

CHANGE AND CONTINUITY IN RURAL SETTLEMENT IN DRENTHE FROM THE NEOLITHIC ONWARDS: A RECONSIDERATION OF TRADITIONAL AND CURRENT OPINIONS

O.H. Harsema

Biologisch-Archaeologisch Instituut, Groningen, Netherlands

ABSTRACT: Recent approaches to the problem of prehistoric culture change in the Netherlands show a strong preference for explanations in terms of internal processes rather than external influences. Migration has become a rather suspect concept, and autonomous development is strongly favoured. Continuity is a key concept and continuity of occupation is often supposed to imply ethnic continuity.

Migrations are a well-known historical phenomenon, however, and in the Netherlands too quite a number of migrations and colonizations, generally over short distances, occurred in later prehistoric and early historic times.

The application of the concept of mobility should not be restricted to the repeated shifts of the villages within their territories. It equally applies to interregional migrations, e.g. from the Pleistocene refuge areas to the coastal and riverine environments (and in the reverse direction). These have been rather numerous and the process of regional interaction deserves more attention. Ethnic changes in the population will have been more frequent than nowadays is admitted, burdened as the concept is with an emotional load.

KEYWORDS: Prehistoric settlement, Drenthe (the Netherlands), culture change, continuity, migration, mobility.

1. INTRODUCTION

In European archaeology, recent decades have seen a renewed interest in the question of culture change. Traditionally, two concepts have played an important part in the explanation of this phenomenon: diffusion and migration. Although nowadays these are often regarded as distinct processes (e.g. Sherratt, 1973), diffusion was formerly seen as the actual process while migration was one of the means by which it took place, in accordance with anthropological theory (e.g. Childe, 1951). We may combine the two under the heading of 'change through external influence'. Its counterpart would then be 'change as a result of internal, autonomous development'.

Change through external influence according to modern explanations may either be brought about by migration (large-scale population movements), or else result from the adoption of ideas or cultural elements generated elsewhere (diffusion). In the latter case the ethnic composition of the population experiencing cultural influences need not undergo any drastic change, even though it will presumably be outsiders who act as intermediaries. Even in prehistoric times ideas did not fly through the air, as de Laet (1976) justly remarks. Movements of people thus play an important role in culture change, but it

is clear that basic distinctions can be made according to the size and the degree of coherence of the incoming group. As the two terms 'migration' and 'diffusion' in modern usage express this very distinction, we shall here use them in this sense.

2. INTERPRETATION IN ARCHAEOLOGY

Cultural changes may manifest themselves in different spheres. Some of these, such as linguistic changes, cannot be detected by archaeological means, but others can – to differing degrees. Technological or economic changes are often quite tangible archaeologically. Reconstructing social organization and ideology, on the other hand, tends to present great difficulties. Changes in these areas, evident from e.g. funerary rites or settlement structure, are usually hard to interpret. What do the observed changes actually reflect in social terms, or in other words: what functional changes lie behind the formal changes?

The type of research determines to an important degree whether the results are relevant for the problem in hand. For clues as to technological and economic change we shall have to study the contents of settlement sites especially. For investigating changes in social organization we may find useful

not only these, but also grave goods and the structure of cemeteries. The question once raised by van der Waals (1984) in a discussion of the concept of culture in archaeology, whether archaeological finds actually are representative of a society, is relevant here too. Selective processes are at work not only within cultures, but also in nature and in our own powers of observation. Nature is selective in that much of mankind's cultural heritage has little if any chance of survival in the soil. Selective observation means that what has been noticed before stands a better chance of being recognized and recorded than what has not been previously described. Finally the interpretative framework within which discoveries are presented by the researcher may further bias the findings.

In archaeology, new models of explanation may have a significant part to play if they include aspects not previously recognized as relevant. However, it is my distinct impression that the discipline of archaeology above others is subject to rather time-bound interpretations; one might even say: suffering badly from vogueish views and approaches, inspired by a passion for novelty. By the application of geographical, anthropological, economic and even political models from other disciplines archaeologists try ever harder to compensate for the limited informational value, the imperfect expressiveness of their own material.

Here the limits of the permissible may easily be overstepped. On the other hand, this trend may also be given a positive interpretation. The archaeologist must not be afraid to confront his data and reconstructions with those of comparable, more fully documented societies. Nor should he refrain from attempting to explain change in his part of the world with the aid of processes (natural or cultural) that have occurred there more recently and are better-documented. The archaeologist cannot, however, contribute much in the way of concrete information to assist abstract reflections on the working of culture and culture change in general, and developments in social structure in particular. Archaeologists can seldom deduce underlying causes of change from their own material, unless these causes are determined by natural processes (and even then it is not always the archaeologist who offers the proof). It is merely the changes themselves that in many cases can be archaeologically demonstrated.

Where these changes were far-reaching, covering many aspects of the culture, immigration used to be put forward as an explanation. It always remains hard to determine just how extensive these changes needed to be in order to justify the diagnosis of immigration. In the Netherlands too, this has been the usual approach. At any rate the Danubian and the two Beaker cultures in these parts have been

regarded as the result of migration. For the TRB culture also, the evidence seems strongly to point in this direction. In each instance the changes affected various aspects of the culture: fundamental change in material culture (in more than one area, e.g. including stone implements as well as pottery), often the introduction of a new type of economy (in two cases the beginning of an agriculture-based economy), and in at least two cases the advent of a totally new funerary rite; while each time the assemblage of grave goods was quite distinctive in character.

We may assume that migrations, manifest in the form of clear-cut innovations, not only left traces in the Dutch soil but also had an impact elsewhere. Furthermore, we can expect that if not the source area, then at least the direction of migration can be identified; that ideally the route followed can be traced; and that there will be a time differential in the occurrence of change in the various regions. That this ideal proof cannot always be offered is understandable when we realize that changes in the cultural pattern may occur en route, and that the moment of first impact will rarely be detectable archaeologically. There is little chance of archaeological discovery of changes until they have properly taken root, maybe in an adapted form. Archaeologists are not very good at tracing processes; they can merely demonstrate changed conditions.

3. THE MIGRATION HYPOTHESIS CORNERED

The hypothesis of migration rests on historical analogy, in other words: the phenomenon is known from historical sources. A number of these historically documented migrations are corroborated by archaeological data. Nonetheless, the popularity of this hypothesis as an explanation of culture change has considerably waned. This is due to a number of factors.

The view of Childe, which he expressed in all of his works – except the very last, which appeared posthumously – was that Europe tended to be at the receiving end of all kinds of innovations originating in the Near East, such as agriculture, metallurgy, irrigation, urbanization and writing. But through new techniques of dating, and above all the calibration of radiocarbon dates in order to arrive at true dates in calendar years, it has turned out that some of these innovations did not occur demonstrably earlier in western Asia and the eastern Mediterranean than they did in Europe. In some cases, e.g. that of the megaliths, things actually seem to be the other way round.

The former applies to later prehistoric periods as well: the east-west movement, this time with Greece

as an origin, which was used as an explanation for e.g. fortified settlements in the Iberian peninsula (such as Los Millares), or putative Mediterranean elements in the Wessex culture (attributed to Mycenaean influence), is not supported by calibrated radiocarbon dates.

In my view it is advisable not to consider the new picture as definitive. The intensity of research and dating in the eastern Mediterranean and West Asian countries has not yet reached the level characteristic of Central and western Europe. In the case of (fortified) architectural structures especially, the question arises whether in the East the initial stages may not have remained hidden beneath the dated, more recent and more conspicuous layout, or were even destroyed by the later structures.

Renfrew (1973) presented the outcome of calibration as a revolution in archaeological thought. It is above all through his efforts that comparisons founded on scientific dating have resulted in a positive reappraisal of the capability of Europe's prehistoric inhabitants. Moreover, it dealt a severe in general blow to the migration model for explaining cultural change, as indeed Renfrew intended it to do.

It must here be noted that no changes have resulted for the traditional view about the origins of agriculture and its diffusion throughout Europe. In other fields too, the alleged revolutionary changes in thought have been somewhat propagandistically coloured. That the oldest megalithic tombs in western Europe are centuries older than the Egyptian pyramids (Renfrew, 1983) may, thanks to radiocarbon dating, be an indisputable fact, but no sane twentieth-century archaeologist has suggested an actual relationship between the two, let alone the evolution of the former from the latter.

Exciting and clarifying new interpretations and even sensational site discoveries still are possible in archaeology. However, archaeologists have rather a tendency (encouraged by journalism or otherwise) to present all of their discoveries as unique, the most ancient, the biggest, the best-preserved, or at least as contributions of crucial interest to science. The problems surrounding the financing of archaeology, and the frustration, due to lack of funds, of seeing many sites destroyed without being able to establish their archaeological value, of course may partly explain this trend. And indeed a certain desire for personal prestige in the archaeologists cannot always be ruled out either. Then there is such a thing as regional or national pride or chauvinism, and these days it would seem even Eurocentrism. Autochthonous development apparently bestows greater prestige than adoption from or, even worse, occupation by intruders.

Apart from such strong reservations having ari-

sen about the validity of the old models of explanation, new ideas have been developed about endogenous processes that may have had a strong impact on archaeological cultures. First, it is supposed that culture change could result from voluntary or inevitable, basic changes in the way of life: the replacement of 'one adaptive system ... by another, more successful one' (van der Waals, 1976). Such changes will initially take place in the technological and economic sphere, but may also affect other aspects of society and will always be reflected by material culture.

A second autonomous motor is thought to be the development of a more hierarchically structured society. Remarkable new elements in the archaeological culture, found in graves especially, and formerly regarded as evidence of the arrival of new people, are nowadays seen as status or prestige attributes of the upper class which has newly emerged within the indigenous society. The example for the new status assemblage may have been taken from elsewhere, but according to this line of thought it need not have involved large-scale population movements. The two mechanisms described above relate especially to the changes marking the appearance of the Beaker (Battleaxe and Bell Beaker) cultures (van der Waals, 1986).

4. ARCHAEOLOGY: HISTORY OR ANTHROPOLOGY?

Changes in a culture, which outwardly may appear to be a change of culture, now alternatively may be regarded as resulting from a society's endogenous development. The opportunity for such a view to emerge without doubt arose from a new approach to prehistoric archaeology, and above all of its central concept, that of the prehistoric culture. No longer is it only the external forms in which prehistoric cultures manifest themselves, the cultural traits and material elements, that occupy the archaeologists, employing the methods of morphological analysis and typology. Questions of how cultures are constructed (out of subsystems) and organized, and of their functioning now also receive attention.

The source of inspiration in these matters surely has been the approach of archaeology in the New World, which, rooted in anthropology and known as New Archaeology, has made its influence felt in Europe as well. In the Netherlands van der Waals in particular has stressed the value of such an approach, not least for countering the political abuse that can be – and has been – made of archaeology (van der Waals, 1969; 1980). Such abuse is called forth by people's natural inclination towards chauvinism, and is offered many opportunities with the

traditional, cultural-historical approach as commonly practised in Europe. This may lead to dangerous, nationalist myth-formation. It is done e.g. by depicting as superior, and extolling the achievements of, earlier inhabitants of one's own part of the world, and by extrapolating from the past to the present as regards population (ethnic continuity). Ultimately it may lead to territorial claims to areas that earlier were part of a common culture area, for that very reason (the *Heim ins Reich* idea). Only rarely will archaeology be directly responsible for social abuses of a criminal nature, but in some cases, as in Nazi Germany, partial responsibility cannot be denied. This should remind archaeologists to be cautious in their approach, and should lead to a preference for a more neutral, anthropology-based approach above the traditional, historically-oriented one.

It is clear that the organization of research in Europe – on a national basis – has played an important role as well. In Europe prehistoric cultures traditionally have been defined and denominated within a geographical framework which has generally coincided with the political entities, viz. nations.

Nowadays the emphasis has shifted somewhat. Apart from there being an interest in 'universal' themes, such as the origin of man, or the early development and diffusion of agriculture, much archaeological work is regionally oriented. Such work generally is organized on a regional basis, and the primary level of synthesis from the many individual research projects tends to take the form of a regional settlement history.

But in Europe, archaeology is still, and in my view justifiably, seen by many as a historical science, concerned with real people and recognizable activities of the past – our predecessors in the surroundings familiar to us – and as such, archaeology is apt to elicit emotions.

The archaeological regions upon which research nowadays concentrates – irrespective of whether they are based on natural landscapes – often approximately coincide with contemporary regions of regional administration. Many kinds of organization are attached to these administrative units, with responsibilities in many areas, among them archaeology. The population of such a region may have a strong sense of regional attachment as well. Archaeology benefits directly from people's interest in the history of their own region. It should be accepted that emotional aspects may come into play here. And just as it is perfectly legitimate to derive solace and encouragement from golden times in history, so too there is in itself nothing objectionable in taking pride in glorious episodes and achievements of the past. It only becomes objection-

able when the past is used to support claims, e.g. aimed at territorial expansion, which some even may wish to realize by force of arms.

The fact that many people feel emotional about the results of archaeological research does not necessarily mean that archaeologists experience the same kind of involvement with their work. This affectivity, pre-existing or gradually developing, cannot be ruled out though. It must not, however, be allowed to affect the interpretations and reconstructions, and on the whole it does not. Archaeology must in the choice of its methods and approaches always be guided by considerations of a scientific nature, of utility and objectivity. Models of explanation that are emotionally charged should not be straightaway rejected for that reason.

We cannot reject migration as a phenomenon that may underlie culture change, as a major agent of change through external influence, simply because Kossinna used this concept previously. It could be helpful, in spite of his misuse and his unfounded ideas of waves of migrating, megalith-building Aryans sweeping across Europe from Germany to the Black Sea, and in spite of his delusive and altogether dangerous vision of Germany's prehistory.

Nonetheless "the migration paradigm is banned from archaeology", as van der Waals (1984) puts it. And although, in the light of what has just been said, he does not appear to lament the fact, he does warn against abandoning the traditional concept of culture or culture "in the Childean sense" too radically and totally. He had already gone to great lengths to give a new and useful meaning to some concepts central to it, "the twin concepts of continuity and discontinuity" (van der Waals, 1976). This reassessment in itself should be welcomed, particularly if the phenomenon of discontinuity is explicitly taken into consideration. In the same way we agree with the unlinking of, or rather putting an end to the automatic linking of, discontinuity and migration. It may well be that in the past a single possible explanation – migration – was all too easily regarded as the only or at least the most probable solution; yet today's exclusion of migration as a possible explanation is equally one-sided, and fails to take into proper consideration the wealth of historical evidence.

The great role nowadays assigned to internal mechanisms in culture change doubtless results from the increasing influence of anthropology on archaeological thinking. And archaeology is having to pay for excessively leaning on anthropology, a discipline in which the dimension of time is of little significance, observations relate to comparatively recent events, and societies are studied from within.

Finally, fundamental objections must be raised against the substitution of old models by new ones if

the latter through vagueness of definition or by being open to several interpretations fail to meet the standard of maximum clarity. This applies especially to the concepts of continuity and discontinuity.

5. CONTINUITY AND DISCONTINUITY

The term 'continuity' may – and often does – refer both to 'continuity of culture' and to "continuity of human occupation" as van der Waals (1976) puts it. To him, the latter is identical with 'ethnic continuity'. This to me seems debatable, and in the past certainly not everyone has interpreted it in this way. For instance, van Giffen (1944) explained changes in the cultural heritage, i.e. cultural discontinuity, by immigration. Thus to him cultural discontinuity was synonymous with ethnic discontinuity and, as we may safely assume, cultural continuity with ethnic continuity. I believe that traditionally this view has had more adherents than the equation put forward by van der Waals. Ethnic continuity of course implies continuity of human occupation, but the reverse need not be true, and therefore the equation is not valid.

As a third form, van der Waals introduces the concept of "discontinuity of the adaptive system". This means that a group may change its way of life dramatically within a short space of time, which understandably will be accompanied by great changes in material culture. If such indeed occurs as an autonomous development, this has repercussions for the old theory, in which dramatic cultural changes are seen as a result of ethnic changes affecting the composition of the population. The traditional underlying assumption being that, at a given techno-economic level, stylistic elements in material culture are the archaeological indices of cultural identity. In the event of changes to these elements, the explanation might range from 'ordinary internal variation of culture through time' (change *in* culture) to 'replacement of one culture by another', dependent on the amount of change and the extent to which the change was of an inter-national character.

In the new interpretation of discontinuity such a meaning no longer needs to be attached even to radical changes, which formerly were regarded as changes *of* culture – and mostly of population to boot. It is now postulated by some that such "a sudden and profound transformation of culture could be due to a very successful new adaptation, be it in the sense of essential innovations in the subsistence technology, rearrangements in the social organization to cope with such innovations, or shifts in the ideology to fit both of these" (van der Waals, 1984: p. 6). But how can the unaltered composition of the population in fact be demonstrated?

Actual ethnic continuity is hard to prove by archaeological means. Extreme ethnic changes might be detected by skeletal analysis. However, it is only seldom that such material is available for research. Besides, when no differences can be indicated by physical-anthropological methods, this does not mean that no ethnic changes took place. Only to a positive result from such analysis can one attach any importance. A striking fact quoted by van der Waals is of interest in this context; it concerns the Bell Beaker culture in Bohemia. From Czarnetzki's investigation of 'non-metric' or 'epigenetic' traits in a collection of 172 skeletons from Late Neolithic-Early Bronze Age graves in Bohemia, it emerged that "during the Bell Beaker period, the introduction of a new gene flow must be inferred from the shifts in the values active in the formation of epigenetic traits, a shift caused mainly by male individuals" (van der Waals, 1984: p. 11).

6. CONTINUOUS OCCUPATION OF TERRITORIES IN DRENTHÉ FROM LATER PREHISTORY ONWARDS

Let us now turn to the actual developments in a very well-researched part of the northern Netherlands, the province of Drenthe. Continuous occupation during 5000 years or even more cannot be ruled out for certain parts of the Netherlands. For the northern Pleistocene area of the country, now roughly equivalent with the province of Drenthe, continuous occupation covering even 5500 years is not unlikely. All this time, agriculture has been the mainstay of the economy. But this does not say anything about ethnic continuity.

Drenthe has a long tradition of archaeological research, and the last 30 years special emphasis has been on settlement archaeology, which, although often in the form of rescue excavations, has been characterized by a particularly systematic and large-scale approach (fig. 1). Waterbolk, in several publications, has arranged into a synthesis the many data arising from this settlement research, together with those of earlier excavations and documentation of cemeteries (Waterbolk, 1982; 1985; 1987). He arrives at the conclusion that not only Drenthe as a whole was continuously inhabited, but also that this larger region was divided at an early date into small territorial units, comparable in scale to the historical *marken*, the communal territories of the medieval farming communities. Having initially placed the beginning of this territorial division in the middle of the Iron Age, Waterbolk in one of his most recent publications (1987) has pushed back their origin to the Middle Bronze Age.

In itself, the idea of Drenthe's village territories maintaining stable boundaries throughout millennia is not unlikely. After all, considerable parts of

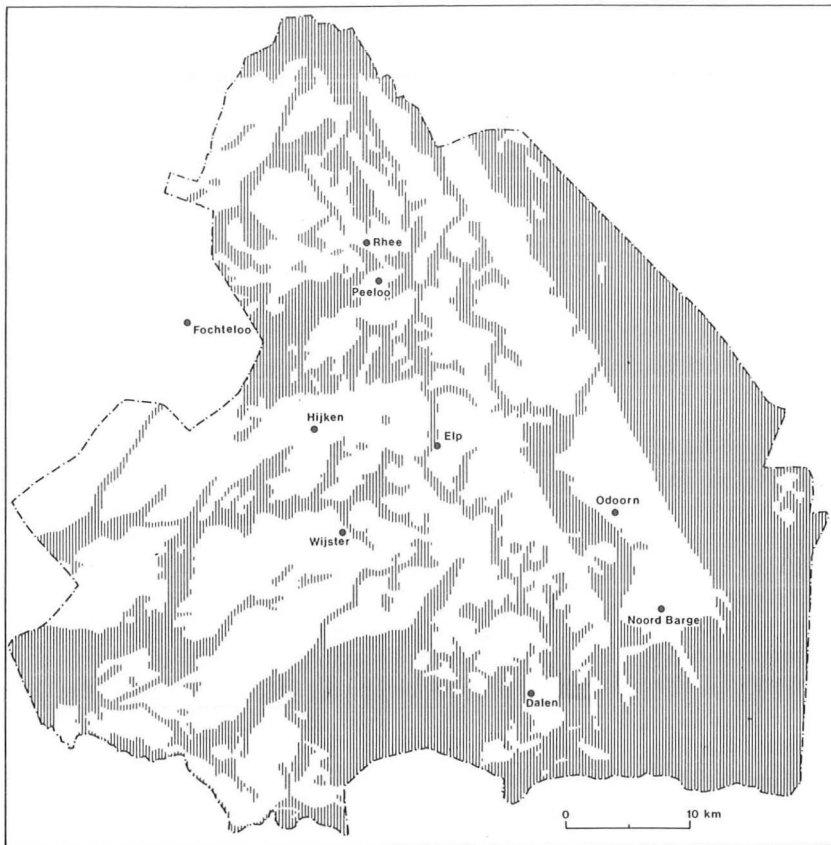


Fig. 1. The province of Drenthe with the principal sites mentioned in the text. The shaded areas are considered uninhabitable in later prehistoric times.

these boundaries are formed by natural landscape features, such as stream valleys, depressions or valleys filled with peat and raised bogs. Moreover, the prehistoric farmers just like their medieval successors needed suitable arable land, of which an appropriate amount was required in each of the territories. The village territories, divided by stream valleys, originally were natural landscape units; they were the smallest units comprising every landscape element required for the farming economy.

However, objections must be raised, not against the idea of continuous occupation and land use covering a period of 2000 years or longer, but against the extension of the hypothesis, namely that from the typology of house plans a continuous development from the Middle Bronze Age can be deduced, without any break that might possibly point to immigration (Waterbolk, 1980). Among these types of house plan in Drenthe there are some that we know almost exclusively from Drenthe and which we might regard as indigenous. However, even as early as the Middle Bronze Age there also are types that have a much wider distribution and may just as well have originated elsewhere (fig. 2). These are not necessarily incongruous 'foreign

bodies' within Drenthe's typological sequence. The typological and constructional differences between types in different regions are only slight in some periods in prehistory, and are partly determined by the physical environment with its specific demands and limitations. In Drenthe apparently people strongly preferred the aisled house type. Departures from this tradition are few, they did occur however. Whether or not the introduction of new forms has to be related to changes in the composition of the population cannot be conclusively decided by studying characteristics of house plans, nor can the assumed antiquity of the territorial division serve to rule out the arrival of immigrants.

Continuous occupation is difficult to prove. Continuity of habitation on one site is theoretically possible from the moment that manuring was introduced to maintain the soil's fertility. But even with continuous use of the arable land, the settlement itself may still shift around. The construction material of the houses necessitated their complete rebuilding at comparatively short intervals.

For the Bronze Age and the Iron Age, wandering settlements must be assumed. In the Bronze Age new locations may have been up to several kilo

metres away from the old, each site and its adjacent arable fields surrounded by uncultivated but certainly (extensively) exploited land. In the Iron Age, when areas of cultivated land (Celtic fields) were quite extensive, relocation of the houses presumably was restricted to the area of contiguous fields, which covered up to 1 sq km.

Waterbolk (1982) has mapped the locations of early – Bronze Age to historical – settlements for a number of *marken* or village territories in Drenthe. The maps show a whole series of settlement sites for each territory; together these sites cover the whole or the major part of the past 3000 years. The distance between successive sites seldom exceeds a few kilometres. The hypothesis that such a map shows within each territory the various habitation sites of a single community, the occupants of one location being the direct descendants of those of the preceding location, is a tempting one indeed.

For some of the *marken*, the density of information is considerable. There appear to be no major gaps in their settlement histories, especially when the data from cemeteries are included. We know only a few instances of two or more contemporaneous pre- or protohistoric settlements within a single *marke*. Many of the territories are quite comparable from an agricultural point of view, which means that if a reasonable case can be made for settlement continuity in some of the *marken*, this is likely to apply to the others as well. Unfortunately, though, the locations where we would expect to find the younger (Roman Age and later) habitation sites especially, lie within the *essen*, the old arable of Open Field character, in use since early medieval times, and hence are only sporadically available for archaeological investigation. It therefore is seldom possible to obtain a true picture of the density of occupation.

Finally, a strong argument in favour of Waterbolk's hypothesis of territorial continuity of settlement was the support that it seemed to receive from the most systematic and thorough investigation ever undertaken in Drenthe of such a *marke* territory, including its Open Field. This is the project being carried out from 1977 onwards at Peeloo, near Assen, the provincial capital of Drenthe (Kooi, 1983; 1986). It was assumed some years ago already, that continuous occupation in Peeloo from the third century BC had been proven (Bardet et al., 1983; Kooi, 1983). New discoveries are continually being made, however, and in my view it is only now, in 1987 and 1988, that the settlement of the first century BC has come to light and thereby a gap, unrecognized so far, has been filled in.

Some qualification is called for here. The phase recently discovered in Peeloo is one that Waterbolk had already recognized in house-plan typology some time before (e.g. Waterbolk, 1980; 1982). He

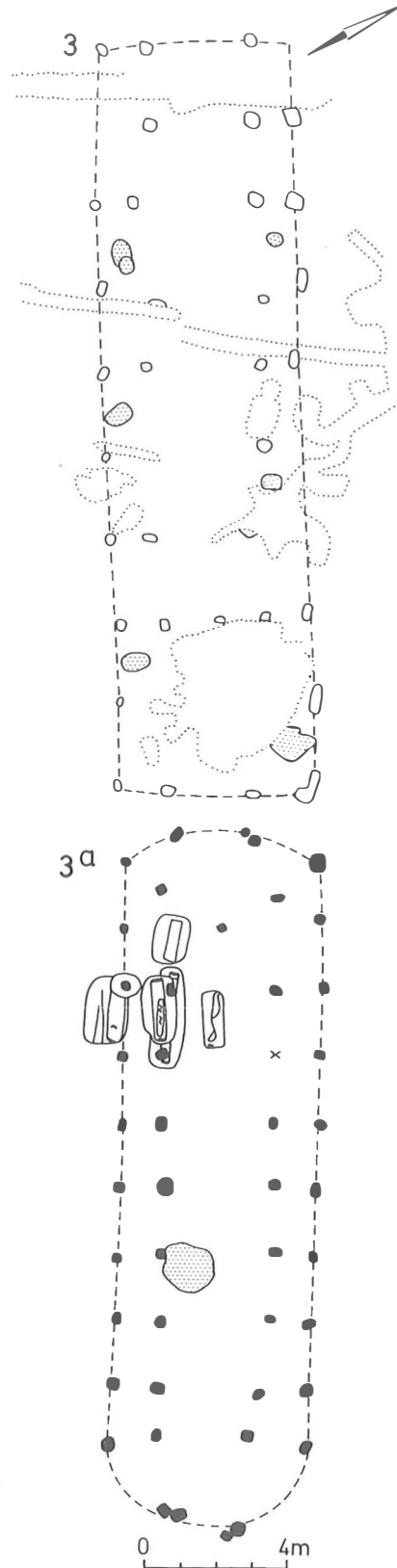


Fig. 2. In the Bronze Age settlement of Elp one house shows all the characteristics of the widely distributed, general Middle Bronze Age type. (re-interpreted, after Waterbolk, 1986).

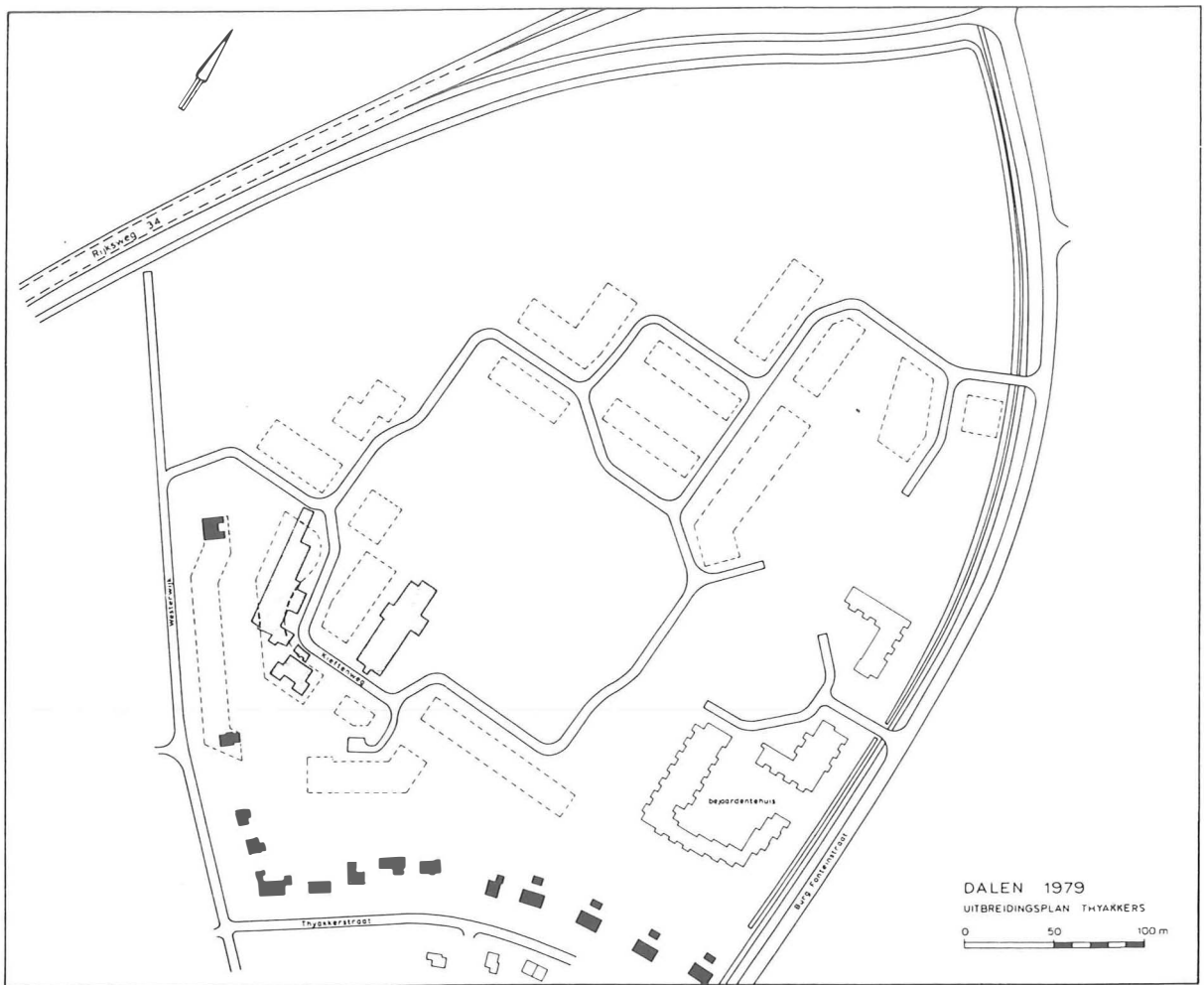


Fig. 3. Dalen, S.E. Drenthe: location of the excavated areas.

termed it 'Fochteloo type'. The example of Peelo clearly shows that this type of house is associated with a specific settlement structure, of which the 1938 excavations at Fochteloo itself had already given some evidence (van Giffen, 1954).

We must exercise some caution with the concept of continuity, and this in two ways. Even if every phase that we have learnt to distinguish in house-plan typology should be encountered in a single site, it still does not mean that continuous habitation at that site has been proved with certainty. We must assume that until well into the Christian era, the lifespan of a building showing no extensive repairs was no more than a few decades: twenty to thirty rather than forty to fifty years. So there may be gaps in the occupation even if all the phases – as indicated by the house types – are present. The idea of territory-bound settlement (which always leaves open the possibility of the settlement having tem-

porarily been outside the excavated area) rather than site-bound settlement has considerably increased the probability of the theory. However, to the same extent that the definition has been widened, the possibilities of verification have been diminished.

But there is another aspect to the matter. Repeated, but interrupted occupation of exactly the same site is not an unusual phenomenon either. And among the examples there definitely are many without any evidence of continuity of habitation at that site or in the neighbourhood. For instance, at Hijken (Harsema, 1983) we know from a single site, a single hectare even, farmhouses of the Middle Bronze Age and from the Middle Iron Age, with a radiocarbon-dated interval of at least 800 calendar years separating the two. At Dalen an early medieval house was encountered at a site where also Middle/Late Iron Age houses had been situated (figs 3-6). The earliest house plans in Noordbarge



Fig. 4. Dalen: general plan of the remains in the excavated areas.

date to the Middle Bronze Age, and the next lot to the Middle/Late Iron Age; although the gap here is partially filled by a Late Bronze Age urnfield with contiguous Iron Age burials.

For the earlier part of the Metal Age (Bronze Age and Early Iron Age) especially, we must question whether the suggested, territory-bound continuous occupation is indeed a reality, and wonder whether it was not merely the unvarying requirements of a settlement site (regarding soils, topography, infrastructure such as roads) which prompted the choice of exactly the same locations time and again. For example, Inuit sheep-farmers in South Greenland since the middle of the present century have settled

at the very sites where until around the year 1400 the Viking farmers of Østerbugt used to live. In our own part of the world, tumuli, which apart from being burial places may have served as territorial markers at the time of their construction and use, centuries later may have been useful quality indicators of a site to prospective settlers. At Hijken it could even have been Late Neolithic barrows which served as such indicators in the Bronze Age (Harsema, 1982).

Yet Peeloo, a well-investigated area, does provide strong evidence in favour of the idea of continuous occupation, maybe from the Middle Iron Age, more probably from the beginning of the Late Iron Age. From those times onwards, the settlement shifted



Fig. 5. Dalen: Middle/Late Iron Age and early medieval house plans.

repeatedly over small distances within a zone measuring 800-900 m (east-west) by 300 m. Some links are rather weak, the first century AD and the 7th and 8th centuries especially, but other phases have come out better than anywhere else in Drenthe. In historical times, documentary sources virtually without a gap pick up the thread where the possibilities of archaeological demonstration become less, and carry it on into the present. But if at Peeloo there is indeed a continuity of occupation, it is not merely continuity of territorial habitation: it virtually is continuity of habitation on the site. The greatest locational shift covered no more than one kilometre and took place in Carolingian days. At that point the settlement moved from its westernmost location

at the far side of the Open Field to a site just east of the Open Field. This phenomenon – clearing sites that subsequently became part of the cultivated area – is one that we find evidence of at the same time elsewhere in Drenthe as well, e.g. in Wijster (van Es, 1967), Odoorn (Waterbolk, 1973) and Donderen.

The investigations at Peeloo provide no support for the theory of continuity which entails displacement over greater distances, of up to several kilometres. It does not refute it either; but in the latter cases it certainly may be questioned whether one is dealing with settlements of the same community. In other words: are not two, spatially distinct, chronologically successive settlements being linked which represent different communities altogether?

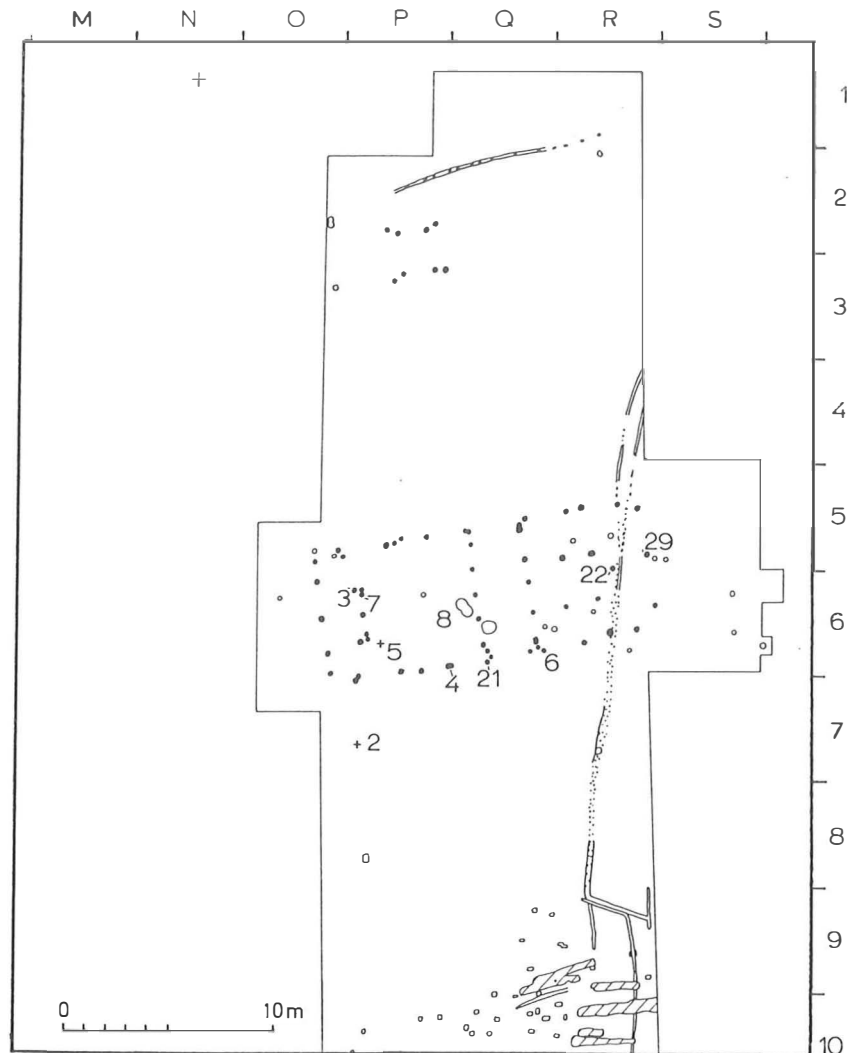


Fig. 6. Dalen: Middle Iron Age house plan.

There are no independent indications of the *marke* division going back any further than the Middle Ages. The *marke* division therefore cannot be simply adopted as a matrix for territorial division before c. 1000 AD. Two (or more) small pre- or protohistoric settlements may well have existed contemporaneously in most of these territories.

By this objection, together with the feeling that a little more restraint is appropriate when claiming that continuity of occupation has been established, I by no means wish to deny that some territories in Drenthe indeed could have been continuously inhabited from the Iron Age onwards.

7. CONTINUITY OF HABITATION, FOREIGN INFLUENCES AND IMMIGRANTS

So let us assume continuously occupied sites or at

any rate territories in Drenthe from the Iron Age on. There may even have been, from an early date, rules concerning exclusive rights of use of territories which virtually correspond with the medieval division into *marken*, both divisions being determined mainly by topographical features. But does this also imply ethnic continuity? Is that a thing we may deduce from the development of house plans? To me it seems that we considerably distort the evidence if we go any further than to assume a substratum of indigenous people within a population that repeatedly underwent both influx and efflux.

The finds from northern Drenthe in the early centuries AD show evidence of contact with and influence from the northern coastal areas, contacts which we must assume were accompanied by some movement of people.

And what lies behind the introduction of the

compact settlement structure, which presumably took place at the beginning of the first century AD and was first observed so clearly at Noordbarge in Southeast Drenthe? There are strong indications that this form is an immediate (chronological) successor to the Late Iron Age settlement (Harsema, 1976). But great changes did take place at the time, both in the types of houses and in settlement structure.

Might not the disturbance caused by the Romans north of the rivers Rhine and Lippe at the beginning of the first century AD have brought about some movement among the local population, which had repercussions as far as Drenthe? Would it perhaps even be permissible to attach the name of Amsivarii to the inhabitants of the compact, enclosed settlements such as Noordbarge? And maybe they were not the first to arrive from the southeast. At Dalen a house plan was excavated with axial postholes, of a type known from the southern Netherlands ('Haps' type), and so was one at Meppen on the river Ems (Zoller, 1977). They appear to date from the end of the Middle or the beginning of the Late Iron Age, around the third or second century BC. This may have been a prelude to more extensive influences from the south. It is notable that the basaltlava querns, imported from the German Eifel, first appear in the northern Netherlands in the first century BC (the period to which the Fochteloo house type also belongs). But from Noordbarge to Peeloo till the beginning of the first century AD the houses continued to be of the familiar aisled type, which means that in the Late Iron Age, at any rate in large parts of Drenthe, immigrants from the south (if there were any) introduced no major changes in the method of house construction. Only the very southeastern tip of our region (Dalen) was affected.

In the first century AD the new developments again appeared most markedly in the southeast (Noordbarge), but this time extended further northwards (Peeloo, Rhee?), affecting not only house plans but settlement structure as well. It has been suggested above that this latter change may reflect a movement of people, attributable to disturbance by the Roman expeditions north of the river Lippe. In the same way, the earlier southern elements, appearing in the Late Iron Age, may have emanated from changes in these southern parts. In this context we should remember the advancing Celtic influence in the Rhine-Moselle area, which there caused great changes in the social-economic structure.

I have already raised the question as to whether with the appearance of northern, coastal culture elements in the north (and the centre) of Drenthe (van Es, 1967: pp. 531-539), the arrival of actual Chauki in the early centuries AD should be entirely excluded. With regard to the changes in the 5th and 6th centuries, it seems to me equally hard to rule out

the arrival of Anglo-Saxon immigrants in the northern Netherlands.

Going back into prehistory, we find that in the Bronze Age too, a number of major cultural changes may well be related to migrations. The emergence of the Hilversum culture in the southern Netherlands may, now that in northwestern France the discoveries of tumulus remnants and 'Hilversum'-related pottery have become more frequent, be more convincingly linked with the English cultural world. Although this influence decreases towards the north, it does extend into the northern Netherlands. At Hijken there is first of all a barrow surrounded by a ditch and bank (van Giffen, 1938), but there is also the local house type which closely resembles that encountered in parts of the country further south, in the region of the Lower Rhine and Meuse, and in the west (West Frisia). The changes in the Late Bronze Age may also, as Desittere (1976) assumes for Belgium, be at least partially related to the arrival of new elements in the population.

8. DEPOPULATION AND COLONIZATION: MIGRATION AS MOBILITY

For the assumption of an indigenous, autonomous cultural development on the sandy plateau of Drenthe, carried by a population that ethnically was hardly if at all affected by newcomers, there is in my opinion no justification. On the contrary, there are numerous indications for influences from outside, which at times seem to have been fairly substantial. It is only the spirit of the times which nowadays prevents us from thinking of the most obvious explanation: a link with smaller or larger immigrant groups.

For the Roman period, and from Roman sources, we know that population movements and migrations were the rule rather than the exception. The arrival and the activities of the Romans definitely caused seriously disturbed relations within the occupied zone. This influence and unrest may well have had repercussions as far as the northern Netherlands, and economically the influence certainly made itself felt. It is clear that in Roman times local developments in the northern Netherlands cannot be studied in isolation, as it were with one's back turned towards the Roman Empire. In our interpretation of events in the northern Netherlands we shall have to take into account the processes and their repercussions taking place within the border zone of the Empire. And just as the heyday of the Roman Empire had its effect on our region, so we too should expect some connection between developments in the northern Netherlands and those in the Empire when the latter was under threat. Some of the threat even may have come from these very regions.

Theoretically there are alternative ways of tackling this problem. Migrations may affect population density. One might expect scientific methods to be able to demonstrate this when dealing with a largely agrarian population. An important method is that of pollen analysis, which registers man's impact on the environment (changes in the natural vegetation; introduction, expansion and maybe decline of cultivated plant species). Normal fluctuations in population density and changes in the pattern of exploitation, however, may be interfering factors. In practice only fairly extreme instances of depopulation and the beginning or resumption of agrarian settlement can be successfully demonstrated in this way. Of course the cultural archaeological remains must corroborate such conclusions, but the archaeological record never is complete, and the reconstructed cultural sequence will never be entirely reliable. There are problems related to dating; beginning and ending are often hard to pinpoint. Unintentionally and unwittingly, gaps in the cultural sequence may be created or, on the other hand, obliterated.

Depopulation in some cases may be strikingly revealed by scientific methods, as demonstrated by Behre (1976) in his palynological investigation of the Migration period in northern Germany. However, a precondition for doing this successfully is the presence of appropriate material, in this case organic deposits, peat, of relatively recent date. This is no longer present in Drenthe. In general such research can only bring to light fairly dramatic changes in the impact of man on the landscape. Sometimes it will make possible inferences about changes in (the density of) the population. So in the case of northern Germany mentioned above, we may from the complete recovery of the natural vegetation deduce a fairly radical depopulation, and connect this with the historically known emigration. Normally, however, there are no clues as to the kind of changes which ultimately are responsible. Furthermore, changes in the composition of a population need not at all have a clear-cut ecological effect. The key to such change after all must be the cultural vestiges. And once again the old issue crops up of whether profound culture change reflects population movement or whether it could be due to a new adaptation and not necessarily associated with changes in the actual composition of the population.

It may be useful to approach the problem from a different angle. What do we have in the way of positive indications of migration and colonization in prehistory, and what kinds of processes and phenomena accompany them? We can in fact start on our very doorstep, with two more-or-less comparable processes which I consider relevant to the present discussion. The first is the phenomenon of

internal colonization, the other a process that we might call (inter-)regional colonization. Among others, Jankuhn (e.g. 1969: pp. 135-135) has drawn attention to the former in North Germany. It involves bringing under cultivation the heavier soils within the (tribal) territory as soon as the necessary technology has been mastered – and, we may assume, population growth and pressure have become such that the necessary workforce is available and a need for expansion is felt. The second process is the taking into use of lands newly becoming available: in the Netherlands these are the alluvial coastal areas and river areas. The great example of this is the colonization of the salt-marshes of the northern Netherlands. The people settling here in the Iron Age are generally thought to have come from the higher, sandy hinterland, which means a prehistoric population movement covering several dozen kilometres.

It is an academic question whether such short-distance colonizations are to be considered migrations. In some cases they may have been performed by sections of the population in the homeland, in others one cannot avoid the impression that an entire region was deserted and all its inhabitants moved to the newly settled area. In the northern Netherlands the latter could, for instance, apply to the Iron Age people of the Westerwolde region. This southeastern part of the province of Groningen is situated east of Drenthe, an extensive raised bog separating the two. Its landscape is quite similar to that of large parts of Drenthe. Westerwolde seems to have remained unpopulated from the Iron Age on into historical times. As natural conditions in Westerwolde were not entirely prohibitive to habitation, other factors too must have been operative. It can be assumed that after the new (salt-marsh) land in the coastal area of eastern Groningen had drawn some people from Westerwolde, the remaining group, confronted with disintegrating communities and perhaps becoming too small even to be biologically viable, had to follow.

In West-Friesland in the province of North Holland, changing environmental conditions (caused mainly by a rising groundwater table) towards the end of the Bronze Age were the decisive factors for depopulation. West-Friesland had been colonized at the beginning of the Middle Bronze Age, as it seems at least partly by people from the sandy areas along the west coast of Holland (the 'old dune' zone). In the Late Bronze Age part of the population may have returned to the same areas it had originated from a few centuries before. But it does not seem far-fetched also to assume that at least a part of the West-Frisian population found a new home in Westergo. This was another part of the northern (in this case the Frisian) salt-marsh that was now becoming inhabitable. This group might

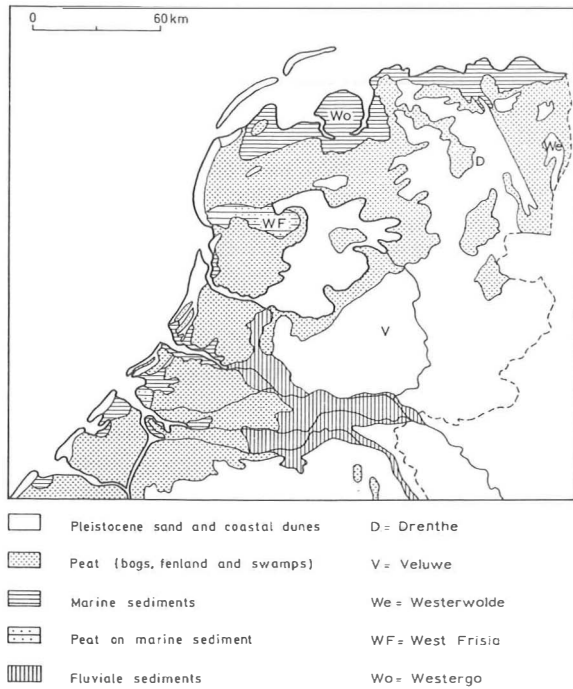


Fig. 7. Palaeogeographic map of the Netherlands (northern and central part). After Zagwijn, 1986.

have preferred colonizing a new and rich, be it a risky environment, above returning to the sand.

The migrations from the sandy soils to the littoral and fluvial zones – at the end of the Iron Age we also see a heightened interest in the area of the great rivers – are quite understandable in terms of agricultural economy. The soils of the newly colonized areas were far more fertile, although they offered less security in other respects. Their environment was economically attractive, but risky, for identical reasons. The landscape was still in a process of formation, inundation was a threat to habitation but the accumulating sediments continuously enriched and renewed the soil. In some respects they were the opposite of the sandy soils. Those environments were stable – if vulnerable to population pressure – but not very productive. Some form of interaction between such virtually opposite kinds of environment is what we would expect and what we indeed observe. In a sense, we may consider the poor, sandy soils of Drenthe, the Veluwe, Brabant and the older dune areas along the west coast as refuges, to which people could return when conditions in the more productive alluvial areas deteriorated, only to leave them again as soon as better times returned. The maps in the ROB's jubilee edition *Archeologie in Nederland* (1988) clearly show that from the Iron Age onwards, people had a strong preference for the younger, richer soils.

Seen in this way, there is another dimension to mobility than movement within a single territory. Perception of the interaction between regions, and hence processes taking place on a larger scale, receive insufficient attention in an approach by which investigations are focussed on a single region and events within it. Continuous occupation in any area, even when this can be archaeologically proved or made plausible, does not imply a closed, inert system without any change in the composition of the population.

9. AN ELUSIVE EXAMPLE OF MIGRATION: THE VISIGOTHS' STORY

In general, the idea that shifts in the pattern of settlement are largely due to population movements, seems to meet little opposition as long as they do not take place across national frontiers. But for some reason the idea seems to elicit greater resistance as soon as they originate beyond these borders. Historically documented migrations are a special case. Although those that are known from the Roman period and the Early Middle Ages are accepted as historical facts, their archaeological reality, i.e. their archaeological evidence is sometimes disputed or even denied.

A case in point is that of the Visigoths, as mentioned by van der Waals (1984). The word 'migration' is almost too weak a term for the peregrinations of this people. They seem to have gone utterly adrift in the turmoil marking the final phase of the Roman Empire, and within a century covered thousands of kilometres. It is unlikely that they should have remained ethnically unaffected during these travels. Yet they retained their identity. In Southeast Europe there is no lack of archaeological evidence to support the historical accounts of their presence there (Behn, 1963). In Spain, where they finally settled, the sixth-century inhumation cemeteries yield associations of grave goods which are completely in line with the traditional view that the dead belonged to a population originating in the northern parts of (Central) Europe (Zeiss, 1934).

So contrary to what van der Waals suggests, the archaeological evidence does exist. Actually, his reasoning is rather curious. He does not deny the historical reality of the Visigoth migrations, and apparently is willing to accept them even without (as he sees it) any archaeological evidence. But he does not wish to see in it (and in many comparable phenomena) a key to a possible model of explanation for 'culture change in prehistory. He does not acknowledge the possibility of migration even when dealing with striking cultural evidence in prehistory, presumably of the very kind he would have liked to see – and says he misses – in the historical cases. Could it be that migrations are acceptable only

when historically documented?

Prehistoric migrations will have to be inferred from archaeological evidence alone. Historical sources testify to the reality of the phenomenon in the past. In the case of the Visigoths it proves another thing as well. Even after the most extraordinary travels and after considerable acculturation in southern France, some essential, archaeologically tangible elements of the original culture were maintained. It is tempting to think that these were elements by which people wished to express their sense of cultural identity. There is revealing evidence on this point. It is remarkable that (according to Zeiss, 1934) the characteristically Visigoth grave goods (certain types of fibula and belt mounts) in the Spanish cemeteries occur especially in the graves of 'ordinary people'. It was they who apparently felt the greatest need to demonstrate their identity. This becomes more understandable when we realize that the Visigoths professed the Arian version of Christianity, which had been condemned at the Council of Nicaea. The indigenous romanized inhabitants of Spain adhered to the official Catholic creed. Apparently the Visigoth leaders, who were not very radical, experienced little trouble in being accepted among the local elite. But at a lower level the religious differences caused serious tensions between the two communities. There clearly was little assimilation; and doubtless to strengthen their sense of group identity, the Visigoths, in a way still recognizable to today's archaeologists, emphasized their cultural heritage, at any rate in a 'secondary' sphere of life. It was not until around 600 AD that the Visigoths finally abandoned their 'heretical' Arianism. From then on, the typically Visigoth elements began to disappear from the cemeteries. Acculturation took place rapidly and the two communities merged to form a single people.

10. FINAL REMARKS

Migrations are phenomena that are well-documented historically. They often take place in times of tension, such as political unrest and threat of war, and often produce a kind of shock wave. The original cause may lie at a considerable distance from where the effect is felt. Migrations can also arise from population pressure, especially where this had a deleterious effect on the environment locally.

A quite different reason is the opening up to settlement of areas previously unfit for exploitation, such as the Dutch salt-marshes. Areas depopulated through war or disease may provide similar opportunities within traditionally settled regions.

Lastly, it is possible for new potential in the environment to arise from the actions of people who

themselves fail to develop to the full this unrecognized potential. The character of a landscape may be altered to such an extent that the area becomes attractive for an entirely different pattern of exploitation. Centuries of small-scale cultivation in the Atlantic deciduous woodland zone produced such a situation, in which the landscape, gradually becoming more open, made possible a quite different economy, less dominated by sedentary arable farming. Although the existing population may shift the emphasis in their economy, at such a point there may also be new groups arriving with subsistence techniques particularly suited to the new opportunities. In my opinion, this is how we should see the appearance of the Single Grave Culture in this part of the world: as intruding groups benefiting from the more open landscape produced by centuries of small-scale agriculture. Apart from the totally different funerary rite and grave goods, both the pottery technology (Hulthen, 1976) and the assemblage of stone artefacts (battleaxes and fairly small axes, often of ophitic diabase (dolerite)), display such differences from what went before, that we cannot be dealing with mere incorporation of new ideas into the culture of the indigenous population.

Finally a few words about later periods. From the centuries around the turn of the Christian era, Northwest Europe has seen extensive population movements. If in any area not a single sign of this should be observable, this would be utterly exceptional. The position of Drenthe is unusual in that it has been largely screened off from the outside world by the raised bogs and fenland surrounding it. But archaeological finds and discoveries reveal that it did not remain totally isolated; in my opinion there is no justification for the view that the region remained wholly unaffected by these manifold migrations.

11. ACKNOWLEDGEMENTS

The author is much indebted to Ms. A.C. Bardet, who accomplished the translation of the main part of the text, to Dr. J.J. Butler for additional assistance, to the staff of the Institute's drawing office (especially to Mr. J.H. Zwier) and to Mrs. M. Bierma and I. Cornelis for carefully preparing the manuscript.

12. REFERENCES

- BARDET, A.C., P.B. KOOI, H.T. WATERBOLK & J. WIERINGA, 1983. *Peelo, historisch-geografisch en archeologisch onderzoek naar de ouderdom van een Drents dorp* (= Mededelingen Kon. Ned. Acad. van Wetenschappen, afd. Letterkunde, N.R. 46,1). Amsterdam.

- BEHN, F., 1963. *Römertum und Völkerwanderung*. Stuttgart.
- BEHRE, K.-E., 1976. Pollenanalytische Untersuchungen zur Vegetations- und Siedlungsgeschichte bei Flögeln und im Ahlenmoor (Elb-Weser-Winkel). *Probleme der Küstenforschung im südlichen Nordseegebiet* 11, pp. 101-118.
- CHILDE, V.G., 1950. *Prehistoric migrations*. Oslo.
- DESITTERE, M., 1975. Autochtones et immigrants en Belgique et dans le Sud des Pays-Bas au Bronze final. In: S.J. de Laet (ed.), *Acculturation and continuity in Atlantic Europe*. Brugge, pp. 77-94.
- ES, W.A. VAN, 1965. *Wijster. A native village beyond the imperial frontier 150-425 A.D.* Thesis, Groningen (also *Palaeohistoria* 11).
- GIFFEN, A.E. VAN, 1938. Continental Bell- or Disc-Barrows in Holland. *Proceedings from the Prehistoric Society* 12, pp. 258-271.
- GIFFEN, A.E. VAN, 1943. Opgravingen in Drenthe. In: J. Poortman (ed.), *Drenthe. Een handboek voor het kennen van het Drentsche leven in voorbije eeuwen*. Meppel, pp. 397-564.
- GIFFEN, A.E. VAN, 1954. Praehistorische huisvormen op de zandgronden. *Nederlands Kunsthistorisch Jaarboek* 5, pp. 11-40.
- HARSEMA, O.H., 1976. Noordbarge. *Bulletin Koninklijke Nederlandse Oudheidkundige Bond* 75, pp. 52-55.
- HARSEMA, O.H., 1982. Settlement site selection in Drenthe in later prehistoric times: criteria and considerations. *Analecta Praehistorica Leidensia* 15, pp. 145-159.
- HULTHEN, B., 1975. Technical investigations for evidence of continuity and discontinuity of ancient ceramic traditions. In: S.J. de Laet (ed.), *Acculturation and continuity in Atlantic Europe*. Brugge, pp. 120-129.
- JANKUHN, H., 1969. *Vor- und Frühgeschichte vom Neolithikum bis zur Völkerwanderungszeit* (= Deutsche Agrargeschichte 1). Stuttgart.
- KOOI, P.B., 1983. Middeleeuwen. In: O.H. Harsema (ed.), *Kroniek van opgravingen en vondsten in Drenthe in 1980 en 1981*. *Nieuwe Drentse Volksalmanak* 100, pp. 213-216.
- KOOI, P.B. & G.J. DE LANGEN, 1986. Bewoning in de vroege ijzertijd op het Kleuvenveld te Peelo, gem. Assen. *Nieuwe Drentse Volksalmanak* 103, pp. 151-165.
- KOSSINNA, G., 1928. *Ursprung und Verbreitung der Germanen in vor- und frühgeschichtlicher Zeit*. Leipzig.
- LAET, S.J. DE, 1975. L'Explications des changements culturels: modèles théoriques et applications concrètes. Le cas du S.O.M. In: S.J. de Laet (ed.), *Acculturation and continuity in Atlantic Europe*. Brugge, pp. 67-76.
- RENFREW, C., 1973. *Before civilization: the radiocarbon revolution and prehistoric Europe*. London.
- RENFREW, C., 1983. The social archaeology of megalithic monuments. *Scientific American* 249, No. 5, pp. 128-136.
- SHERRATT, A.G., 1973. The interpretation of change in European prehistory. In: C. Renfrew (ed.), *The explanation of culture change: models in prehistory*. London, pp. 419-428.
- WAALS, J.D. VAN DER, 1969. *Praehistorie en mythevorming*. Groningen.
- WAALS, J.D. VAN DER, 1976. Continuity and discontinuity in prehistory; some comments on definitions, demonstrability and interpretations. In: S.J. de Laet (ed.), *Acculturation and continuity in Atlantic Europe*. Brugge, pp. 257-260.
- WAALS, J.D. VAN DER, 1980. Oudheid en grootheid. Archeologie en nationalisme. In: M. Chamalaun & H.T. Waterbolk (eds.), *Voltooid verleden tijd? Een hedendaagse kijk op de prehistorie*. Amsterdam, pp. 245-256.
- WAALS, J.D. VAN DER, 1984. Discontinuity, cultural evolution and the historic event. *Proceedings of the Society of Antiquaries of Scotland* 114, pp. 1-14.
- WAALS, J.D. VAN DER, 1986. De Bekerulturen in het licht van nieuwe opvattingen over het begrip 'cultuur'. *Westerheem* 35, pp. 152-157.
- WATERBOLK, H.T., 1973. Odoorn im frühen Mittelalter. *Neue Ausgrabungen und Forschungen in Niedersachsen* 8, pp. 25-89.
- WATERBOLK, H.T., 1980. Hoe oud zijn de Drentse dorpen? Problemen van nederzettingcontinuïteiten in Drenthe van de bronstijd tot de middeleeuwen. *Westerheem* 29, pp. 190-212.
- WATERBOLK, H.T., 1982. Mobilität von Dorf, Ackerflur und Gräberfeld in Drenthe seit der Latènezeit. *Offa* 39, pp. 97-137.
- WATERBOLK, H.T., 1985. Archeologie. In: J. Heringa et al. (eds.), *Geschiedenis van Drenthe*. Meppel, pp. 15-90.
- WATERBOLK, H.T., 1987. Terug naar Elp. In: *De historie herzien*. Vijfde bundel 'Historische Avonden' uitgegeven door het Historisch Genootschap te Groningen t.g.v. zijn honderdjarig bestaan. Hilversum, pp. 183-215.
- ZAGWIJN, W.H., 1986. *Nederland in het Holoceen* (= Geologie van Nederland 1). 's-Gravenhage.
- ZEISS, H., 1934. *Die Grabfunde aus dem spanischen Westgotenreich*. Berlin/Leipzig.
- ZOLLER, D., 1977. Eine Siedlung der vorrömischen Eisenzeit bei Meppen, Kr. Emsland. *Nachrichten aus Niedersachsens Urgeschichte* 46, pp. 233-240.