1 Introduction: Living in a dynamic (cultural) landscape

1.1 Introduction
The Netherlands comprise a wide range of landscapes that present specific advantages, but also hazards to its occupants. Undoubtedly, this was also the case in prehistory, yet the struggles in the recent past by the Dutch to cope with floods and dyke breaches may have created a misleading image of (pre)historic man as being in constant fight with the elements (e.g. Waterbolk 1981; Brandt 1986; Stol 1993; fig. 1.1). The Netherlands are even described by the geographer Roberts as ‘… a battleground between land and sea (…)’ and ‘(…) a difficult and often inhospitable environment.’ (Roberts 1996, 135, cf. Hendrikx 1989, 31). Possibly, the apparent idiocy of occupying a fluvial landscape without the reassuring presence of dykes may even have discouraged initial archaeological interest in the Dutch river area, something which was not the case for the adjacent Pleistocene upland areas. Thus, despite a somewhat belated start, recent archaeological studies show that the Holocene river area offered as much – or even more? – of a suitable landscape to prehistoric occupants as did the Pleistocene areas.

Excavations of river dunes and levee deposits have documented the presence of man in the Dutch river area from the Mesolithic onward. In the Mesolithic and Neolithic periods the occupation seems to have consisted of briefly used or semi-permanent campsites on levees and river dunes.1 Upon entering the second millennium BC, however, the general nature of the human presence in the landscape changed, both within and outside the Dutch river area. Excavation results testify to a more extensive and more diverse shaping of the landscape than hitherto known. Large elongated farmhouses were erected and in the vicinity of these farmhouses large areas became fenced, or parcelled by ditches. Additionally, palisades were constructed and burned areas of ill-understood function were reported, as were bog tracks, and even a possible cult shrine.2 In particular, the vast extent to which land was marked by man-made structures differs remarkably from the preceding Neolithic period. Perhaps this should be interpreted as a development in which local communities utilized new ways of expressing their perception(s) of their environs. This appears to involve notions of incorporating or integrating the wider environment into the settlement site space, as opposed to a Neolithic tradition of setting apart (delimiting) settlement space with man-made structures.

1 Louwe Kooijmans 1974; 2001a-b; Louwe Kooijmans & Jongste 2006; Amkreutz in prep., cf. section 7.2. A few palaeolithic finds are also known.
2 See Chapter 5 on Bronze Age palisades, fences and burned areas. For Bronze Age bog tracks see Casparie 1987; Van der Sanden 2002, for the possible shrine see Van Zeist & Waterbolk 1960; Van der Sanden 2000.
It is probable that the transition towards a subsistence strategy based on fully interdependent livestock herding and crop cultivation (‘true mixed farming’; *sensu* Louwe Kooijmans 1993), which is thought to characterize Bronze Age subsistence, supported or even necessitated such different perspectives towards the surroundings of domestic sites in the Bronze Age, compared to preceding periods. The known extensive Bronze Age systems of land divisions, whether constructed as reaves, ditches or systems of fences, may be a tangible reflection thereof.

The dynamics of settlement sites change significantly after the Neolithic period. In addition to single phase or short-term occupied Bronze Age settlement sites – which seem to have been abandoned after a certain (e.g. generational) life-span – locations appear that witness prolonged or repeated occupation, although the dating and duration of such phases are often ill-understood. In any case, not all settlement sites seem to shift their position in the landscape after a single habitation phase, as the commonly used model of the ‘wandering farmsteads’ suggests (Fokkens & Roymans 1991; Schinkel 1998; *cf.* section 3.3.1; table 7.2).

Within the reconstructed Bronze Age settlement sites, the presence of a new type of rural domestic unit – the farmstead – is postulated. According to common definition (see section 3.1), a farmstead is an agricultural compound comprising a longhouse, some outbuildings and sometimes pits, a well or a funerary monument. It is generally assumed that structures such as fences or ditches were used to physically as well as conceptually set such a domestic unit apart within the wider landscape. The validity of this assumption is dealt with in detail in Chapter 6 and section 8.2.1.

The main building within the farmstead is the farmhouse. Long houses, often over 20 m in length, which are scarcely known from the final quarter of the third millennium BC, become general and widespread during the Bronze Age (Chapter 5). The assumed durability of these houses is taken as an indication for permanent (i.e. year-round) occupation. In the length and structural properties of these longhouses, archaeologists see(k for) evidence of livestock stalling. The housing of cattle under the same roof as one’s living quarters is thought to be a crucial factor in distinguishing between Late Neolithic and Bronze Age farming communities, as it is thought that this (long-lasting) concept of the ‘byre-house’ was introduced during the Bronze Age.3

To summarize, several important changes in the way settlement sites functioned within their wider natural and cultural surroundings take place at the start of the second millennium BC. Settlement sites are seen as points in the landscape that remained the focal point of domestic activity for periods in the order of a human generation. Compared to the preceding Neolithic, a reduced number of contemporaneous (yet functionally different) site types is reconstructed. In other words, ‘Neolithic site types’ such as ‘special activity sites’, ‘procurement sites’ and ‘hunting camps’ are regarded as having become obsolete, or at least to have been reduced greatly in number and importance (see section 7.2.2). The Bronze Age settlement site is a focal point for people bound to their land by livestock herding and ard-agriculture. More so than in Neolithic times, it seems to have been important to adhere to rules of placement for man-made structures in the direct vicinity of a house, such as outbuildings and fences. The large – and in the Middle Bronze Age-B regular (see section 5.2) – Bronze Age farmhouse, may have been the central element determining the layout and perception of the immediately adjacent area; the ‘farmstead’ (see section 3.2.2 and Chapter 6).

Unfortunately, the changes taking place at settlement sites dated to the periods directly preceding and directly after the Bronze Age have seen little systematic investigation. Although a large number of Bronze Age settlement sites is known from the Netherlands (n > 64, > 308 houses known), research questions directly addressing the composition (nature) or dynamics of these settlement sites as a whole are only infrequently encountered. In this study, an effort is made to correct this unequal distribution between the abundance of data available and the paucity of direct analyses of settlement site nature and dynamics. This will be done by studying an extensive and well-documented data set of Bronze Age settlement sites from the Dutch river area (see Chapter 4). In the sections below, the importance of studying Bronze Age settlement sites is pointed out, followed by a discussion of the selection of the Dutch river area as the area of study.

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1.2 **Why study Bronze Age settlements?**

*The lure of the landscape*

The Bronze Age in the Netherlands is traditionally regarded as the culmination of the processes of neolithisation and sedentism. For the first time, a picture of a deceptively familiar cultural landscape can be drawn (Arnoldussen & Fontijn 2006, cf. Brück 1999b, 273-274). This familiarity is most visibly expressed in the reconstruction drawings of Bronze Age settlement sites made for the general public (fig. 1.2).

Several of the depicted aspects find parallels in the present-day Dutch landscapes. Large farmhouses in which the livestock was housed under one roof with human occupants were used in the Netherlands until the 19th and early 20th century AD. The mixed farming system, with interdependent livestock rearing and crop cultivation, formed the subsistence base for the majority of the Dutch prior to the industrial revolution. The parcelling and fencing of the settlement (surroundings) depicted in figure 1.2 mirrors the utilitarian and compartmentalized present-day Dutch agrarian landscape. But exactly because of these similarities, it is legitimate to remain cautious as to what extent the reconstructions of Bronze Age agricultural landscapes by Dutch archaeologists may have been influenced by the vivid, yet possibly false, analogy that the (sub-)contemporary Dutch landscape itself poses. Such a point of view, calls for detailed and systematic study of the landscape features of prehistoric settlement sites. In other words, how certain can we be that the images presented above are typical, or even essentially correct?

*Studying Bronze Age prehistoric settlement sites*

Prehistoric settlement sites have been, and will remain, extremely valuable sources for archaeological research. Especially for the Bronze Age, they provide a much-needed counterbalance to the – more numerous – studies on bronze deposition and funerary monuments. Whereas recent studies of the latter two fields have proven to reflect very incidental (once to a few times per generation, possibly less) actions of the local communities under study (Fontijn 2003; Lohof 1991; Theunissen 1999), settlement sites were at the heart of everyday life. Or as Louwe Kooijmans (2000, 324) stated:

‘However important monuments, ritual places and cemeteries might appear, we should realize that 90 per cent of life revolved in and around the settlement.’

Settlement sites formed the focal point for a diverse group of everyday domestic activities, or as Rasmussen & Adamsen (1993, 139) have formulated it: ‘Settlements are the remains of the most central places in the life of Bronze-

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4 E.g. Tiesing 1921; Trefois 1941; Bijhouwer 1943; Everhard 1965; Koning 1966; Albers *et al.* 1990; Van Olst 1991.
5 For general introductions to Dutch agricultural history see for instance: Blink 1902; 1904; Slicher van Bath 1976; De Vries 1974; Bieleman 1992.
Age Man’. They may represent the single place in the cultural landscape where people, livestock, agrarian tools and tasks, and presumably also deities and ancestors interacted on a daily basis. One may perhaps consider the Bronze Age longhouses to have stood as monuments to this special interplay. Not unimportantly, settlement sites furthermore represent the most frequently encountered site type in Dutch archaeology.

Therefore, a systematic study of Bronze Age settlement sites may inform us better on various aspects of Bronze Age everyday life. In this study, the role of the settlement sites will be assessed on different levels. The highest level is formed by the settlement system; why are settlement sites found in certain places? What options were available to Bronze Age local communities, and more importantly, can insight be gained into the reasons why a particular place was (not) chosen? Especially in the Dutch river area, the physical landscape can change dramatically on a small spatial as well as a temporal scale (see Chapter 2). An analysis of site locations may point us towards the decisions that Bronze Age farmers made and help us in compiling a reconstruction of a ‘Bronze Age perception’ of the landscape. At this level, the information from settlement sites must be complemented by information on other elements in the physical landscape. By incorporating the information available on funerary rituals, depositional practices and agricultural and industrial activities, a more detailed reconstruction of the Bronze Age (cultural) landscape can be made. Furthermore, settlement sites need to be studied in a long-term perspective. The answers to the questions ‘what was there before?’ and ‘what happened thereafter?’ are necessary supplements to studies of settlement sites based on a static or ‘snapshot’ temporal perspective. How have older man-made elements in the landscape affected later Bronze Age occupation? What exactly did happen once a settlement site was abandoned? A long-term approach to house-site usage can possibly indicate different prehistoric perceptions of former domestic sites (see section 7.3.2).

Besides these more technical questions, a more fundamental problem needs to be solved at this scale. Were there ever Bronze Age villages in a social sense? Did Bronze Age local communities (or families?) cluster into villages? Is it even reasonable to expect prehistoric settlement sites to have been physically defined and to be archaeologically visible as such?

Similar questions may be posed on a smaller spatial scale; that of the farmstead. It is assumed that Bronze Age farmers structured the surroundings of the farmhouse in such a way that this is recognizable by archaeologists. From this, Bronze Age decision making in structuring of the house environs can be inferred. Did Bronze Age farmers, for instance, share a mental ‘template’ of what a house-site should look like? Why do possible farmstead elements like granaries or pits occur where they do? Can the structure of the farmstead be tied to agricultural or social processes? To answer questions like these calls for a detailed analysis of Bronze Age houses and their direct surroundings (Chapter 6).

On the smallest spatial level, that of the farmhouse proper, there are also various interesting questions to be raised. Apart from some more generalized accounts (e.g. Harsem 1997a; Theunissen 1999, 192-197; Fokkens 2005b), not much detailed information is available on whether Bronze Age farms functioned differently in various parts of the Netherlands and if so, what this difference entails. Only rarely does conservation allow for the reconstruction of living quarters or byres. For reconstructions of the number of inhabitants and their activities, the situation is even dimmer. In this study, the house proper will be studied, amongst other aspects, as an expression by Bronze Age communities of their attachment to place. From systematic repairs or the rebuilding of a house on the same spot, it may be inferred that it was important to prolong the existing domestic functionality of a given plot.

Summarizing, there is still much to be learned from studying Bronze Age settlement sites. These settlement sites must however be studied integrally as part of a wider (physical and conceptual) cultural landscape. The validity and nature of the ‘settlement’ – i.e. a (social) grouping of houses – and ‘farmstead’ – i.e. the highly structured farmhouse surroundings – concepts for the Bronze Age needs to be evaluated. This calls for a detailed analysis of settlement site data at different spatial scales and within a broad temporal scope.

6 Although the interrelation of the various elements will be discussed to some extent in this study (cf. section 8.2), it will not be dealt with in detail as it forms the core of the research done by Fontijn (Arnoldussen & Fontijn 2006, Fontijn 2007, Bourgeois & Fontijn 2007). For a discussion of the cultural landscape concept see section 3.2.6.
1.3 SETTLEMENT ANALYSIS AND BRONZE AGE STUDIES: THE ONSET

Initially, north-west European Bronze Age studies focussed predominantly on bronze artefacts and barrow contents. This initial attention to bronze artefacts was guided by the relatively high number of bronzes preserved, combined with the fact that these were often of ‘familiar’ shape, thus facilitating easy recognition. The antiquarian interest in barrows – sometimes sparked by folk-tales – of the 19th century, combined with the fact that mounds were often still visible in the landscape, was presumably crucial to the early start of Bronze Age barrow research. Until that moment, Bronze Age settlement sites – nor ritual sites, for that matter – were scarcely specifically targeted for research.

This general imbalance in the development of north-west European Bronze Age studies holds true for the Netherlands as well. It is consequently no surprise that of the first three Dutch Bronze Age settlement sites where houses were discovered for the first time (Deventer, Elp, Emmerhout), two were discovered by chance during barrow excavations (Modderman 1955a; Waterbolk 1964; 1987; Van der Waals & Butler 1976).

Since these initial discoveries in the fifties and sixties of the 20th century, the balance between the main branches of Bronze Age studies in the Netherlands shifted. This was primarily a consequence of the greater number of excavations undertaken as part of the Dutch reconstruction projects during the post world war II era (Roymans & Fokkens 1991). Settlement archaeology evolved into an established practical as well as an academic field of research. By 1989, a large number of Bronze Age settlement sites were known from various geological landscapes of the Netherlands, but only few were published in full (but see: Louwe Kooijmans 1974; Waterbolk 1964; 1987). A conference was organized, of which the proceedings (Fokkens & Roymans 1991) offer a concise overview of a large number of Dutch Bronze Age settlement sites. Since then, excavated Dutch Bronze Age settlement sites are predominantly published as site reports and only rarely discussed as a – regional – group. An important exception is the dissertation by Theunissen (1999), who in her evaluation of the Bronze Age ‘Hilversum-culture’, offered an overview of Dutch Bronze Age regional settlement characteristics (Theunissen 1999, 118-131; 192-197). In addition she offered, in cooperation with Hulst, more detailed excavation reports for two Bronze Age settlement sites (Zijderveld and Dodewaard; Chapter 4) in the Dutch river area (Theunissen & Hulst 1999a-b).

More recently, various other Bronze Age settlement sites have been discovered during the last decade. This can in a large measure be attributed to the construction of the ‘Betuweroute’ freight railway. This cargo railroad starts near Rotterdam’s harbour and crosses the Dutch central river area to connect in the east to the German Rhineland near the village of Zevenaar. From 1995 to 2004, archaeological fieldwork, ranging from prospecting, a watching brief, test-trenching to extensive excavations, resulted in the discovery of as many as 40 settlement sites for the Bronze Age alone. Four of these were selected for large-scale excavation and have been published in full. Unfortunately, for some older, large-scale excavations elsewhere in the Netherlands with valuable information on the structure and dynamics of Bronze Age settlements (e.g. Andijk, Bovenkarspel, Angelslo) only preliminary reports are available.

1.4 PREVIOUS APPROACHES TO DUTCH BRONZE AGE SETTLEMENT SITES

At first glance, it may appear that Bronze Age settlement sites occur abundantly in the Netherlands, and especially in the Dutch river area. So why is it that with all the publications currently available we once again need to study Bronze Age settlement sites? To answer this question, a brief digression into the way archaeologists historically have dealt with Bronze Age settlement sites is necessary.

The first settlement sites

Initially, in the fifties and sixties of the former century, much attention was paid to the recognition of Bronze Age settlement sites. Although some European Bronze Age settlements were already known, the specific characteristics of Dutch Bronze Age settlement sites still needed to be established. Modderman’s discussion and initial (mis)interpretation of the houses at Deventer - Margijnen Enk (Modderman 1955a, 31; see also Harsema 1997a, 139; Schoneveld & Gehasse 2001; Jongste & Van Wijngaarden 2002; Meijlink & Kranendonk 2002; Schoneveld & Kranendonk 2002. 8 Andijk: IJzereef 1991; Van Mensch & IJzereef 1975; IJzereef & Van Regteren Altena 1991; Van Regteren Altena et al. 1975, Bovenkarspel: Buurman 1979; IJzereef 1981; IJzereef & Van Regteren Altena 1991; Van Regteren Altena, Buurman & IJzereef 1980, Angelslo: Van der Waals 1967; Van der Waals & Butler 1976; Kooi 2008.)
Theunissen 1999, 116) illustrate this point very well. During the sixties, the number of known Bronze Age settlement sites increased, forming a corpus of house plans that could be studied to reveal their European affinities. This has, for instance, contributed to the – later dismissed as erroneous – ‘recognition’ of British types of round houses on Dutch ‘Hilversum-culture’ settlement sites (Butler 1969, 58-69; Theunissen 1999, 180-185).

After more Dutch Bronze Age settlement sites had been uncovered in the seventies and eighties of the 20th century, the focus shifted from mere ‘recognition’ to determination of to what degree these settlements reflected aspects of social and agricultural properties of the local communities. The differentiation in grave furnishings – equated to articulated ‘social status’ – visible in a few known Bronze Age burials, appeared not to manifest itself in the settlements. Most settlement sites lacked defensive outer structures and displayed a dispersed and open pattern of farm buildings (Roymans & Fokkens 1991). The uniformity within and between settlements as well as their open, unfortified appearance were taken to indicate an egalitarian, self-supporting local community.

The locations of the sites, with settlements situated on higher points amidst space for pastures and fields, also reinforced the image of agricultural communities practising mixed farming. In accordance with New Archaeology’s main goals and methods, the surroundings of settlement sites were quantified into possible caloric output through either crop agriculture or pasture land. Despite known methodological flaws, the amount of land presumably utilized by a Bronze Age settlement site was either established through palaeogeographical maps that indicated the maximally usable area (cf. Ilzereef 1981) or through the use of Thiessen Polygons.

Besides agricultural motives, from the nineties of the 20th century onward, social causes were also thought to determine, to a certain extent, where Bronze Age settlement sites were situated. The correlation between settlement sites and funerary sites is central to this line of investigation. For the Late Bronze Age, settlement sites were thought of as clustering near urnfields, whereas in the Middle Bronze Age graves were situated next to – some of the – individual farmsteads (Roymans & Fokkens 1991, 12). Some archaeologists have argued that the location of later Middle Bronze Age settlement sites not only seems to acknowledge and incidentally incorporate older burial monuments, but that the location may even have been favoured as a domestic site because of the already present funerary site (Harsema 1982, 156; Kolen 2005, 145).

Another social cause, an assumed shift from extended to nuclear families inhabiting the Bronze Age farmhouses, has been forwarded by Fokkens (1997; 2001; 2003) to explain the increase in number of newly established farmsteads during the Late Bronze Age (cf. section 8.3.2). Gerritsen’s (2003) correlation of the life cycle of the inhabitants to that of the house is another example of a social factor used to explain farmstead mobility. Additionally, Verlinde has recently (2000) published an extensive list of factors presumably relevant to the choice of settlement location of late prehistoric societies on the eastern sandy soils, but this approach is predominantly concerned with establishing the crucial preconditions of, as opposed to explaining the backgrounds to, site patterning.

The social interconnectedness of settlements became more intensely analyzed. Where contemporary settlements were situated at close range or farmsteads were in use for long periods, a close-knit local – sense of — community was constructed, the presence and extent of which was to be confirmed through pottery style analysis (cf. Brandt 1988a). For the river area, investigations by Louwe Kooijmans (1974a) had uncovered a high number of contemporaneous and uniform settlement sites, for which contact routes in between were reconstructed along the course of a fossil channel belt. Later, Louwe Kooijmans’ (1993, 104) model allowed for more variation in site type, accommodating non-permanent Bronze Age special activity or extraction sites. Roymans and Fokkens (1991, 14) postulated that, especially in the eastern Dutch river area, more intense competition over bronze trade between local leaders (but see Fontijn 2003, 188-191) may have led to more differentiation in settlements, although these could not be reconstructed at that time from the available evidence. Nowadays, especially for the Dutch river area, some variation in sites type, location and duration may be argued for (see section 7.3) and the recent excavations in the river

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9 But see the claim by Ilzereef & Van Regteren Altena (1991, 78).
12 Although most often funerary sites were used as centre-points for these polygons; cf. Kooi 1979, 149-179; Waterbolk 1987, 191-215; but see Fokkens 1998b, 86-89; Hodder & Orton 1976, 60-61.
13 For a discussion see section 3.3.3 and note 44.
area have resulted in approaches that allow for a site interpretation based on the interaction of differentiated types of sites in the same area (sections 3.3.3 and 7.3.6).

The farmstead as settlement component

Traditionally, the farmstead was only rarely seen as an appropriate scale of settlement analysis. Waterbolk, in his initial publication of the Elp excavation results (1964, 115), assumed that Bronze Age farmsteads comprised a longhouse, a smaller house (later dismissed; see Waterbolk 1987), a barn and possibly a number of larger or smaller sheds. Roymans and Fokkens (1991, 10) added the presence of pits and pit circles to this list. The observation by Hessing (1991, 44) that at Wijk bij Duurstede most finds and outbuildings were found within 20 m of the houses, has led to the use of the term ‘farmyard’ as describing the surface area directly adjacent to the house (cf. Schinkel 1998, 26) or as a hypothetical – rectangular, often 50 by 50 m – plot around a farmhouse (cf. Fokkens 1997, 365). In Theunissen’s (1999, 112-113) definition of a farmstead, only the house and nearby (within 20 m) outbuildings are incorporated. Although she does pay some attention to the distinction and definition of farmsteads (Theunissen 1999, 112-114), the farmstead or house-site generally receives little attention as a specific object of study.

This lack of systematic attention to what actually constitutes a ‘farmstead’ is remarkable, since the ‘farmstead’ concept is used frequently in excavation reports as an interpretative label to denote the original context of (a varied range of) excavated settlement site remains. For example, to interpret finds as ‘indicating a nearby farmstead’ when no house plan has been uncovered, seems unwarranted. Moreover, the ‘farmstead’ has become the core element to describe settlement dynamics for the Bronze Age, and has given its name to the dominant model, that of the ‘wandering farmsteads’ (see section 3.3.1). Consequently, the farmstead as a main settlement component is in need of detailed study (see section 3.2.2, Chapter 6 and section 8.2.2).

The role of houses in settlement studies

While traditionally some attention was paid to the study of Bronze Age settlements as a whole, most – and most detailed – studies of Bronze Age settlement sites have put much emphasis on the study of the reconstructed house ground plans. Archaeologists have forwarded and tested various hypotheses of Bronze Age local communities through reconstructions of their houses. The typology of house plans was instrumental in recognizing ‘archaeological cultures’, as Bronze Age houses in the north-eastern part of the Netherlands seemed to differ from those on the southern sandy soils and those known from the river area and inland coastal districts.14

Based on the sometimes high number – and frequently isolated occurrence of – the house plans, relocation of the houses was thought to have taken place regularly (see section 3.3). Wood decay and/or soil depletion were implicitly seen as the prime movers behind this process of domestic mobility (see section 3.4). The assumed close relationship between the life cycle of the house and its inhabitants (Gerritsen 2003), is a more recent approach in explaining the domestic mobility of later prehistoric communities (section 3.3.3).

Individual ground plans of Bronze Age farmhouses have been scrutinized for clues on prehistoric subsistence strategies as well as social dynamics.15 The recognition of stalls confirmed the assumed importance of cattle as suggested by archaeozoological studies.16 Furthermore, the size of the house – and its ratio to the byre section – have been in distinguishing between ‘wealthier/high status’ and ‘poorer/low status’ Bronze Age farmers.17 The small size of some houses was thought to reflect a smaller number of occupants, less cattle and/or – consequently? – a possibly subordinate social position of its occupants.18

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14 Waterbolk 1982; Huijts 1992; Harsema 1993b; 1997a, Theunissen 1999, 192-197, but see Fokkens 2001, 252; Lanting & Van der Plicht 2003, 158; see also section 5.2.3.2.
15 Harsema (1997a, 140) even compared house plans to ‘bar codes’ that archaeologists were learning to read.
16 See IJzereef 1981; Louwe Kooijmans 1993a; Clason 1999; Brinkkemper & Van Wijngaarden-Bakker 2005 and Arnoldussen & Fontijn 2006; Appendices I & II for an overview of Bronze Age livestock composition.
Apart from initial quantitative approaches (counting stalls, heads of cattle and their caloric in- and output), later on attention also focussed on the social implications of living together with one’s livestock.

Despite the considerable attention that house plans have been given in Bronze Age settlement studies traditionally, there are various questions still left open. For example, what criteria may be used to assess the recognition of house ground plans and the validity of their reconstructions (cf. section 3.2.3)? In addition, typological approaches have perhaps mainly sought to contrast houses from various geogenetic regions, whereas a systematic inventory at supra-regional scale may also have outlined shared properties (cf. sections 5.2.3.2-5.2.3.3). Moreover, what factors may explain why houses from the Early Bronze Age (c. 2000-1800 cal BC), Middle Bronze Age-A (c. 1800-1500 cal BC) and Late Bronze Age (c. 1100-800 cal BC) are – compared to those of the Middle Bronze Age – are known in much smaller numbers (cf. sections 5.2; 7.2.3 ; 7.4)? As house plans are of key importance to several approaches adopted in this study (cf. sections 3.2.2; 6.3-6.5; 8.2.2), considerable attention is paid to their structure, dating and interpretation in the present study (section 5.2).

Evaluation of previous Bronze Age settlement research

To sum it up, only rarely have specific research questions been directed towards Dutch Bronze Age settlement site data. Generally the settlement- or house-sites have been taken at face value, with more descriptive than analytical approaches. Observations about settlement sites often remained limited to their value in discussions on their social structure (e.g. ‘open layout = egalitarianism’).

Furthermore, despite their recognized regional variability, Dutch Bronze Age sites are often treated as representing a homogeneous group. The different geological settings of the various Dutch Bronze Age sites, and the consequences for subsistence strategies, have sometimes been somewhat overlooked. Although a simplification, it is possible to contrast the Bronze Age sites from the Dutch central river area with those in all the other parts of the Netherlands, based on the dynamics of their natural environment. While in the southern and north-eastern coversand landscapes Bronze Age local communities had to interact with a landscape that had lost nearly all of its creational dynamics by the last ice age, large parts of the Dutch central river area were still in constant development during the Bronze Age (Chapter 2). Even the West-Friesian creek ridge landscape – although too of aquatic origin – and much of the coastal dune areas were passive (in the case of West-Friesland even inverted) geological landscapes by the time they were settled. This may lead to biases, as data from one area is extrapolated to the next (e.g. subsistence data from the river area and West-Friesland is applied to the Pleistocene areas and models on settlement dynamics based on the Pleistocene areas are projected onto the Holocene districts).

Zooming in from the level of the settlement, I have argued that the level of the farmstead or house-site – in the form of representing the structured outcome of the interplay of farming strategies and prehistoric landscape creation – has only rarely been the subject of systematic critical analysis. Nonetheless, one of the most popular models describing later prehistoric settlement dynamics in the Netherlands has come to be known as the ‘wandering farmsteads’ model (section 3.3.1).

Central to the ‘farmsteads’ are the Bronze Age farmhouses, that may have constituted the most monumental element of the cultural landscape in many regions and periods. Despite this, houses have rarely been studied for other purposes than to aid in discussions on subsistence strategy (‘stalls = cows = caloric value’). In addition, the dating of Bronze Age houses, often based on unspecified charcoal, is mediocre at best for the majority of sites (see section 5.2.3.1). This clearly hampers discussions on the contemporaneity of houses within a single settlement site and consequently also the interpretation of multiple houses as reflecting a ‘settlement’ in a social sense.

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19 E.g. IJzereef 1981, chapter 7; Fokkens 1998a, 137-146; Woltering 2000, 320-362.
21 Evidently, the often small size of the excavations within which Bronze Age houses are discovered (mean 3.8 ha; 70 % between 0.4 and 6.4 ha for 53 sites in the Netherlands) hampers the recognition and comparative analysis of Bronze Age house-sites.
1.5 **Bronze Age settlement sites: How to answer the questions?**

In the above sections it has been argued that despite a large number of known Bronze Age settlement sites, there are still many interesting questions left unanswered. At this point, the key elements necessary to answer these questions are introduced.

First of all, a data set is required that comprises Bronze Age settlement sites that have been subjected to extensive excavation, that have the best possible preservation and that have been published in detail. Second, in order to study the location of the sites within their wider physical landscape, the sites should ideally be situated in a landscape that has been subjected to extensive geological and palaeogeographical studies and that offers possibilities for palaeobotanical reconstructions. Third, a critical analysis of definitions used in settlement studies is necessary. Fourthly, a critical analysis of the models – and underlying premises – current in settlement studies is necessary as well. Availability and critical use of dating methods – *e.g.* radiocarbon dating, dendrochronology, typology and stratigraphy – are also essential. Lastly, the data set should originate from a region that allows a comparison between settlements and other elements of the cultural landscape, as well as one which allows a comparison of various aspects *between* different regions. I will argue below that the (eastern) Dutch central river area is such an ideal region, based on the above-mentioned criteria.

1.6 **The selection of a study area: the Dutch central river area**

*A dynamic physical landscape*

The river area is an extensive zone in the central parts of the Netherlands. If one tries to map the size of the parts of the Dutch river area where during the Bronze Age the genesis was dominated by mineroclastic fluvial deposition, one should account for an area in the order of 1290 km$^2$, mostly situated in the central and eastern part of the Dutch river area (fig. 1.3).\(^{22}\) The river area in its entirety is well-known for its capabilities of locally excellent preservation. This is not only limited to the conservation of parts of the former surface through later sedimentation, but also concerns the better chances of survival of organic remains such as artefacts, bones and botanical remains due to the availability of anaerobe and calcareous conditions. Within this wider fluvial landscape, the eastern half of the central river area will form the main and spatially largest area under investigation in this study. The reasons to select this area are discussed below.

First, the distribution of all find-spots known for the Bronze Age in the Dutch river area in the Dutch central archaeological database (Archis) shows a concentration in the eastern half of the river area (fig. 1.5).\(^{22}\) The nature of this unequal patterning can be attributed largely to an unequal chance of discovery caused by the greater thickness of the covering sediments in the western part of the river area. The study area is thus situated in the part of the river area with the highest density of known find spots. In this way, both high-resolution (extensive excavations) and low-resolution (find-spots of varied quality) can be studied in relation to each other (*cf.* Arnoldussen 2000).

Second, the proposed macro-region contains two distinct zones of the river area as distinguished by physical- and historical geographers. During the Bronze Age, the western part the landscape was predominantly shaped by rivers of a different fluvial style compared to those in the east (Chapter 2). This can possibly be related to the indirect influence of sea-level rise. In addition, in the western river area peat formation occurs more frequently and more extensively (Berendsen & Stouthamer 2001; De Mulder *et al.* 2003). In the eastern part the landscape morphology was predominantly influenced by mineroclastic deposition and peat formation was less extensive (*ibid.*; Chapter 2). There, the river deposits proper predominantly determined landscape morphology. The different fluvial styles of rivers in the east as compared to those in the west have important implications for the (study of) Bronze Age settlement sites (section 2.7). These differences in landscape genesis and morphology must be acknowledged in order to make proper comparisons between archaeological data from the various geogenetic regions.

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\(^{22}\) Based on the minimum size of the river plain around 3800 BP on the map by De Mulder *et al.* (2003, 228 fig. 143).
The third argument in support of the selected study area is the availability of a relatively large number of high quality studies on the fluvial genesis of the eastern part of the river area. Various recent publications have offered detailed reconstructions of the palaeogeography of the eastern river area. This sets the eastern part of the river area apart from the western part, which is studied less intensively. The specific properties of the fluvial landscape of the (eastern) central Dutch river area will be discussed in Chapter 2.

Fourth, the proposed study area encompasses a large part of the adjacent Pleistocene sandy soils to the south and the ice-pushed hills to the north, of which especially the former have also seen considerable archaeological research. These bordering areas can serve as a framework of reference and comparison. It is, however, evident that in the synthesis of this study comparison to even more distant regions will be required.

Last, but not least, a large number of Bronze Age settlements (see fig. 1.4 and Chapter 4) has been extensively excavated in the study area. Three settlement sites (‘De Horden’, ‘Dodewaard’ and ‘Zijderveld’) have already been published in varying detail. Four large sites (‘Eigenblok’, ‘De Bogen’, ‘Boog-C Noord’ and ‘Lienden-Kesteren’) as well as a host of smaller or less intensively investigated sites were discovered between 1996 and 2003, prior to the construction of the Betuweroute freight railway.

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1 - INTRODUCTION

Fig. 1.4 Simplified palaeogeographical map of the eastern central Dutch river area. The main excavated Bronze Age settlement sites are indicated.

a: coastal and river dunes, b: estuaries and tidal flats, c: peat, d: floodbasin deposits, e: sand, f: ice-pushed sediments, g: water, h: settlement site.


To point out the contrast, there is only one other extensive excavation of a Bronze Age settlement site in the river area outside the selected study area (Molenaarsgraaf; Louwe Kooijmans 1974). Thus, the proposed study area encompasses most of the larger excavations in the Dutch river area relevant to the period under study.27

For practical and analytical purposes, the proposed study area is divided into several smaller analytical scales. The smallest of these (i.e. the micro-regions) concern the excavated parts of the Bronze Age settlement sites. This is the scale at which detailed archaeological data is presented (Chapter 4). Around these excavated areas zones

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27 After the start of the project, yet another extensive Bronze Age settlement site was discovered and partly excavated at Tiel - Medel 8. This site, however, could not be fully integrated into the present study as publications were still pending (Hielkema & Hamburg 2008; Van Hoof & Jongste 2007).
of 4 km\(^2\) can be outlined (i.e. the meso-regions), for which detailed palaeogeographical reconstructions have been compiled (fig. 1.6).

![Fig. 1.5 Find-spots listed in the Dutch central archaeological database (ARCHIS) for the Bronze Age in the Dutch river area. The rectangle indicates the location of the study area.](image)

**Fig. 1.5** Find-spots listed in the Dutch central archaeological database (ARCHIS) for the Bronze Age in the Dutch river area. The rectangle indicates the location of the study area.

a: coastal and river dunes, b: estuaries and tidal flats, c: peat, d: floodbasin deposits, e: sand, f: water, g: unspecified find-spot, h: possible settlement sites, i: possible deposition, j: possible funerary site.

The size of the meso-regions is thus relatively arbitrary, as it is defined by the geographic scope of the palaeogeographical studies carried out prior to the present study. It does, however, provide a scale of research in which the nature – and changes – of the landscape in the direct vicinity, i.e. the everyday surroundings, of Middle Bronze Age settlements can be properly understood. Within these meso-regions, the interrelations between people and their settlement environs can be studied with sufficient certainty.

Around the meso-regions, even larger spatial units – the macro-regions – have been defined for this study. While their exact dimensions are arbitrary and variable (c. 30 km\(^2\)), these are not random. The size of the macro-regions has been determined by a combination of factors. First, a sufficiently large area around the excavated sites had to be selected to allow the balanced comparison of a sufficient number of additional Bronze Age find-spots (see Appendices I-VI) with the detailed, high-quality, excavation data (Chapter 4). With the often low density of known Bronze Age find-spots (fig. 1.5), this calls for study areas of considerable extent. Second, the size of the macro-region should be sufficient to understand and portray the basic palaeogeographical development of the meso-regions (cf. fig. 2.16 and Appendices I-VI). In fluvial landscapes, rivers at several kilometres distance can still affect local situations (e.g. by sedimentation or flooding), so that palaeographical information for a moderately large area should be incorporated. With the selected size of the macro-regions (minimally 4.8 by 7.6 km\(^2\))\(^{29}\), both criteria (the availability of additional find-spots and sufficient information on the palaeogeographical development) are met and

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28 Research by Van Zijverden (2003a-b; 2004a-b; 2005), incorporated into Chapter 4 and Appendices I-VI.

29 Using much larger macro-region sizes would have created uninformative overlaps between the different macro-regions (see fig. 1.6).
1 - INTRODUCTION

A dynamic cultural landscape
Besides forming a transitional zone between the various Dutch geogenetic regions (see fig. 1.3), the river area also appears to form a transitional zone between reconstructed prehistoric cultural landscapes (for problems of definition see section 3.2.6). Regional variation in archaeological manifestations ('cultures' as Childe (1950, 2) would have labelled them) seem to conform to a general north(-east) versus south(-west) division during various periods of Dutch prehistory (cf. Fokkens 1997, 361). Although the (definitions of) reconstructed ‘regions of variation’ are likely to be corrupted by the variation in research intensity, some long-term differentiation between these areas is discernible.

For example, the location of the modern river Rhine more or less divides the reconstructed regions inhabited by the middle Neolithic communities using Vlaardingen (south-west) or Funnel Beaker (north-east) types of pottery (fig. 7.3; Raemaekers 1999, 178-179). During the start of the Late Neolithic, the Protruding Foot Beaker, considered characteristic for the Single Grave Culture period, appears to be virtually absent in the southern Netherlands coversand areas beyond the river valleys (Van der Beek 1997; Fokkens 2005a, 360 fig. 16.2, but see fig. 7.4). For the Bronze Age too, the variation in types of houses, graves and (patterns of deposition of) bronzes tends to conform to a

Fig. 1.6 The location, name and extent of the meso- and macro-regions within the study area on a simplified palaeogeographical map (see fig. 1.3).

a: the study area, b: macro-regions, c: meso-regions, d: Bronze Age settlement sites (see fig. 1.4).

can the macro-regions be used as a regional framework to compare the documented Bronze Age occupation with a wider regional occupation history (Appendices I-VI).
north(-east) – south(-west) division.\textsuperscript{30} Regional variation has also been established for the Late Bronze Age urnfields, although in this specific case the reconstructed boundary zone is situated north of the river area proper.\textsuperscript{31}

Evidently, these north-south variations are hardly categorical, but represent gradual differences. The fact that intensified archaeological and physical-geographical research has rightly led to the identification of additional regions (cf. Theunissen 1999, 192), shows that there is still much to be learned and to be gained by better defining such regional differences in both space and time. Yet, archaeologists cautiously argue that the river area often formed the dividing line, or the area of transition (border zone), for the kinds of regional variability mentioned above (cf. Fokkens 1997, 361; 2001; 244). Unfortunately, in too few cases (e.g. Willems 1986), has the Dutch river area been studied as a region in its own right. The present study hopes to do just that for the Bronze Age settlement sites situated in it.

1.7 FORMULATION OF RESEARCH QUESTIONS

Settlement sites
The central aim of this study is to determine the nature (i.e. composition) and dynamics of Bronze Age settlement sites in the Dutch river area, on which a large volume of data has recently been made available. Analyses of the specifics of river area sites, through comparison to Bronze Age settlement sites in other regions, will be the prime focus of this line of enquiry. In addition to terminological and theoretical lack of clarity on ‘settlements’ as a concept, also the practical problems of determining what physical elements constitute a settlement need to be dealt with. Most of the specific research questions thus apply to settlement sites both within and outside the river area. Such approaches are necessary in order to counterbalance traditional ones in which Bronze Age settlements have been somewhat ‘taken for granted’ (cf. section 1.4) or have been studied from a ‘snapshot’, rather than ‘long-term’ perspective (cf. section 1.2).

It will be assessed whether different types of sites were current during the Bronze Age and to what extent these are likely to have had a (permanent) domestic nature. This calls for an analysis of the physical nature and the constituent components of a settlement site and their interrelations (Chapters 5 and 6). For instance, how many house-sites formed a ‘settlement’ from a social perspective? And, if this concept is applicable at all, how were such ‘settlements’ physically and conceptually defined as ‘communal’ residential spaces? In addition, a long-term approach to domestic sites may provide important information. Did settlements, for instance, needed to be established on previously unsettled parts of the landscape? And if older traces underlie a given settlement site, can any insight be gained as to how these were dealt with? It will also be interesting to see what happens to the location of a former settlement site after it was abandoned. Does abandonment only concern the residential function and are sites used as fields or pastures after abandonment? And why do some settlement sites show many occupation phases whereas others appear to have existed relatively briefly?

Some of these more general questions can even be tailored to the specific properties of living in a dynamic fluvial landscape. The presence of vertical stratigraphy, for instance, could allow for documentation of societal changes otherwise obscured by the palimpsest nature of the archaeological record. As new landscapes are created in the river area at humanly perceptible timescales (section 2.4), one might wonder whether and for what reasons old or young landscapes were preferred by Bronze Age farming communities. The possibility of studying such man-landscape interactions is an innate property of dynamic Holocene regions and may shed some light on Bronze Age perceptions of the landscape. For instance, what is the response of small scale farming communities to gradually rising ground water levels or regular flooding? Do present-day common sense notions of living where one can maintain ‘dry feet’ apply to the rationale of Bronze Age communities? What other factors are likely to have motivated the choice for a Bronze Age settlement site location?


**House-sites**

At a smaller spatial scale, the applicability of the concept of the ‘farmstead’ for the Bronze Age period will be investigated. In this study, an attempt is made to systematically investigate the nature of Bronze Age house-sites in order to find out whether the use of concepts like ‘farmsteads’ is unwarranted or not. Information will be gathered about which settlement site elements show a (spatial) relation to Bronze Age farmhouses and on what this relationship may have been based. Moreover, it will be analyzed whether Bronze Age house-sites relied on, or were characterized by, any physical demarcation (see section 3.2.2, Chapter 6 and section 8.2.2).

Through such analyses, it may be possible determine to what extent deliberate human choices are visible in the structuring of the direct vicinity of Bronze Age farmhouses. If there, for example, was a preferred placement of elements like granary-type outbuildings, what could have been the meaning of this? Why should the structuring of the house-site have mattered to agricultural communities in the first place? In addition, what can be learned from the dynamics of farmsteads?

After critically assessing the plausible ‘generic’ content and structure of Bronze Age house-sites, their dynamics should be analysed. In particular the occupation history – or cultural biography (cf. Gerritsen 2003) – of house-sites will be investigated, to see whether these justify an interrelation between the house and the household life cycles (section 7.3). Are short-term (e.g. generational) shifts of the house-sites indeed the predominant mode of settlement dynamics as conventional views assume? If so, what could have been the motivation, distance and temporality of such periodical relocations (see section 3.4)? And if variation exists between the content, the structure and the ‘biographies’ of house-sites, what factors may have caused such differences? Furthermore, if ‘farmsteads’ prove to be an applicable concept altogether, are farmsteads erected on so far unused plots of land or on locations previously used for agricultural, ritual or funerary purposes?

**Houses**

During the Bronze Age, the form of houses changes significantly over time. The typical large three-aisled buildings of the Middle Bronze Age-B may even be labelled monumental. But who or what exactly was situated within these buildings remains rather vague. The reliability of inferences considering social structure or subsistence strategies that are based on ground plans of Bronze Age farmhouses needs to be examined (cf. section 3.4.1). In addition, it is necessary to investigate the dynamics of Bronze Age houses; their repairs, extensions, rebuilding, overbuilding, abandonment et cetera (for definitions see section 3.2.3), for these have so far received insufficient systematic attention (but see section 5.2.3.3).

This calls for a critical approach to traditional Bronze Age farmhouse typologies and detailed attention to structural modifications such as repairs, rebuilding phases and extensions (section 5.2). For instance, what can we conclude from the observation that, despite the often excellent feature preservation, not a single reliable stall partition wall is known from the Dutch river area? What general and specific (functional or cosmological) inferences can be made from the ground plans of Bronze Age houses and what may account for their differences and similarities? If knowledge on house-building traditions was shared on a given spatial scale, can we expect to find archaeologically visible local or regional variations? Formulated in a simpler way: do houses indicate (local) communities? For questions like these, the excellent feature- and organic preservation of the Dutch river area can help to provide some important answers.

### 1.8 INTRODUCING THE DATA SET: BRONZE AGE SETTLEMENT SITES IN THE DUTCH RIVER AREA

At this point, the data sets used in the present study are introduced. As outlined above, seven extensively excavated Bronze Age sites form the primary data set (at the micro-scales; see section 1.6) for the analyses in this study. These sites, to begin with, differ in the degree as to which they have been published, which accordingly has consequences for their applicability in this study.

**Accessibility of documentation**

The publication of the results of the excavations at Zijdervelde and Dodewaard formed part of Theunissen’s 1999 dissertation. As these two sites were excavated in the nineteen-sixties, their documentation is fully analogue.
Theunissen provided extensive discussions of the materials recovered from these two sites and offered all-feature excavation plans with the structures indicated. These plans, however, have no feature labels in paper or digital form and consequently cannot be used to plot find- or feature-depth distribution maps. This made it impracticable to plot the content of features or the features with specific content without having to go back to the original documentation. Therefore, in this study the interpretations as forwarded by Theunissen & Hulst (1999a-b) formed the base level of detail and no original documentation has been consulted for these two sites. In 2002 and 2004 an additional part of the Zijderveld settlement site was excavated (Arnoldussen 2003; Knippenberg & Jongste 2005). For this campaign, full digital documentation of find-, feature- and geological data was made available by Archol BV for the present study.

The publication of the Bronze Age remains from Wijk bij Duurstede has been even more limited (Hessing 1991; Van Es et al. 1992; 1993; 1994). For these sites too, all documentation was only available in analogue form. For the sites Wijk bij Duurstede - De Horden and Wijk bij Duurstede - De Geer, none of the complete feature plans for the Bronze Age phase(s) have ever been published. Consequently, the original field drawings of the Bronze Age house-sites at these sites have been scanned and digitized for the current study.32 Although this was very informative (see section 4.4, Chapter 6 and Appendix IV), a link between the features and their content or properties such as depth could not be established.

Table 1.1 Simplified comparison of extensively excavated Bronze Age settlement sites in the Dutch river area.

<table>
<thead>
<tr>
<th>Site</th>
<th>When excavated</th>
<th>Excavated by</th>
<th>Excavation size (ha)</th>
<th>Geological context</th>
<th>Archaeological periods</th>
<th>Palaeo-geographical studies</th>
<th>Published in full</th>
<th>Min. nos. of Bronze Age house-sites</th>
</tr>
</thead>
<tbody>
<tr>
<td>Molenaars-graaf</td>
<td>1966-1967</td>
<td>RMO</td>
<td>0.12</td>
<td>Schoonrewoord channel deposits</td>
<td>LNEO-B, EBA, MBA</td>
<td>+</td>
<td>+</td>
<td>1</td>
</tr>
<tr>
<td>Zijderveld</td>
<td>1965-1966, 2004</td>
<td>RACM</td>
<td>1.2</td>
<td>Crevasses Schoonrewoord and Zijder-veid fluvial system</td>
<td>MBA, (LBA?), EIA</td>
<td>-/+</td>
<td>+/-</td>
<td>4</td>
</tr>
<tr>
<td>Dodewaard</td>
<td>1967</td>
<td>RACM</td>
<td>0.4</td>
<td>Crevasses Distel-kamp-Afferden</td>
<td>LNEO-B, (EBA-MBA-A), MBA-B, (LBA?)</td>
<td>-</td>
<td>+</td>
<td>2</td>
</tr>
<tr>
<td>Wijk bij Duurstede - De Horden</td>
<td>1977-1983</td>
<td>RACM</td>
<td>14</td>
<td>Werkhoven channel deposits?</td>
<td>NEO, EBA, MBA-B</td>
<td>-</td>
<td>+</td>
<td>12</td>
</tr>
<tr>
<td>Meteren - Boog C Noord</td>
<td>1998-1999</td>
<td>ARC bv</td>
<td>0.05</td>
<td>Crevasses complex 'De Bogen'</td>
<td>LNEO-B, EBA, MBA</td>
<td>-</td>
<td>+/-</td>
<td>0</td>
</tr>
<tr>
<td>Meteren - De Bogen</td>
<td>1998-1999</td>
<td>ADC</td>
<td>2.8</td>
<td>Crevasses complex 'De Bogen'</td>
<td>LNEO-B, EBA, MBA, LBA, IA</td>
<td>-</td>
<td>+</td>
<td>9</td>
</tr>
<tr>
<td>Rumpt - Eigenblok</td>
<td>1997-1999</td>
<td>ADC</td>
<td>1.7</td>
<td>Crevasses and channel deposits Eigenblok system</td>
<td>LNEO-B, EBA, MBA (IA)</td>
<td>+/-</td>
<td>+</td>
<td>5</td>
</tr>
<tr>
<td>Lienden - Kesteren</td>
<td>1999</td>
<td>ARC bv</td>
<td>0.66</td>
<td>Crevasses by Westerveld and older system</td>
<td>(LNEO-B, EBA), MBA, ROM</td>
<td>-/+</td>
<td>+</td>
<td>2</td>
</tr>
<tr>
<td>Tiel - Medel 1</td>
<td>2003</td>
<td>ARC bv</td>
<td>0.12</td>
<td>Crevasses and/or levee deposits Zoelen system</td>
<td>(LNEO-B, EBA), MBA</td>
<td>-</td>
<td>+/-</td>
<td>1</td>
</tr>
<tr>
<td>Tiel - Medel 8</td>
<td>2005</td>
<td>Archol</td>
<td>1.9</td>
<td>Crevasses and/or levee deposits Zoelen system</td>
<td>(LNEO), MBA, LBA</td>
<td>-</td>
<td>+</td>
<td>5</td>
</tr>
</tbody>
</table>

32 Thanks are due to J. van Doesburg (State Service for Archaeological Investigations (ROB, now RACM)) and W. Hessing (Vestigia) for their help in locating and understanding the original documentation.
1 - INTRODUCTION

The main Betuweroute sites of ‘De Bogen’ (comprising Boog-C Noord), ‘Eigenblok’ and ‘Lienden’ have been published in full in monographs (see above and Chapter 4). The digital data on finds, features and the geological information was archived and kindly made available by the State Service for Archaeological Investigations (ROB, now called RACM). For these sites, it was thus much easier to check interpretations, compile custom distribution maps et cetera. Consequently, this allowed for a much more detailed analysis of the excavation results for these sites compared to the sites for which only analogue documentation was available.

**Simplified comparison**

Besides differences in documentation and degree of publication, the excavated sites differ in various additional aspects (see table 1.1). The scale of excavation ranges from c. 0.05 to 14 hectares. All excavated sites are situated either on levee deposits or on crevasse splay deposits. Unfortunately, only rarely could archaeologists profit from the presence of vertical stratigraphy to study changes over time, such as at Eigenblok (table 1.1). Although the other sites do also show vertical stratigraphy – visible as multiple vegetation horizons in the surroundings of the prehistoric settlement sites – these were sometimes not excavated or did not yield many archaeological remains. In addition, the finds recovered at several sites span a long chronological period. Furthermore, the number of recognized Bronze Age house-sites differs strongly between sites.

For the sites under investigation in this study, their Bronze Age occupation phases are discussed as separate sections in Chapter 4. For additional information, such as the history of the archaeological research or the longer-term (Neolithic to Early Iron Age) occupation history in an area of c. 30 km² around these excavations, the reader is referred to the Appendices I-VI. In these appendices more detailed information and discussion on the interpretations of the Bronze Age occupation phases is provided. In this way, the appendices provide a background to the more concise discussion of the sites in Chapter 4. For brevity, these appendices are not part of this book, but can be obtained separately through the author or can be ordered from the publisher.

### 1.9 Research context

The present book is not an isolated study, but part of a wider research programme labelled ‘Living in a dynamic (cultural) landscape. Bronze Age settlements in the Dutch river area’, funded by the Netherlands Organisation for Scientific Research (NWO) and based at Leiden University. This programme, which ran between 2003 and 2007, was part of ‘The Malta Harvest’ (Dutch: *De oogst van Malta*) project by NWO that aimed at synthesising the wealth of data generated by developer paid funding due to the (anticipated) Malta legislation.

Within the project ‘Living in a dynamic (cultural) landscape. (…)’ a multi-disciplinary approach was chosen, with four archaeologists, a physical-geographer and a palaeobotanist working at the same time, and frequently together, on similar or related topics. Several complementary research tracks were followed, that targeted the physical landscape of the Dutch river area, models for vegetation development in the Dutch river area (Van Beurden 2008), the development of the cultural landscape (Jongste & Van Zijverden 2007; Jongste 2008), ritual dimensions of the landscape, processes of cultural change (Fokkens 2003; 2005c-f) and the structure of Bronze Age settlements (this publication; Arnoldussen & Fontijn 2006; Arnoldussen & Fokkens 2008).

The present study has benefited considerably from the close collaboration and frequent discussions with the other project group members. Even more so, the information presented in this study on the palaeogeographical developments of the various sites (see Appendices I-VI) and the (model for) vegetation reconstructions (see section 2.6), is derived mainly from the works by Van Zijverden and Van Beurden respectively (*supra*).

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33 Thanks are due to C. Sueur (Vestigia) for providing the digital data of the Betuweroute excavations.


35 Involved in the project ‘Living in a dynamic (cultural) landscape. (…)’ were the archaeologists prof. dr. H. Fokkens (supervisor), dr. D.R. Fontijn (post-doc), dr. P.F.B. Jongste (post-doc), drs. W.K. van Zijverden (researcher; physical-geography), drs. L. van Beurden (researcher; palaeobotany) and the present author (PhD).


1.10 A LIVING LANDSCAPE: RESEARCH OUTLINE

In this chapter the general goals and research aims of this thesis have been outlined. It has been argued that there is still much to be learned about the nature and dynamics of Bronze Age settlements. The Dutch river area has been forwarded as a region with a considerable potential to answer (some of) these questions, and the selection of different scales of research has been explained. In the Dutch river area, the data from various low-quality find-spots can be combined with that of several extensively excavated Bronze Age settlement sites. Moreover, specific properties innate to fluvial landscapes such as vertical stratigraphy, fair to excellent preservation conditions – for features and (organic) finds alike – and the availability of detailed palaeogeographical studies enhance this potential even more.

Consequently, the subsequent chapter will start with an introduction into the particular geological properties and dynamics of (selected parts of) the Dutch river area. This will allow for a better understanding of the (dis)advantages and dynamics posed by the fluvial landscapes in which the Bronze Age habitation took place. This chapter will also provide a general background to the palaeogeographical developments (which are summarized in Chapter 4 and discussed in detail in Appendices I-VI) of the various macro-regions for the periods between the Neolithic and the Iron Age.

Prior to answering the main research questions of this study, clarity must be provided on terminology and approaches. In Chapter 3, I will define and discuss the (backgrounds of) concepts and models used in this study and the underlying premises. There, analytical distinctions between labels such as ‘farmsteads’ and ‘house-sites’ will be clarified, and backgrounds to models current in later prehistoric settlement archaeology, particularly the ‘wandering farmsteads model’, are provided.

Having provided background information to general properties of the landscape setting in Chapter 2 and to methodological issues in Chapter 3, the stage is set for a more detailed presentation of the available data on Bronze Age settlements from the Dutch river area in Chapter 4. For each of the six macro-regions, a brief introduction to the history of research is provided, after which specific information at the scales of the settlement site as a whole, the house-sites, the houses and the interrelation between the settlement and the physical landscape is provided. This chapter thus offers a broad overview of the quality and quantity of the available data from the various excavations (discussed in detail in Appendices I-VI). With such an overview, the relevance, scope and value of more general (such as Chapter 5) or more specific (Chapter 6) analyses can be evaluated.

Chapter 5 aims to provide a critical analysis of Bronze Age settlement site elements. There, the various (constituent) components of Bronze Age settlement sites, such as houses, outbuildings, fences, ditches and pits, are discussed in detail. For each of these, problems of dating, (re)construction and interpretation are dealt with. In order to outline and understand regional patterning, this chapter has a supra-regional scope and is not confined to data from the river area proper. As certain settlement site elements such as houses, outbuildings and fences are of key importance in analyses later on in this study (e.g. of house-site structure; Chapter 6), this chapter provides a yardstick for evaluating the selection, interpretation and validity of these.

Whereas the various individual elements of Bronze Age settlement sites are introduced in Chapter 5, their specific interplay forms the topic of Chapter 6. Using high-quality data from the Dutch river area, this chapter seeks to answer questions like ‘What did Bronze Age house-sites look like?’ and ‘Which elements are present and how should this be understood?’. Using a methodology involving ‘Visual Analyses of Spatial Overlays (VASO)’, a systematic analysis of Bronze Age house-site structuring in the Dutch river area is undertaken.

The more technical approaches of Chapters 5 and 6 are recombined in Chapter 7, where the analysis of Bronze Age settlement sites is undertaken with more attention to chronological (long-term) developments. Starting from the Neolithic period and ending with the Early Iron Age, the settlement site data will be analyzed from a perspective that is more focussed on the settlement dynamics of Bronze Age settlement sites and on mapping and understanding the changes over time for house-sites and settlement sites as a whole.

In the final chapter (Chapter 8), the various strands of research are recombined into a narrative that tries to characterise the essence of the Bronze Age cultural landscape in the Dutch river area. At that point, the interplay of settlements, funerary locations and depositional sites as elements of a single (dynamic) cultural landscape is addressed. There, it will be argued that the Bronze Age river area was indeed ‘a living landscape’.