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The Netherlands

The netherlands in prehistory: retrospect
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Citation

Louwe Kooijmans, L. P. (2005). The netherlands in prehistory: retrospect. In . Amsterdam University Press, Amsterdam. Retrieved from <https://hdl.handle.net/1887/11175>

Version: Not Applicable (or Unknown)
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Note: To cite this publication please use the final published version (if applicable).

THE
PREHISTORY
OF THE
NETHERLANDS

VOLUME 1

Edited by

J.P. Louwe Kooijmans



The Prehistory of the Netherlands

Volume I

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AMSTERDAM UNIVERSITY PRESS

The publication of this book was made possible by grants from:

- the Netherlands Organisation for Scientific Research (NWO)
- Archol BV, Leiden
- The Prince Bernhard Cultural Foundation (PBCF)

Cover illustration: Flint arrowhead from the Middle Bronze Age burial at Wasenaar, c. 1700 BC, see feature L, p. 459 (photo J. Pauptit, Faculty of Archaeology, Leiden University).

Cover design: Studio Jan de Boer BNO, Amsterdam

Lay-out: Perfect Service, Schoonhoven

ISBN 90 5356 160 9 (both volumes)

ISBN 90 5356 806 9 (volume 1)

ISBN 90 5356 807 7 (volume 2)

NUR 682

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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.

31 The Netherlands in prehistory: retrospect

Leendert Louwe Kooijmans

THE LONG-TERM PERSPECTIVE

We have come to the end of a long, joint struggle to combine the evidence provided by finds, features and samples unequally distributed in terms of space and time into a more or less balanced story. In this struggle we had little other choice than to adopt a periodic approach and describe the past step by step. Processes embracing long time spans have been cut up into bits. More or less fixed structures and patterns have in each step been described in the specific ways in which they occur in successive phases. In the present conclusion we intend to take a more thematic look at our prehistory in its entirety, and describe a number of trends, developments on a very long term, embracing all of the individual periods. In other words, we intend to view things from the perspective which the famous French historian Braudel¹ called the *longue durée*, a perspective in which time virtually stands still and in which fixed contexts such as geography, climate and ecology are the main determining factors. A prehistorian's perspective however embraces a much longer time span than a historian's, and in that perspective even those factors are not constant. Over the millennia they, too, underwent distinct changes, some of which were even caused by man.

Our decision to leave the long, earliest period before the last glacial maximum out of consideration in this conclusion is in many respects justifiable. In the first place, that is an era involving problems all of its own, a comparatively extremely long era which saw several major environmental and geographical changes, the last phase of the physical development of man and the emergence of social and cultural differentiation. This long time span has been adequately summarised in chapters 5 and 9.

Around 13,000 years ago, when the last glacial came to an end, northern Europe was reoccupied and a more dynamic period began, in which changes occurred within an otherwise continuous development. The Magdalenian and Hamburgian hunters who moved into northern Europe were entirely 'modern', that is, physically the same as us, and in material and organisational terms comparable with subrecent arctic hunters. They were – apparently – no less developed in social and ideological terms either. Their arrival in the Netherlands marked the beginning of social developments and the use and organisation of land that were to become ever more specifically 'Dutch'.

Dry land and wetland

In this long time span, embracing more than 10,000 years, the Low Countries constituted a culturally fairly inconspicuous region, often even a backwater, outside the leading centres of development. With only a few exceptions, the Netherlands is in all periods poorly represented by material 'treasures' and visible monuments. Our part of the world did however see drastic environmental changes. It is largely in this period that the land that is now confined by the Dutch borders was shaped

and moulded. The deposition of large quantities of sediments at the outlets of the major rivers led to the formation of a vast wetland complex, which gave the Netherlands an entirely original identity. Dutch archaeology has almost inevitably focused far more on settlement and environmental aspects than on material analysis. Those aspects evolved into typically Dutch specialisations and they have hence played prominent parts in the preceding contributions.

The story of Dutch prehistory is a modest account featuring hunters followed by simple farmers living in small hamlets. Life revolved around securing the daily and annual needs in the endless cycle of the seasons. Life in the higher, sandy parts of the Netherlands was very similar to that modelled for a wide area extending beyond the Dutch frontiers, but typically Dutch themes are the vast, dynamic wetlands in the lower parts of the country and life in those parts. Dutch prehistory is characterised not by major events, but by social developments that gained momentum from time to time. We tend to emphasise those – often subtle – changes, which to outsiders will probably seem constant variations on the same themes. Does that make our work boring, or is there also an intriguing, sometimes even exciting, side to it? What we would really like to know is how happy people were, what they believed and what they feared, but those questions we are unable to answer. We will have to make do with more materialistic and descriptive images of our past.

Trends

The following long-term processes characterised social developments in Dutch prehistory, or determined their course:

- population growth and the emergence of modest social differentiation;
- a chain of simple, but nevertheless highly essential innovations: the axe, the plough, the wheel and the wagon, spinning and weaving, bronze and iron metallurgy;
- constant, fundamental changes in subsistence patterns: adaptation to the drastic environmental changes that occurred around 10,000 years ago, the adoption of crop cultivation and stock keeping followed by the development of specific north European farming methods that enabled sustainable exploitation of the marginal sandy soils;
- a continuous process of conquering ‘the wild’ and consciously shaping the land, in which the intimate relationship between a territory and its occupants was expressed by simple burial monuments. In other spheres offers were made to higher powers. Besides the cosmos, the land and people’s ancestors seem to have played important parts in spiritual life, too;
- the expression of ethnic identity in designing objects, and the marking of social rank through the possession of unusual exotic objects and their use in ritual deposition. Weapons played a modest, but central part in this respect.

It is difficult, if not impossible, to indicate straightforward cause-and-effect relations between these processes. One thing that is certain, however, is that they were not autonomous processes, but were on the contrary closely linked.

All the visible processes of change seem to have been indigenous processes, that is, they seem to have been based on ethnic continuity. Foreign ideas and inventions were introduced and accepted without much foreign human intervention. There are two exceptional cases of relatively large-scale immigration: the arrival of the first reindeer hunters, who moved into the northern plains from Central Europe some 13,000 years ago, and that of the first farmers, who settled on the loess

6000 years later. The latter event marks the only major break in the entire time span considered here.

POPULATION

An extremely important factor that affected all developments in prehistoric society was the growth of the population (fig. 31.1). This was made possible in the hunting communities for the first time after the end of the last glacial by the much higher carrying capacity of the early Holocene environment. The reliance on natural food resources came to an end with the transition to food production, which laid the basis for a much greater increase in population. This later population growth was associated with the creation of clearances in the forest, improvements in the farming system and technical innovations with which the adverse environmental consequences in particular could be compensated. The expanding population can be said to have been responsible for the increasing impact on the environment, the continuous culturing of the wild and the emergence of social differentiation.

Stone age: from 1000 to 10,000 individuals

For estimates of population figures in the Palaeolithic and Mesolithic we are greatly dependent on ethnographic evidence relating to comparable societies and conditions. Microliths of Wommersom quartzite provide some archaeological clues. They have been found in the southern part of the Netherlands, a large part of Belgium and a small part of northern France. If we assume that their distribution area corresponds to the territory of a dialectic tribe, no more than about 2000 individuals will have lived in what is now the Netherlands, i.e. at most one person per 10 km². Even fewer people will have lived in the late glacial tundras: perhaps only one inhabitant per 100 km².²

In the Bandkeramik period the native Mesolithic population expanded after the arrival of a farming community which in four centuries grew from 200-300 to about 1500 individuals.³ The TRB population of Drenthe will have comprised 2000

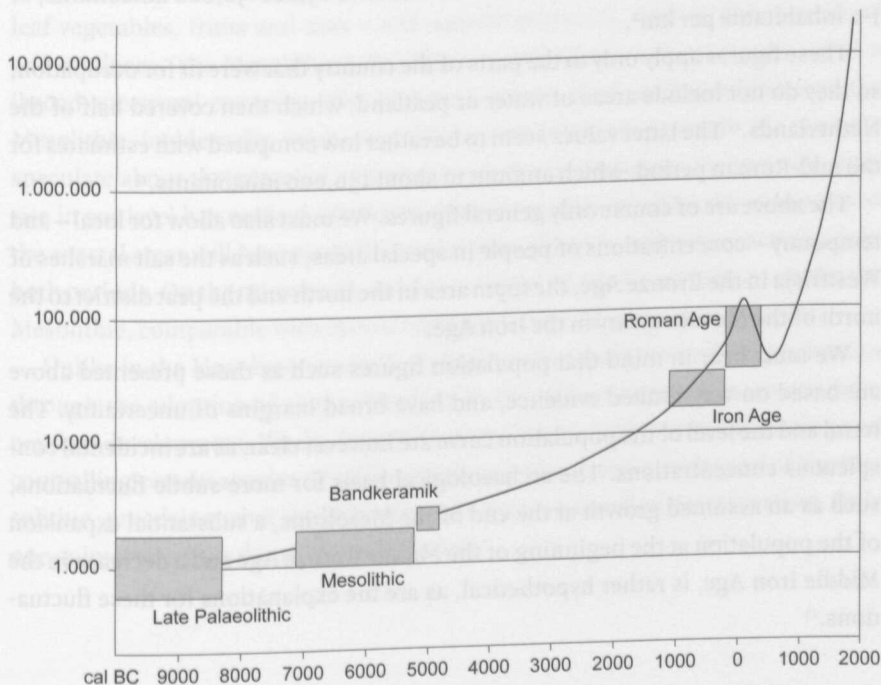


fig. 31.1
The distribution area of microliths in the southern part of the Netherlands. This is a settlement area (the southern part of the Netherlands) which was occupied by hunting-gathering groups (archaeological evidence) and was suitable as a basis for population calculations.

fig. 31.1
Population curve for the Netherlands since the end of the last glacial based on estimates or calculations for the periods marked with a block, and extrapolated to the present. The vertical scale is logarithmic.



fig. 31.2

The Emmen-Odoorn microregion in the southeasternmost part of Drenthe. This is a settlement area (the southern part of the Hondsrug elevation) entirely enclosed by peat with well-preserved archaeological remains, making it very suitable as a basis for population calculations.

to 3000 individuals if the isolated *hunebedden* and the clusters of these monuments indeed represent kinship groups of 50-100 persons.⁴ The whole of the Netherlands is thought to have had fewer than 10,000 occupants in this period.⁵ Unfortunately the barrows from the Beaker period and the Bronze Age are not very suitable for calculating population figures, as they represent only an unknown, very small portion of the population.

Bronze Age and Iron Age: from 10,000 to 100,000 individuals

The urnfields and the Celtic fields of Drenthe constitute a sound basis for calculations for the end of prehistory. An urnfield from the Late Bronze Age or the Early Iron Age represents 1-4 households, or 6-24 persons. The associated territories in nucleated occupation areas measure 2.7-6.5 km². That implies 2-5 inhabitants per km².⁶ In Drenthe, in particular the Emmen-Odoorn microregion, we may assume a link between a single urnfield (or two successive urnfields) and a Celtic field within a single territory of about 10 km² (fig. 31.2).⁷ It is difficult to estimate on the basis of exploitation models how many households each Celtic field will have supported, but with 3-6 households the results are still a little higher than those obtained in calculations based on the urnfields. This difference could be attributable to chronological differences and the expansion of the population. The Celtic fields as they appear to us now date from the last phase of their development, at the end of the Iron Age, whereas urnfields are on average of a considerably earlier date. Evidence supporting population growth was obtained in the settlement analysis of the Oss microregion. This evidence also points to a increase in population in this period, notably from 3-6 inhabitants per km² in the Early Iron Age to 18 inhabitants per km² in the Late Iron Age.⁸

The oldest series of Dutch aerial photographs – taken during large-scale land reclamations in the late 1920s – show parts of most, or possibly even all, of the Celtic fields in Drenthe.⁹ They indicate that the entire plateau of Drenthe was divided into roughly 130 territories of on average 10 km². If we assume 15 inhabitants per territory for the first occupation phase and 30 inhabitants for the final phase, we arrive at 2000-4000 inhabitants for the whole of Drenthe.¹⁰ Rough extrapolation to the whole of the Netherlands leads to 15,000-30,000 inhabitants, or 1-2 inhabitants per km².

These figures apply only to the parts of the country that were fit for occupation, so they do not include areas of water or peatland, which then covered half of the Netherlands.¹¹ The latter values seem to be rather low compared with estimates for the mid-Roman period, which amount to about 150,000 inhabitants.¹²

The above are of course only general figures. We must also allow for local – and temporary – concentrations of people in special areas, such as the salt marshes of Westfrisia in the Bronze Age, the *terpen* area in the north and the peat district to the north of the Meuse estuary in the Iron Age.

We must bear in mind that population figures such as those presented above are based on very limited evidence, and have broad margins of uncertainty. The trend and the level of the population curve are however clear, as are incidental conspicuous concentrations. The archaeological basis for more subtle fluctuations, such as an assumed growth at the end of the Mesolithic, a substantial expansion of the population at the beginning of the Middle Bronze Age and a decrease in the Middle Iron Age, is rather hypothetical, as are the explanations for these fluctuations.¹³

FROM REINDEER MEAT TO FLOUR OF WHEAT

As the population grew, the economic system became increasingly dependent on food production. There was no way back and no alternative, because the carrying capacity of the occupied area was in a short space of time exceeded. By the Bronze Age already, the natural food resources had come to play an entirely subordinate role. The development of food production, in particular farming, is well traceable in the archaeological record and can be split up into different steps or phases. There are clear links with various technical innovations and with the growth of the population and its impact on the environment.

The most important sources of information on subsistence are zoological and botanical remains. The studies of these remains are separate disciplines, which is why these sources of information have been summarised in two separate chapters (14 and 22). In the Netherlands, zoological evidence is unfortunately largely restricted to the wetlands, but botanical remains have been found in carbonised form at many dry sites, too. Biological evidence can only be interpreted correctly in the context of the available archaeological evidence: *ard* marks and features of byres, the implements used for hunting, fishing and crop cultivation, information on settlement types and settlement systems. Subsistence-related activities have been referred to in many of the preceding chapters, as well, because subsistence is of course directly related to many other aspects of society.

From specialised hunting to a broad-spectrum economy

Largely on the basis of a few key sites outside the Netherlands such as those at Gönnersdorf and Ahrensburg, we assume that the Upper Palaeolithic subsistence system was based on specialised hunting. The hunted animals were reindeer and/or horses, which in large herds moved to and fro between the vast northern tundra in summer and the sheltered valleys and basins of the low mountains in winter. The transition to warmer conditions in the Holocene forced the foragers to adapt their subsistence strategies drastically and fairly quickly, in order to be able to exploit the vastly expanded biomass, the – highly diverse – range of resident animals, the greater number of edible plants available – root vegetables, tubers, onions, leaf vegetables, fruits and nuts – and aquatic resources, such as fish, waterfowl and molluscs. The Mesolithic subsistence system is not without reason called a 'broad-spectrum' economy. The contrast between the Late Palaeolithic and the Mesolithic, incidentally, might possibly be somewhat exaggerated. We can only speculate about the potential exploitation of the coastal areas, because the later rise in sea level has made them inaccessible to us. Nevertheless, the resources of the coastal areas will have made for greater diversity and a wider economic basis in both periods. On the other hand, red deer still played a fairly prominent part in the Mesolithic, comparable with that of reindeer at the end of the glacial period.

Unlike in the Near East, in northern Europe the transition to food production through the adoption of crop cultivation and/or stock keeping was not an independent development. We do, however, assume that people started nurturing and controlling certain species of wild animals and plants towards the end of the Mesolithic, practising what could be termed a form of small-scale cultivation. Only one animal was truly domesticated: the dog.

Fig. 11.1
The prehistoric ard did not turn over the soil like present-day ploughs, but merely cut a furrow through it. The oldest type, the creek ard, was made from a thick branch with part of the trunk attached. A steering stick was clamped in a cavity. The illustrated specimen was found near Wille (Netherlands) in 1927. It has been dated to the beginning of the Bronze Age, making it one of the oldest known ards.



Fig. 2.1
The IJsselmeer-Oldenburg area is the north-eastern part of Drenthe. This is a lowland area (the southern part of the Hondring elevation) entirely enclosed by peat with well-preserved archaeological remains, making it very suitable as a basis for population calculations.

Via the *Bandkeramik* colonists the native hunter-gatherers were unexpectedly confronted with something entirely new: the 'agricultural package' from the Near East, which, by the time it reached the Low Countries, had been adjusted somewhat to European conditions.¹⁴ This complete, balanced, but also fairly specialised farming system was based on the exploitation of a naturally and permanently fertile soil, namely loess. The new arrivals practised hoe agriculture in permanent, non-manured fields and pastured cattle in the relatively lush valleys. Their arrival marks the beginning of a second long-term process. From this moment onwards, c. 5300 BC, a farming system entirely adapted to northern conditions was to evolve step by step. This process was virtually unaffected by environmental changes, but it did force people to devise measures to prevent exhaustion of the soil so as to render the system sustainable.

Neolithisation

From the *Bandkeramik* agricultural package the native communities selected those elements that suited them best, adding them to their own subsistence system to create an 'extended broad-spectrum economy', combining cereal, cattle and pig and the wide range of natural resources.¹⁵ Exactly when these developments began we do not yet know, but it was definitely before 4100 BC. Although the hunter-gatherers must have been familiar with the management of wild animals and the nurturing of plants, it took them a very long time to switch to the new farming way of life. This could imply that there was no great need for them to adopt the new system. Another possible explanation – as far as crop cultivation is concerned – could be the major differences in soil conditions that existed between the fertile loess and the marginal sandy soils. Perhaps the considerable investments in time and energy demanded by crop cultivation on the sandy soils put people off for a long time.

We assume that the successors of these native (*Swifterbant*) communities – or perhaps they themselves – developed a crop-cultivation system of their own. Their system was based not on a permanently fertile soil, but on exhaustion of the soils that had formed on top of the sand below the deciduous forests over many centuries.¹⁶ After short periods of cultivation, the forest was given the opportunity to regenerate in part at least. This system of shifting cultivation¹⁷ was probably first used slightly earlier in the south (*Michelsberg* culture)¹⁸ than in the north and in the coastal part of the delta (*TRB* culture and *Vlaardingeng* group, respectively).¹⁹ It was combined with the pasturing of cattle in the forest, which had already been practised by the *Bandkeramik* population, but also with the traditional, native exploitation of the rich natural resources by means of hunting, fowling, fishing and gathering. Although this subsistence system was very varied, it would be incorrect to describe it as 'mixed farming'.²⁰ The various activities seem to have been practised separately and independently, and were not united in a single system. We know for certain that cattle were not yet being stalled, so dung was not being collected either; only the pastures will have benefited from the animals' dung. There is no evidence for ploughing until the end of this phase.

Emergence of the north European mixed farming system

The shifting cultivation system could be improved only after the introduction of farming techniques developed elsewhere, comprising elements of the 'secondary products revolution'.²¹ Traction animals (oxen) and the plough (fig. 31.3) made work on a larger scale, and hence lower yields per hectare, rewarding.²² They thus contributed towards further exhaustion of the soil. Wagons created the possibility of bulk transport and expanded the farmer's radius of action. These elements are the main characteristics of the 'initial mixed farming' of the Beaker period, in which fowling and fishing continued to play a part.²³

The typical north European mixed farming system seems to have been fully established only by (the beginning of) the Middle Bronze Age. Its dominant elements were cattle and cereal, which were now integrated in a single system. The cattle yielded the traction for ploughs and wagons and their dung was systematically used.²⁴ This was indeed necessary, for large areas of the sandy soils had within a relatively short time become severely exhausted.²⁵ Another, opportunistic, solution to this problem was the exploitation of the fertile, recently formed salt marsh deposits in Westfrisia. The principal characteristic of this mixed farming system is the farm incorporating stalls for the cattle, or *longhouses* which – we assume – were bedded with straw from the fields. It is, incidentally, unlikely that the animals were stalled in winter, because it was not yet technically feasible for these farmers to create a sufficient supply of winter fodder.²⁶ There is moreover no evidence for the large storage facilities that this would have necessitated.

In this way a form of sustainable agriculture that yielded sufficient food to support the expanding population had evolved step by step after all. This system was characterised by fairly permanent fields, manuring and possibly crop rotation with short fallow periods. It also comprised dairying and wool processing (spinning and weaving). This means that the division of tasks within the farming family had changed drastically since the *Bandkeramik* period.

In the Iron Age, expansion of the range of crops and greater variation in the livestock made the system more sustainable and more versatile. Plants like gold of pleasure (*Chenopodium*), Celtic bean (*Vicia faba*) and rape (*Brassica rapa*) could be successfully rotated with cereals. The farmer's range of implements seems to have expanded, too.²⁷ On the higher soils the Celtic fields now constituted permanent plots of manured land surrounded by expanses of poor sandy soil that was an easy prey to the wind.²⁸ In the lower parts of the Netherlands, landscapes that had not been occupied since the *Vlaarding* period were recolonised.²⁹ Although the more favourable conditions in the estuaries will have been an important factor,³⁰ this is above all seen as a sign of the use of more flexible and more varied farming meth-

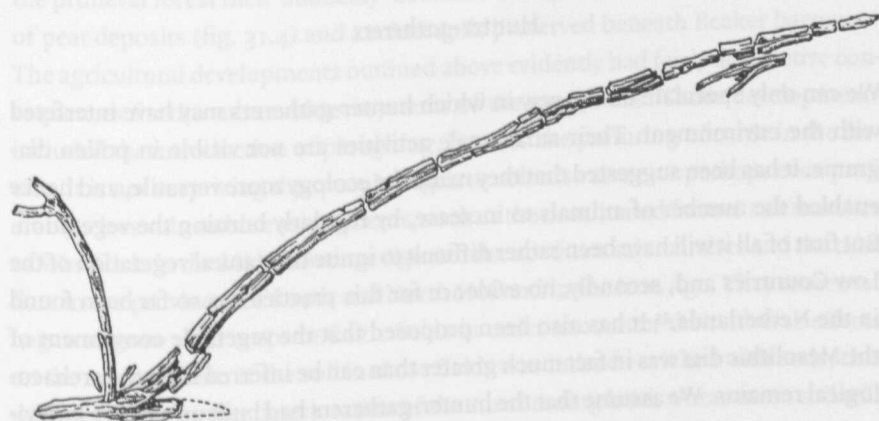


fig. 31.3

The prehistoric *ard* did not turn over the soil like present-day ploughs, but merely cut a furrow through it. The oldest type, the crook *ard*, was made from a thick branch with part of the trunk attached. A steering stick was clamped in a cavity. The illustrated specimen was found near Walle (Ostfriesland) in 1927. It has been dated to the beginning of the Bronze Age, making it one of the oldest known ards.

ods. The options open to farmers had apparently increased substantially. There may even have been strategic alliances for the exchange of basic food resources between communities living in different environmental zones, which would imply the end of the formerly entirely self-sufficient economy.³¹

MAN AND THE ENVIRONMENT

Much attention in this book has been paid to the relations between man and the land, in particular to the land as the basis of existence: the use of the land, the types of locations selected for settlement, the relations between farming and soil conditions, and – as a consequence of all this – the organisation of the land. Incidental references have been made to the impact that the modest, but nevertheless growing population had on the environment. On the higher soils man's activities had far-reaching consequences for his surroundings, but in the wetlands the impact on the environment was negligible on account of the land's natural fertility and its constant rejuvenation.

Sources

The many pollen diagrams that have been made in the Low Countries provide beautiful records of the natural development of the vegetation and of the ways in which it was affected by human occupation over the ages. Samples from extensive peat regions reflect the general development of the vegetation on the surrounding higher soils, while samples from small bogs near ancient settlements betray the specific influence of those settlements' occupants.³² It should, however, be borne in mind that reconstructions of the former vegetation based on such pollen diagrams are not accurate in every respect; as with any other ancient remains, there is a complex relationship between what we see today and the way things actually were in the past.

Even more difficult to assess is prehistoric man's influence on the animal world, for our only evidence in this respect are the butchering remains that have been found at settlement sites, and the information they yield is not very systematic and is moreover very biased as a result of human selection. Very general information on the range of species and numbers of animals available can be obtained from reconstructions of the former environment and vegetation,³³ while man's impact on the soil can be studied in dated fossil soils, in particular those preserved beneath burial monuments or drift sand deposits.³⁴

Hunter-gatherers

We can only speculate on the way in which hunter-gatherers may have interfered with the environment. Their small-scale activities are not visible in pollen diagrams. It has been suggested that they made the ecology more versatile, and hence enabled the number of animals to increase, by regularly burning the vegetation. But first of all it will have been rather difficult to ignite the natural vegetation of the Low Countries and, secondly, no evidence for this practice has so far been found in the Netherlands.³⁵ It has also been proposed that the vegetable component of the Mesolithic diet was in fact much greater than can be inferred from the archaeological remains. We assume that the hunter-gatherers had built up a native knowl-

HORSSEN-LAAGVELD-b

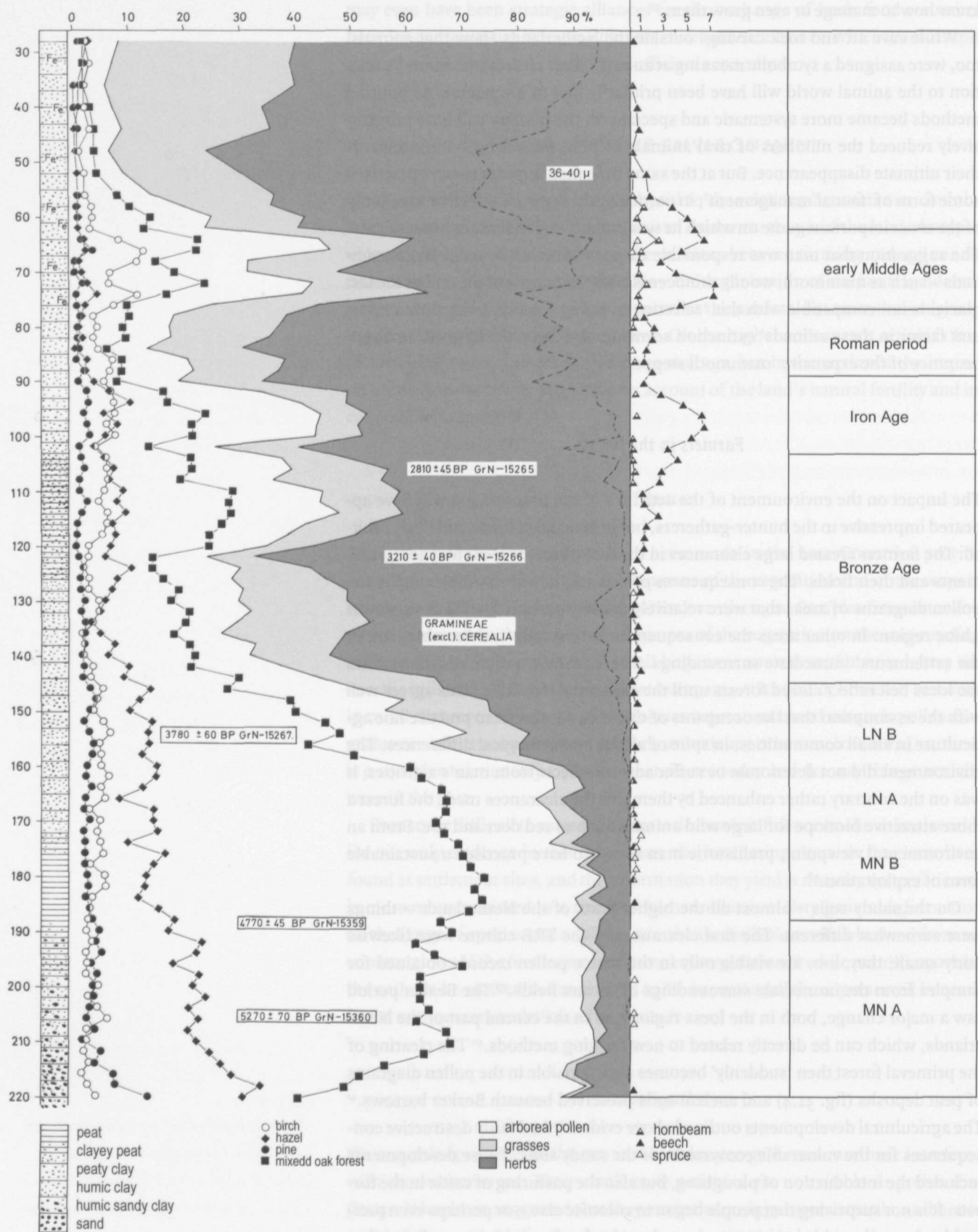


fig. 31.4

Pollen diagram from the Land van Maas en Waal region. It illustrates the influence of prehistoric reclamation on the vegetation. Around 2200 BC (3780 BP) there was a strong increase in grass species (Gramineae) at the expense of trees. The forest recovered temporarily in the early Middle Ages (top peak in the tree curve). The vegetation changes will be partly caused by increased flooding, but the same trend is shown by other diagrams.

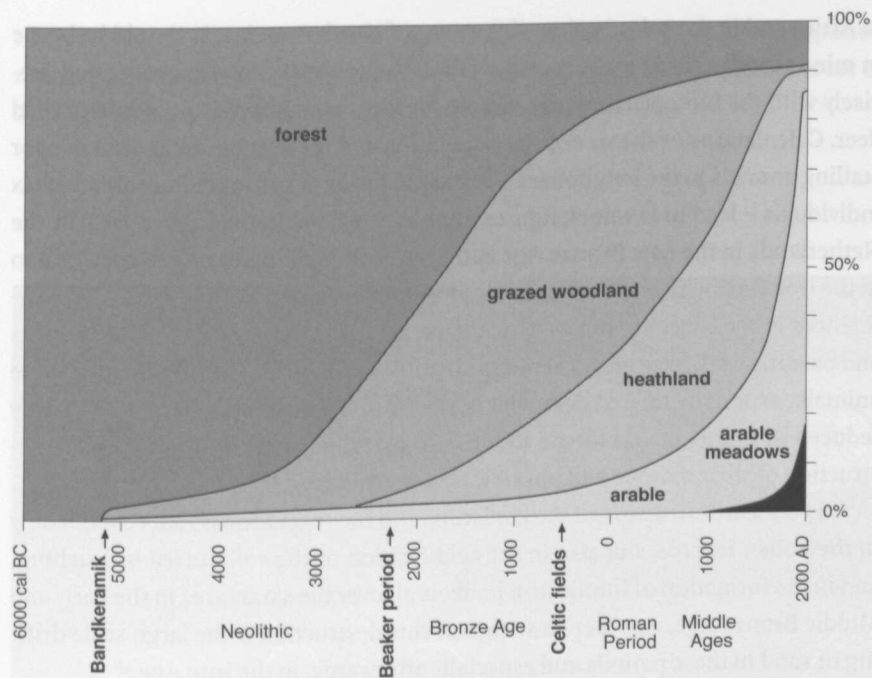


fig. 31.5
Schematic representation of the environmental changes that took place in the landscape of the Dutch loess and sandy zones in later prehistoric and historic times. Builtup area in black (lower right corner).

consequently have been blown away.⁴² So man more and more left his mark on the land, both by slowly but surely interfering with the original landscape and by organising the land to an ever-increasing extent (fig. 31.5).

This first assault on the forest was made possible by a single tool: the axe, a simple stone blade hafted in a wooden handle. The hunters had not been entirely unfamiliar with axes, but stone axes are nevertheless regarded as the characteristic tool of the Neolithic, in which period they were also greatly perfected. They were used not only for felling trees to create clearances, but also for building houses, canoes, wagons and bog trackways. Axes were indeed such important tools that they were often made from special, exotic types of stone, buried in graves along with their owners or used as votive offerings. The axe symbolised man's power over nature.⁴³

Farmers and livestock

Surprisingly enough, the prehistoric communities, especially from the Middle Bronze Age onwards, spent little time hunting large wild animals or fowling, even in the wetlands, which will for a very long time have been real bird paradises. All the faunal assemblages from Bronze Age and Iron Age settlements contain very few remains of game or birds. Fishing does seem to have been important for the Bronze Age farmers, but remains of fish and waterfowl are conspicuously absent from very wet Iron Age sites, such as the farming settlements in the Midden-Delfland region.⁴⁴ This seems to be attributable to three factors. The first is an evident lack of interest in these nevertheless readily accessible food resources, especially fish. Secondly, the wild animals could simply no longer support the greatly expanded population to the same extent as in the past. There were roughly twenty times as many mouths to feed as in the Mesolithic. If the numbers of animals available and the percentages killed had remained the same, this will automatically have implied a reduction of down to a 5% contribution to the meat, required by the population. And, thirdly, the wild animals will have been supplanted by cattle in a manner comparable with that observed in later times on a much larger scale



Fig. 31-4
Pollen diagram from the Lapedo site in the Netherlands. Around 2200 BC (27th-28th centuries BC) there was a strong increase in pollen from *Triticum* and *Secale*, indicating the beginning of agriculture. In the early Middle Ages (10th-12th centuries AD) there was a strong increase in pollen from *Urtica* and *Cicuta*, indicating the presence of a fen or marsh.

in Africa and in the colonisation of the west of North America. It should be borne in mind that the ideal areas for colonisation by prehistoric farmers coincided precisely with the biotopes most favourable for large wild animals, in particular red deer. Calculations of the size of the population and the average areas available for stalling animals in the longhouses – at least 16 heads of cattle per household of six individuals – lead to livestock figures of at least 37,000 in the higher parts of the Netherlands in the Late Bronze Age and Early Iron Age, increasing to over 74,000 in the Iron Age, which corresponds to 4 heads of cattle per km². In spite of the differences in their feeding habits, these domestic animals, grazing freely in forests and pastures, will have meant severe competition for the large wild animals. These animals, especially the red deer, will in the Bronze Age already have been greatly reduced in numbers and forced to move to marginal areas as a result of the destruction of their biotope and possibly also overhunting.⁴⁵

Large-scale destruction of the landscape and the vegetation is reflected not only in the pollen records, but also in the acidification of the soil caused by leaching, and in the formation of humic iron podzols all over the sandy area in the Early and Middle Bronze Age. Another clear sign of this destruction is the large-scale drifting of sand in these periods and especially afterwards, in the Iron Age.⁴⁶

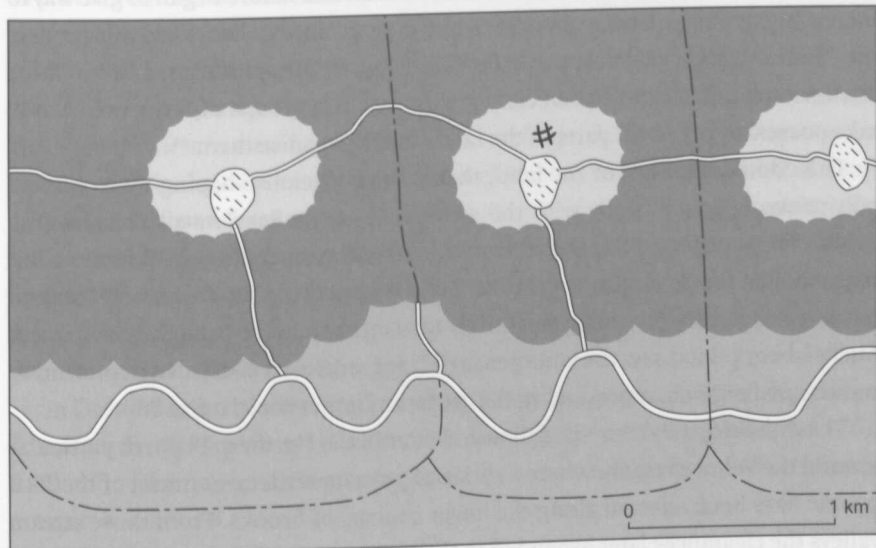
THE 'CULTURING' OF THE WILD

The land and the landscape were not only used, but also experienced. For the hunters, the landscape was the unchanging context of their daily existence. For the farmers, it more and more evolved into a basis which they themselves shaped. The expanding population, with ever more, if still simple, technical means at its disposal, became capable of leaving its mark on the land in which it lived to an ever-increasing extent. Prehistoric man slowly began to organise the land, to 'culture' the wild, in a literal sense. This was not an autonomous process, but clearly a derivative of developments in farming practices and of the territorial division of the land. It was moreover never a matter of starting with a clean slate: there was always a monument or some ancient remains or myths associated with direct or distant ancestors that determined the further layout of the land, through either confirmation or negation of old values. The 'investments' in the existing layout of the land (reclamation of wasteland, the laying out of fields, etc.), but also the emotional bond with it and the significance attributed to it, played a part in shaping new structures. Indeed, if we assume complete or partial long-term ethnic continuity we must regard the organisation of the land as a single, protracted and continuous process, over and above the boundaries of our traditional, archaeological cultures. The archaeologists' task is to write the first chapters of the history of the cultivation of the landscapes on the basis of the material remains and visible monuments at their disposal.

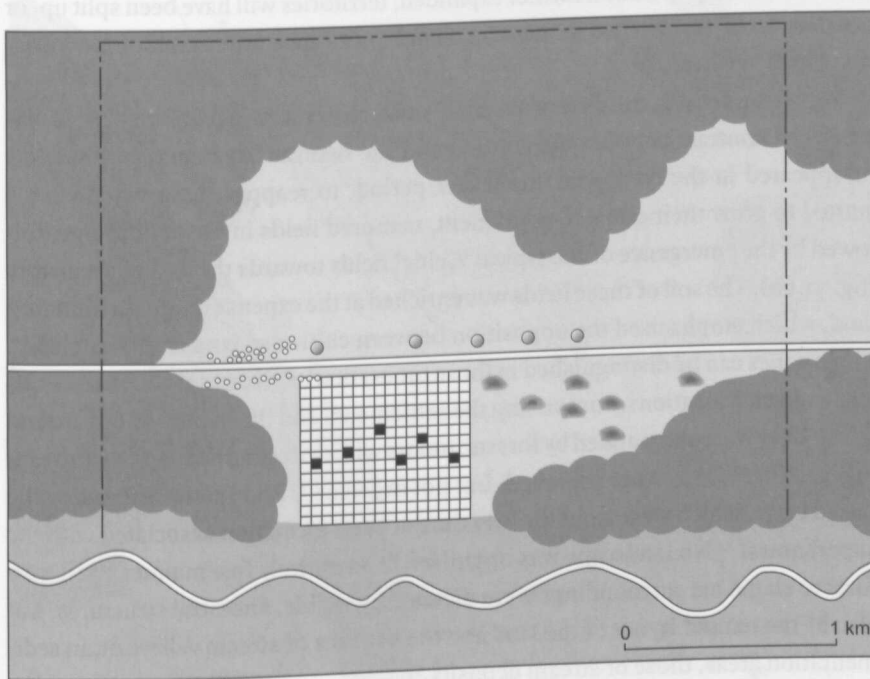
Hunters in their landscape: the experienced land

There was not yet any question of conscious shaping of the land among the hunter-gatherer communities. We do, however, assume that they attached importance to fixed, recognisable points at a remarkably early stage already. We can speculate about name giving or assigned symbolic meanings to certain elements in the landscape.⁴⁷ Certain large sites that have yielded vast quantities of finds from different, successive cultural phases must have been fixed points in the annual cycles for

many centuries, if not several millennia. There will also have been fixed migration routes and – certainly in the Mesolithic – a network of paths providing access to different parts of the territories and linking individual camps.



- lime forest
- arable
- valley floor forest
- (palisaded) settlement
- territorial boundary
- # cemetery
- ~ brook
- == path



- upland forest
- heathland
- inland dunes
- valley floor forest and grassland
- Celtic field with house parcels
- Bronze Age barrows
- urnfield
- territorial boundary
- ~ brook
- == sand track

a

b

fig. 31.6

Schematic representation of the layout of an Early Neolithic Bandkeramik territory on the loess in Limburg (a) and that of an Iron Age Celtic field on the coversand of the Drenthe plateau (b), showing the increase in the opening of the forests.

But although elements like a fixed pattern of use, large-scale territoriality and the assigning of specific meanings to prominent locations are already observable among the hunter-gatherer communities, it is only in the Neolithic that we see the first efforts to actually *organise* the land. It is then that people began to reclaim the virgin forest. From then onwards the unity of man and nature began to give way to increasing opposition between culture and nature. Hodder has called this process the 'domestication of Europe'.⁴⁸ After millennia of straightforward life in large territories with little more than certain rights of use, groups of farmers began to take possession of small parts of the land, and to organise them.⁴⁹

This 'domestication' of the land, that is, its conscious shaping by its human occupants, began abruptly with the settlement of the *Bandkeramik* farmers (fig. 31.6a). They created pockets of cultivated land in clearances in the wilderness. But there was as yet no continuity: in the Rössen period the *Bandkeramik* settlement pattern was to be replaced by an entirely new infrastructure⁵⁰ and the subsequent Michelsberg period saw the emergence of large, enclosed sites, also in previously unoccupied regions, representing the centres of larger social units.⁵¹

These developments can be followed better in the Northern Plain, in particular around the Veluwe region, where a series of primary settlement nuclei of the TRB people have been attested along the lower courses of brooks. From those stream valleys the clearances later expanded to the higher parts of the land. Long rows of barrows mark out a long-distance network of roads or paths dating from this expansion period.⁵² From here onwards the process of reclamation is more difficult to follow, but we assume that the clearances surrounding these primary centres were gradually expanded and that the settlement territories became ever more distinct, not only in and around the Veluwe region, but also elsewhere, in particular in Drenthe. As the population further expanded, territories will have been split up, or new territories established in 'no man's land', until the entire area fit for occupation had been divided.⁵³

We assume that at the time of the first, small clearances in particular, there was a marked contrast between the cultural and the natural. This contrast gradually disappeared in the course of the Beaker period, to reappear later when people started to grow their crops in permanent, manured fields in the Bronze Age, followed by the emergence of the typical 'Celtic' fields towards the end of prehistory (fig. 31.6b). The soil of these fields was enriched at the expense of the surrounding land, which emphasised the opposition between cultivated land and 'wasteland'. Three zones can be distinguished in those times: first of all central zones at specifically selected locations, comprising the settlements and the fields laid out around them. They were surrounded by forests, moors with drift sand deposits and stream valleys. These areas were exploited, but not organised. And finally there were the raised bogs, which were from the very time of their formation associated with the supernatural.⁵⁴ No landscape was organised in an entirely free manner. Man's efforts to shape his surroundings were dictated by visible, ancestral structures, but also by the natural layout of the land and the patterns of stream valleys or, in sedimentation areas, those of stream deposits.⁵⁵

The organisation of the landscape of the higher parts of the country forms a marked contrast with the situation in the lowlands, where all efforts to obtain a more permanent layout were time and time again thwarted by the dynamics of the natural environment: by the growth of peat, by marine ingressions and the related formation of creek systems and deposition of clay, and by sedimentation by the

rivers. These phenomena were all dictated by the strict regime of the rising sea level and the alternation of transgressions and regressions.

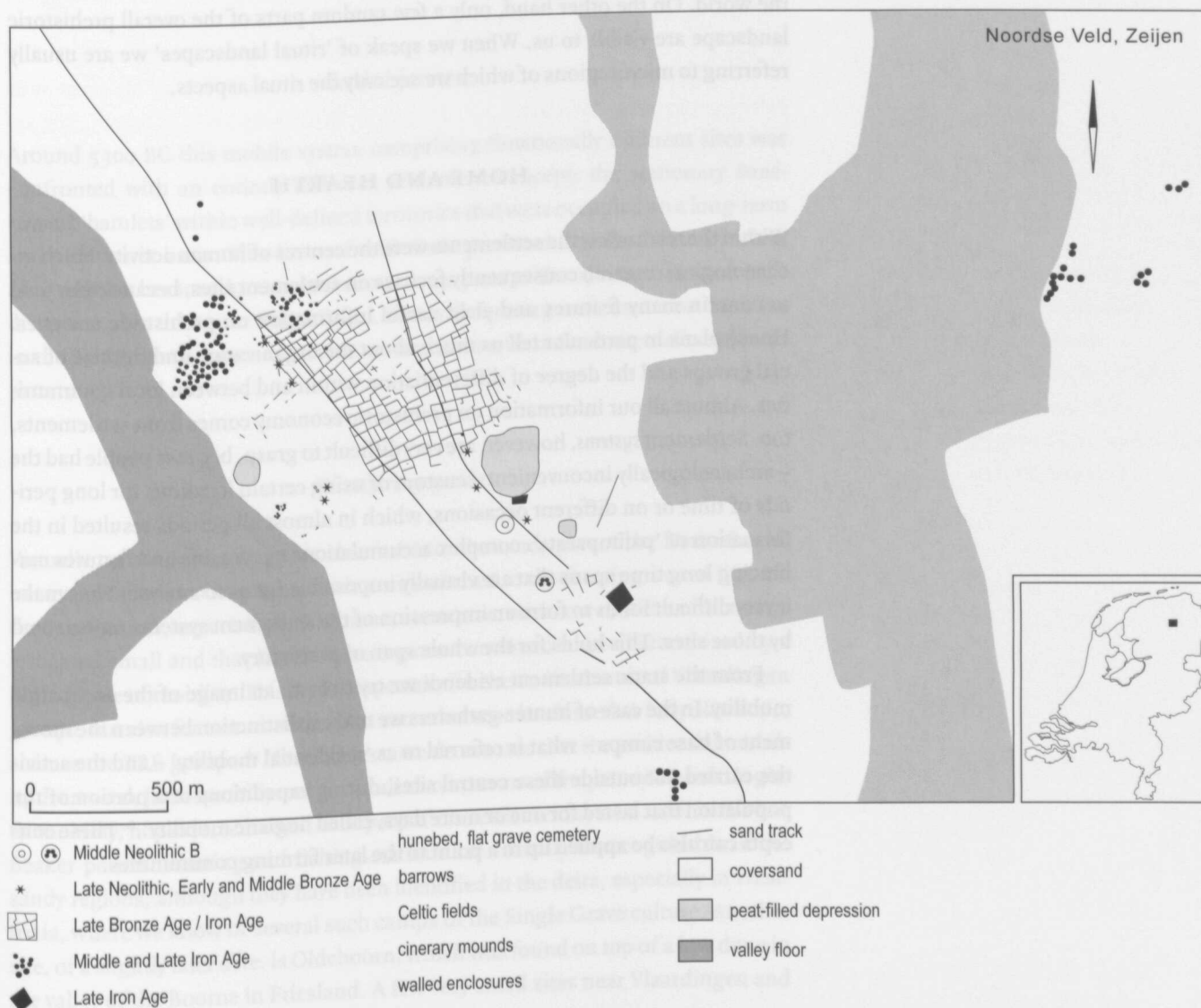
Territorial markers

From the very outset, the farmers marked their clearances as their territories, so as to be able to claim the right of using, if not possessing, the land.⁵⁶ The Bandkeramik and Rössen farmers marked their territories with their monumental farms,⁵⁷ the Michelsberg people with their large enclosures. Groups of TRB farmers in Drenthe were the first to visualise the triangular relationship between occupants, ancestors and the land by jointly erecting monumental collective burial chambers. Individual barrows later took over the function of these collective burials, after which the burial rite and this manifestation of territory were gradually 'socialised' again.⁵⁸ The final resting places of the dead constituted fixed points and markers legitimising the use of the land and the territorial claims, above all because they were associated with ancestral rights.

In Drenthe in particular, where modern, large-scale agricultural practices were introduced only very recently, the earliest development of the organisation of the land and its territorial division are clearly visible, especially in specific microre-

fig. 31.7

The Noordse Veld near Zeijen, in the north of the province of Drenthe. It is situated between the valleys of the Oostervoortsche Diep (left) and the Grote Masloot (right) and is an example of a prehistoric landscape that was organised and used for a long period of time. The sequence starts with a hunebed and flat graves of the TRB culture. These were succeeded by barrows from the Beaker period and the Bronze Age, cinerary mounds, a Celtic field and Late Iron Age defended settlements.



gions and at various excavated sites. Waterbolk even claimed to be able to trace the development of the present villages in this area through the Middle Ages all the way back to the Iron Age.⁵⁹

Ritual landscapes

Some landscapes and certain parts of the territories seem to have been assigned specific meanings. They are the landscapes that were used for the deposition of offerings: raised bogs, low-lying swamps, stream valleys and rivers. People also created new ritual sites by erecting burial monuments, at which they venerated their ancestors. Areas with high densities of such monuments may be classed as 'ritual landscapes', though none of those in the Netherlands are as imposing as some of the areas known elsewhere in Europe. The Hondsrug hills with their groups of hunebedden are an example of such a ritual landscape in the Netherlands. Others are areas containing groups of barrows like the Noordse Veld near Zeijen (fig. 31.7), the Rechte Heide near Goirle and various moors in the Veluwe region.

In identifying such 'ritual landscapes' we must bear in mind that they are extremes within what was otherwise a continuum. The landscape as a whole will have held many different meanings in the occupants' perception of it, even the parts which we would regard as 'profane'. But thinking in terms of oppositions like that between 'ritual' and 'profane' is typical of our modern Western view of the world. On the other hand, only a few random parts of the overall prehistoric landscape are visible to us. When we speak of 'ritual landscapes' we are usually referring to microregions of which we see only the ritual aspects.

HOME AND HEARTH

Within the territories, the settlements were the centres of human activity. Much archaeological research consequently focuses on settlement sites, because they tend to contain many features and yield useful information on prehistoric societies. House plans in particular tell us much about the organisation and the size of social groups and the degree of differentiation within and between local communities. Almost all our information on prehistoric economy comes from settlements, too. Settlement systems, however, are very difficult to grasp, because people had the – archaeologically inconvenient – custom of using certain locations for long periods of time or on different occasions, which in almost all periods resulted in the formation of 'palimpsests': complex accumulations of remains and features embracing long time spans that are virtually impossible for us to analyse. They make it very difficult for us to form an impression of the settlement systems represented by those sites. This holds for the whole span of prehistory.

From the static settlement evidence we try to form an image of the occupants' mobility. In the case of hunter-gatherers we make a distinction between the movement of base camps – what is referred to as 'residential mobility' – and the activities carried out outside these central sites, during expeditions of a portion of the population that lasted for one or more days, called 'logistic mobility'.⁶⁰ These concepts can also be applied up to a point to the later farming communities.



Migrating hunters

The specialised late glacial hunters were extremely mobile. We assume that they moved across their vast territories in seasonal cycles, covering hundreds of kilometres, along more or less fixed routes between fixed, strategically situated locations. Clusters of sites or large accumulations of artefacts were formed at those locations, but we also know of base camps that were used only once, and of small special activity camps that were used for short periods of time as bases for hunting expeditions in their surroundings.⁶¹

The drastic changes that occurred in the environmental conditions, and in the hunting strategies adjusted to them, must in the Mesolithic have led to a substantial decrease in the former long-distance residential mobility. This is, however, virtually invisible in the archaeological record. People continued to camp at the same types of locations as in the past, with a preference for certain coversand ridges. So no distinct archaeological changes are observable, except that the large Late Mesolithic sites seem to suggest that people returned to specific locations more often than in the past.⁶² All in all we assume that the interregional mobility of the Late Palaeolithic slowly gave way to seasonal migrations between different ecological zones within much smaller areas. The varied ecosystems of the valleys and lowlands must have played a crucial role in the latter migrations, but unfortunately we have little archaeological information on those parts owing to later sedimentation.⁶³

Settled farmers

Around 5300 BC this mobile system comprising functionally different sites was confronted with an entirely different settlement concept: the stationary Bandkeramik 'hamlets' within well-defined territories that were occupied on a long-term and permanent basis. This form of settlement persisted into the Rössen period, after which it became the standard across large parts of Europe, but seems to have disappeared in the Lower Rhine Basin. The early farming settlements on the loess in the Netherlands hence represent an interlude with a fundamentally different pattern.

Wandering yards

Virtually no break whatsoever is observable in the sandy part of the Netherlands, not even when the occupants of this area switched to the farming way of life. Although features, especially house plans, are scarce, we know that the settlements remained small and that life in these regions continued to be characterised by a high degree of mobility. This is true especially for the Swifterbant and Vlaardingen groups, but also for communities that can otherwise be classed as fully Neolithic, such as the TRB groups.⁶⁴ Nevertheless, we do assume that the residential mobility decreased, both spatially and above all also in terms of frequency. The old logistic mobility, however, remained an aspect of the settlement system until in the late Beaker period. Hunting and fishing stations are virtually unrecognisable in the sandy regions, although they have been identified in the delta, especially in West-Frisia, where we know of several such camps of the Single Grave culture. Another site, of a slightly later date, is Oldeboorn, which was found on top of a low dune in the valley of the Boorne in Friesland. A few very small sites near Vlaardingen and

Hekelingen that yielded some sherds of Bell Beakers or Barbed Wire Beakers and a few flints are also to be interpreted as such camps.⁶⁵

An important issue as far as this period is concerned is the relationship between the 'upland' and the wetlands. There are reasons to assume that the settlement system of the contemporary mobile communities with their broad spectrum of activities embraced both landscapes, in other words, that small 'task groups' of fishermen or hunters, or entire households set out to exploit the resources of the lowlands in certain seasons. With the exception of the coastal dune zone, which can actually be seen as a large, high and dry island surrounded by swamps, the lowlands were not occupied on a permanent basis until in the late Beaker period.

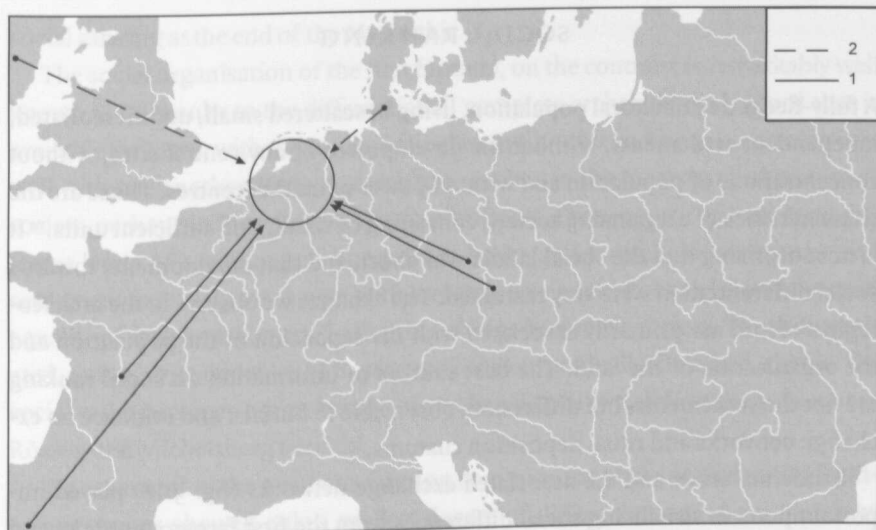
When, in the Middle Bronze Age, people began to enrich the soil of their fields with manure, they will have relocated their farms even less, and the bond between the farmers and their more permanent arable land will have intensified. It is thought that people may then have moved around in fixed cycles between a small number of favoured locations.⁶⁶ It is only in the Iron Age that we obtain clear evidence for this assumed decrease in mobility, in the form of the more visible system of 'Celtic' fields. Even then, the settlements retained the open structure of a hamlet, at least in the higher regions. Truly permanent, more nucleated settlements emerged in a few cases only, under special conditions: in the Middle Bronze Age on the fertile clay of Westfrisia and in the Iron Age on the artificial dwelling mounds or *terpen*, the largest of which we may class as 'villages'.⁶⁷

From the Middle Bronze Age onwards a 'standard' settlement comprised two or three farmyards, each measuring a quarter of a hectare, with at the centre a longhouse surrounded by a few granaries, usually a few pits, possibly a shed or an outbuilding and sometimes a water well. Barrows and urnfields lay close by in some cases, and at a considerable distance from the settlement in others. The associated arable land, comprised several dozens of hectares, a major part of which being fallow.⁶⁸ At Oss a process of nucleation culminating in six houses per 36 hectares took place in the Late Iron Age. This is thought to illustrate the ubiquitous expansion of the population in this time span. By this time, the farms were being relocated much less often and the settlement pattern had consequently acquired a more permanent character.⁶⁹

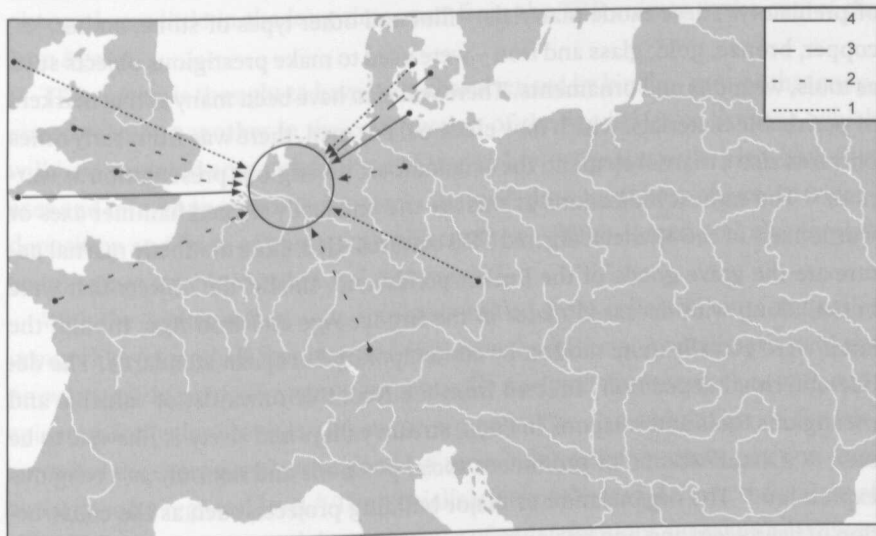
Around the end of the Iron Age we see the first indications of hierarchical relations between permanent settlements. The *terp* settlements on the northern salt marshes clearly differed from one another in terms of size.⁷⁰ The walled enclosures that emerged on the northern periphery of the plateau of Drenthe seem to have played key parts in the exchange of goods between the communities living on the sandy soils and those in the clay regions.⁷¹ In the southern part of the Netherlands there were at this time a few fortified sites that are thought to have been peripheral phenomena of the distinctly hierarchically structured settlement system of the Celtic area further south.⁷² Generally speaking, however, all the settlements were equal until the Roman period.

So all in all, from the reindeer hunters of the last glacial onwards, Dutch prehistory is characterised by a constant decrease in residential mobility, from a nomadic way of life to the limited movements of farmsteads within the narrow bounds of the 'Celtic' field system. The developments in logistic mobility are more difficult for us to follow, but this form of mobility seems to have largely disappeared, or at least to have become invisible, by the end of the Neolithic. It will definitely have been greatly restricted by the constantly decreasing extent of the territories.

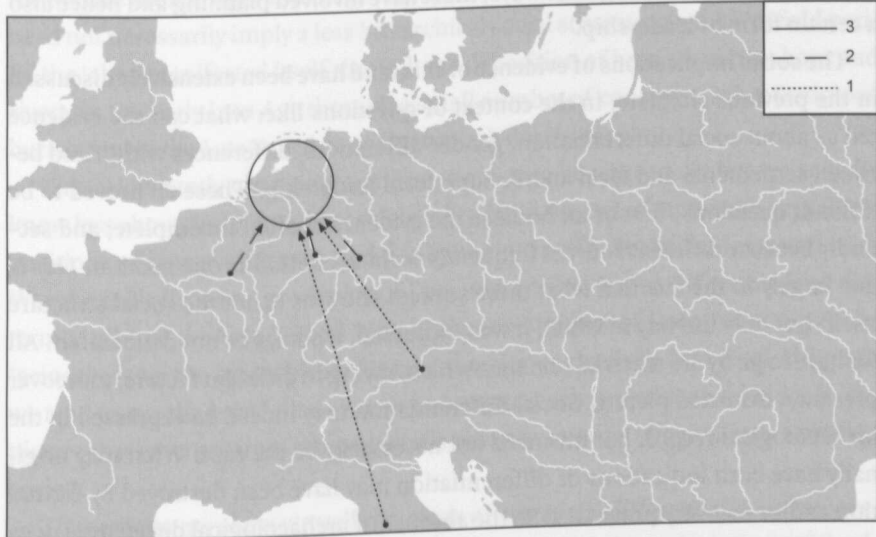
Although the farmsteads still lay fairly far apart, we must nevertheless assume that the people were united by kinship ties and social networks.⁷³



- a Beaker period (Late Neolithic)
- 2 gold (Ireland), amber (Scandinavia)
 - 1 Grand Pressigny daggers, wrist guards; copper (SE Europe)



- b Bronze Age
- 4 general tin (Cornwall), amber (Scandinavia)
 - 3 Late e.g. Drouwen
 - 2 Middle e.g. Ommerschans, Voorhout, Weerdinge
 - 1 Early e.g. Wageningen, Roermond; Irish axes, Scandinavian flint daggers



- c Iron Age
- 3 general tephrite querns (Eifel)
 - 2 Late Celtic coins (northern France, Hessen)
 - 1 Early Gündlingen and Mindelheim swords, situlae (circum-alpine region), axle caps Wijchen (Italy)

fig. 31.8 Contacts between prehistoric communities of the Netherlands and distant societies, as reflected by 'exotic' materials found at settlements and in burials in the sequence of later prehistoric periods and phases. See fig. 15.6 for the Early and Middle Neolithic.

SOCIAL RANKING

A fully-fledged agricultural population, living in scattered small, undifferentiated, independent settlements, without the development of any central sites, without concentrations of population and without power or market centres. Those are the characteristics of a *segmentary* society, consisting of small, self-sufficient units.⁷⁴ It is not surprising that the social ladder was short, and that developments towards social differentiation were very restricted. The changes we observe in the archaeological record are primarily associated with the expansion of the population and the organisation of the land. The best sources of information on social ranking are not the settlements, but differences observable in burials, and evidence on exchange networks and ritual deposition customs.

Exotic materials and the associated exchange networks (fig. 31.8) played important parts in visualising social differences from the first farmers until the end of prehistory. These exotic materials – flint and other types of stone, amber, jet, copper, bronze, gold, glass and iron – were used to make prestigious objects such as tools, weapons and ornaments. There will also have been many status markers of perishable materials, which now elude us. For men, there was from early times onwards also a martial element: the ostentatious, prestigious presentation as warriors.⁷⁵ The earliest indications of this are the unusually shaped hammer axes or ‘battle axes’ of the Michelsberg and TRB cultures. Of a more distinctly martial nature are the grave goods of the Beaker period and, finally, the objects that were buried along with deceased males in the Bronze Age and Iron Age, though the latter were actually quite modest by contemporary European standards. The deliberate, ritual deposition, attested from the Neolithic onwards, of valuable and prestigious tools and weapons in bogs, stream valleys and rivers is likewise to be seen as a manifestation of prominent social positions and not only as a religious expression.⁷⁶ The organisation of major building projects, such as the construction of *hunebedden* and bog trackways, must have involved planning and hence also a certain form of leadership.

The social implications of evidence of this kind have been extensively discussed in the previous chapters, in the context of questions like: what can the evidence tell us about social differentiation, gender differences, differences within and between settlements and local and/or supralocal leadership? These all proved to be difficult questions, first of all because the evidence is often incomplete, and secondly because different sources frequently seem to contradict one another. This is due largely to the fact that what these sources show us is not the social structure itself, but only the way in which it was expressed, whether or not deliberately. All we have to go by are material remains, which, owing to different factors, moreover present a distorted picture. Social differentiation may indeed be expressed in the archaeological record, but this need not necessarily be the case. What may originally have been indications of differentiation may have been destroyed by formation and/or recovery processes. So the absence of archaeological differences does not need to be significant. This is why much research appears to focus more on understanding the *whys* and *wherefores* of the expression of differences (or its absence) than on the underlying social reality.

On the basis of anthropological arguments we assume that the hunter-gatherers lived in egalitarian tribes comprising kinship bands, whose members’ tasks depended on their age and sex, with temporary leadership based on personal achievements. The Dutch evidence, however, factually tells us hardly anything about the organisation of hunter-gatherer communities. The very modest differences observable in the Swifterbant S2 cemetery reveal an almost complete lack of

social ranking at the end of the Mesolithic.⁷⁷

The social organisation of the first farmers, on the contrary, is remarkably well known to us thanks to the differentiated, complete archaeological record that is available for them, with the results of analyses of houses and burials agreeing very well with one another. Keen research has resulted in the most detailed picture of society, perhaps in the whole of Dutch prehistory. There appear to have been different levels of social organisation: from house and household, via hamlet and settlement to settlement cluster, with leadership on a settlement level and a certain equality of men and women.⁷⁸ After this, things become less clear. The differentiated, rather strict structure of *Bandkeramik* society gradually dissolved, that is, the social order becomes progressively less archaeologically visible in the subsequent Rössen and Michelsberg periods.

We assume that the northern farming communities that succeeded the Swift-erbant groups showed only a modest degree of differentiation; social hierarchy changed very little in the long time span from the TRB culture to the end of the Iron Age.

TRB society is thought to have been characterised by kinship groups that cooperated with one another in the construction of the *hunebedden* of Drenthe, which will have required some planning and leadership.⁷⁹ The networks via which flint axes and rare, copper ornaments were obtained, the use of those objects in (ritual) deposition and finds of prestigious objects such as knob-butted axes also imply a certain amount of leadership and authority.⁸⁰

With the Beaker cultures the emphasis shifted from collective units to smaller groups like (extended) families, and to personal positions. A small portion of the population – in particular men – emphatically distinguished themselves with conspicuous individual burials and status symbols. The size and design of the barrows and the exceptional grave goods of these cultures imply status positions and authority on a regional level.⁸¹ The ‘socialisation’ of the burial rite in the course of the Middle Bronze Age, and the emergence of equal positions for men and women need not necessarily imply a less hierarchical social structure. In the Urnfield period the ‘elite’ manifested itself through the deposition of bronzes in peat bogs and rivers, in the Early Iron Age through a small number of conspicuously prestigious burials and in the Late Iron Age again through deposition.

These constantly changing manifestations may be clear to us, but we actually know less about the underlying social reality. Until the end of prehistory supralocal positions of power were rare, and not bound to specific locations (cemeteries).⁸² Was the Early Bronze Age warrior of Drouwen a tribal leader – if we may use this term at all – of the Late Barbed Wire Beaker community of Drenthe, and was the ‘prince’ of Oss the leader of the Maaskant region in the Early Iron Age? Although we tend to use the term ‘elite’ to refer to comparatively prominent individuals, the picture that emerges from the evidence is nevertheless one of a modestly stratified society.

The settlements show virtually no signs of any social differentiation whatsoever. They at least include no special houses that may have been the homes of ‘leaders’. The houses of the individual periods, and especially the individual phases, differed so little from one another in terms of size that we must assume that the various households were self-sufficient, economically independent and – in this respect – equal. Only the houses of the *terp* settlements, especially Ezinge, showed fairly large differences in size.

The slight differences that are observable in the lengths of the houses of the individual occupation phases – especially the lengths of the parts that were used

for stalling cattle – must be connected with minor differences in the sizes of the families and/or the numbers of animals kept.⁸³ The assumed positions of power were apparently not based on economic differences. The lengths of the houses, especially again the byres, however did change considerably over the ages. It is thought that these differences reflect primarily the varying importance of stock keeping, though some may be related to changes in the composition of the households: extended as opposed to nuclear families.⁸⁴

Large settlements and a degree of social differentiation that was distinctly higher than that of the first farmers were to reappear only in the Roman period. The Netherlands clearly lagged behind developments in the surrounding areas.⁸⁵

STYLES AND TRIBES

It is generally assumed that prehistoric society, too, comprised large social units – tribes⁸⁶ and chiefdoms – of the kinds known from ethnographic studies all over the world. An important question that has busied archaeologists' minds for a long time is whether certain *archaeological* spatial patterns may be seen to reflect such regional or supraregional social units. In this book it has frequently implicitly, and sometimes more explicitly, been assumed that they may. We must now concern ourselves with how to interpret the continuities and discontinuities observable in these spatial patterns. If we assume that design and style are related to identity, then what we call 'style provinces' can be regarded as areas whose occupants had a certain communal group identity which differed from that of similar groups elsewhere. Such areas are distinguished predominantly on the basis of materials that were produced, used and discarded locally and that show distinct stylistic features, such as pottery and to a lesser extent also flint, but also on the basis of house plans and burial traditions.⁸⁷

In the case of some periods our information is limited to the distribution of a single type of artefact, whereas in others we have well-defined distribution patterns of *assemblages* from burials and settlements. On the basis of such evidence we distinguish archaeological 'cultures' and subdivisions within such cultures. The aforementioned distribution patterns are incidentally determined not only by the artefacts' original use, but also by a wide range of processes, collectively known as 'formation processes'. They include deposition and disposal customs of the prehistoric people themselves, but also later natural processes such as erosion and sedimentation.⁸⁸ Another important factor is the intensity of archaeological research. But even when we make due allowance for all these factors, we are still able to distinguish large, original spatial patterns or 'style provinces'. The archaeological and social units vary in both scale and dimensions. It is not so easy to link the two, especially because of the fundamental social differences between the various periods.

In the Low Countries, few artefacts with distinct stylistic features have come down to us from the Late Palaeolithic and Mesolithic hunter-gatherers with their very low population densities and their high degree of mobility. The style provinces of these groups are hence perforce based on a single type of artefact or distinguishing feature. The distribution areas of the Ahrensburgian tanged points (at least 75,000 km²), artefacts of Wommersom quartzite (30,000 km²) and the Mesolithic *feuilles de gui* could reflect the territories of dialect tribes and the same could be said of the distribution areas of some types of barbed bone and antler points.⁸⁹

The later prehistoric societies were small, sedentary farming communities living in smaller territories with much higher population densities. They were con-

sequently able to contact groups of a sufficient size within a much smaller area. Thanks to, in particular, the stylistic differences observable in their pottery, we are able to distinguish units that vary considerably in size. Very large, highly distinct cultural units with a high degree of material uniformity, such as the *Bandkeramik*, the Rössen culture and the Single Grave culture, represent communities with a communal style, but they also reflect those communities' shared ideas and shared way of life. These units do not yet show any signs of social or political coherence. They represent segmentary communities without central authority or centralistic structures whose settlements functioned as independent, self-sufficient units.

Expressions of group identity are observable at a lower – regional – level, too, in the form of variations in style within small, clearly limited style provinces, such as that of the Veluwe Bell Beakers. Generally speaking, it is however impossible to determine the precise social meaning of such style provinces. Neither can they be related to the 'elite' distinguished in the Bronze Age and Iron Age. There are clear differences in scale. The areas within which the elites manifested themselves, such as the Maaskant region and the plateau of Drenthe, seem to have been smaller than the smallest cultural units, which makes it difficult for us to assess the scale of martial aspects on warriorship and the related tribal warfare.⁹⁰ We know for certain that there were violent conflicts between groups from the *Bandkeramik* onwards. The indications of conflicts increase as we proceed through prehistory, though they remain as modest as those of many other aspects of social life. Armed conflicts can likewise have been little more than small-scale, poorly organised encounters on a local rather than a regional level until the end of prehistory.

From the late glacial hunters until the farmers at the end of prehistory, and even in early historical times, there was constantly a conspicuous contrast between a northern and a southern cultural area in the Low Countries. At some times the boundary between these two areas was more distinct than at others, from time to time its position shifted to the south or to the north, and occasionally it disappeared for a relatively short period of time, that is, in those periods the boundary is archaeologically invisible. The latter holds in particular for the Early Mesolithic, a large part of the Beaker period and the beginning of the Iron Age. Many aspects of this north-south contrast can be seen in a much wider context. Most northern 'cultures' formed part of North European cultural phenomena encountered all over the North German Plain, with close ties in regions even further away. The majority of the southern groups belonged to a Rhineland – and in a wider sense Central European – tradition. A few cultures, like the Hilversum culture, show more western influences.

The various cultural units also differed from one another in their individual development: changes were constantly – if gradually – taking place within them. These changes did not in any way affect the unit's cultural or ethnic continuity. Even abrupt changes between successive 'cultures' are nowadays explained predominantly in social and ideological terms and are no longer attributed to movements of peoples as in the past. The continuity and stability of the cultural patterns can be seen as indications of a very long ethnic continuity, within which changes in material and stylistic expression, some gradual, others abrupt, constantly occurred. The only striking break in this continuum is the appearance of the Early Neolithic *Bandkeramik*.

We hence see the many millennia of our prehistory as a period of social developments in which the foundations for later society were laid. The population grew, the farming way of life acquired a sustainable basis in spite of its destructive impact on the environment, the land was organised and the first signs of social ranking and spatial grouping appeared. These are all largely indigenous develop-

ments. The many changes observable in material culture and people's customs and in the relationship between man and the land all took place within a context of substantial ethnic continuity. The arrival of the Romans and the establishment of *Germania Inferior* put an end to this long period of comparative peace. In a manner far more intrusive than in the case of the arrival of the Bandkeramik farmers 5300 years earlier, the native population was confronted with a new, and this time rather dominant, culture. The Romanisation that was inevitably to follow marked the end of prehistory in the Netherlands.

NOTES

- 1 Braudel 1969; Ankersmit 1986, 233.
- 2 See chapters 8 and 9. The knowledge that the natural environment became less varied – and hence less rich in resources – in the course of the Atlantic is a warning against assuming population growth in the Late Mesolithic.
- 3 See chapter 11. In my estimation the initial population will have been somewhat larger.
- 4 See chapter 13. For (originally) 100 hunebedden, divided between 30 sites/clusters, the extremes of the calculation are $30 \times 50 = 1500$ inhabitants, and $100 \times 100 = 10,000$ inhabitants. The latter figure is exorbitantly high in the light of the very limited environmental changes, and of the population figures calculated for later periods.
- 5 Louwe Kooijmans 1983b.
- 6 See chapters 28 and 30. Extremes have been left out of consideration here. Such regional figures can of course not be simply extrapolated to the whole of the Netherlands!
- 7 See chapter 24 and also Louwe Kooijmans 1995; Brongers 1976a; Kooi 1979; Harsema 1980a.
- 8 See chapter 23.
- 9 Brongers 1976a, 14.
- 10 See chapter 24. An area of approximately 1300 km², excluding the raised bogs, was fit for occupation.
- 11 Harsema assumed slightly higher figures in chapter 24: 3-4 inhabitants per km² and an overall population of 5000 in Drenthe.
- 12 Van Es (1981, 137, 207) maintained that the four cities (Nijmegen, Forum Hadriani, Maastricht and Heerlen) had only a few thousand inhabitants (Nijmegen 4000, Forum Hadriani 1000?). *Castella* and *vici* will have accounted for about 20,000 individuals (Van Es 1981, 231). Bloemers (1978, 111, 124) arrived at figures of 6500-19,000 for the Cananefates[AL1], Willems (1986a, 235) calculated 30,000-40,000 Batavi in 1000-1500 settlements of four households each on the basis of military recruitment figures. As for the Frisians: in an area of 200 km² in Westergo alone 300 *terpen* were occupied in the Roman period (chapter 25). If we assume that this corresponds to 10,000 inhabitants, there will have been about as many Frisians as Batavi. An estimate of 50,000 for the rest of the Netherlands (especially Limburg and North Brabant) brings us to 150,000 inhabitants in the mid-Roman period, which implies a considerable increase since the end of prehistory. From the expansion of the settlement at Rijswijk Van Es (1981, 231) inferred a three- or two-fold growth of the native Cananefates population in the Roman period. If we assume a similar growth elsewhere, too, and we allow for the presence of Roman soldiers and the Roman administrative machinery, we arrive at figures close to those based on the Celtic fields for the population at the beginning of the Roman occupation.
- 13 Roymans 1991, 70-71. For criticism see: Fontijn 1996c, Fokkens 1998b. The decrease in the number of cemeteries will be largely attributable to the decrease in the numbers of (datable) grave goods. There seems to be too little evidence to support a 'stagnating agricultural economy'.
- 14 See chapters 10 and 14.
- 15 See chapters 12 and 14 for Swifterbant and chapters 13 and 14 for Vlaardingen.
- 16 The brown forest soils or *holti*podzolen; see also chapters 3 and 10.
- 17 See chapter 15. Whether or not this was done via the slash-and-burn method will be left aside here. See also chapter 14.
- 18 Chapter 12.
- 19 Chapter 14.
- 20 See chapter 14.
- 21 See chapters 15 and 16.
- 22 The large-scale, systematic use of the ard seems to have been preceded by a long period of experimentation and development. There is no sense in using an ard unless the land is more or less free of stumps (Fokkens 1986; 1991a, 106; 1998b). See also chapters 14 and 15.
- 23 See chapter 20. See feature J for fowling and fishing at the sites of Westfrisia. Special activity camps have been found at for example Vlaardingen, Hekelingen, Oldeboorn: Louwe Kooijmans 1993a; Fokkens 1991a, 116-119. For bone fish hooks recovered from a burial in an agricultural context at Molenaarsgraaf see chapter 14 and Louwe Kooijmans 1974, 250.
- 24 See chapters 16, 18 and 20.
- 25 See feature K for degradation of the soil. The stalling of cattle implies manuring and manuring means the end of shifting crop cultivation.
- 26 See chapter 30.
- 27 See chapter 27.
- 28 See chapter 24.

- 29 See chapters 25 and 26 and also feature N.
- 30 The formation of expansive tidal creek systems during the Dunkirk I transgression led to substantial drainage of the peripheries of many raised bogs in the western Netherlands in particular.
- 31 See chapter 24 and also Louwe Kooijmans 1993a, 100, 104-105.
- 32 On the development of the natural vegetation see chapters 7, 8 and 10, for the effects of human interference see chapters 14 and 21.
- 33 See chapter 10 and also Louwe Kooijmans 1985, 29.
- 34 See feature K.
- 35 See chapter 7. For fire ecology see Mellars 1976; for British pollen data see Simmons et al. 1989. Nowadays natural fires occur in pine forests and on moors, especially on the Veluwe; the fire implied here would have burned deciduous forests on moist soils.
- 36 See Clarke 1976 and Zvelebil 1994 for the role of plants in the Mesolithic in general. Unfortunately the views presented in those works cannot all be empirically substantiated with results of botanical research: (carbonised) plant remains, in particular seeds, only rarely survive and man's influence on the vegetation is not visible in pollen diagrams. The construction of trackways/paths and the felling mentioned in the above works can have been small-scale activities only. The evidence obtained at Milheeze seems to show the effects of activities at the camp sites themselves, but no consequences of any large-scale clearance of the forest (see chapter 7).
- 37 Bay-Petersen 1978.
- 38 See chapters 14 and 15 and also Kalis 1988; Kalis/Meurers-Balke 1988; Bakels 1988b (Wange).
- 39 Behre/Kučan 1986, 1994.
- 40 Kalis 1988, Kalis/Meurers-Balke 1988; Teunissen 1990.
- 41 Casparie/Groenman-van Waateringe 1980.
- 42 Fokkens 1991a, 128-129.
- 43 See chapter 15.
- 44 See chapter 22. A sample from the fill of a ditch at Bovenkarspel (Late Bronze Age) contained 790 fish remains per litre (IJzereef 1981, 119). It is not so easy to determine the importance of fish. Fish produce large amounts of remains, but those remains are extremely vulnerable, they survive only under special conditions and they can be reliably collected only if special measures (sieving) are taken during excavation.
- 45 Louwe Kooijmans 1995. The assumption that plenty of wild animals were available in 'unspoilt' prehistoric times is primarily based on intuition!
- 46 Waterbolk 1979, 1982.
- 47 See chapter 5.
- 48 Hodder 1990.
- 49 See chapter 20.
- 50 See chapter 15.
- 51 See chapters 12 and 15.
- 52 Bakker 1976, 1982; Modderman 1962-63a; Klok 1979. See also chapters 15, 16 and 19 and feature K.
- 53 The view expressed here may rightly be termed somewhat speculative. If we however assume that a community's behaviour was to a great extent determined by the 'context' of structures already present, the continuity outlined here is inevitable. We do not yet have sufficient evidence to support all the steps in this development, but on the other hand this view is not in any way disputed either; quite the contrary: if we accept this view, we find that many isolated observations suddenly fit into a pattern.
- An argument favouring long continuity of patterns of use is the presence of features embracing a long time span at a single site, as for example observed at Hijken, Noordbarge and Angelslo (all of which lie in Drenthe), Haps and Oss in the southern part of the Netherlands, Hazendonk and Velsbroek in the west.
- 54 See chapters 16 and 29.
- 55 See for example chapter 18.
- 56 See chapter 20.
- 57 See chapter 15.
- 58 See chapters 19 and 20.
- 59 Waterbolk 1979, 1982. Direct comparison of the historical boundaries with much older archaeological patterns in the whole of Drenthe (1979) is however hampered by serious methodological problems. On a microregional scale (1982) there is far more archaeological evidence for this continuity and the transition from the relocation of settlements to life in permanent villages in the Middle Ages. The foundations for the territorial division of the land will have been laid in the TRB period, and will have been passed down via the Beaker period and the Middle Bronze Age.
- 60 Binford 1982.
- 61 For the Magdalenian and Hamburgian cultures see chapter 6, for the Mesolithic chapters 5 and 8, and for a summary chapter 9.
- 62 Especially within the De Leien-Wartena Group, like the Bergumermeer site. See also chapter 4.
- 63 See chapters 7 and 9.
- 64 See chapter 13. Settlement sites of the TRB culture measure 0.5-5 ha; the largest are undoubtedly the consequence of the frequent relocation of houses.
- 65 See chapters 16 and 18. For Oldeboorn also Fokkens 1991a, 116-120, 125.
- 66 See chapter 30.
- 67 See chapters 24 and 30. Ezinge comprised about 15 houses in the Late Iron Age.
- 68 See chapter 18.
- 69 See chapter 23.
- 70 See chapter 25.
- 71 See chapter 24.
- 72 See chapter 23.
- 73 See chapter 20.
- 74 Renfrew/Bahn 1991, 145, 155.
- 75 See chapters 17 and 29.
- 76 See chapters 20 and 30.
- 77 See chapters 9 and 12.
- 78 See chapter 11.
- 79 See chapter 13. The unequal distribution incidentally raises more complex questions (cf. chapter 20 and Fokkens 1991a, 101-102).
- 80 See chapter 15. For the TRB culture: chapter 13 (deposits in bogs,

construction of hunebedden and down-the-line exchange of exotic objects). It does not seem entirely correct to speak of egalitarian communities.

81 See chapter 19. Most burials are of men, such as the Sögel burial of Drouwen and a few large ring ditches.

82 See chapters 19 and 28.

83 See chapters 23 (southern and central parts of the Netherlands), 24 (northern sandy soils; one house at Hijken is an exception), 25 (northern clay; lengths 10-20 m), 26 (western Netherlands) and 30.

84 See chapter 12 for Rössen and chapter 18 for the Middle Bronze Age. Exceptions are a few very long Middle Bronze Age plans, such as

those found at Angelslo and Dalfsen, which are the results of the construction of extensions and rebuilding.

85 See chapter 30.

86 The term 'tribe' is here used in a very general sense, to refer to a large, regional social unit. See also chapter 15.

87 They are hence based on local materials, not materials that were imported from distant sources in exchange systems, such as exotic types of stone and bronzes.

88 See chapter 1.

89 See chapter 8, feature B and Clark 1975, 70.

90 See feature L and chapters 17 and 29.