

1 Towards new models

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Introduction

Bronze Age settlement research in the Netherlands has a long tradition. Since the sixties of the last century many new data were gathered in almost the entire country. After the Second World War many building projects were initiated and roads had to be converted into highways to accommodate the growing traffic. In the context of these developments several excavations took place, some even on a large-scale, like the excavations north of Bovenkarspel in West-Friesland (Bakker *et al.* 1977; IJzereef and Van Regteren-Altena 1991) and Angelso-Emmerhout in Drenthe (cf. Kooi, this volume). The Universities of Groningen and Amsterdam played an important role in these large-scale projects, together with the State Service for Archaeological Investigations (former ROB, now RACM).

Due to the enormous work pressure, many of these excavations were only preliminary published, and of those but a few in English, French or German and virtually none in international journals. Only the final publication of Elp (Waterbolk 1964) and Molenaarsgraaf (Louwe Kooijmans 1974), and the preliminary reports of Nijnsel (Beex and Hulst 1968) and Zijderveld (Hulst 1975) appeared in English in journals that had an international distribution.

This publication problem not only resulted in a lack of knowledge dissemination on the international level, but on the national as well. Especially in the late nineteen nineties, the new generation of archaeologists that started to do research experienced this as a problem. Hence a small conference was organised in Leiden (1989) that called together everyone who had ever excavated Bronze Age settlement site remains with the aim to present their data to a larger scientific audience. The conference was a success and nearly all authors agreed to publish their data in

the conference proceedings (Fokkens and Roymans 1991). This publication, known as the 'NAR 13' (Nederlandse Archeologische Rapporten 13) was widely distributed and well-cited, even internationally although it was published in Dutch. It was clear that many people were eager to hear more about the Bronze Age excavations in the Low Countries.

For some time NAR 13 was the standard, but the last decennium brought a lot of changes. Due to the new Malta legislation, following the Valetta convention signed by European Union members in 1988, many research projects were initiated in advance of the building of roads, railways and housing estates. Figure 1 shows that there was a steep increase in the discovery of new Bronze Age sites in the last two decades. In the course of these projects many new data on Bronze Age settlement sites and burials and the relation between the two were generated, now fortunately generally resulting in full publications, be it still in Dutch and in very small editions.

Nonetheless, new problems arise: first it has become clear that a standard and a methodology is lacking by which researchers, some inexperienced in Bronze Age research, can judge their data. Second, syntheses are lacking. Third the data is – even if published in full reports – inaccessible to an international scientific public.

To tackle a number of these problems a Leiden based team under direction of the first author started a research program in 2001 with the title 'Living in a dynamic (cultural) landscape: The Bronze Age in the Dutch central river area'. This research programme aims to investigate and synthesise the available data on the Bronze Age cultural landscape in the delta of the rivers Rhine and the Meuse in the Low Countries. It was part of the Netherlands Science Foundation (NWO) framework 'The Malta Harvest' which

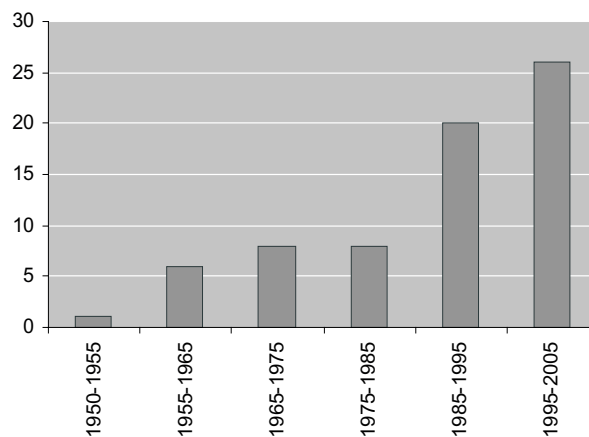


Fig. 1.1 Number of Bronze Age sites discovered per decennium

funded programmes that aimed at synthesising the results of research generated under the new Malta legislation, partly through the integration with older research.

In this project we set the Dutch central river area as our study area because in the last years a number of large archaeological projects had been carried out by different commercial organisations in advance of the construction of the Betuwe railroad. The results were fully published, in Dutch language books, but never synthesised. The scientific potential of these excavations had thus not been fully mined yet. The project explicitly targeted this potential, whilst at the same time reanalysis of a few older excavations was undertaken. The second author, took on the job of comparing the results of the sites and to compare them with the data from Bronze Age settlement sites both within, and outside the river area (Arnoldussen and Fokkens, this volume).

In order to make our data more knowledgeable and to discuss interpretations, the editors of the present volume organised a conference in Leiden, in October 2005. It had two main goals: the primary objective was to bring data on Bronze Age settlement sites to the light that had hitherto only been published in preliminary, brief or less well-known reports. The second objective was to bring together an audience of archaeologists working with commercial excavation companies, local amateur archaeologists as well as archaeologists with an academic position in order to discuss and disseminate the current state of knowledge on Bronze Age settlements from the Low Countries. The present volume is the result of that conference, but not a mere collection of conference papers. They are supplemented with contributions from authors not present at the conference. We focussed on the sites where one or more Bronze Age house plans had been discovered and seemed not to have received the attention yet that these for various reasons deserved. The process of editing allowed discussing the presented data with the authors in order to arrive at a more common standard of

terminology and methodology. This does not mean that all plans and argumentations confer to our ideas, but that we encouraged the authors to become aware of possible interpretational problems and sometimes urged them to formulate their conclusions with the necessary criticism and reflection. Therefore we are confident to say that the present book, even if it is a multi-author volume, is an authoritative presentation of the Dutch data on Bronze Age settlement sites.

In this paper we want to summarise some of the interpretations presently possible and reflect on the existing models of settlement structure and organisation. In a second article (chapter 2) we summarise the data on structures and settlements and present a few conclusions that can be used for further research in the field.

Earlier syntheses

Despite large numbers of known settlement sites from nearly all areas of the Low Countries (Arnoldussen and Fokkens, this volume p. 30), not many syntheses have been produced which characterized their nature and dynamics. Exceptions are Butler's *Nederland in de Bronstijd* (1969), Fokkens' and Roymans' *Nederzettingen uit de bronstijd en de vroege ijzertijd in de Lage Landen* (1991), Theunissen's *Midden-bronstijdsamenlevingen in de Lage Landen* (1999) and Fokkens' 'The periodisation of the Dutch Bronze Age: a critical review' (2001). Yet by and large, Bronze Age settlement sites are – when encountered and excavated – taken for granted. A brief overview of the main lines of interpretation of Dutch Bronze Age settlements highlights the most notable exceptions.

Nederland in de Bronstijd (Butler 1969)

The first phase of Bronze Age settlement research started in 1955 with the recognition of the first Bronze Age

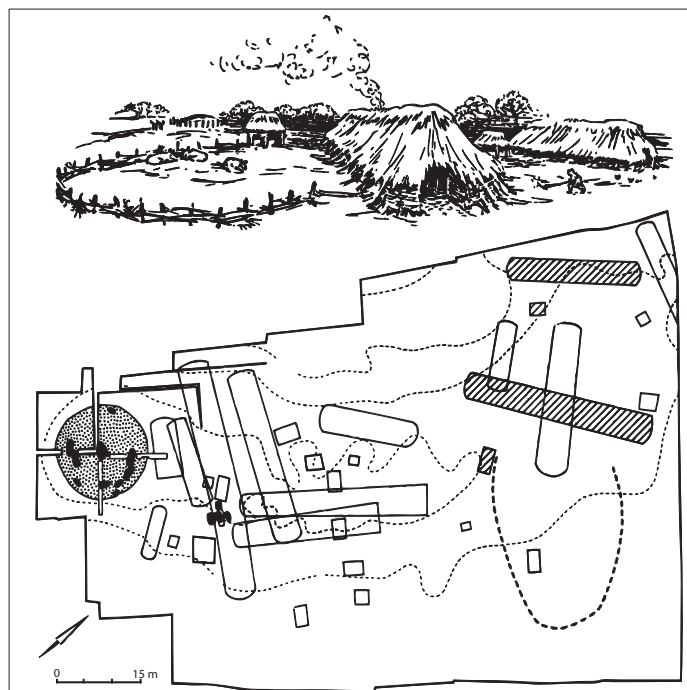


Fig. 2 The interpretation of Elp as it was published by Butler (1969) after the interpretation by Waterbolk (1964)

houses at Deventer (Modderman 1955; Arnoldussen and Fokkens, this volume, fig. 9), and the excavations at Elp in the early sixties (Waterbolk 1964; 1987). When Butler wrote his famous '*Nederland in de Bronstijd*' in 1969, only the settlements of Elp and Angelslo-Emmerhout figured. Through his book Waterbolk's interpretation of Elp (Waterbolk 1964 revised in 1987) got firm roots. The reconstruction (Fig. 2) showed two contemporary farms, a large house (up to 40 m) and a smaller one (18 m) each with one or two outbuildings (granaries, in Dutch called 'spiekers'), a cattle pen and a barrow located in the vicinity. According to Butler and Waterbolk the settlement features recovered at Elp represented one farmstead with two house plans that in the course of 500 years was rebuilt several times in approximately the same location. In his 1987 reconsideration of the data, Waterbolk stated that in his view the farms were abandoned after a generation of use and the farmstead was replaced to another location to return after yet another one or two generations (Butler 1969, 66; Waterbolk 1987).

The settlement of Angelslo-Emmerhout had not been published yet in 1969 (and not even today), but Butler summarized some of its interesting features, one of them being extremely long houses (65 to 80 m in length). He suggested that the latter might have been built in several separate phases (1969, 70), but that the first certainly was conceived as one coherent plan. This conclusion has seen much debate and finally has been refuted by Kooi (this volume), who interprets both as reflecting a multitude of construction phases.

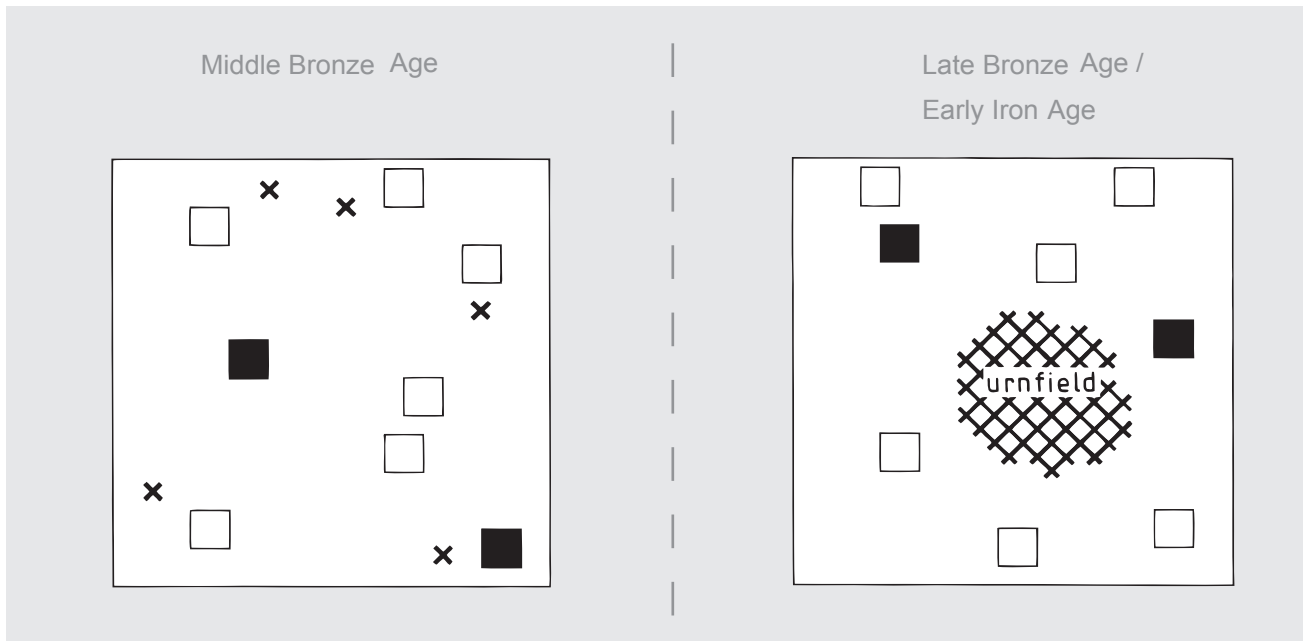
Nederzettingen uit de bronstijd en de vroege ijzertijd (Fokkens and Roymans 1991)

Another overview appeared some 20 years later (Fokkens and Roymans 1991). In their introductory and summarising article, Roymans and Fokkens (1991) recapitulated the existing views on settlement dynamics, of which many never had been committed to paper before, and presented the result in a simple model (Fig. 3). New in this model was the fact that they incorporated the relation of settlement sites to burials.

Based primarily on the excavations at Elp, Angelslo-Emmerhout and Bovenkarspel, the idea was that in the Middle Bronze Age farmsteads shifted their location. The burial sites more or less shifted with these because new barrows were located in the vicinity of new house locations. Only in West-Friesland several farms were considered to have existed within a small region simultaneously, forming a kind of hamlet, but elsewhere farms were thought to have;

'... a diffuse spatial structure: the yards lay dispersed and are generally single-phased.' (Roymans and Fokkens 1991, 11, our translation).

The idea that farmsteads 'wandered' around the landscape later gained momentum by the work of Schinkel (1994; 1998), who related it to earlier interpretations of Iron Age and Roman period settlement sites in the northern Netherlands and Germany (cf. Waterbolk 1982, 134; 1987, 213; Kossack *et al.* 1984, 20; Haarnagel and Schmid 1984, 216). The limited durability of the timbers used for the



Contemporary farmsteads (filled squares) which periodically (generationally) change location. No fixed funerary site; crosses indicate some isolated barrows. Open squares indicate farmsteads from other phases.

Contemporary farmsteads (filled squares) which periodically (generationally) change location, while the funerary location remains fixed. Open squares indicate farmsteads from other phases.

Fig. 1.3 Model by Roymans and Fokkens (1991, fig. 7) for the distribution of settlements and the relation with burial sites

construction of the houses was seen as the main incentive behind this system of shifting habitation (cf. IJzereef and Van Regteren-Altena 1991, 74; Roymans and Fokkens 1991, 10).

In the Late Bronze Age several changes were seen to occur: the farmsteads still wandered, but from the Late Bronze Age onwards cemeteries (urnfields) remained fixed at the same location (Roymans and Fokkens 1991, 12). This contrast was also considered to be visible in the location of arable fields: in the Middle Bronze Age these were (implicitly) considered to be less constant and over long periods shifting with the centres of gravity of settlements, but from the Late Bronze Age onwards the large arable complexes of the Celtic fields developed. Roymans and Kortlang (1999, 38–38, 50–52) and Gerritsen (2003) later used these contrasts to propose that in the Late Bronze Age local communities started to use cemeteries as an important element in the construction of their identity.

Thus, based on the open, unfortified character of the Dutch Bronze Age settlement sites in Drenthe and later in the remainder of the Netherlands as well, small-scale, peaceful and egalitarian communities were reconstructed (cf. Roymans and Fokkens 1991, 11 ff.). Although the burials seemed to show indications for a hierarchical structure of the society (cf. Butler 1969, 177 ff.), the settlements were not considered to show a similar hierarchy (but see IJzereef and Van Regteren-Altena 1991, 78).

The 1991 overview confirmed and strengthened the existing view, advanced by Butler (1969, 67), that in the

Middle Bronze Age a new tradition of farm building started: that of the three-aisled 'byre-house' ('Wohnstallhaus' (German) or 'woonstalhuis' (Dutch)). Butler stresses that this tradition continued as 'the traditional farm type of the North sea area in northwestern Germany and the Netherlands north of the central river area (the so called Frisian and Saxon farm; Butler 1969, 67, our translation). In 1991 it had become clear that not only in the areas north of the Rhine this type was the dominant type, but in West-Friesland, the river area and the southern Netherlands as well. Roymans and Fokkens summarised the data in a schematic survey that let the three-aisled tradition start around 1750 BC, at the beginning of the Dutch Middle Bronze Age-A and signalled the transition to an entirely new tradition after 900 BC.

They took the apparent invisibility of the byres in the southern farms for granted. The comparable lengths of the houses then known prompted them to assume that even if stalls were invisible in the south, they still had been present there as well. The possible stall partitions of the Loon-op-Zand house were used as supporting evidence (Roymans and Hiddink 1991, 114). Hence the tradition of mixed farming, with the longhouse with a byre included as its symbol, was advocated to have started around 1750 BC, following a two-aisled Neolithic house tradition without stalls. The importance of cattle for the economy and the winter stalling of cattle was proposed as a possible explanation for the new tradition in farm building (Roymans and Fokkens 1991, 8).



Fig. 1.4 Large scale excavations at Oss-Mikkeldonk (A: area Mikkeldonk; B: area Suikerkamp) surveying an area of c. 18 ha. Indicated are Bronze Age house plans (a), granaries (b), wells (c), fences (d) (after Fokkens 2005b, fig. 18.22)

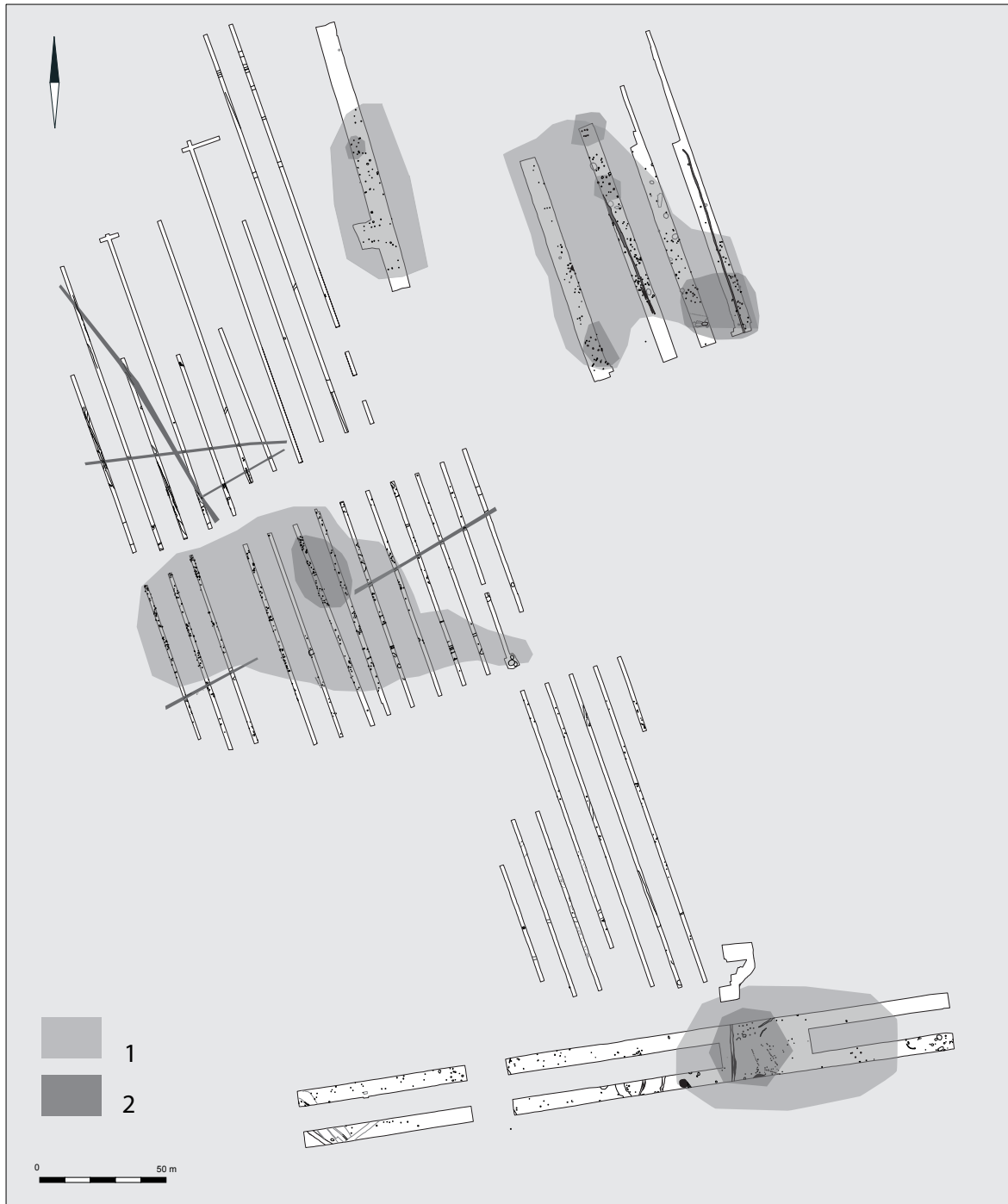


Fig. 1.5A Prospecting trenches (1.5 m wide, in the ne and the s 5 m wide, show dense distributions of features (1), probable structures (2) of the Iron Age and the Bronze Age, and a ditch system of the Roman period

Presently it has become clear that the classical byre-house type of the north as advanced by Butler (1969), is indeed in its specific form restricted to the Nordic World (cf. Harsema 1993, 107; Willroth 2003, 114; Arnoldussen in prep.) and is only visible from the 15th century BC onwards (Bourgeois and Arnoldussen 2006; Arnoldussen and Fontijn 2007; Arnoldussen in prep.). We will discuss

this issue in more detail later.

Since 1991 much has happened, both in terms of settlement research proper as well in theoretical approaches to the settled landscape. This chapter predominantly deals with the second issue, chapter 2 (Arnoldussen and Fokkens, this volume) with the first.

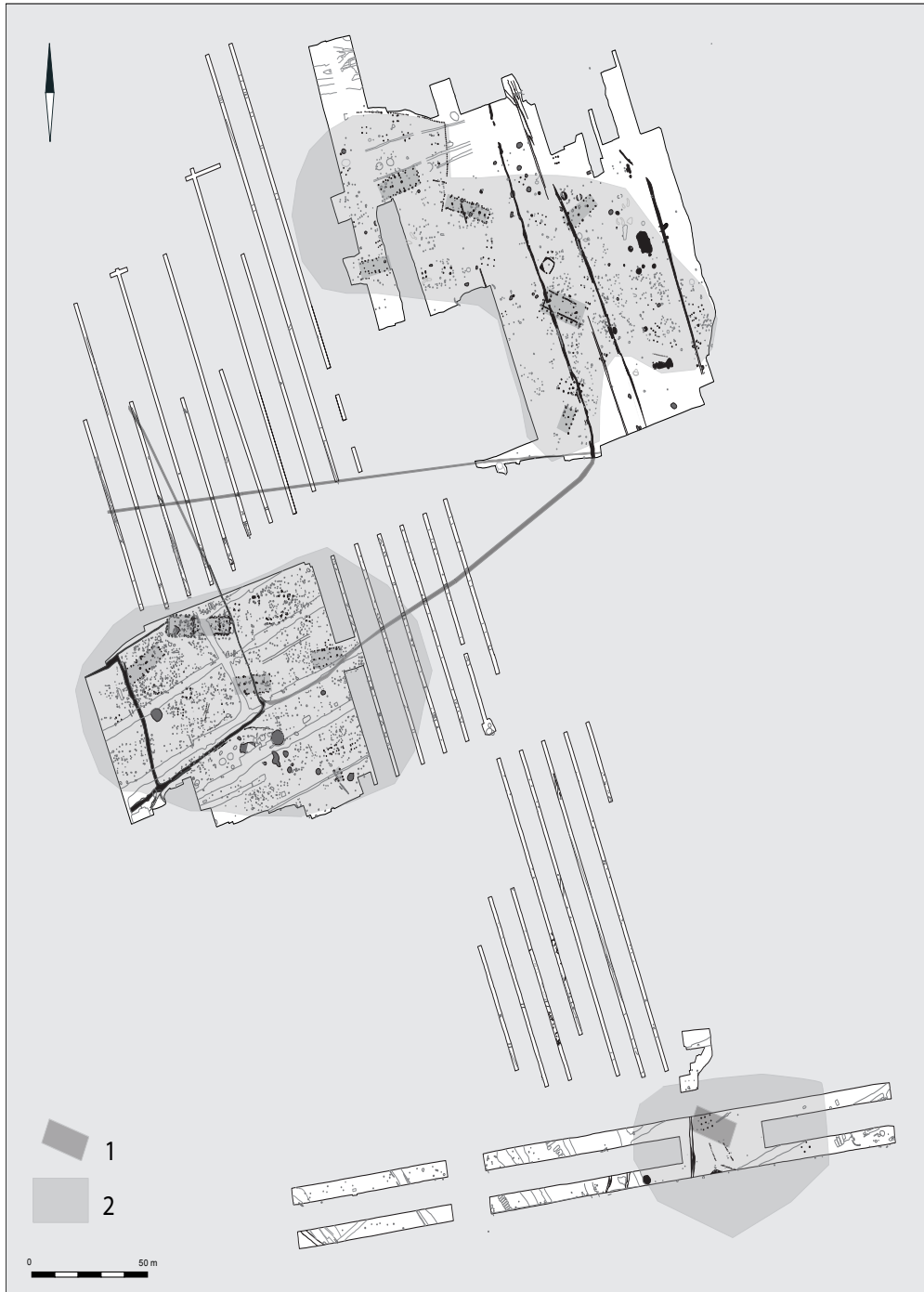


Fig 1.5B The areas densest with features have been excavated. In all 11 houses from the Early Iron Age until the Late Iron Age were uncovered (2) and the main settled areas could be established (1). Outside this area an extensive land parcelling system of the Roman Period (zw-ne) is traceable and a ditch system of the Late Iron Age (w-e)

New themes in settlement research

In the 1991 article Roymans and Fokkens held a plea for a more holistic approach (1991, 17), i.e. for an integration of settlement research with that of burial sites and deposition locations. Gradually this approach started to become known as archaeology of the cultural landscape, as opposed to

settlement archaeology. In the Low Countries the NWO funded project Settlement and Landscape in the Meuse-Demer-Scheldt area with close cooperation between the University of Amsterdam (Theuws), the Free University of Amsterdam (Roymans) and the University of Leiden (Fokkens) set the agenda in that respect. Within the framework of that project, concepts were developed that are

now more or less standard in the Low Countries. Concepts like archaeology of the micro-region, the local community, biography of the landscape, ancestral landscapes, the life cycle model for settlement displacement have been developed within the context of the Meuse-Demer-Scheldt Project (cf. Fokkens 1996; Roymans 1996; Gerritsen 2003).

The landscape approach and micro-regional research

Until the nineteen nineties settlement research focussed on sites and especially of the sites of farms. The research methods were more or less instrumental in that approach. Generally settlement sites were discovered by accident. Therefore generally only rescue excavations were possible. In some occasions, like for instance in West-Friesland (Bovenkarspel, Hoogkarspel) and Drenthe (Angelslo-Emmerhout) and later in Oss, large-scale excavations were undertaken, uncovering substantial areas of 17 to over 50 hectares (Fig. 4).

But even within these larger research projects it often was impossible to make inferences on the settlement structure or settlement system, to use outdated terminology in terms of content, but which still is useful in terms of scale (Flannery 1976). The results of these larger projects were unique, because they showed for the first time the coherence between farms and clusters of farms and even between farms and cemeteries. Combined with the time depth of the excavated remains in such research areas, the potential for scientific research of the settled area clearly is enormous. It was realised that continued research in a relatively restricted region had a high potential and therefore micro-regional research became a strategy for doing landscape archaeology (Fokkens 1996; Gerritsen 2003; Roymans 1996).

Landscape archaeology, in several shapes and contexts, has been a hallmark of archaeology of the Low Countries for a long time. For decennia H. T. Waterbolk stressed the importance of the regional landscape for the cultural identity of a group. His research focussed, through the analysis of prehistoric and historic data, on the development of local groups with certain landscape compartments like for instance were present in the northern Netherlands (Waterbolk 1982; 1990; Slofstra 1994, 30).

In the nineteen nineties, the concept of landscape archaeology developed a different content both in the Netherlands and elsewhere. The term 'cultural landscape' now features in virtually every book and research proposal, but with a plethora of definitions (cf. Hidding *et al.* 2001). In a more down to earth meaning, very often used in commercial archaeology, it stands for an approach that incorporates all elements of the inhabited landscape, not only settlements, but also cemeteries and other ritual sites. In other contexts the archaeology of the cultural landscape means cultural perception and experience of the landscape: 'meanings attributed to the landscape within (pre)historic

societies and (...) the ways in which past experiences may be anchored in the landscape' (Bazelmans *et al.* 1999, 6). In a call for papers on this subject for the first issue of Archaeological Dialogues in 1994, the authors stay close to Ingolds 'dwelling perspective' according to which 'the landscape is constituted as an enduring record of – and testimony to – the lives and works of past generations who have dwelt within it, and in doing so, have left there something of themselves.' (Ingold 1993, 152). This focus on the incorporation of elements of the past in contemporaneous landscapes also strongly features in Roymans' concept of 'cultural biography' (1995), which presently is extremely popular in the Low Countries but by its popularity is in risk of being degenerated somewhat to mean only 'occupation history' of a particular cultural area. Such use does no justice to what Roymans intended with the concept, or to the seminal work of Kopytoff (1986) on which it is based.

To our view, archaeology of the cultural landscape means a kind of archaeology that tries to investigate the ways in which people have structured the landscape in which they dwelt and gave it meaning according their cosmology. Consequently, in practice such landscape archaeology involves the research of the structure of, as well as the coherence between, settlements, the surrounding land, cemeteries and ritual places. The latter may very well even be unaltered places in the landscape (cf. Bradley 2000; Fontijn 2007).

From this perspective, landscape archaeology implies also a different research strategy, which is becoming increasingly embedded in archaeological practice. A strategy that calls for integral prospection of the landscape, not only focussing on settlement and funerary sites, but also on the areas that normally would not be visible as sites because they have a low archaeological visibility. Ideally this means prospecting with survey trenches like is the practice in France, for instance. There large development areas are tested with a 'sondage à cinq pourcent' (5 % trial trenches) by means of 1–2 m wide trenches which reveal any density of archaeological traces or the indeed their absence even in cases of low archaeological visibility (Fig. 5A, B).

Ancestors and local communities

With the increased interest in the inhabited landscape as a social phenomenon and in the relation between settlements, barrows and other ritual places, new lines of research have been developed. First the importance of ancestors for the identity of regional groups was realised, second recent reanalysis of the archaeological data show that the relation between barrows and settlements is not as straightforward as it once seemed.

To start with the latter, it is now evident that the 1991 model presented by Roymans and Fokkens (1991, fig. 7; Fig. 3) suggests a too direct relation between barrows and settlements (cf. Bourgeois and Fontijn, this volume).

The term ‘family barrow’ as the general indication for the Bronze Age barrow with secondary interments adds to the image that barrows are cemeteries belonging to one or two farmsteads (see for instance Drenth and Lohof 2005, 451).

However, scrupulous research of the available data by Arnoldussen for the settlements and Bourgeois for the burial evidence has revealed that primary burials under barrows – if dates are available – date to the period before 1500 BC, whereas the farms date from after 1500 BC (Bourgeois and Arnoldussen 2006; Arnoldussen and Fontijn 2007). This does imply that the inhabitants of the farm never could have been buried underneath a barrow. Nevertheless, if we observe that several farms are located in the vicinity of barrows, or even incorporate a barrow in their farm yards, like for instance at De Bogen, Eigenblok, Elp, Hoogkarspel and Bovenkarspel, the presence of an older or ancestral barrow may have been one of the pull factors for MBA-B house locations (Harsema 1982, 156; Kolen 2005, 45; Fokkens 2005c, 79; Fontijn and Bourgeois, this volume).

This observation brings the importance of ancestors for farming communities into focus. Many authors have stressed the importance of ancestors for farming communities. In societies without land tenure the ancestors are often seen as the original owners and protectors of the land (e.g. Meillassoux 1972; Saxe 1970). Among many authors, Mary Helms too stresses the importance of ancestors in relation to the origins of the ‘House’. She describes this concept in the sense of Lévi-Strauss as referring

‘not to buildings per se, but to a bounded social entity, a corporate body, or a core group of persons related or incorporated by various forms of real or fictive ties of kinship or alliance and possessing an estate or domain containing of material or immaterial (including supernaturally derived) wealth or “honours”.....’ (Helms 1998, 15).

The house in its material form often is at the heart of the House and as such may even become a ‘veritable microcosm reflecting in its smallest details an image of the universe and of the whole system of social relations (Lévi-Strauss 1982, 174–187; 1987, 150–152, cited in Helms 1988, 15). Helms furthermore makes an important distinction between ancestors related to the ‘emergent’ House origins ‘in which ancestors are still directly linked to the House from which they derived’ (and therefore emergent from the House) and ancestors that refer to cosmological first principles or creational origins and therefore precede the House (Helms 1998, 38). The distinction is important because both categories are often linked to different places and may have different forms. Ancestors related to first-principle origins may take the form of totems, animals or trees and may be related to natural places or intangible phenomena (Helms 1998, 39–42). Emergent ‘affinal’ House ancestors may ‘spatially situated’ (Helms 1998, 42), implying that they can be located in places near the material manifestations of the House.

From that perspective the relation between barrows and farms becomes an ideological one anchored in the cosmology of a social group, or a local community as it is frequently labelled in an archaeological context in the Low Countries. The latter concept is defined in more descriptive terms as a community of people living together in the same (micro)-region, burying the dead in the same cemetery and worshipping the same ritual places, in other words, sharing an identity (Fokkens 1999; 2004; Gerritsen 2003, 125). Referring to Ingold (1986) and De Coppet (1985), Gerritsen stresses the reciprocal relationships between a local community and the land of which ultimately the ancestors can be seen as the original workers and owners. The social ties created by the construction of, and the (conceptual) relations between barrows and houses therefore are meaningful as a means of creating and sustaining the identity of local groups, not only in the Late Bronze Age and Early Iron Age (Gerritsen 2003; Roymans and Kortlang 1999), but also in the Middle Bronze Age and in the Late Neolithic (Fokkens 1998; 2003).

The appreciation of the importance of ancestors for local communities has generated a renewed interest in landscapes of the dead. In Belgium Bourgeois’ aerial photography programme has already led to astonishing results, increasing the known number of barrows from almost nil to over a thousand (Ampe *et al.* 1996, Bourgeois and Cheretté, *et al.* 2003). In the Netherlands, new research has first focussed on barrow cemeteries, for instance of Toterfout-Halve Mijl (Theunissen 1999), and Oss-Vorstengraf/Oss-Zevenbergen (Fokkens and Jansen 2004; Fokkens *et al.* 2006.) but now is gaining momentum in a broader oriented barrow project (Bourgeois and Fontijn 2007). It is obvious now that – like settlement research – burial analysis too has traditionally assumed a too modern view on the meanings of treatment of death and the dead. A more holistic perspective is needed which brings to the fore the cosmological aspects of burial ritual (cf. Artelius and Svanberg 2005, 8) and its meaning as both the end and the beginning of life (cf. Bloch and Parry 1989, 8). The notion of the cyclical character of life brings together the living and the dead, settlement and cemetery, but also brings depositional practices into the analysis. Fontijn has demonstrated how depositions, settlements and burial gifts are related and how they could be connected to life cycles of persons and interpreted as exchanges with the supernatural and the ancestors (2003, 146, 187, fig. 11.3, fig. 12.3). This intriguing awareness that all dimensions of Bronze Age life that were hitherto often studied in separation can and should be combined in coherence will have to structure future research both in research aims and methods.

Unsettled settlements, houses and households

We already discussed how the Roymans and Fokkens model presumed a settlement structure of dispersed, solitary farmsteads that were rebuilt on a different spot every 25 to 30 years. The duration of a single settlement phase was

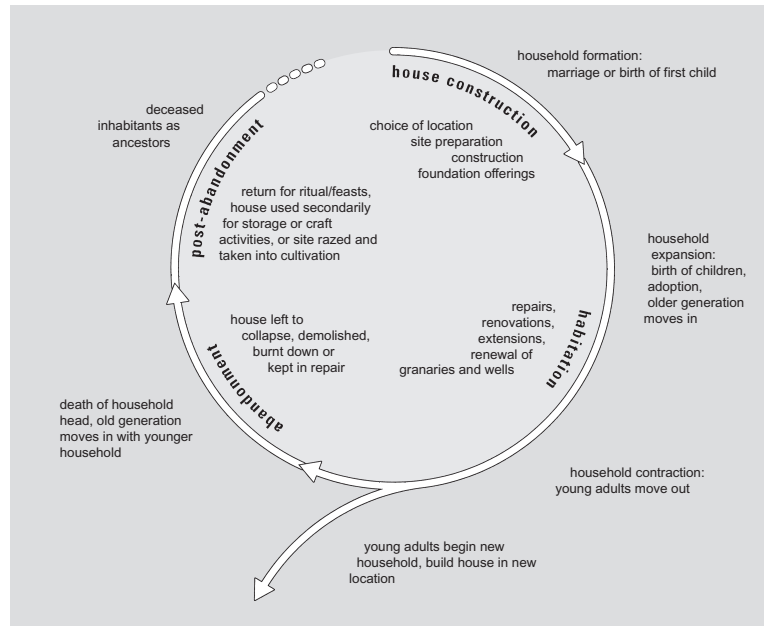


Fig. 1.6 Diagram showing a potential biography of a single-phase farmstead, based on the assumption that the life span of a house corresponded to the life cycle of a household (from Gerritsen 2003, fig. 3.1)

explicitly related to durability of wood (Roymans and Fokkens 1991, 10). The ‘wandering’ distance was supposed to be not more than a few hundred meters only. Implicitly the displacement of the houses was seen as practical, because that meant that the construction of the new farm could be carried out from the old farm and that the old farm or what was left of it – after abandonment – could be used for secondary purposes. Many researchers assumed – although virtually no one committed this idea to paper – that the farmyard after abandonment was immediately used as arable because of the nutrient-enriched soil.

One of the most cited discussions of wandering farmsteads was the Oss-Ussen study by Schinkel (1994; 1998) who coined the phrase ‘unsettled settlements’. Schinkel’s approach was to a large extent descriptive, because a practical mechanism (wood decay) was thought to be instrumental in the wandering of the farmsteads. As an alternative, Gerritsen presented a socio-cosmological model (1999, 2003). Gerritsen adopts a basically Lévi-Straussian approach to the House (cf. the citation above; Gerritsen 2003, 34) and to houses, much like to several contributions in Carsten and Hugh-Jones’ seminal *About the House* (1995). Gerritsen (2003, fig. 3.1; Fig. 6) draws a parallel between the biographies of the house and its inhabitants. It is an attractive model that lets the building of a house start with household formation (marriage, birth of first child), extension and rebuilding with comparable phases of household cycle, and abandonment when household cycle comes to an end with the death of the household founders. Since the biographies of the house and the household coincide, it is logical that even after abandonment the place of the farm is remembered and used for practical reasons and rituals

related to the House. It also offers an interpretative framework for abandonment rituals and deposits that indeed are known from archaeological contexts (Gerritsen 2003; Van den Broeke 2002; van Hoof 2002).

The attractiveness of the model has led to general and rather uncritical acceptance in the archaeology of the Low Countries up to the point that it is cited as a standard interpretation in commercial reports. However, the model has hardly been tested yet. Several hypotheses about the structuring of the archaeological record could be derived from it. For instance, Fokkens (1997, 1999, 2003) has argued that the often large Middle Bronze Age farms (25 m+) were inhabited by households consisting of extended families, whereas the much smaller Iron Age house was the home of a single family household. In Fokkens’ view that may be one of the reasons why so many more houses of the Early Iron Age are known compared to houses of the Middle Bronze Age. If this hypothesis is correct, Gerritsen’s model would predict a longer use-life of Bronze Age houses and more extensions and rebuilding phases than in Iron Age houses. Arnoldussen indeed observes both longer use and frequent rebuilding or repairs in Middle Bronze Age houses (Arnoldussen and Fokkens, this volume), but that neither proves nor disproves either of the models. More research is needed and special attention may be necessary for rituals of abandonment, which incidentally is indicated by depositions (Arnoldussen in prep.).

Implicitly the relatively high mobility of the farmstead seems to indicate that there was no perception of ownership of or connectedness with a particular spot or locale of the landscape. On the other hand, there are several examples of farmsteads ‘returning’ to an abandoned farmyard,

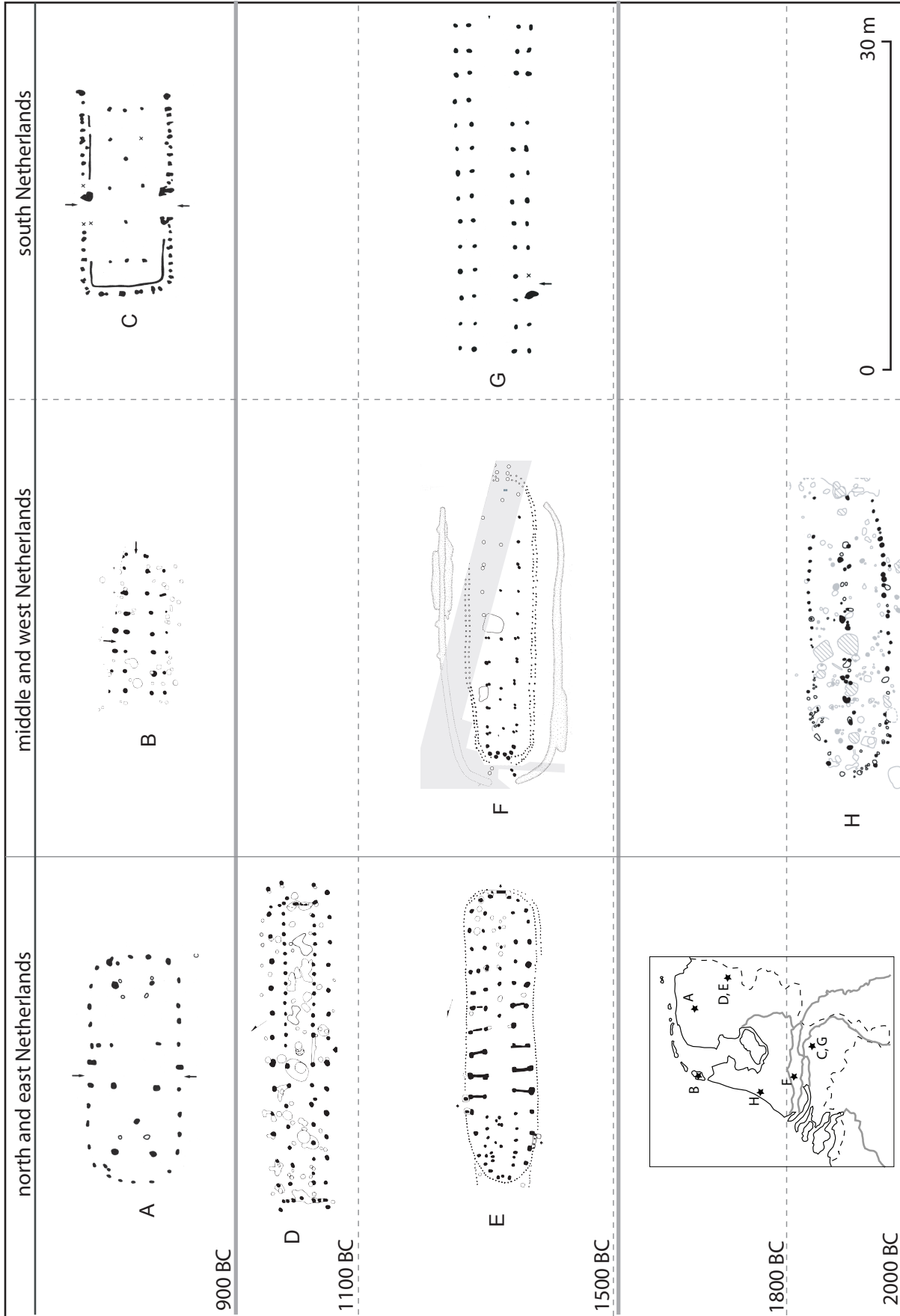


Fig. 1.7 Survey of the development of houses in the Low Countries. A: Een, B: Texel-Den Burg, C, G: Oss, D, E: Angelso, F: Zijderveld, H: Noordwijk

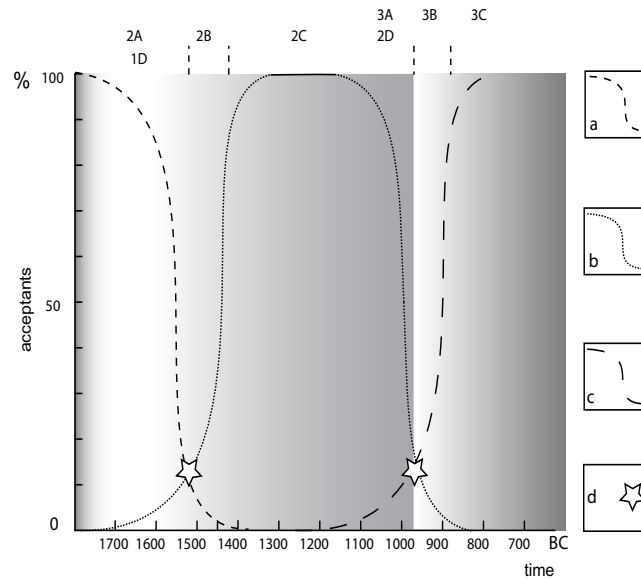


Fig. 1.8

Model for the introduction of new house plans. 1D indicates the period that the two-aisled house plan still exists. At the end of that period (2A) the three-aisled plan develops, but apparently is not visible yet archaeologically. Only when the critical mass is reached (star) the development become 'revolutionary' fast and visible. Its momentum slows down in phase 2C and this type of building disappears in phase 2D. In that period a new development takes shape (small three aisled plans with roof bearing construction outside the wall) following the same pattern of innovation

even after more than a hundred years of apparent disuse (Fokkens 1991; 2005; Waterbolk 1987). Abandonment therefore probably did not mean total elimination from the collective memory of the local community. Through oral history, ritualisation, visible remains or different vegetation, parts of the landscape remained connected with former or 'ancestral' presence and therefore may have presented themselves as favourable house sites. As we have seen earlier, ancestral barrows may have had a similar connotation and hence were a possible pull factor for settlement location.

Moreover, there are areas where the domestic mobility apparently was not that high. It is in that respect interesting to observe that in the coastal areas, West-Friesland and in the river area of the central Netherlands, all areas with a dynamic landscape in geological terms, constancy of place apparently was current. In West-Friesland the settled landscape shows a structured lay-out with houses surrounded by a ditch system that also encloses the arable plots. Houses were frequently rebuilt and enlarged (IJzereef and Van Regteren-Altena 1991, 70). In the river area as well, several house plans are discovered in some occasions within a restricted settlement area. Some of these may have been contemporary and there are several indications that there is a considerable time depth involved. This suggests that that farmsteads had a use-life of a few generations (Knippenberg, this volume) up to possibly seventy years or more.

This apparent constancy of place may be related to the restrictedness of space in the dynamic landscape of the river

area and West-Friesland, but it would be too deterministic to use that as a sole explanation for the observed distinctions in house mobility. One of the false premises may have been to assume a too short life span of building wood. The good resolution of the river area data at least seems to suggest this (Knippenberg and Jongste 2005; Arnoldussen in prep.) If structures lasted beyond a single human generation, we will have to rethink our settlement models as well. It may have been norm both in the wetlands and in the 'dryland' zones that farms kept to the same place for several generations rather than one only. This is certainly one of the hypotheses that we will have to investigate in the future.

Models of change

Another assumption that recently has come under discussion is the dating of Bronze Age houses. The general consensus, in Dutch, German and in Scandinavia literature, is that the Late Neolithic house is two-aisled of structure and that the Bronze Age house is three-aisled (Fig. 7). Since the youngest two-aisled houses date to around 1800 BC, the Dutch Noordwijk house for instance (Van der Velde, this volume), it was assumed that the three-aisled farms developed from 1800 BC onwards (cf. Fokkens 2001) and indeed a few houses were claimed to date to this period, for instance houses of Meteren-De Bogen and Dodewaard (Meijlink and Kranendonk 2002; Theunissen 1999). Research by Arnoldussen, however, has shown that in fact not a single plan from the Low Countries can be securely dated to the centuries between 1800 and

1500 BC (Arnoldussen and Fontijn 2006; Arnoldussen in prep.) What does that mean? Was the Low Countries uninhabited in those 300 years? Certainly not, because from the barrows data it is clear that many people died in that period (Bourgeois and Arnoldussen 2006). So did they not build houses? And what made the three-aisled farms of the Middle Bronze Age-B so much more visible for modern archaeologists compared to the farms of the previous and immediately following period?

These questions are difficult to answer, but a few lines of discussion have been forwarded. In the first place one might look at processes of change and innovation from a theoretical point of view, like the human geographer Rogers has done. Rogers shows that the acceptance of innovations follows a logistic curve. In his work he not only describes the mechanism of innovation, but also why some innovations are more readily accepted than others. He states that an innovation only can spread fast when it is compatible within a given social system, implying that it has to be capable to fit existing values and norms; the ideology (Rogers 2003, 240). Also the role of leaders (role models) in the process of acceptance is important, and qualities like 'indispensability' of the innovation itself that can speed up the process. This is of course only a small number of variables involved in the acceptance process.

These variables influence the steepness of the logistic curve, but of great importance is also the critical mass: 'the critical point after which further diffusion becomes self-sustaining.' (Rogers 2003, 343). Before a critical mass is reached, an innovation is adopted only slowly: people experiment, there are relatively many sceptics and there is no social plane. If the critical mass is reached, however, acceptance develops fast. In the first place that happens because the innovation becomes fashion, in the second because the innovation can be so encompassing that without adoption communication with the main stream becomes almost impossible. This, for instance, is the case with technological innovations like the introduction of the telephone and later the Internet (Rogers 2003, 343).

If we apply these principles to the introduction of the three-aisled longhouse of the Middle Bronze Age, we might argue that the period between 1800–1500 BC represents a long introduction phase (Fig. 8, phase A). However, the scarcity of settlement sites with recognisable houses for this period should also be considered, as it indicates differences in representativeness. Consequently, the 1800–1500 BC period is in fact a gap of about 300 years of which we know only few house structures. After 1500 BC 'all of a sudden' everyone builds regular three-aisled longhouses. Following Rogers' principle that does mean that in the period before 1500 the innovation must have developed. However, this apparently happened on a scale sufficiently small as to be hardly visible archaeologically.

Around 1500 BC the critical mass for the innovation represented by the three-aisled longhouse is reached. Subsequently the acceptance went very fast, possibly within two or three generations. What we then see is

the introduction of a fully developed package and no experiments. Longhouses were built everywhere in a large distribution area from Scandinavia to Northern France. Presumably, the concept reached a stable phase in which it became tradition very fast (Fig. 8, phase C) because hardly any adjustments of changes can be seen. It is adopted in several landscapes as well (Fokkens 2001; Arnoldussen and Fokkens, this volume, Fig. 14).

In phase D (Fig. 8), after 1000 BC, the reversed situation is visible. Just as sudden as it appeared, the longhouse disappears again, to be replaced by frequently smaller and differently constructed houses of the Late Bronze Age. By 900 BC, once again significant standardisation of house types was achieved with the typical Early Iron Age house (Fig. 4, bottom). The introduction of the latter type is almost as sudden and also takes place within two or three generations.

This discussion of Rogers' model of the acceptance of innovations makes the process perhaps better understandable, but does of course not explain the changes. That is not easy indeed, although the attributes of the process of acceptance make a few aspects more clear. In the first place, from the speed and the extent of the acceptance it is clear that there must have been a fundamental change that had impact in the whole realm of social and economic life, possibly in the cosmology of people. From the speed and the wholesale acceptance it also follows that the innovation was acceptable within the social reality of the time and that the communication networks of the time were already functioning for a while. The innovation was, when the critical mass was reached, more or less a social inevitability. It was adapted to all regions and physical landscapes, so it probably is not only related to an economic innovation.

What seems to be clear is that the innovation not only concerns the three-aisled farm as a technological innovation. Several authors have already stressed the importance of the cattle in the Middle Bronze Age (IJzereef 1981, 177; Rasmussen 1999; Olausson 1999). It was definitely important in the period before 1500 as well (Arnoldussen and Fontijn 2007, 296), but after 1500 it may have become one of the focuses of social and economic life (Roymans 1999; Fokkens 1999; 2003). From the Middle Bronze Age onwards manure probably was collected to fertilize the poor Pleistocene soils of the Low Countries and cattle became the heart of a new type of economic practice, which we now call a true-mixed farming economy (Louwe Kooijmans 1993, 104; Fokkens 1999). Its success may account for at least one aspect of the fast acceptance of the innovation. Another may be the closely related social qualities of cattle as an exchange object (Fokkens 1999, 41; cf. Kristiansen and Larsson 2005, 277).

As a final remark, it may be profitable to look at interpretations that are not based on the assumed interrelation between indoor stalling and the emergence of the regular three-aisled house, as changes in house structure need not be related to changes in agricultural strategies.

Concluding remarks

In this article we have offered a survey of the different approaches that presently are both being implemented and under discussion in the archaeology of Bronze Age settlement sites in the Low Countries. It is quite clear that the potential of, and for, settlement research in the Low Countries is high. This is especially so when large-scale research enables us to combine the data of settlement research, burial analysis and deposition studies in comprehensive archaeologies of the cultural landscape. More and more people realize that this kind of analysis of cultural landscapes is more rewarding than an approach that focuses only on single sites. Prospection methods, using landscape oriented methods like survey trenches are being adopted to accommodate this new research focus.

Notes

- 1 Rogers 2003: 11. The first print of his Diffusion of innovations appeared in 1962. It has been reprinted in much updated versions several times, the last time in 2003. The same principles were used by Zvebil (1984) to describe the transition from hunting to farming in NW-Europe.

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