southern parts of the country the Hilversum culture. The western Netherlands, where Middle Bronze Age settlements and barrows have been discovered at several sites in the dunes, is usually classed as part of the area of the Hilversum culture (fig. 16.3). In the last part of the Middle Bronze Age, however, a distinct regional group manifested itself in Westfrisia; that group's culture is referred to as the Hoogkarspel culture. Due to this area's isolated position, the colonists who settled here when the salt marshes had dried out sufficiently to allow occupation apparently rapidly evolved into a close community with a pottery tradition and burial rite of its own. Whereas the Middle Bronze Age burial rite of the rest of the Netherlands was characterised by burial in a central grave beneath a barrow which was often reused to accommodate secondary burials, no evidence of burials whatsoever has been found in Westfrisia, or at least no evidence from the mature phase of the Hoogkarspel culture.

The differences between the regions distinguished above concern the burial rite and the pottery and to a lesser extent the settlements. The settlements on the sandy soils probably consisted of no more than one or two contemporary houses of varying dimensions. The barrows were usually constructed in the vicinity of the settlements; it seems that new barrows were thrown up at new settlement sites every time the occupants moved on to a new location. In Westfrisia, and probably also in the rivers area, the environmental conditions led to a slightly different pattern. However, that does not mean that we are to assume an entirely different economic basis for those regions. The difference in settlement pattern was largely due to a lack of space on the higher parts of the elongated stream ridges and valley edges, which were the only areas where houses could be built in those regions. Consequently, the settlements in those regions were occupied for relatively long periods of time (several generations) and houses were often rebuilt at the same site rather than at a new location, as was the general custom elsewhere.

THE REPRESENTATIVITY OF THE EVIDENCE

The occupation remains from the Late Neolithic and the Early Bronze Age differ considerably from those from the Middle Bronze Age. This is not only due to post-depositional processes and research factors, but also to cultural formation processes, *i.e.* processes associated with prehistoric behaviour.

The graves

The hundreds of barrows known from the Late Neolithic and the Early and Middle Bronze Age represent only a small portion of the prehistoric population of those periods. On the one hand, many barrows will have been levelled or destroyed in ploughing over the ages. Such graves are discovered only very rarely; sometimes they come to light during settlement research, as at Angelslo, where sixteen destroyed barrows were excavated.⁸

On the other hand, it is believed that only a small portion of the population was buried beneath barrows in both the Late Neolithic and the Bronze Age. But what happened to the majority of the deceased who were not buried in barrows we don't really know. Although a number of flat graves have been found it isn't clear whether they are representative of the burial rite that was used for that part of the population. It is, for example, probable that children were buried in an archaeologically undetectable manner until the end of the Middle Bronze Age.⁹

Cultural formation processes are responsible for differences in the recognizability of the burials in a different manner, too. For example, there are marked contrasts between the Late Neolithic and the Bronze Age in the nature of the peripheral structures, the depth of the grave and the nature and number of grave goods. The graves from the Late Neolithic are on the whole fairly deep and contain well recognizable grave goods (a beaker, axes, flint knives, *etc.*), which makes them archaeologically fairly well detectable, even after ploughing or levelling. The deceased who were buried in the Bronze Age barrows, however, were placed in shallow pits or even in no pit whatsoever and were usually accompanied by only a few grave goods. The characteristic beakers of the previous period had moreover been replaced by much less durable forms of pottery, which were not or only rarely placed in central graves. The chance of graves from this period being discovered during levelling, land-reclamation, digging and other activities is hence far smaller.¹⁰

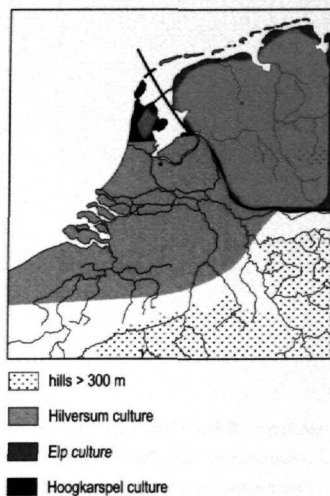


fig. 16.3
Distribution of the culture groups (factually pottery traditions) in the Netherlands and its environs during the Middle Bronze Age. The solid line roughly indicates the boundary between the northern and the Atlantic exchange networks.

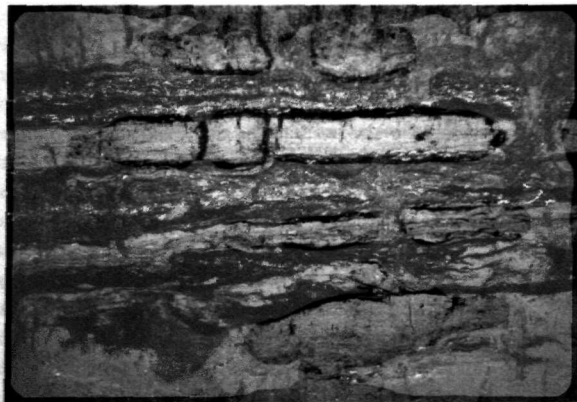
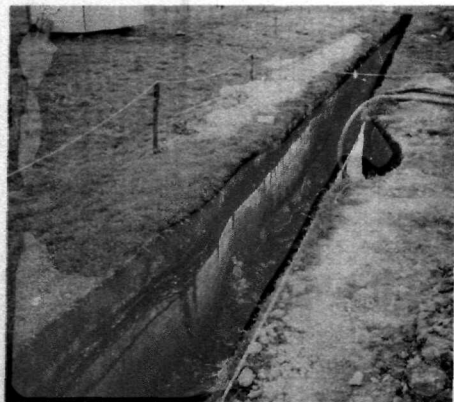
The recognizability of the settlements also varies: there are considerable differences in the recognizability of settlements from the Late Neolithic and the Early Bronze Age on the one hand and that of those from the Middle Bronze Age on the other. Those differences are due to cultural formation processes, but also to the nature of the subsoil. For example, virtually no Late Neolithic settlements are known in the sandy region, whereas quite a few have come to light in the clay regions. In the latter regions, the layers of domestic refuse characteristic of such sites have been preserved fairly well, whereas the majority of such layers in the sandy region have been destroyed in agricultural activities (fig 16.4). As excellent samples can be taken from the refuse layers preserved in the clayey subsoil, we have moreover been able to obtain a fairly good picture of the settlement pattern in regions like Westfrisia. Only a very small number of layers of settlement refuse have been found in the sandy region, at a few exceptional sites where those layers were covered with clay or peat deposits shortly after the site was abandoned.

Another reason why so few occupation remains from the Late Neolithic and the Early Bronze Age have been found is that the activities that were practised in those periods left behind little evidence in the form of postholes or pits. The absence of such features is particularly conspicuous at the Late Neolithic and Early Bronze Age settlements on the sandy soils. In those periods, people probably built fairly insubstantial houses and dug few pits. In the clay regions some configurations of postholes – that can be interpreted as house plans – have been found as well.

At Middle Bronze Age sites things are quite different. The farmyards from that period are easily recognisable because the occupants of the farms dug pits for different purposes, which they filled with soil mixed with refuse when they were no longer required. Apart from that, significant changes took place in a ritual context, too. Apparently, objects were more frequently than in the past deliberately buried in the ground. The pits in which they were buried may have been dug specifically for a ritual purpose. In that context it is conceivable that certain rules were employed for the deposition of waste, too.

Middle Bronze Age settlements are not only better recognisable on account of the presence of these pits, but also because the farmsteads were more soundly built than the structures of the preceding period. This was partly due to the fact that the occupants started to stall cattle inside the farm. Moreover, the farmyards were surrounded by fences, whose features often survive. Another important factor is that abandoned settlements probably remained visible in the landscape and

fig. 16.4
Shell midden with clay seams found at the sites of the Single Grave culture in the Westfrisia region. To the right is the Portelwooid site in 1989, to the left a narrow prospection trench dug at Aartswoud in 1972. Cf. plate 23A.



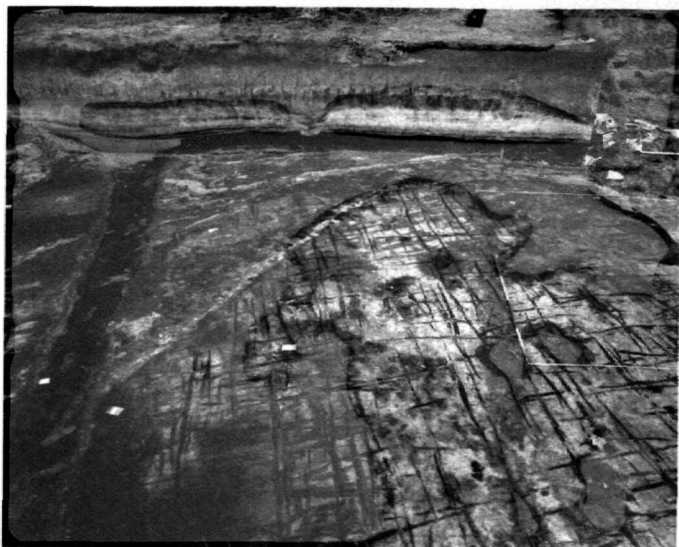


fig. 16.5

Ard marks dating from the Middle Bronze Age B period (1400-1200 BC) in a stratification of wind-blown sand and peat layers on the landward side of the Older Dunes. Het Geest site near Velsbroek.

sometimes were re-occupied in later times. That would explain why occupation remains from both the Bronze Age and the Iron Age have been found at so many settlement sites. A final explanation for the greater number of Bronze Age sites is that far more research into Bronze Age remains has been carried out over the past decades.

The subsistence data obtained in settlement research differ considerably from one environmental zone to another. We are for example far better informed about agricultural practices in the western Netherlands, especially in the clay regions of Westfrisia and the rivers area in the central part of the Netherlands, than about the practices of the sandy northern, eastern and southern parts of the country. This is largely due to the better preservation conditions of the clay regions.

Ard marks have been observed at various sites (fig 16.5). Many have been found buried beneath barrows, while others, for example in the dunes, have been preserved beneath layers of drift sand. These ard marks indicate areas of former fields, but tell us little about the shape or the size of those fields. We are relatively poorly informed about other aspects of farming methods, too, such as manuring, crop rotation cycles, the length of fallow periods and clearance methods.

Deposits

During dredging operations in rivers and lakes or during peat-cutting activities objects are frequently found which show that water and swamps played important parts in prehistoric rituals. These finds are referred to as 'deposits' to indicate that the objects in question were deliberately deposited in that particular environment. This custom had been practised in earlier times already; evidence attesting to this form of deposition in the Late Neolithic comprises, for example, wooden disc wheels, which were deposited in peat bogs. In the Bronze Age mainly bronze objects were consigned to the bogs and to water (chapter 29).

In comparison with for example Scandinavia, the Netherlands has yielded relatively few deposits. Although this difference in the number of deposits probably reflects an actual difference between the two regions, we may safely assume that

many objects still remain buried in the Dutch peat while others will undoubtedly have been overlooked during peat-cutting activities in the past.

HISTORY OF THE RESEARCH

Until the end of the 1950s, Late Neolithic and Early Bronze Age research focused mainly on barrows. As a result, the definition of archaeological cultures and our image of the past were for a long time based largely on knowledge about the material culture, chronological sequences and the burial rite. It was only in 1954 that the first Middle Bronze Age settlement was discovered in the Netherlands (a settlement near Deventer). The excavation of the first Late Neolithic settlements, at Aartswoud and Bornwird, was to follow a few years later. Since then, our image of archaeological cultures has changed considerably and the emphasis has shifted from barrows to settlement research.

Barrows

The first barrows were excavated in the 18th and 19th centuries already, but it was only around the beginning of the 20th century that the first systematic research was carried out. The pioneers of that early research were J.H. Holwerda and later A.E. van Giffen, in particular. Holwerda's excavation of two barrows near Hoog-Soeren is usually taken to mark the beginning of systematic barrow research in the Netherlands. In 1906 and the following years Holwerda excavated barrows in the Dutch crown estates at the request of Queen Wilhelmina, whose interest in archaeological research had been aroused by a visit to Pompeii and an article on Dutch archaeology written by Holwerda.¹¹

The novelty of Holwerda's approach was that he investigated the barrows with the specific purpose of recording their structure and the context of the archaeological finds they contained. He also published his findings as soon as he had completed his research. Those findings almost immediately triggered a scientific debate, because Holwerda had interpreted the peripheral ditches and indications of burning that he had observed around the Bell Beaker burials as the remains of domed timber structures covered with sods (fig. 16.6).¹² His interpretation agreed excellently with the diffusion model that Gordon Childe had advanced to explain

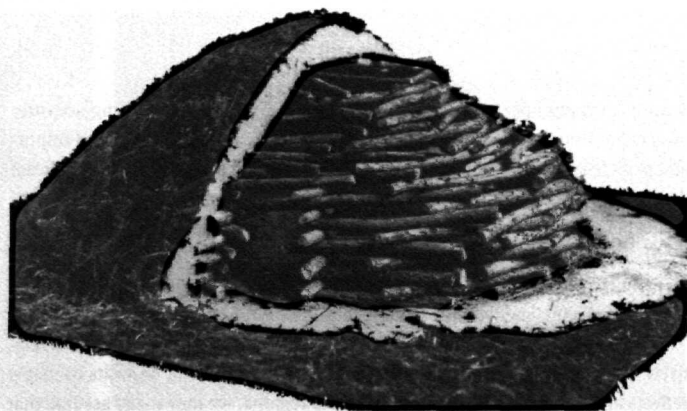


fig. 16.6
Model of a 'corbelled tomb' constructed from massive tree-trunks, as envisaged by Holwerda. The model was on show in the National Museum of Antiquities in Leiden until 1960.

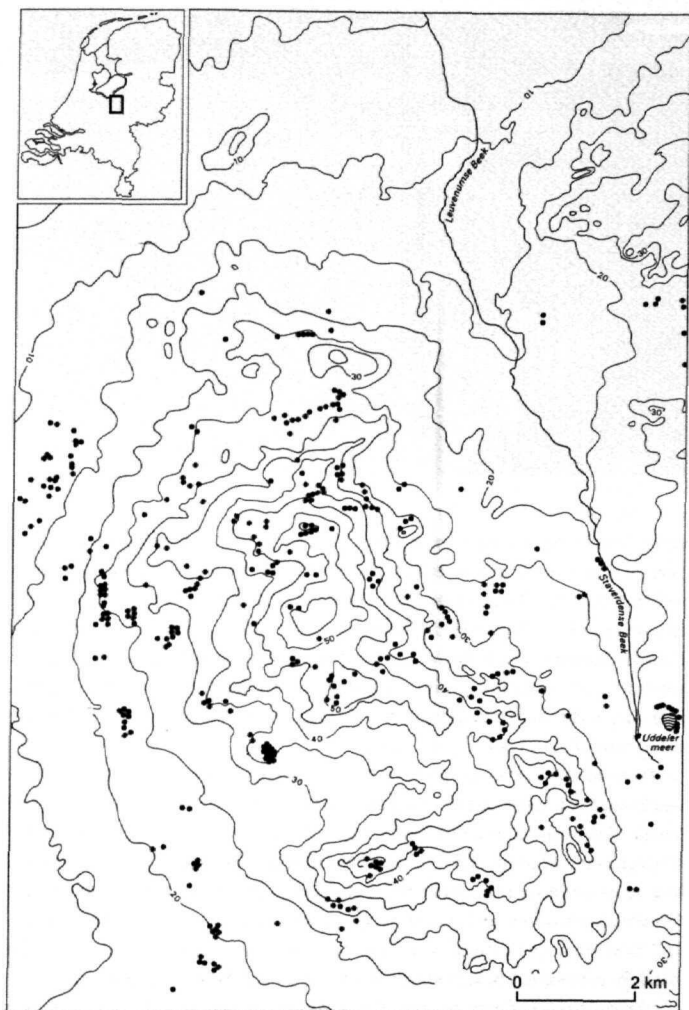
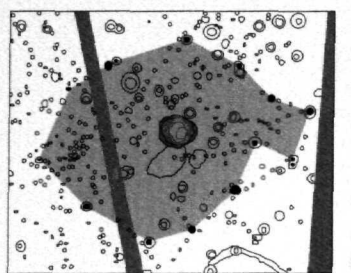


fig. 16.7
The barrow landscape of the northwestern part of the Veluwe region, between Putten and Lake Uddel. Scale 1:100,000.

cultural changes: Holwerda associated his 'corbelled tombs' with the Mycenaean tholos tombs with their corbelled roofs. However, apart from his successors, Remouchamps and Bursch, both from Leiden, only few archaeologists accepted Holwerda's reconstructions. Van Giffen in particular criticised Holwerda's methods for recording and interpreting features.

Van Giffen began investigating barrows at Harenmolen in 1916. From the very start he used the quadrant method, which he himself had developed to expose the barrow's structure in the clearest possible manner. One of the milestones of his work is *Die Bauart der Einzelgräber*, published in 1930, which presents a survey of all the observations made in Dutch barrows and the first relative chronological sequence for the burials.

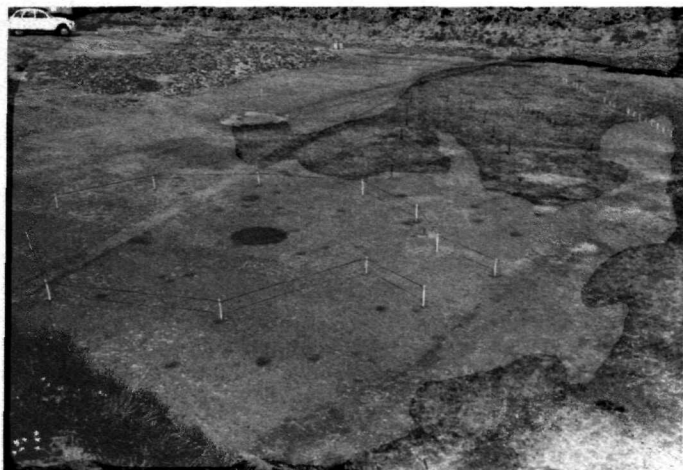
In the 1930s and 40s, also during World War II, Van Giffen continued his barrow research in Drenthe, where he was later joined by his students Glasbergen, Van der Waals and Waterbolk. By this time, barrows had become the focus of scientific attention in other parts of the Netherlands, too. On the Veluwe, for example, members of the Dutch State Service for Archaeological Investigations (ROB),



● charcoal concentration ■ inner space of 'round hut'

fig. 16.8

Two representations of the same 'round house plan' identified in the Middle Bronze Age settlement of Dodewaard, in a drawing (left) and a photo (right). It is now doubted whether the initial interpretation of the feature as the plan of a round house is correct. Drawing scale 1:200.



supervised by Modderman, excavated a large number of barrows from different periods and re-investigated several of the barrows previously excavated by Holwerda (fig 16.7).¹³ The most important research project in the southern part of the Netherlands is undoubtedly that which involved the excavation of the cemetery between Toterfout and Halve Mijl by Glasbergen.¹⁴ In his dissertation, Glasbergen combined his observations with evidence obtained elsewhere in the Netherlands into a clear chronological framework. He also included palynological and physical-anthropological evidence in his research.

As the barrows of Toterfout-Halve Mijl all dated from the Bronze Age, Glasbergen had concentrated mainly on the monuments of that period. It was Lanting and Van der Waals who carried out the first systematic study of Late Neolithic barrows.¹⁵ They gathered all the available data, excavated new barrows in salvage projects and also re-excavated barrows previously investigated by Bursch and Remouchamps. Their main aims were to demonstrate the cultural continuity of the Beaker cultures and to arrive at an accurate analysis of the burial rite. Their work still forms the basis for present-day Beaker research in the Netherlands and adjacent areas.

The excavation of barrows can be said to have come to an end in 1960, the year in which the Dutch Ancient Monuments Act became effective. Since then, only barrows threatened with destruction have been investigated. Nowadays, hardly any barrows at all are excavated, because almost all barrows are protected monuments. That does not mean that barrow research has come to a standstill. Fortunately, the evidence obtained in the excavations in the past proves to be suitable for modern forms of research such as that carried out by Lohof, who has re-examined Van Giffen's findings and interpreted them in terms of Middle Bronze Age social relationships.¹⁶

Settlements

In these early years settlements were usually excavated on a small scale only; very rarely were vast areas exposed, as at Elp. It is hence not surprising that the objectives of the earliest settlement research were very much the same as those of the barrow research of the preceding years, namely to obtain knowledge about material culture, chronological sequences, etc. The main aim of the first excavation of

a settlement of the Single Grave culture was for example to establish a typological sequence for Beaker pottery. That is the reason why, in his research at Aartswoud, Glasbergen meticulously recorded the exact position of every diagnostic Beaker sherd he encountered in a number of 1-metre wide trenches, whereas he collected the undecorated pottery per square metre. Nowadays such research is seen to be almost tantamount to destruction. Nowadays, the main objective of settlement research is to study a settlement's structure and its economy. To that end, large areas are exposed, all the soil is screened and every posthole, pit and other feature is accurately recorded and excavated. The excavation at Kolhorn (North Holland)¹⁷ can be said to mark the beginning of this new style of research, although – from a technical viewpoint – this excavation actually continued a tradition of research into older Neolithic sites such as the Swifterbant and Hazendonk sites (chapter 12).

Although larger areas are nowadays usually excavated at Neolithic settlement sites, too, the extent of the research bears no relation to that carried out at Bronze Age settlements. At the latter sites, the absence of refuse layers on the one hand and the larger area covered by the occupation remains on the other make it possible – but also necessary – to perform large-scale research. Excavating a total area of one hectare, as was done at Elp, is no longer considered a luxury, but rather an absolute minimum for arriving at sound conclusions regarding settlement forms and settlement systems. By 'settlement systems' we mean the relationships between different settlements and between settlements, arable land, cemeteries, ritual sites, etc. It is of course no coincidence that the amount of large-scale settlement research has increased tremendously since the first urban extension projects were launched. One of the first and finest examples of this large-scale research is that which was carried out at the sites near Emmen (Emmerhout, Angelslo) in the early 1960s.

Of great importance for our knowledge of Bronze Age settlements was the research that was carried out in Westfrisia. Thanks to this area's excellent preservation conditions, a wealth of botanical and zoological information could be obtained in this research. Although this agrarian evidence, which IJzereef discussed in his dissertation,¹⁸ relates mainly to Late Bronze Age settlements, it can be used to model Bronze Age settlements in general. The results of the study of the features of these settlements still await publication in a definitive review.¹⁹

The same holds for the results of the excavations near Zijderveld and Dodewaard.²⁰ For many years the three-aisled house plans and the associated round features that were discovered in these relatively small-scale excavations served as the basis for reconstructions of the settlements of the Hilversum culture. Those round features were moreover regarded as important evidence supporting Glasbergen's migration theory, for round features were known from England, too! Only in the past ten years, in which more Middle Bronze Age settlements have been discovered in the southern part of the Netherlands, has it been found that the settlement form in this area is in fact comparable with that elsewhere in the Netherlands and that the existence of round structures is to be doubted at the least (fig 16.8).

Metal analysis

The study of metal objects, especially that aimed at establishing typological sequences of bronzes, is traditionally one of the most important branches of Late Neolithic and Bronze Age research. In the Netherlands, the study of metal objects has always been associated with J.J. Butler. Since the mid-1950s he has published a large number of articles on bronzes in the Netherlands, their typology and the

sources of the raw materials. The sources of raw materials have been the focus of much research, especially in the years after Junghans, Sangmeister and Schröder carried out their impressive spectrographic analysis project.²¹ Various archaeologists, among whom Butler and Waterbolk, criticised their approach and proposed a different quantification method instead.²² In the meantime it has become clear that spectrographic analysis in fact yields little additional information on the sources of the metal, especially that of objects from the Late Bronze Age, when metal was reused to an increasing extent. Typological studies hence continue to play an important part in research into metal objects.

Current research topics

From what has been said above it will be clear that burial research determined the course of research projects for many years. Among the most important research objectives were the establishment of the relative chronology and regional distribution patterns of different types of burials and the grave goods they contained. In the 1950s and 1960s typological pottery sequences were published for the Late Neolithic and the Bronze Age which have remained of use to this day.²³ It has however been found that the detailed sequence set up for the protruding foot beakers (Single Grave culture) cannot be verified in settlement contexts. Neither is it possible to distinguish Drakenstein ware from Laren ware in settlement assemblages. The only types that can be recognised in settlement assemblages are the early Hilversum types; recently, a more detailed sequence has been set up for these early types.²⁴

In the 1980s new developments in archaeological theory led to a new form of burial research. Nowadays, burials are considered potential sources of information on the social structure of prehistoric communities. They are studied for indications of differentiation in burial rites that could express differences in status.²⁵ A limiting factor is the representativity of the evidence, but as chapter 19 will show, certain conclusions can nevertheless be drawn from that evidence.

In settlement research the emphasis has shifted from typological sequences of house plans to settlement patterns and settlement locations. Recent studies focusing on the latter topics, especially those which were integrated with ecological studies, have yielded a wealth of new information. Good examples of studies of this kind are the Late Neolithic projects of the State Service for Archaeological Investigations (ROB) and the Groningen Institute of Archeology. Similar integrated research projects have been launched for the Bronze Age, too. In the western Netherlands, the Amsterdam Archaeological Centre of the University of Amsterdam did research in the surroundings of Velsbroek.²⁶ In the river district a vast Bronze Age occupation site near Wijk bij Duurstede has been investigated as part of the State Service for Archaeological Investigations' Eastern Rivers Project.²⁷ A number of Bronze Age sites have also been excavated in the trace of the Betuwe railroad.²⁸ Similar research is currently being carried out in North Brabant in the context of the Maaskant Project launched by the Prehistoric Department of Leiden University and the Southern Netherlands Project of the Free University of Amsterdam.²⁹

One of the aspects that has been receiving more attention over the past few years is the problem of cultural changes. Whereas De Laet and Glasbergen³⁰ still ascribed almost all changes in material culture to migrations, most Dutch archaeologists nowadays tend to assume cultural continuity.³¹ What has not yet been sufficiently investigated is the question why those changes took place. That is mainly

due to the fact that the answers to that question lie in fields with which most Dutch archaeologists are fairly unfamiliar, namely anthropology and sociology. Nevertheless, theories from those fields will have to be studied in relation to archaeological considerations, because it is those theories that may be able to provide insight into social and economic processes on a larger scale, for example those involving exchange networks, which have so far received only little attention in the Netherlands.

NOTES

- 1 Zagwijn 1986, 8.
- 2 Sherratt 1980, Champion et al. 1984.
- 3 Sherratt 1981.
- 4 Gillman 1980, Fokkens 1986, 1998b.
- 5 Childe 1957, 146; 1959, 134.
- 6 Harrison 1980.
- 7 Lanting/Van der Waals 1976.
- 8 Butler/Van der Waals 1966.
- 9 Lohof 1991. Theunissen (1999) demonstrates that in the southern Netherlands in the Middle Bronze Age B, children were buried regularly, but not as a rule.
- 10 For a comprehensive analysis see Fokkens 1997.
- 11 Van der Waals 1973, 510.
- 12 Holwerda 1910.
- 13 Modderman 1954.
- 14 Glasbergen 1954.
- 15 Lanting/Van der Waals 1976.
- 16 Lohof 1991. Theunissen (1999) did the same for the barrows excavated by Glasbergen at Toterfout.
- 17 In 1979, under the supervision of J.N. Lanting and J.D. van der Waals.
- 18 IJzereef 1981.
- 19 See for example IJzereef/Van Regteren Altena 1991 for a preliminary report.
- 20 Theunissen 1999.
- 21 Junghans/Sangmeister/Schröder 1968. In 1974 the fourth and last part was published.
- 22 Waterbolk/Butler 1965.
- 23 Van der Waals/Glasbergen 1955, Lanting/Van der Waals 1976, A.E. Lanting 1969, J.N. Lanting 1973.
- 24 Ten Anscher 1990; Fokkens 2001.
- 25 Lohof 1991; see also chapter 18.
- 26 Therkorn 1987.
- 27 Hessing 1991a.
- 28 Jongste/Van Wijngaarden 2002; Meijlink/Kranendonk 2002; Schoneveld/Kranendonk 2001; Schoneveld/Gehasse 2001.
- 29 Fokkens 1996; Roymans 1996.
- 30 De Laet/Glasbergen 1959; De Laet 1974.
- 31 Fokkens 1986; 1998b; Van der Waals 1984.