SETTLING WITH THE NORM?

Norm and variation in social groups and their material manifestations in (Roman) Iron Age (800 BC–AD 300) settlement sites of the northern Netherlands

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Contents

Chapter 1

Introduction

1.1 Introduction

In the autumn of 1968, farmer R. Jonkers needed a place to store his beets. For this purpose, he chose a piece of land located just south of the Leemdijk, to the northwest of the village of Hijken (province of Drenthe, the Netherlands). The selected field was located to the south of an extensive heathland north of the village, the Hijken Noorderveld, or Hijkerveld. Prior to 1930, the field had still been part of this extensive heathland (Harsema, 1974a: 28(162)). Apparently, soil had to be moved before the beets could be stored on the field,[1] because we know Jonkers came across a large number of sherds, which he took home. If Jonkers's daughter had not visited the Gronings Museum voor Stad en Lande that same autumn, the sherds might never have ended up in the collection of the Drents Museum and the site of Hijken-Hijkerveld might have never been discovered. Luckily, she did visit the museum and mentioned the finds in passing to one of the employees in Groningen, who, in turn, notified the museum in Drenthe.[2]

After hearing this report, Ger de Leeuw (assistant to Otto Harsema, the then-curator of the Drents museum)[3] was sent to Jonkers, who donated the sherds to the Drents Museum on the 27th of November of that year.[4] By chance, the Biologisch-Archeologisch Instituut (BAI, currently the Groningen Institute of Archaeology, GIA) was conducting an excavation nearby on the Hijkerveld, where four barrows were to be levelled as part of large-scale land consolidations and heath reclamations (Harsema, 1972: 47(175)-49(177)). During the 1969 campaign on the Hijkerveld, the BAI made use of the workforce already present in that area to dig some trenches at the location where the sherds had been found. These trenches yielded the remains of Bronze Age and Iron Age houses and other settlement traces (Harsema, 1974a: 32(166)). The BAI continued to excavate there in subsequent seasons and unearthed the remains of the site that is now called Hijken-Hijkerveld (Harsema, 1974a, 1991, 1992, 2005: 547-549). These sherds, or perhaps those beets, formed the starting point of an excavation that would form the immediate impetus for this dissertation.

1.2 The site of Hijken-Hijkerveld

For a long time, the site of Hijken-Hijkerveld has been considered exemplary for the Iron Age habitation on the Fries-Drents plateau. Its Iron Age houses were thought to be typical for Iron Age housebuilding traditions and, consequently, a Middle

1 The excavated soil was probably used to create small banks between which the heap of beets (Dutch: *bietenbult*) could be placed (Arnold Maurer, pers. comm. 6 March 2020).

2 Provinciaal Museum van Drenthe, Jaarverslag 1968.

3 I kindly thank Bastiaan Steffens (curator of the Drents Museum) and Jan Bruggink (employee at the Drents Museum) for retrieving the name of the assistant.

4 Provinciaal Museum van Drenthe, Jaarverslag 1968.

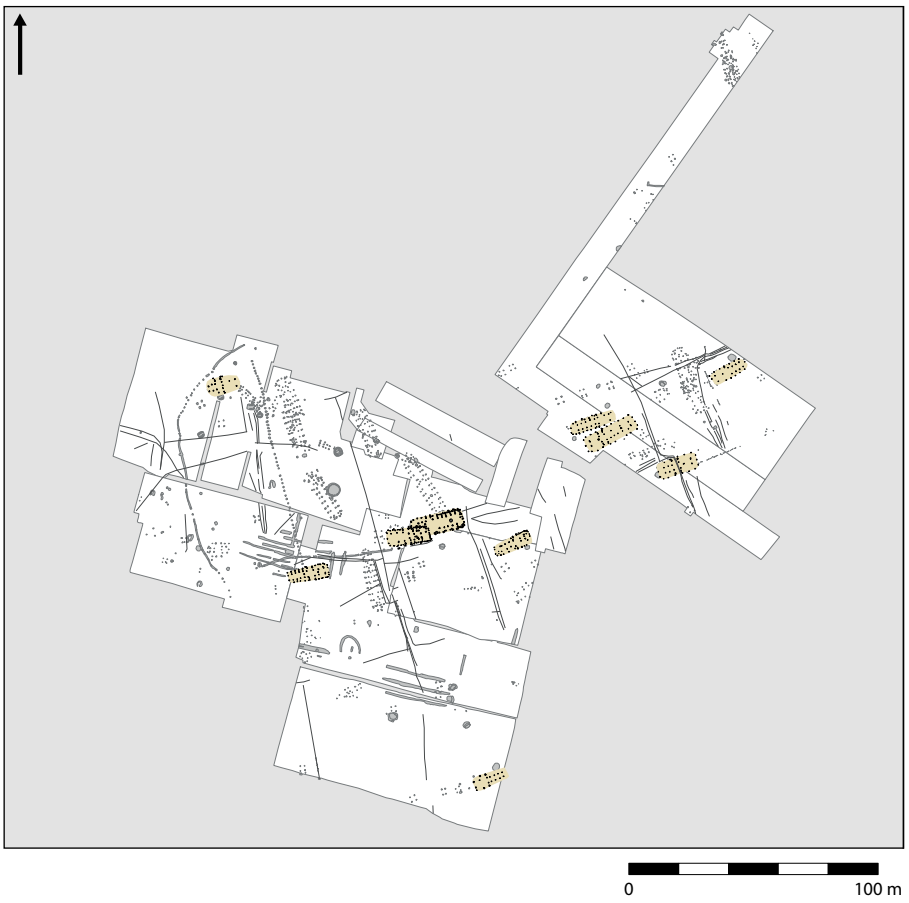


Figure 1.1: Overview map of the site of Hijken-Hijkerveld. Iron Age houses are indicated in beige. Map drawn by author, based on the primary data of Arnoldussen and De Vries (2014).

Iron Age house type was named after the site[5]; its settlement structure was presented as typical for the (Middle) Iron Age of the sandy soils[6]; and, finally, the occurrence of a complex system of fences – visible in the excavation – that were spatially associated with the Celtic field banks – visible in the excavation and on the aerial photographs – has led to the conclusion that Celtic fields had a long start-up phase, involving either low banks or fences (Gerritsen, 2003: 176; Spek, 2004: 148). Considering the importance of the settlement site of Hijken-Hijkerveld for the understanding of the Iron Age habitation on the northern sandy soils, it is remarkable how little was actually known about the details of the site, as the excavation data were never fully published.[7]

Between 2012 and 2014, I worked on a re-evaluation of the site as part of my master's specialisation track. This more extensive analysis (published as Arnoldussen and De Vries, 2014) resulted in a far richer and more complex view on the Iron Age habitation of Hijken-Hijkerveld (fig. 1.1). In many ways, the data from the settlement site proved wrong the models for which Hijken-Hijkerveld had formed the basis.[8] I myself especially struggled with the variation I saw in the house plans and the subsequent ways in which housebuilding traditions were presented in the typochronologies of Huijts (1992) and Waterbolk (2009). Ironically, the type site proved atypical and a perfect illustration of the friction between traditional archaeological typologies and the realities of prehistoric life.

5 See for example: Harsema (2005: 546-549); Waterbolk (1982: 105, fig 6.1, 1995: 8, fig. 7.4, 2009: 55, 61-62, fig. 37 & 38).

6 See for example: Arnoldussen and Jansen (2010: 387); Bloemers *et al.* (1981: 66-68); Fokkens (1998: 128-129); Harsema (2005: 546-549); Hiddink (1999: 123).

7 Otto Harsema, who led the excavations, had always 'saved' this site for a dissertation, but he never got round to this. I am grateful to have had the opportunity to speak with him about this important site before his untimely death, in 2013.

8 For example, the eponymous Middle Iron Age house type turned out to be older, already occurring in the Early Iron Age, based on the absolute dates and associated finds (Arnoldussen and De Vries, 2014: 92-99). Part of the picket fencing seems to have been placed on top of Celtic field banks instead of preceding the banks (Arnoldussen and De Vries, 2014: 100; Arnoldussen, 2018: 11), just as seems to have been the case at Vaassen (Brongers, 1976: 52).

This observed friction between traditional typology and archaeological reality at the site of Hijken-Hijkerveld made me question to what extent prehistoric people followed shared notions of proper conduct (norms) very strictly and to what extent there was the possibility to adapt to regional, local or household preferences (variations). The history of research into Hijken-Hijkerveld also made me curious about how much we as archaeologists steer interpretations intentionally and unintentionally through categorisation and the selective use of data. I sincerely believed that a different way of thinking about the way people made choices regarding the production of material culture would add to the story of this settlement site and to our understanding of later prehistoric societies on the Fries-Drents plateau, but that for this, a new methodology was needed. In this way it should be possible to study how norms and variation in material culture related to each other. I think that it is precisely the tension and shifts between norms and variation that allow for a more nuanced picture of the past. In this approach, material culture is more than just 'things from the ground'; it is the remains of people who produced, used and discarded objects as they saw fit. Taking both normativity and variation as a starting point presents the possibility of understanding how people are part of communities and still act as individuals within them.

1.3 Problem definition

The remains of prehistoric settlements on the Fries-Drents plateau have been the subject of archaeological investigation for more than a century (Waterbolk, 2009: 6-37). Our understanding of later prehistory developed organically, through the continuous addition of data from new excavations. The common denominator in these investigations was the long-term perspective in settlement archaeology,[9] in which the Fries-Drents plateau is presented repeatedly as a region to be studied as a whole (*e.g.* Waterbolk, 1962, 1980, 1982, 1989; Harsema, 1990). Even though not all prehistoric phases were encountered on every individual site, the sites were interpreted as pieces of a much larger and continuous narrative of habitation (Waterbolk, 1980, 1989, 1995, 2014: 21). Because of the very nature of this long-term and large-scale perspective, it made sense to stress what was similar and thus what fit in the bigger picture. This approach had a side effect, however. Through systematically discussing patterns only at the level of the Fries-Drents plateau, archaeologists made the inhabitants of the Fries-Drents plateau appear to be a homogeneous social unit whose every material manifestation fit well within the typologies (*e.g.* Harsema, 1990; Waterbolk, 1995).

When we observe the archaeological record, it becomes evident that variation exists in material culture, but that such variation is not random. This has, of course, also been noticed by other researchers of later prehistoric periods on the Fries-Drents plateau (Waterbolk, 2009: 40, 2014: 22), but the interplay between normativity (that what is shared) and variation (that what is different or shared at a different, smaller scale) has not been used to its fullest potential for later prehistory on the Fries-Drents plateau. This is regretful, because this is the interface where the faceless blobs of the past (*sensu* Tringham, 1991) regain some of their human dimensions, namely in their capacity to form communities and at the same time act as individuals within them (Wenger, 1998: 77, 111). By studying both normativity and variation on different scales, it is possible to identify smaller traditions as well as individual action within larger traditions. Through such an approach, it is possible to study how people were connected on different scales, viz. as a household, on a local level, regionally, supra-regionally and beyond. In a sense, this nested approach has already been applied by researchers studying regions as part of large-scale developments in the western part of the north European plain (*e.g.* Trier, 1969, Tafel 2), but this approach is also applicable to scales that have received less attention, such as regions within the Fries-Drents plateau, settlement sites or even individual households.

In addition to the long-term/large-scale perspective and lack of attention to variation, another factor that hampers our understanding of the social significance of variation in material culture is the functionalist approach that for a long time permeated settlement archaeology. In the past three decades, this has changed under the influence of publications from the Anglophone world with a more social and small-scale approach to domestic life (Wilk and Rathje, 1982; Hill, 1995; Brück, 1999, 2000; Brück and Goodman, 1999; Webley, 2008, 2018). For the later prehistory of the Netherlands, the works of Gerritsen on the social biography of the house in the Meuse-Demer-Scheldt region have been especially influential for the theoretical developments in settlement archaeology (Gerritsen, 1999a, 1999b, 2003). Even though these studies paved the way for a more social interpretation of settlement remains, they rarely discussed how this should affect the classification of the settlement remains. In many cases, the description of the archaeological finds is still very traditional (*e.g.* Gerritsen, 2003: 39-56).

The observation of this unevenness in our understanding of prehistoric life is valid not just at the level of housebuilding traditions or the production of pottery, but also at the level of settlement archaeology on a more general level, where some topics or categories of material culture are seen as socially

9 For example, pottery production: Taayke (1996a); housebuilding traditions: Waterbolk (2009).

significant and therefore have been studied extensively, while other topics have been considered self-evident and have received little attention. This means that houses,[10] pottery[11] and also settlement structure all have long histories of research,[12] but that other aspects of daily life, such as the use and discard of material culture, are still relatively understudied.[13]

For example, on Iron Age sites, pottery does not occur solely as left-behind domestic refuse. In the past decade, a specific group of pottery finds from settlement contexts, the so-called special, structured or ritual depositions, has received more attention as the relics of socially significant events,[14] but how these special depositions fit within the general practices of dealing with objects is less frequently discussed (*cf.* Garrow, 2012: 104-115). However, dealing with refuse may have been as much a socially sanctioned practice as was the construction of a house or the structured depositing of specific groups of objects (see the seminal work of Douglas, 2002). In light of the questions raised here on the social meaning of normativity and variation in material culture, it would be interesting to test whether general and special deposition practices share traits and whether developments in these practices can be associated with developments in housebuilding practices.

More than just hampering our understanding of prehistoric societies, the emphasis on normativity in material culture and cultural boundedness has left us without a language to talk about variety in material culture (*e.g.* when houses do not fit in the typology; see Van der Meij, 2010a: 25-27). If there is no language to discuss how objects or practices can be both similar and different at the same time, it is difficult to recognise and understand variation (*cf.* Sørensen, 1997: 182-183). As a consequence, the understanding of material culture that has arisen from specific research questions in the past is now the only way in which we understand the material culture of the Fries-Drents plateau. This picture has been strengthened through time through confirmation bias and by a neglect of the less-understood variation.[15] In this sense, it is as much a problem of research interests as it is a problem of methodology – in other words, the very way we as archaeologists classify our data. This means that we cannot readdress the research questions without readdressing our methodology as well.

1.4 Research questions

The central question that is addressed in this study is:

How can we interpret the normativity and variation that are evident from differences in the production, use and discard of domestic material culture (both houses and pottery) in the archaeological record of the (Roman) Iron Age societies on the Fries-Drents plateau in terms of social behaviour?

To understand how normativity and variation in material culture can be used to identify social groups or communities on different scales, three strongly interconnected themes are studied here: housebuilding practices, general deposition practices of pottery and special deposition practices of pottery. These three themes are interconnected in different ways. First of all, both longhouses and household items, specifically pottery, are the main relics of past domestic life. Much of what we know about these household items is strongly affected by the social practice of depositions, *i.e.* the decommissioning and intentional placement of household items in settlement features after the use life of both the house and the object involved. Pottery is used to date the longhouses, but longhouses are presumably also the contexts in which choices were made for the production, use and discard or deposition of pottery by the household.

The related questions that are asked in the four subsequent chapters are:

- Chapter 2: In what ways can normativity and variation in behaviour, here seen as expressed in the production of material culture, be used to infer social embeddedness of individuals and groups into larger groups? How does the ordering of data influence the way archaeologists perceive and interpret the past? What archaeological methodology is best suited for answering the questions raised above?

10 The earliest publication of excavated settlement remains dates from 1918 (Van Giffen, 1918). The earliest classification of house plans from the Fries-Drents plateau was published in 1939 (Van Giffen, 1939c). A distinction was made between wall houses (Dutch *wandhuizen*) and roof houses (Dutch *dakhuizen*). The difference between the two lies in the assumed construction of the roof, namely, whether it rests on the walls or on the ground (Van Giffen, 1939b). The most recent overview has been published in 2009 (Waterbolk, 2009), but the topic of housebuilding traditions/house typologies is still one of interest (Arnoldussen and De Vries, 2014; Arnoldussen and Albers, 2015; Arnoldussen and De Vries, 2017; De Vries, 2017).

11 Waterbolk (1962: 28-45, 1977a: 102-104), Taayke (1996a), Lanting and Van der Plicht (2003: 170-173, 2006: 273-293).

12 Waterbolk (1980, 1982, 1995), Arnoldussen and Jansen (2010), Arnoldussen and De Vries (2014, 2017), Arnoldussen and Albers (2015).

13 Refuse pits (Dutch *afvalsgaten*) are mentioned as early as 1918, in Van Giffen's publication on settlement remains on the Noordsche veld, near Zeijen, and similar terms have appeared in countless other publications without ever being problematised.

14 Hill (1995), Brück (1999), Van Hoof (2002), Van den Broeke (2002, 2015), Gerritsen (2003: 63-66, 79-95, 96-102), Webley (2007a, 2008: 129-148).

15 This is seen in the desire to label even fairly incomplete house plans (*e.g.* Peelo-Es house 17: Kooi, 1994a: 173, 177, fig. 8); in variations with regard to the expected date and the dates of associated finds (*e.g.* house 30 from Borger-Daalkampen II (2007): De Wit *et al.*, 2009b: 89); and in the ignoring of house plans that do not fit in, such as the houses at Emmen-Emmerhout (houses 1 and 2: Kooi, 2008: 335, fig. 4).

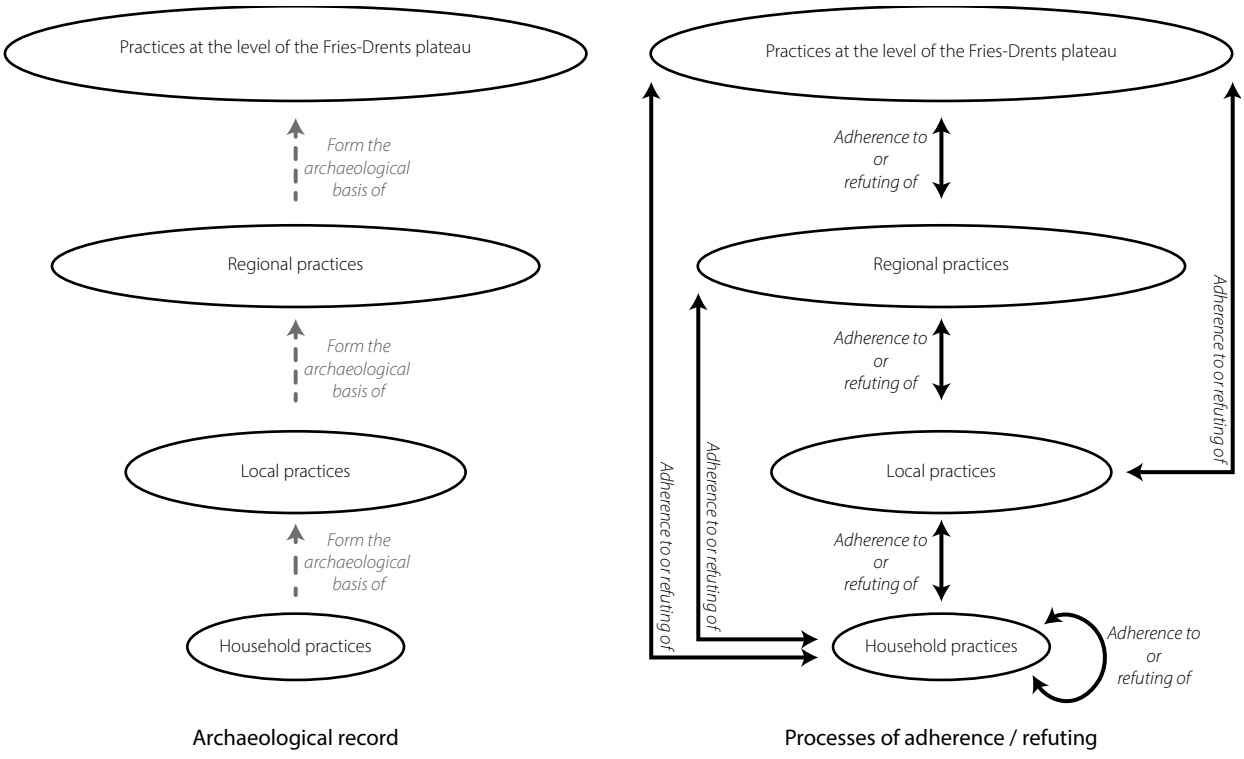


Figure 1.2: Left: Schematic overview of how housebuilding practices, general deposition practices and special deposition practices are considered to be nested practices. Right: Schematic overview of all the potential ways in which there is interaction between the different scales.

- Chapter 3: Does a more detailed understanding of normativity and variation in housebuilding traditions provide a solid basis for discerning different social groups on the Fries-Drents plateau, at the supra-regional, regional, local or household scale?
- Chapter 4: Can a more detailed understanding of normativity and variation in general deposition practices be used to discern social groups based on synchronic or diachronic variation and can it provide insight into practices at the supra-regional, regional, local or household scale?
- Chapter 5: Are there widely shared ways in which the special deposition practices deviate from the general deposition practices as discussed in chapter 4? Can a more detailed understanding of normativity and variation in special deposition practices provide insight into practices at the supra-regional, regional, local or household scales?

1.5 Methodological approaches

In order to study normativity and variation in material culture, I propose a different point of departure here, in which people can be part of communities that share practices and act as individuals within them (Wenger, 1998; Fine, 2012). For this study, this means that practices can be shared at the level of the household; the local level or the settlement site; the regional level; and the supra-regional level or the Fries-Drents plateau as a whole. However, these scales are not separate entities; they are potentially interconnected (fig. 1.2-right). The point of departure is different here from traditional typologies, in the sense that it is not seen as necessary that all element of housebuilding or deposition practices are shared across all the scales.

In order to understand what elements of a practice are widely shared and non-negotiable and what elements are more open to variation, it is necessary to study the practices not as units (the house is of Type A), but as clusters of characteristics (the house has a three-aisled roof-load support structure, walls placed in trenches, and two opposing entrances). Therefore, it is necessary to use a methodology that enables these elements or characteristics of a practice to be studied separately. The analysis of the separate elements allows archaeologists to study which (different) choices could be made by the inhabitants at these different levels.

Because it is not clear what elements of practices are shared across what scales and to what extent the practices of one site are representative for the entire research area, it is necessary to study the archaeological record bottom-up. At the smallest scale in this study, there is the household.

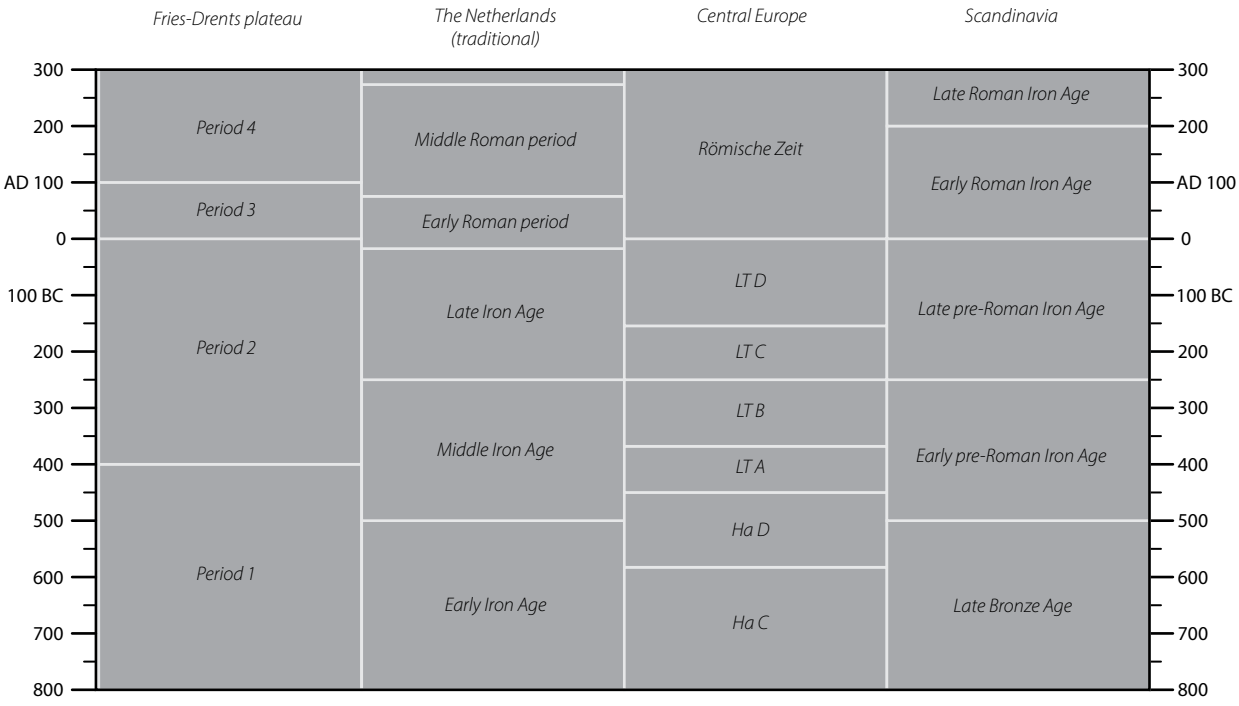


Figure 1.3: Periodisation of the Fries-Drents plateau as used in this study, compared with the traditional chronology of the Netherlands based on Van den Broeke (2005a: 480, fig. 21.2); the chronology of Central Europe based on Lanting and Van der Plicht (2003: 134, 2006: 249-252); and the chronology of Scandinavia based on Webley (2008: 15, table 2.1). Ha = Hallstatt; LT = La Tène.

The elements that are shared between the individual households of a settlement is what can be considered the local practice. This analysis can be repeated for the regional and the supra-regional practices (fig. 1.2-left). Because the study does not just focus on what is shared, but also on what is different, there is always the interplay between scales. For example, households can refute what is done by their fellow households of the same local community, but adhere to other practices available in the region. In order to study material culture in such a way, the separate elements of a practices need to studied and compared for the three themes and four periods under study (section 2.4.3).

1.6 Periodisation

In this dissertation, the Iron Age and Roman Iron Age periods are studied, here considered to span the period 800 BC-AD 300. The periodisation proposed for this study deviates from the periodisation commonly used in the Netherlands, as presented, for example, in the handbook *The prehistory of the Netherlands* (Van den Broeke *et al.*, 2005: 17-32) and implemented in the Archeologisch Basisregister (ABR, the basic archaeological registry).[16] The reason for deviating from the commonly used Dutch periodisation is that the Dutch periodisation is based on events and dates beyond the Fries-Drents plateau and even beyond the Netherlands.[17] As a result, the representativeness and suitability of the periodisation for describing regional developments, specifically in the northern Netherlands, should be questioned (Arnoldussen and Jansen, 2010: 379-380; Nieuwhof, 2015: 13-14).[18]

Therefore, instead of the conventional Dutch periodisation, a modified chronological framework is proposed here (fig. 1.3), one that is based on the chronology of the local pottery, anchored in radiocarbon dates (Taayke, 1995, especially 72-77) and a recent re-evaluation of the available radiocarbon dates of house plans from the research area (De Vries, 2017: 176-183, esp. fig. 3). Instead of proposing a break between the Iron Age and Roman period, the framework stresses continuity between these

16 The ABR is a thesaurus with Dutch archaeological terms that are used to describe research, finds and features. It can be consulted online: https://thesaurus.cultureelerfgoed.nl/.

17 According to the Dutch periodisation, the occurrence of the first Marne pottery marks the start of the Middle Iron Age (Van den Broeke *et al.*, 2005: 31, note 28), but this type of pottery is not found in the north of the Netherlands.

18 The vessel type 'G1' is roughly dated between 600 and 400 BC, based on absolute dates. In the traditional periodisation, the transition from the Early to Middle Iron Age lies around 500 BC. This implies that every time a G1-type vessel is encountered, it should be placed in both the Early Iron Age and the Middle Iron Age.

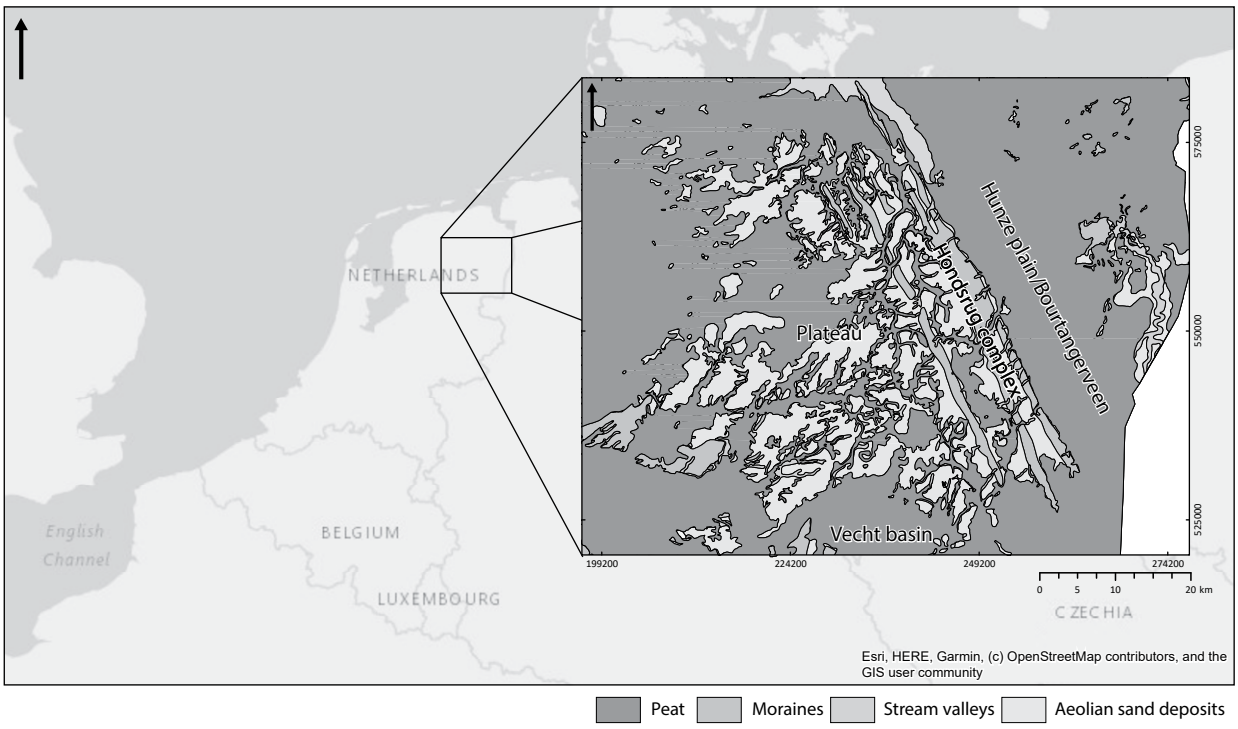


Figure 1.4: Location of the study area indicated within the Netherlands. Inset: palaeogeographical map of the research area circa 500 BC, after Vos *et al.* (2020). Background: Esri, HERE, Garmin; Copyright Open StreetMap contributors, and GIS user community.

two periods. It is based on absolute dates and locally made artefacts, mainly hand-built pottery. This category of finds is omnipresent in the research area, especially in settlement sites. In addition to this, hand-built pottery has high chances of full preservation in the acidic sandy soils of the research area.

1.7 Demarcation of the research area

The area under study in this dissertation is the Fries-Drents plateau (fig. 1.4), a boulder clay plateau that covers most of the province of Drenthe and extends into the provinces of Friesland and Groningen. The substratum of the plateau was formed primarily during the last stage of the Saalien (circa 200,000-130,000 BP), when ice caps were formed in Scandinavia and expanded into the northern half of the Netherlands (Rappol and Kluiving, 1992: 71; Jongmans *et al.*, 2013: 213-214). Through the expansion of the ice caps, boulders were transported from Scandinavia to the north of the Netherlands. These were deposited when the ice caps melted, along with boulder clay, which is made up of boulders pulverised under the ice caps (Rappol and Kluiving, 1992: 75-76). During the last ice age, the Weichselien (115,000-10,000 BP), the research area was not covered by ice caps, but the climate was periglacial (Castel and Rappol, 1992: 117-119). In this period, aeolian sand deposits covered the boulder clay. These aeolian sand deposits can still be found at the surface of the present-day landscape (Castel and Rappol, 1992: 121-123; Rappol, 1992: 9-11; Spek, 2004: 178-179).

The Fries-Drents plateau is the area where the boulder clay is still at or close to the surface (Rappol, 1992: 9-11). The central area, roughly oriented northeast-southwest, has only minor height differences, but to the east is a higher ridge, which has a NNW-SSE orientation, the Hondsrug (Jongmans *et al.*, 2013: 236, fig. 6.28).[19] The dimensions of the Fries-Drents plateau have changed over time. During the period under study, the accessible part of the plateau decreased in size. As a result of rising sea water levels, the area slowly 'drowned': ground water levels rose and peat formation took place (Fokkens, 1998: 175-181, map VI-VII). To the south, the Fries-Drents plateau was demarcated by the Vecht basin. To the east it was demarcated by the lower-lying Hunze valley (Jongmans *et al.*, 2013: 221, fig. 6.8), which was covered in peat during the Iron Age and Roman

19 The most northern part today is the city of Groningen (8 m + Amsterdam Ordnance Datum), and the most southern part today is the city of Emmen (26 m + Amsterdam Ordnance Datum). This means that the height difference may be perceived as minimal for those who are used to real mountains, but clearly visible to those who lived here. Measurements obtained via the Actueel Hoogtebestand Nederland (accessible via ahn.nl/ahn-viewer).

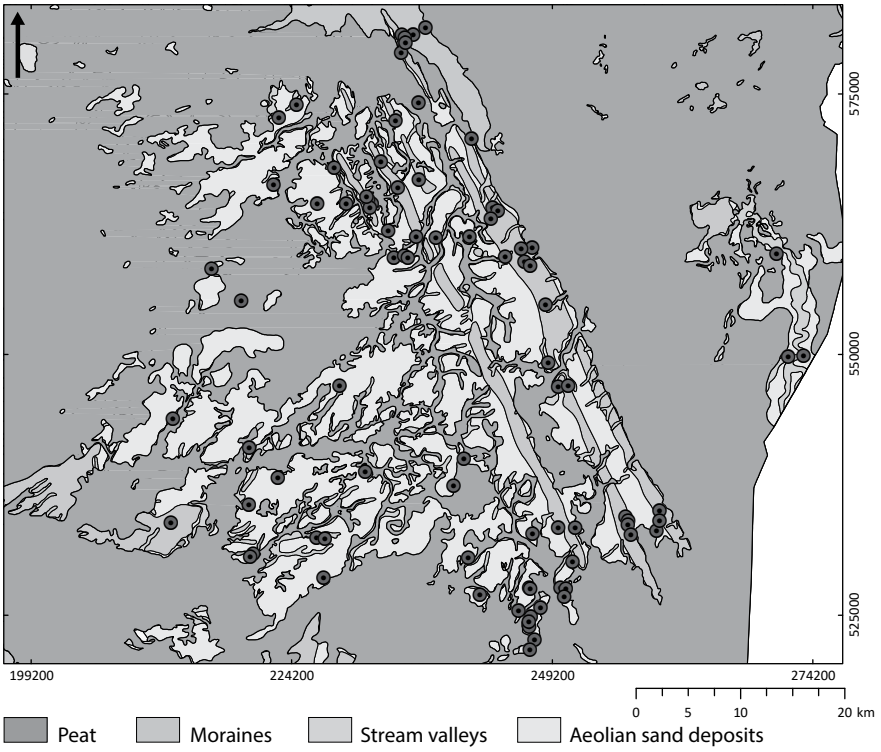


Figure 1.5: Geographic distribution of Iron Age and Roman Iron Age settlement sites plotted on the palaeogeographical map of 500 BC, after Vos *et al.* (2020). For site names and references, see appendix 1.

Iron Age (Vos *et al.*, 2020, maps 500 BC, 250 BC and AD 100).[20] To the west, it was delineated by peat that gradually developed land-inward. To the north, the research area was demarcated by peat and marine clay deposits (Rappol, 1992: 13-14; Spek, 2004: 178-179). Because of these natural circumstances, the Fries-Drents plateau formed a clearly defined environmental unit during the Iron Age and Roman Iron Age. The plateau was divided into smaller but interconnected landscape units, caused by the relief of the boulder clay, which was further enhanced by the erosion of the small streams (Rappol, 1992: 13; Jongmans *et al.*, 2013: 236-237).

1.8 Iron Age and Roman Iron Age settlement archaeology on the Fries-Drents plateau

The Fries-Drents plateau is a coherent research area not only from a palaeogeographical point of view, but also from a historiographic point of view. As was discussed above, the area has a long history of research, with a special focus on settlement sites (Waterbolk, 2009: 7-37). As early as 1918, A.E. van Giffen published the results of an excavation at the Noordsche Veld, near Zeijen, which he had conducted a year earlier (Van Giffen, 1918). Although he devoted most of his attention to the Celtic field (then called the former Roman encampment, Dutch: *voormalige Romeinse legerplaats*), pits and pottery are discussed as representing indigenous habitation from the early Roman period (Van Giffen, 1918: 152-155). After the formation of the Biologisch-Archeologisch Instituut (since renamed Groningen Institute for Archaeology, GIA) in 1920, settlement sites were occasionally excavated. During the 1930s, they were excavated more frequently (for overview, see Waterbolk, 2009: 16, table 2). Even these early examples of settlement excavations are relatively well documented and display a methodological rigour.[21] Because of the detail in which the house plans of these early excavations have been registered, these house plans can be included in this dissertation as well. The oldest excavations that are included in this dissertation date from 1934: Sleen-Diphoorn (Van Giffen, 1936a) and Zeijen-Noordsche Veld, or Zeijen-I (Van Giffen, 1936b).

The excavations before and just after the war were often initiated by agricultural activities, such as reclamation of heathlands (*e.g.* Sleen-Zuidsleen: Van Giffen, 1939a, Fochteloo: 1958). In the 1960s and 1970s, building activities were often the impetus for archaeological research even though this was not obligatory at the time (*e.g.* Dalen-Thijakkers: Harsema,

20 This area is known as the Bourtangerveen and stretches into Germany.

21 As early as the 1930s, the registration of the context of finds was as important as the finds themselves. This is in contrast to other areas, where the finds were retained without any form of documentation of the context (Waterbolk, 2009: 14-15).

1987; Angelsloo-Emmerhout: Kooi, 2008). Although, as the case of Hijken-Hijkerveld showed (Harsema, 1974a), agricultural activities continued to be occasions during which new settlements could be found. This early type of rescue excavation continued into the 1980s and 1990s (*e.g.* Dalen-Molenakkers: Harsema, 1994a; Peelo-Es: Kooi, 1994a, Peelo-Haverland: 1995). From the mid-1990s onwards, the Valetta treaty provided yet another stimulus for settlement archaeology on the Fries-Drents plateau. Commercial companies conducted many settlement excavations, large and small, dispersed across the research area, such as Borger-Daalkampen (Kooi, 1996a; Kooi and De Wit, 2003; De Wit *et al.*, 2009a; Van der Meij, 2010a), Fluitenberg-Zevenberg (Schrijer and De Neef, 2008) and Emmen-Noordbargeres (De Wit, 2015a, 2018a).

Together, these settlement sites form a high-quality legacy dataset, composed of well-documented 'old' excavations performed by the BAI, which were pivotal in the construction of the habitation models for the research area, and development-led excavations, which substantially increased the dataset not just in terms of the number of settlement sites but also in terms of their spatial distribution. The 'old' BAI excavations may need reinterpretation in the light of the questions asked here, and the 'new' excavations have not yet been synthesised, but together they form a large and high-quality dataset (fig. 1.5).

1.9 Research outline

In this chapter, I defined the research problem and formulated the research question. As I discuss above, the questions raised here relate to social processes of people producing, using and discarding objects. These processes are difficult or impossible to capture using the archaeological record alone. Therefore, it is necessary to look beyond the archaeological discipline for models that may aid in answering these questions. However, a better understanding of normativity and variation in material culture needs not just informed social models, but also appropriate methodologies that archaeologists use to classify archaeological data. I discuss these two topics in chapter 2, together with a new methodology that follows from these two topic discussions. In chapter 3, I present housebuilding traditions as a case study for understanding the social significance of normativity and variation in material culture. In chapter 4, I present a complementary case study in which the significance of general deposition practices is discussed. Chapter 5 is closely related to chapter 4, because it discusses one particular group of deposition practices in more detail, namely, the special deposition practices seen throughout period 1 and period 2. In chapter 6, I compare the patterns observed in chapters 3 to 5 and contrast them in order to return to the question that is central to this research: What is the social significance of normativity and variation in material culture?

Chapter 2

Theoretical framework

2.1 Introduction

In this chapter, the theoretical framework of this study into normativity and variation in material culture is presented. The chapter has two aims. The first aim is to provide explanatory models to interpret normativity and variability in material culture, using insights from neighbouring disciplines, such as sociology and anthropology. The research question that follows from this is: In what ways can normativity and variation in behaviour, here seen as expressed in the production of material culture, be used to infer the social embeddedness of individuals and groups into larger groups? The second aim of this chapter is to translate these explanatory models into an archaeological methodology. In addition, the chapter provides insight into how methodologies for ordering data from the archaeological record that have been used thus far have shaped the way archaeologists perceived the past. The research question that follows from this is: How does the ordering of data influence the way archaeologists perceive and interpret the past? Having established the research questions relating to the theoretical framework, the question that follows is: What methodology would be best suited for answering the questions raised above?

Before an attempt can be made to provide explanatory models and establish a methodology, we need to understand the social context of the settlements, in order to gain a general understanding of the underlying social structure within the region, *e.g.* highly stratified or egalitarian. This is of relevance for the production of objects as well as their distribution, because local production in an unstratified society may result in an even distribution of objects, whereas a highly stratified society with restricted access to specific objects may lead to a very different spatial distribution. In a society that knows some degree of specialisation, house construction can be performed by specialists, which can affect the extent to which houses look different or similar (Rapoport, 1969: 7-8). To understand the social context, this chapter starts with a brief description of the settlements of the Iron Age and Roman Iron Age on the Fries-Drents plateau.

2.2 Iron Age and Roman Iron Age households on the Fries-Drents plateau

Settlement sites dominate the archaeological record of the (Roman) Iron Age on the Fries-Drents plateau, and these have been subject to research for more than a century now. The start of an academic and systematic interest into places of habitation is A.E. van Giffen's 1918 publication on the 'Roman encampment' of Zeijen (Van Giffen, 1918). In the following century of settlement archaeology, many settlements have been excavated, either in full or in part (see for an overview: Waterbolk, 2009: 7-37). From these data, the following picture arises of the inhabitants of the Fries-Drents plateau during the Iron Age and Roman Iron Age:

The inhabitants of the research area belong first and foremost to a small-scale, agricultural society whose livelihood was based on a mixed farming economy

(Harsema, 2005: 551-553). Evidence for way of life has been sought in the omnipresent remains of the byre house,[22] a structure in which people lived alongside their livestock and, additionally, in the lack of other 'economic' activities, such as the mining of iron ore (*op.cit.*, 553).[23] Other evidence for the agricultural basis of this society has been found in the vast field systems that are known from the research area, and that are still visible today – known as the Celtic field systems. The use of these fields, or, more specifically, the construction of the banks around these fields, has traditionally been dated somewhere between the Late Bronze Age and Middle Iron Age, but recent research has shown that this date can be extended further back in time, to as early as the 13th to 10th centuries BC (*i.e.* Middle Bronze Age: Arnoldussen, 2018: 313-320). The evidence for the youngest bank formation suggests that the field systems may also extend further forward in time, perhaps until the 2nd century AD (*i.e.* well into the Roman period: Arnoldussen, 2018: 313-320).

For the settlements, little evidence exists for a stratified society on the Fries-Drents plateau during the Early and Middle Iron Ages (but for the funerary record, see De Wit, 1999). On the whole, settlements are small (Harsema, 2005: 553-554), sometimes consisting of only one individual farmstead (*e.g.* Wachtum-Noordesch: Van der Velde *et al.*, 1999), sometimes perhaps of two to three contemporaneous farmsteads (*e.g.* Holsloot-Holingerveld: Van der Velde *et al.*, 2003). Often, it cannot be said with certainty how many phases a settlement comprises and which houses belong to which phase. Notwithstanding these uncertainties, the group size of later prehistoric settlements in the Netherlands has been estimated at between 10 and 30 inhabitants (Harsema, 1980a: 32; Gerritsen, 2003: 110). However, little is known about inhabitants of the houses comprising a settlement. Fokkens, for example, has argued for a transition from extended families to nuclear families at the onset of the Iron Age, based on a decrease in house size (Fokkens, 1997: 366). However, it has been argued that little factual information exists on the composition of later prehistoric households to support such a claim (Arnoldussen, 2008: 85-88; 230).

The first evidence for differentiation in settlement structure can be found at the end of the Iron Age. At this period of time, a transition in settlement structure is proposed, from farmsteads that did not have a very formalised layout (Gerritsen, 2003: 70-75), that tended to be single-phases, and that were periodically relocated after the house was abandoned (so-called wandering farmsteads) to stable settlements or even hamlets (Schinkel, 1998: 177, fig. 157; Gerritsen, 2003: 181-189; 2007: 158-162; Arnoldussen and Jansen, 2010: 381-382). At the end of the Iron Age, some settlements, in contrast to other settlements, are clustered and enclosed (Arnoldussen and Jansen, 2010: 338). At the start of the Roman period, multiple enclosed settlements are known inside and outside the Fries-Drents plateau (*e.g.* Emmen-Frieslandweg: De Wit, 2003a; Wijster: Van Es, 1967). For the different settlement types it holds that the social context in which farmsteads were built are not always clearly understood. For the earlier phases of wandering farmstead, contemporaneous or subsequent phases cannot always be established, especially when farmsteads do not overlap. For the later phases, this spatial association of farmsteads has become more explicit, in the shape of clearly demarcated the settlement site. It is unclear, however, to what degree daily life was influenced by the change of settlement structure.

Notwithstanding these changes, differentiation in settlement sites is limited in the sense that the difference relates to differences in number, not to a difference in function. Hillforts or similar central settlements, for example, have not been found in the region. Differentiation in settlement patterns does not have to imply social stratification, although additional evidence for a more stratified society may be found in the so-called chieftain's graves dated to the Early to Middle Iron Age (Fokkens, 1998: 129-130). No additional evidence for stratification in a settlement context can be found, because of the lack of differentiation in house dimensions or and the lack of imports or luxury objects.

The first convincing evidence for social stratification within the research area can be found in the Roman period, in the so-called *Herrenhöfe* (a German term meaning lord's seat), places of habitation that are spatially segregated from other structures in the settlement and show investment in a collective hall. They are interpreted as the seat of a local, regional or supra-regional leader (Nicolay, 2010: 120, 2020: 160-161). The known examples of these *Herrenhöfe* are dated between the end of the 1st century AD and the 4th century AD. Often these seats are associated with special finds, such as metal objects and imported pottery (Nicolay, 2010: 121-122).

From the above, it can be concluded that for most of the research period, the settlements are part of a society that shows only limited differentiation or stratification. When stratification is evident, it is predominantly at the end of the research period. The implications of this lack of stratification for the current study is that, during most of the period under study, objects were predominantly made within the settlement and produced when needed. This means that the decision-making process of what these objects should look like may be placed in this small-scale context as well. Since settlement sites can consist of only one byre house, this may be considered the lowest, but archaeologically still visible level, at which decisions were made.

22 The origins of the 'true' byre house have been placed slightly earlier, in the Late Bronze Age (Harsema, 2005: 544).

23 I will return to the proposed double function of the byre house in chapters 3 (section 3.3.4) and 4 (section 4.4.2).

In the light of the questions raised in the introduction to this chapter, a translation of these archaeological features into a unit that is meaningful in sociology or anthropology is necessary, because the house does not build itself, nor does the pot shape or break itself. And waste certainly does not discard itself. It makes sense to translate the smallest archaeological entity significant for this study, the house, into a corresponding social entity. In this case, it would be the group of people who inhabited the house, that is, the household. The concept of the household has been adopted by archaeologists, and a vast body of literature exists on the topic of household archaeology and the role of households in prehistoric society.[24] Essentially, household archaeology tries to bridge the gap between large-scale processes at the level of the society and the actual archaeological finds (Wilk and Rathje, 1982: 617-619), as a way to give faces to people in the past (Tringham, 1991). The aim of this study is similar, which is to understand what role tradition and change, variability and uniformity played in the way people created material culture on the Fries-Drents plateau.

As a heuristic concept, the household is not without problems, as multiple households can inhabit one structure and, conversely, one household can also be spread over multiple structures (*e.g.* Yanagisako, 1979: 168-170; Wilk and Rathje, 1982: 620-621). Still, it is the preferable unit over other units, such as extended families or fraternities, because the household plays a primary role in many of the tasks that can be envisioned for small-scale, agricultural societies, such as the production of food, the transmission of rights and reproduction (Wilk and Rathje, 1982). The household plays an important role in the socialisation of children, because it provides the constant exposure, from birth onwards, to tasks that are performed around the house (see, for example, pottery production among the Kusasi: Calvo Trias *et al.*, 2015: 64-65). In this way, members of the household teach children the proper ways of doing things, implicitly and explicitly. Through these processes, the household becomes the place in which culture, both material and non-material, is reproduced (*cf.* Beaudry, 2015: 5-7).

2.3 Normativity and variation from a sociological perspective

The question that is raised here, is in what ways normativity and variation in behaviour, here expressed in the production of material culture, can be used to infer social embeddedness of individuals and groups into larger groups. This question relates to the way members of a household make decisions when producing pottery, constructing houses, or discarding objects that are no longer wanted. In this study, the aim is not to provide functional explanations for the choices made, *e.g.* being economically driven[25] or being related to the perception of gender,[26] but, rather, to understand how choices made at the small-scale level of the household are the result of, and give shape to, the large-scale patterning of material culture through space and time.

2.3.1 Normativity and variation from a spatial perspective

In this study, the household is the starting point for understanding normativity and variation in material culture. First of all, it is important to know how these small units were connected to each other. If we take a very functionalist approach to demography, it is a fact that prehistoric households are part of larger groups. Based on the suggested small number, of 10 to 30 inhabitants (Harsema, 1980a: 32; Gerritsen, 2003: 110), the average settlement cannot have been viable on its own. This is even more true for the household proper. To keep any human population viable, a minimum of 500 individuals is necessary, possibly subdivided into smaller groups of 50 to 100 individuals (Daily *et al.*, 1994: 469). This means that at least a minimum of interaction was needed among the inhabitants of different households to keep the total population viable. It is very likely, however, that membership of larger networks was an integral part of life for the members of a prehistoric household. Based on ethnographic examples, exchange networks based on kinship are a recurring response to scarcity in small-scale societies (O'Shea and Halstead, 1989: 124). The shared use of burial sites, arable land and cult sites can potentially aggregate smaller groups into larger communities (Gerritsen, 2003: 145-150, 163-167, 179-180).

Larger communities are created when group members meet outsiders, and these communities also provide a context for sharing all types of information. In addition to this, temporary and more ephemeral groups are imaginable for prehistoric Europe in the form of, for example, tribal meetings (Fernández-Götz, 2013: 72-75) or supra-regional gatherings in sanctuaries (Fernández-Götz and Roymans, 2015: 26-29). From a social perspective, ephemeral encounters between groups are important not only for the transmission of new information, confirmation of old ties, but also for the confirmation of the group's own affiliation (Fine, 2012: 107-111). Thus, social contact in different aspects of life is essential for the creation of communities on different scales and with

24 *E.g.*: Beaudry (2015); Brück and Goodman (1999); Madella *et al.* (2013); Souvatzi (2012); Trigham (1991, 2001); Webley (2007b, 2008, 2018); Wilk and Rathje (1982).

25 *E.g.* where byre size is explained as a function of the number of cows (Harsema, 2005: 551-552).

26 *E.g.* where interior layout of a house is influenced by the wish to keep women secluded from people outside the household (Steadman, 2015: 207-212).

different temporalities. But above all, these multi-scalar connections provide a context for sharing information. Because of interaction through collaboration, exchange, marriage or other, more ephemeral events, households become part of a social network and are in a position to share members. When members are shared between groups, ties are constructed. Although these connections can take place at different scales and with different intensities, they always have the potential to facilitate the flow of information (Granovetter, 1973, 1983).

In recent years, the concept of communities of practice (see the seminal work of Wenger, 1998) has been used to as a model to explain how groups not only share information, but also understand the cultural meaning of that information and act accordingly, in a time when many aspects of life are not formally organised. This model has been used to explain not only why certain objects become widespread, but are also why they are systematically used in the same way (*e.g.* in the spread of Bell Beaker culture: Kohring, 2011; or in the spread of Corded Ware burial practices: Bourgeois and Kroon, 2017). In sharing a practice, households have a source for community coherence, a sense of belonging to a larger group or community of people who do as they do (Wenger, 1998: 77). Still, no individual within the community is a full representation of the practices as a whole (Wenger, 1998: 111). As a result, the outcomes of belonging to a community of practice always display a bit of local uniqueness, while adhering to more widely shared practices. Through a constellation of communities of practice, where members are shared between groups, similar though not fully identical practices can spread (Wenger, 1998: 126-129).

The understanding that people can share practices without a formalised social structure is not unique to the concept of communities of practice. Other social categories, such as the group or the small group, are characterised in a similar way (Lindenberg, 2015: 434). Their functioning can give an understanding of how households belong to larger communities. Groups or small groups are based on their daily face-to-face interaction, shared expectations of how to behave and shared rituals of interaction (Fine, 2012: 21-22). In addition to this, the members are interdependent in groups for things, whether small or big, that they cannot accomplish on their own (Lindenberg, 2015: 434). Just as with communities of practice, small groups can share members and be part of wider networks through which information can flow and concepts can radiate outward (Fine, 2012: 355-356). The attractiveness for archaeologists of the concept of communities of practice or the small groups theories lies in the fact that practices can be easily translated into archaeological data, such as pottery production or burial customs. In addition to this, there is an explicit explanation of how shared practices do not have identical end results.

When these sociological concepts are translated to the later prehistory of the Fries-Drents plateau, households may be part of communities of practice that shared information. This sharing of information may have taken place during the communal use of burial fields or arable land, as has been mentioned above, but also during other collective activities. For example, the construction of the byre house was in all probability performed by a group that superseded the household proper (Webley, 2008: 68-69). In contrast to house construction, the production of later prehistoric pottery is mostly placed at the level of the household, as the sourcing of the clay indicates that local clays were used (North-Holland: Abbink, 1999: 340; Oss-Ussen: Van den Broeke, 2012: 196-200; 215-218) and that therefore no central places or communal events for pottery production existed. However, information on the production of pottery may be shared among the members of different households at the moment they got together for the construction of a new house. As a result, one community could have multiple shared practices, which were performed at different levels and at different intervals.

The sharing of practices is most tangible in the material manifestations of the construction of houses and the production of pottery. As the two-dimensional remains of three-dimensional constructions, house plans can show widely shared practices of house constructions, because of the widespread occurrence of specific constellations of postholes. Pottery is an even more tangible reminder that prehistoric groups shared concepts of what material culture should look like. Recurring associations of shapes, dimensions, finishings and decorations tell a story of connectedness and shared practices. Archaeologists' understanding of the social significance of these shared practices has crystallised in archaeological typologies of houses and pots, in which shared practices have become formalised types.

However, the sharing of practices is not limited to the practice of producing objects, such as houses and ceramic vessels; it relates to all aspects of life. This means that the sharing of practices with regard to material culture equally relates to the ways objects are used and treated after use (what is considered the ideal social biography (*cf*. Kopytoff, 1986)), and to what is considered the right order or place for things in a settlement, both in and out of use. As Mary Douglas aptly puts it: "Our idea of dirt is compounded of two things, care for hygiene and respect for conventions" (Douglas, 2002: 9). What is considered dirt or uncleanness are the objects that are out of place, and that is a problem that can be solved through order (Douglas, 2002: 50). In this way, dealing with refuse is as much a socially sanctioned practice specific to time and place as is the production of the objects themselves, both in present-day societies and in those in the past (Staski and Sutro, 1991: 3-4; Högberg, 2017).

From the above, it follows that normativity in material culture is the expression of a shared concept of what things should look like. The most evident example of this is found in the fact that Iron Age houses in northwestern Europe always have a rectangular footprint, while those being constructed on the other side of the North Sea (known as roundhouses) have a circular footprint (*e.g.* Webley, 2007a). With regard to housebuilding traditions, it can be said that the people from the continent belong to a different community than those in the British Isles. However, even if later prehistoric houses within northwestern Europe are mostly rectangular, there are variations in the ways the houses were constructed. On the Fries-Drents plateau, the Iron Age and Roman period houses are predominantly three-aisled (see chapter 3), whereas in the Meuse-Demer-Scheldt region they are predominantly two-aisled (Gerritsen, 2003: 45-56). However, two-aisled houses are known from the study area. Sometimes they are even found within the same excavation as three-aisled houses (*e.g.* Arnoldussen and Albers, 2015: 159-163). From this observation, it follows that concepts such as normativity and variation are not predefined and static. Both concepts can co-exist, and other choices can be made at different levels (*e.g.* household, local, regional). This observation also emphasises the multi-scalar nature of this later prehistoric connectedness and the different ways in which variation can come about. Just as norms are multi-scalar, so is variation. The scope of the research depends on at which level normativity and variation become visible.

2.3.2 Temporal aspects of normativity and variation

The previous section has provided an explanation of how normativity and variation in material culture can be explained from a spatial perspective. This perspective, however, provides only a momentary snapshot of what, in fact, is a continuous process in time. Information is not only shared between different households, settlements and communities, it is also shared between generations within the household. This means that the household is also the place where information is transmitted from generation to generation. Normativity in material culture can be seen as the outcome of tradition, which can be defined as "the element of historical continuity or social inheritance in culture, or the social process by which such continuity is achieved" (Bauman, 2001: 15819). In the transmission of information from generation to generation, practice gains a time depth, which eventually turns into a tradition (*e.g.* Roberts, 2008).

As noted above, each group and each individual can display some uniqueness even when following widely shared practices. This means that even traditions show some degree of variation from a temporal perspective. When roughly the same things are transmitted over time, things can change a little, and there is the option to effect such change consciously or unconsciously. When the changed form is transmitted through time within a household and subsequently is transmitted through the community and the constellation of communities, variation can become the transformation of an old practice into a new practice; variation becomes change. In the case of the Fries-Drents plateau, both tradition and change are evident. To come back to the example of the footprint of the house, a generally rectangular house remains the dominant house form from the Early Iron Age (EIA) up to the Migration Period (Waterbolk, 2009: 54-85). However, within this continuous rectangular footprint, the way the roof-load was supported changed over time, as did the location of the entrances to the house. Some things change, while other things stay the same.

This raises the question of why specific elements are prone to change, while others cannot or will not be negotiated. There is no straightforward answer to this, but ethnographic examples indicate that normative aspects of housebuilding traditions should be seen in the light of more widely held social or cosmological concepts in society (for a similar discussion for Bronze Age houses, see Arnoldussen, 2008: 219-222). Strict divisions of the interior of a house are more likely to be transmitted through time if they are connected to strict notions about the spatial separation of, for example, males and females (see for seclusion in domestic architecture: Steadman, 2015: 207-212). If prehistoric houses were constructed according to cosmological principles, as various researchers have suggested (for the Iron Age: Harsema, 1996; for the Neolithic: Hofmann and Smyth, 2013: 9-11; for the LBK specifically: Beneš *et al.*, 2016: 67-70; 78-80), the specific parts that hold the most significance may be perceived as unchangeable, whereas other parts may be open to change. In a similar vein to house construction, specific aspects of dealing with refuse or the way special depositions were made may have been more restricted than others. It may be equally true that aspects that are most strongly associated with or linked with more widely held concepts are transmitted mostly unchanged through time. Since these principles are culturally specific, there is no use in seeking a priori explanatory models. It is preferable to see what elements or aspects show resilience through time and what elements are more prone to variation.

2.4 Normativity and variation from an archaeological perspective

In order to answer the sociological question raised in the earlier sections, it is necessary to translate these models back into a methodology that fits the archaeological data. In essence, normativity and variation in material culture relate to the patterning of objects through space and time and to the social interpretation of this patterning, which can be considered to be the core of the discipline

of archaeology. The creation and application of typologies have been archaeology's way of dealing with this question. In order to find a sound methodology to answer the questions raised above, first, it is necessary to better understand how the current methodology of ordering archaeological data, which is that of typology, has affected archaeologists' capacity to register and understand normativity and variation in material culture.

2.4.1 A history of typology

The origins of typology as an archaeological method are much entwined with the development of archaeology, from antiquarianism into an academic discipline. In the days that archaeology was still mostly antiquarianism, objects in collections were catalogued in subjective ways, such as by size, finder or find location (Hayden, 1984: 80).[27] During the early years of archaeology as an academic discipline, much emphasis was put on identifying prehistoric peoples, which, researchers thought, could be found when specific objects were recurrently found in association within a spatial unit or territory (Kossinna, 1911: 127; Childe, 1929: v-vi). Within this culture-historical paradigm, typology was both method and result, because when a typology was made, one cultural trait of a cultural unit was defined (*cf.* Krieger, 1944: 272-273). In this sense, there was a good fit between research questions and research methodologies.

In the decades that followed, with the advancement of mathematical methods to support the definition of types, the nature of types became a topic of debate. The question that was raised was if it was at all possible to arrive at historically meaningful types if the right techniques or methods were applied (see *e.g.* Brainerd, 1951). The essence of this debate relates to what the true nature of types is, and whether it was possible for present-day archaeologists to find types that are true to the producers of the objects or whether types remain constructs, useful as heuristic tools but not reflecting prehistoric concepts. In other words, the debate related to the dichotomy between emic types, the indigenous way of classifying objects, and etic types, the scientists' way of classifying them (Harris, 2001: 571, 575).

On occasion, this argument could become quite heated, as the Ford-Spaulding debate has shown (Spaulding, 1953a, 1953b, 1954; Ford, 1954a, 1954b, 1954c). These two archaeologists battled out their divergent visions of the nature of archaeological types on the basis of reviews of each other's work in the journals *American Antiquity* and *American Anthropologist*. Ford saw types mostly as heuristic tools that did not do justice either to the continuum of cultural expressions (*e.g.* house construction or ceramic techniques) or to the variety in the expression of specific elements of cultural behaviour (Ford, 1954b: 390-391). Spaulding had the more positivist vision that reliable methodology leads to 'natural' types, in the sense that if objects consistently showed the same assemblage of attributes, these attributes must reflect cultural rules of the person who made these objects (Spaulding, 1953a: 305, 1954: 392). It has subsequently been argued that, in their different ways, both researchers were right (*cf.* Hayden, 1984: 81; Jones, 1997: 106-107).

In light of the current study, it is interesting to see how variation was considered in these approaches. The topic is often discussed, implicitly and explicitly, in relation to the mean practice of a group. From a culture-historical point of view, chronological variation was the aspect that was studied as a matter of preference. Still, researchers acknowledge that variation exists that is caused by non-chronological aspects, such as regional differences or social stratification (Brainerd, 1951: 307). Ford argues that the type is merely an artificial abstraction that is derived from behaviour that shows variation around an average (Ford, 1954a: 45). Variation may be caused by many factors, and variation may be different between specific manifestations of a culture, but at the same time variation is not endless, as it always centres around the shared mean (Ford, 1954a: 46-47). Variation is thus acknowledged, but is primarily seen as a deviation from the to-be-studied diachronically changing norm, not something that may provide archaeologists with a better understanding of the small-scale interconnectedness of groups.

During the 1970s, a shift can be perceived in the typology debate in the light of the New Archaeology, or processual archaeology. It was no longer the nature of the type that was being debated, but how typologies could be formulated in a better way. Typologies or types should adhere to certain rules of logic that take into account, for example, if the type is based on nominal or continuous data (*e.g.* Read, 1974). Another topic of discussion was what the role of computers should be in distilling of types from archaeological data (*e.g.* Miller, 1972). Most of all, a shift occurred in the way types were perceived and used. Whereas in the early days, composing a typology was almost considered equal to answering the research question of finding archaeological people, now typology had become a methodology that did no longer directly solve the research question (*cf.* Sørensen, 2015: 86-87).

With the renouncement of the positivist approach of processual archaeology, which held that the gathering of enough data would lead to better insight into past societies, the interest in typology decreased even more. The notion that many elements in life can be seen as social constructs of which the meaning can differ between individuals did not help to further the debate of typology (*cf.* Sørensen, 2015: 88). This does not mean that the topic of typology did

27 To a degree, finds are still catalogued in arbitrary ways at the provincial depots in the Netherlands, such as by find location, year of excavation or company. However, entries now also include what objects are excavated.

not receive any attention. However, when it was discussed in the context of post-processual thinking, it was lost in the wider argument. A good example of this is the seminal work *Reading the Past* (Hodder and Hutson, 2003).

Hodder and Hutson discuss the topic of typology on two separate occasions, as part of a wider discussion on how archaeologists can describe similarities and differences in the light of contextual archaeology (Hodder and Hutson, 2003: 180-182, 208). They see two ways forward for the contextual approach, which is either to gather as much information as possible on differences and similarities and start from there, or to acknowledge the subjectivity of types bearing an open mind to alternatives (Hodder and Hutson, 2003: 182). In both cases, typologies are not refuted, only constructed more explicitly with contextual questions in mind. Notwithstanding its valuable contribution to the typology debate, it was probably not the most-cited section of the book.

Similarly, a lack of theoretical involvement in the use of types in Dutch settlement archaeology is visible in recent studies. For example, the application of the social biography to the house by Gerritsen (1999, 2003, 2008) has been appreciated for its intertwining of the life of the house and the lives of the inhabitants, as well as for making special depositions an integral part of house construction (*cf.* Deeben and Theunissen, 2014: 12). Gerritsen's study has given a social dimension to the topic, which had until then been discussed mostly in terms of economics. However, a thorough reading of his description of the archaeological material makes it clear that there is a discrepancy between the theory, on the one hand, and the discussion of the data, on the other hand. Gerritsen's discussion of the archaeological material actually is traditional, as he uses large, monocultural units through time and space that are not adapted to explaining change through time or to the possibility of the inhabitants adapting and adopting ideas, which could have been part of the social biography of the house. This discrepancy between theory and methodology is most felt in the following quote: "Once it was decided to build a new house, there was probably little need to think long about how to build it. Houses were built according to the traditions and principles that were passed from generation to generation. But throughout the centuries building traditions did change considerably" (Gerritsen, 2003: 39). This perspective on typology is regrettable, since a different approach to the data may have led to an even deeper understanding of the social biography of the house.

2.4.2 Typologies of the Fries-Drents plateau

It is not clear how much the typological debate discussed above has directly influenced the archaeologists working on material from the Fries-Drents plateau, as the proposed typologies are almost never accompanied by explicit reasoning or justification of the choices made in the description of types or the selection of defining traits. The culture-historical approach is clearly felt in the ethnic labels that permeate the earlier publications of the Biologisch-Archeologisch Instituut (*e.g.* The Germanic settlement (Dutch: *De Germaansche Nederzetting*) or the Friesian sand dwellers of the right-of-the-Rhine, Germanic territory (German: *der friesischen Geestbevölkerung im rechtsrheinischen, germanischen Gebiet*): Van Giffen, 1937a: 70, 1958: 71). Based on the way the archaeological remains were discussed in later publications, it becomes clear that the Fries-Drents plateau was predominantly considered to be a single, culturally homogenous unit. This can be deduced, for example, from the fact that individual settlement sites within the research area are thought to be exemplary for the entire region (Waterbolk, 1980, 1982: 97; Huijts, 1992).

When critiques are voiced on the house typologies, they mostly relate to different opinions about the dating of the separate types (*e.g.* Lanting and Van der Plicht, 2006: 322-323; Waterbolk, 2007) or the nomenclature of the types (*e.g.* Lanting and Van der Plicht, 2003: 166; Waterbolk, 2009: 39-40). When remarks are made about the functioning of the typology, it mostly relates to the incorrect attribution of individual house plans to types. In the most recent publication of the house typology, *Getimmerd Verleden,* the author does remark that his types have been misunderstood and misused in the past (Waterbolk, 2009: 40). When considerations in setting up a typology are discussed, the focus is on what elements to select and how to date the types (Waterbolk, 2014: 24-27). A discussion of what types actually are is lacking.

In general, synchronic homogeneity and diachronic change are the starting points of the house typology of the Fries-Drents plateau, which makes it predominantly a chrono-typology. As was stated above, individual settlement sites are considered representative for the wider region, and the same is true for individual house plans. In *Getimmerd Verleden,* each house type discussed is accompanied by an illustration of the example on which the type is based (*e.g.* house 3 of Hijken-Hijkerveld is considered typical for the Hijken type: Waterbolk, 2009: 55). This is interesting in light of the current discussion, as it represents an ambiguous position towards the sharing of building traditions or building norms. On the one hand, it means that one house is representative of all other houses of that type and signals that uniformity or normativity is the starting point. However, if this were the case, there would be no need to name one particular house as an example, because all houses are equally exemplary for the type. Therefore, on the other hand, it signals that some houses are more representative of the type than others, which suggests that the extent to which the norms are executed varies. The reason why the specific house plans are selected as an example is not further discussed.

The position that has been taken to variation is similarly ambiguous. In one way, variation is documented and seen in the light of local housebuilding traditions, possibly even influenced by neighbouring regions, suggesting that there is a place for variation as the result of local or small-scale traditions. In addition to this, variation is explained by choices made by the individual household to adapt to local circumstances and subsistence strategies. Every house plan is unique (Waterbolk, 2009: 4, 2014: 22). Within the housebuilding traditions, there is a perceived hierarchy, in which some elements are essential and other elements are of lesser importance or the result of chance or choice (Waterbolk, 2009: 4).[28] Variation is recognised but not further explored. This approach is very reminiscent of the culture-historical discussion on variation, as discussed above.

In another way, the apparent variation is often visually reduced by the addition of construction lines between postholes relating to structural features of the house even when there are no posts to be connected (*e.g.* the conjectured roof-load support posts in the house at Peelo-Es 3: Waterbolk, 2009: 61, fig. 37.b). In a similar vein, a byre section is sometimes added to the plan even if there is no evidence for this in the posthole pattern (*e.g.* the house at Colmschate G 32: Waterbolk, 2009: 65, fig. 40.e). This use of examples and adjusting individual house plans certainly must come from the notion that concepts of house construction are clear and widely shared. The lack of specific posts or features in the house seems to be interpreted as being caused by post-depositional factors, such as poor preservation or poor excavation. The possibility that houses within a type may not display all characteristics is dismissed *a priori*.

Even though variation is acknowledged, the house typology primarily has homogeneity as a conceptual starting point – chiefly the assumption that there existed only one housebuilding concept at a time. Variation is explained throughout the dimension of time. Two factors have been important in this, namely, the long-term perspectives that prevail in research into housebuilding traditions and the position of the Fries-Drents plateau within the wider region of northwestern Europe. For the Fries-Drents plateau, the long-term approach is the result of the hypothesis of continuity of habitation, which is based on the presumed continuity in the distribution of prehistoric remains and historically known territories (Waterbolk, 1980: 208-209, 1995: 30-33).

Long-term continuity in housebuilding traditions was one of the arguments in the debate on continuity of habitation. House types functioned as links in a chain, showing both new developments and continuity, subdividing prehistoric periods into connected and related phases. The emphasis on homogeneity within periods is understandable and probably necessary, as addressing all the contemporary variation would only add complexity to the analysis (Van der Velde, 2011: 195; see also: De Vries, 2017: 174-176). In addition, the Fries-Drents plateau has always been considered only a small part within the northwest European plain, where the longhouse or byre house was the dominant way of house construction (see *e.g.* the seminal work of Trier, 1969). It makes sense to emphasise what is similar, and thus typical, for this region when studying it as part of a bigger whole.

An additional factor in this emphasis on homogeneity may be found in the fact that the Biologisch-Archeologisch Instituut at the University of Groningen, where Van Giffen and Waterbolk worked, was firmly rooted in scientific research, especially biology, which influenced the discussion on archaeological types as well. In a sense, the composition of house typologies is reminiscent of categorisations from the discipline of biology.[29] As is the case with plant or animal taxonomy, with house types there is a sense that houses should be either type A or type B, and that they cannot be a bit of both. As in nature, some degree of variation is allowed, caused by circumstances unique to each house, just as plants within one species are never identical because they adjust or adapt to their surroundings. However, it is debatable to what extent a cultural phenomenon, such as house construction, should by definition be categorised in a system of mutual exclusivity. It can be expected that that specific elements in the construction of a (Roman) Iron Age house may always have co-occurred since they were parts of the one construction, but that does not have to mean that other elements of the house are always constructed in the same way.

The house typologies published before 2000 consist almost solely of successive types (*e.g.* Waterbolk, 1982: 104, 1995: 8-9; Huijts, 1992). The types used are generally named after the first site where they were recognised.[30]

28 This is not always done consistently. For example, the Hijken type is divided into two subtypes: Hijken-Hijken and Hijken-Zwinderen, based on the position of the first pair of posts in the byre section. The pair is placed more inwards, towards the centre of the nave. The inward placed posts can also be found in the Dalen type. In both the Dalen type and the Hijken type, this placement is not always present. However, the Dalen type has not been subdivided based on this characteristic. For a further discussion on this specific element, what I call the 'Zwinderen set', see section 3.3.4.2.

29 This is not just visible in the way house plans are described, but also in how they are depicted. Especially in the earlier publications, house plans were depicted as one big group, taken out of their spatial context. These images are reminiscent of 19th-century illustrations of insects or birds' eggs.

30 I use the word recognised on purpose here, as a 'Hijken-type' house was found at Sleen-Zuidsleen in 1937 (Van Giffen, 1939a), more than 30 years before the first Iron Age house at the type-site of Hijken was excavated.

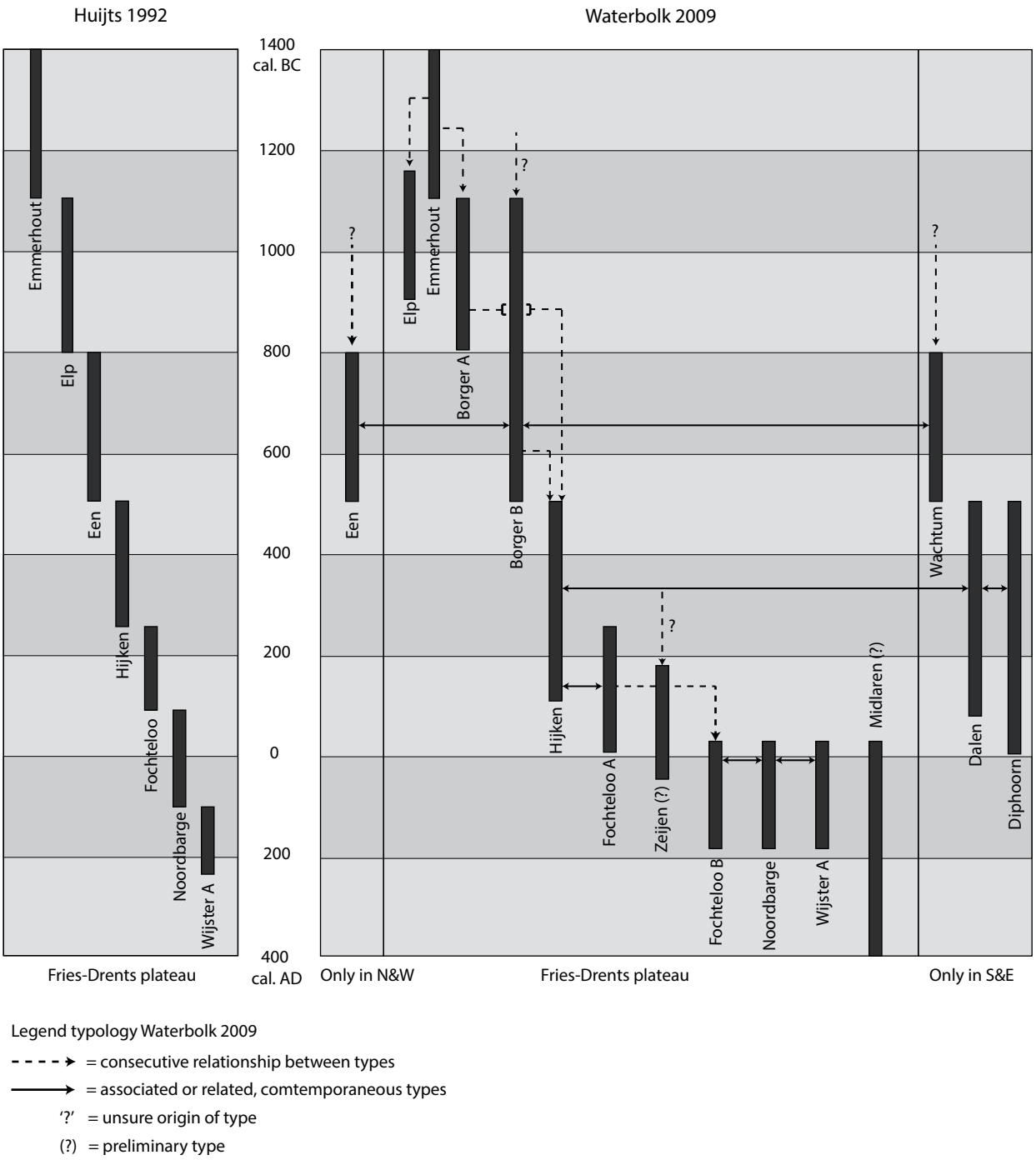


Figure 2.1: Overview of diachronic developments in housebuilding traditions according to Huijts (1992) and Waterbolk (2009: 49-73, 105-107). For the scheme of Waterbolk, the Dutch periodisation is used for the translation of periods (*e.g.* EIA) to centuries (*e.g.* 800-500 BC).* For the scheme of Huijts, the dates as mentioned in the publication are used. *) The Early Roman period types are here extended into the Middle Roman period, because Waterbolk (2009) distinguished only an Earlier and a Later Roman period, in contrast to the generally accepted periodisation of the time (H.T. Waterbolk, pers. comm. 27 September 2018). Since this is not mentioned explicitly in Waterbolk's text, to readers used to working with the tripartite division, it seems like there is a gap during the Middle Roman period.

In essence, this successive and coarse-grained approach to housebuilding traditions fits well with the large-scale and *longue durée* approach to changes in material culture. However, when viewing the debates about dating problems and type names, one gets the feeling that in the process of refining the typology, the aim of the typology was lost. Even though much emphasis was placed on refining the typology over and over again, no questions were raised about whether this particular method was still the right method for the topics that were being studied at that moment. Other researchers have problematised these concepts of homogeneity (Arnoldussen, 2008: 192-198; Van der Velde, 2011: 195, 2014: 99), but in excavation reports, the typologies are still readily used.[31]

What is more, because of the existence of development-led archaeology, the dataset has increased tremendously in the past decades. When more and more house plans were added to the scheme, synchronic variations became more pronounced and thus more problematic. To my mind, the growth of types can be seen as an indicator that the current systems of describing material culture are not always able to cope with large amounts of data being added or with new questions being asked (see fig. 2.1). This means that what is deemed typical for a specific period may instead, in some cases, have been typical for a particular settlement site during that specific period.[32]

Within the full diversity of (Roman) Iron Age practices, some elements have received ample attention, such as housebuilding traditions (Huijts, 1992; Waterbolk, 2009) and pottery production (Waterbolk, 1962, 1977a: 102-104; Taayke, 1996a; Lanting and Van der Plicht, 2006: 278-293). Even though much of the debate relates to types and dates, these elements of prehistoric life have been elaborately discussed. Other aspects of life have received less explicit attention because archaeologists have considered them to be of little chronological value[33] or because these elements have been taken at face value.[34] This does not mean, however, that they have not been categorised at all. Pits, for example, are often divided based on a combination of context and content: hearth, well, refuse pit and, more recently, special or structured depositions (see discussion in chapters 4 and 5), which can be considered functional types.

The lack of explicit discussions on the nature of refuse has prevented refuse to become a fixed concept in the way that house construction has. However, because it has not been discussed explicitly, the definitions that are used differ between researchers and are never fully articulated and questioned. As a result, our understanding of prehistoric life is skewed; some aspects are fully discussed, such as houses, whereas other elements are not, even though they were equally part of prehistoric life. At the moment, it is not clear if refuse pits were actually an integral part of every settlement and if they looked the same throughout the period under study. In recent years, the concept of special depositions has been added to the vocabulary, which is a good thing since it enables archaeologists to separate some of the pits from the whole. However, the term may be used too loosely for pits that look 'odd' at first sight, because it is not known what the average refuse pit looked like or if there was a practice of using refuse pits at all.

I return now to the question that was raised in the introduction about the way traditional typologies have affected archaeologists in registering normativity and variation. Since house typologies on the Fries-Drents plateau were composed for studying large-scale processes in time and space, they have emphasised the homogeneity of objects made in past. As a result, they have left us unable to discuss the nuances that existed between and within types, such as diachronic homogeneity and synchronic variation. This is problematic for the current research, as these subtleties in the archaeological record are the ones that can help us understand how members of a household were part of larger communities in which thoughts were shared and how they were active agents in this world. This relates not only to the way members from the same household constructed their dwellings, but also to the way they used the objects within this domestic space, and especially what happened to these objects after daily use, with some objects ending up as refuse and other objects ending up as something else.

2.4.3 From social theories to archaeological methodologies

Notwithstanding the above critical remarks on the use of typology, I recognise that archaeology cannot exist without some form of categorisation. Even if it were possible to obtain radiocarbon dates relating to each of the house plans in the current research in order to be able to do without typological dating, the discussion of the individual constituent elements of the house or the house type still necessitates the use of types on a lower level (*e.g.* types of wall construction). My earlier critiques on the traditional types should not, however, be confused with a critique of the general concept of types as Theuws (2014: 320-323), for example, seems to do. The plea is thus not to abolish

31 This is reminiscent of other discussions on typology, which emphasise that what we are actually working with today are the developed versions of old, culture-historical typologies (see *e.g.* Sørensen, 2015: 88).

32 For similar remarks on Scandinavian Viking Age longhouses and house typologies, see Beck (2014).

33 In the case of, for example, the shapes of pits (Schinkel, 1994; stellingen 4).

34 Pits with exceptionally large quantities of finds are interpreted as disused, filled-in wells (Harsema, 1974a: 34(168)).

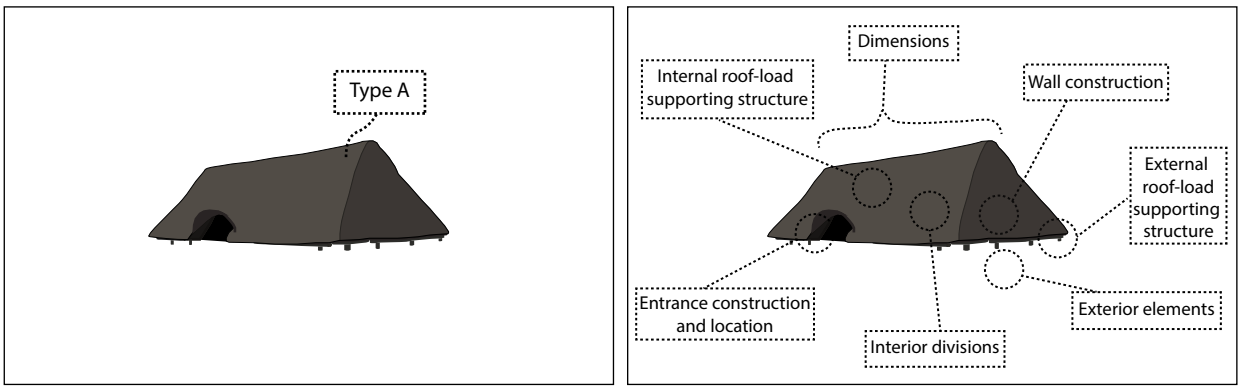


Figure 2.2: Schematic overview of the difference between traditional typology and the current objects-as-composites methodology.

the use of all typologies, but, rather, to consider them as a meaningful tool that needs to be used thoughtfully. It is necessary to be critical about what shape a typology should have in order help answer the specific questions asked. Here I agree with the conclusion of Hayden, "that there is no universal typology" (Hayden, 1984: 82) and with Sørensen, that an explicit discussion of the meaning of types within a theoretical framework can provide valuable insight into past societies (Sørensen, 1997, 2015). In this sense, Waterbolk's house typology is not wrong; rather, it is not suited for answering questions on a smaller social scale and shorter timeframe. To elaborate on the typology-as-tool metaphor, I would argue that it is perfectly fine to use a sledgehammer to knock down a wall, but that this tool may not be very useful when driving a nail into the wall.

It necessary not only to use typologies in a thoughtful way, but also to understand the difficulties in working with house plans. The byre house may seem to be a discrete object and therefore a natural unit of analysis. Often, it is considered a thing that can clearly be separated from other things in the settlement provided that it was not rebuilt or overbuilt multiple times. In essence, it is not. A house plan, which stands in for the archaeological house, is not actually a thing, in the sense of being a clearly demarcated and bounded object. A house plan is the combined traces of an object – that what remains after the actual house is gone – which means that house types are based on the three-dimensional interpretations of features in a plane surface. From this, it follows that there is always an extra interpretative level required when housebuilding traditions are discussed. There is no argument where a vessel begins and ends, but the same does not hold for the house plan. The discussion during excavation and in post-excavation analysis about what features may or may not be part of the house clearly shows that it is not self-evident (Waterbolk, 2009: 40). Two archaeologists may come to two completely different interpretations when studying the same set of features.[35]

As stated above, in traditional typologies, there is a perceived hierarchy in which some elements are more important than others. Especially the roof-load support structure has always been given a prominent place in house typologies (Van Es, 1967; stellingen 1; Waterbolk, 2009: 4). Other aspects of the house, such as the construction of the wall, have traditionally been considered of lesser importance. However, the elements considered of lesser importance may provide a useful entry to the archaeological data in answering the question about the social meaning of normativity and variation in material culture. A restriction may be felt in changing normative elements of the construction, whereas other, less standardised elements may be more open to chance. It may also be that the 'less important' elements are still the result of widely shared practices that may even be shared among traditional types. From a sociological point of view, it is possible for those who build a house to do two things at the same time. They can refer to the wider shared tradition while having the space to adapt to their own needs or to more locally shared practices. It is possible that in some periods, many traits are consistently shared between houses, which makes them easy to recognise, while in other periods this was much less the case. The method should be sensitive to all of that (*cf.* Sørensen, 1997, 2015).

In light of the questions asked here, it is evident that all elements of the house provide information. Thus, the totality of elements as a whole is of interest, and none of the elements should be preferred above another. Following from this, the byre house, or the byre house plan as the archaeological equivalent, as an entity is not the suitable level of investigation. There is a necessity to descend to a lower analytical level, at which objects, be it houses or pottery, are no longer described as bounded types but as

35 *E.g.* in the case of Bronze Age house no. 52 from Angelsloo (Van der Sanden, 2018: 154-155, see figure at the top of p. 154).

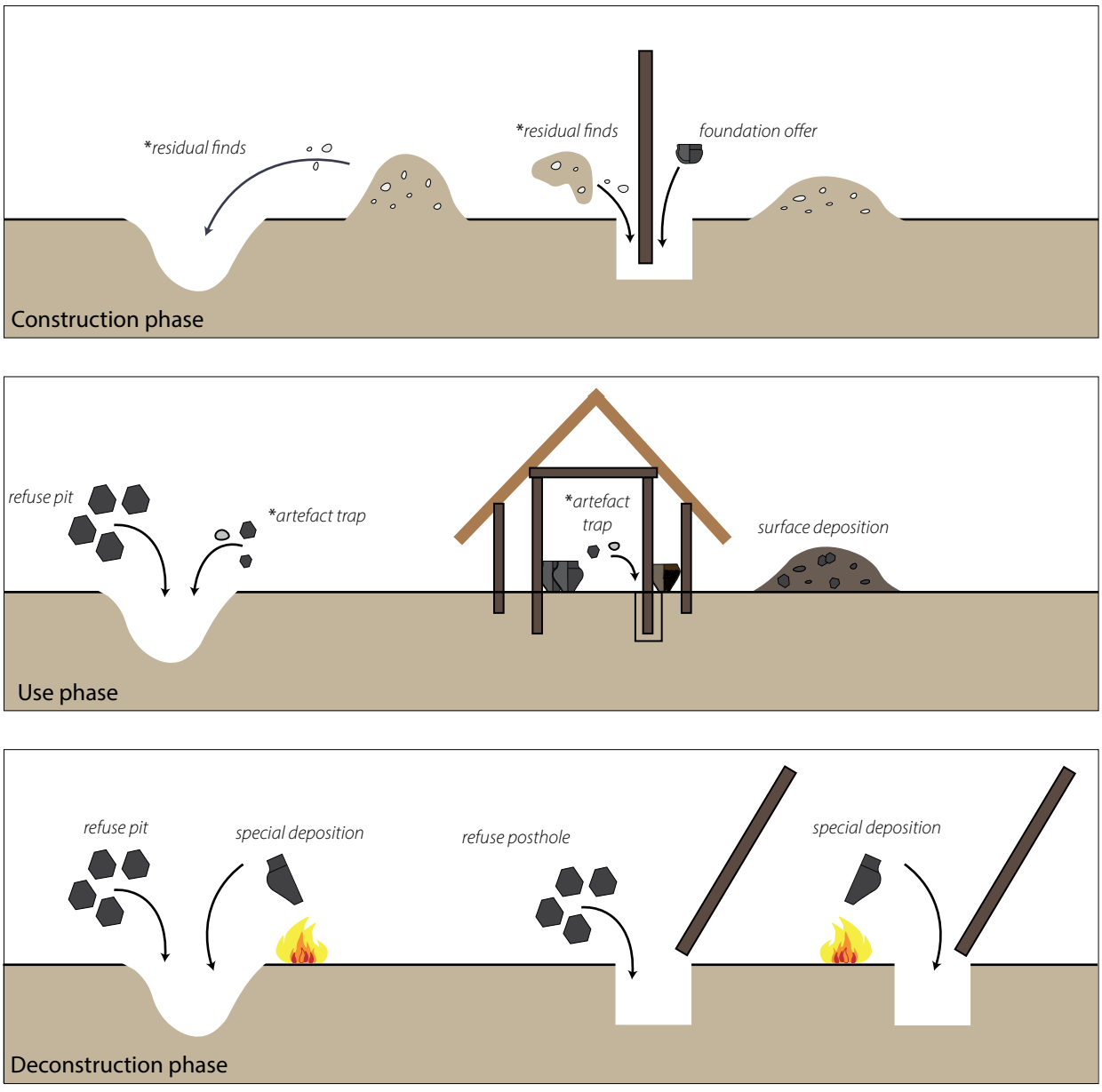


Figure 2.3: Different scenarios of pottery deposition in a settlement context.

clusters of characteristics (fig. 2.2). This methodological solution is far from a new invention, as it was already being proposed in the 1950s, by Ford (1954a: 47), but it has found more acceptance in recent years in order to solve current issues in debates on typology and cultural transmission (Arnoldussen, 2008; Beck, 2014; Jordan, 2015). This approach has the potential to better describe variation at a lower level, so that processes such as gradual change and regional variability can better be investigated.

By approaching the material in such a way, it is possible to use this methodology in cases in which objects are composites to answer two different questions. The first question for which this methodology can be used is how widely shared practices from one period differ from another period. In answering this question, it is possible to see what elements remained unchanged and what elements were altered. The second question for which this methodology can be used is how one period 1 house differs from another period 1 house. In some cases, these differences still may be seen in the light of a change, in which one house resembles the 'old' tradition and the other the 'new' tradition, but it may as well be that

differences are much more nuanced and that they reflect regional building traditions. Some periods and regions may display much variation, while others may not. This can tell us about how connected households were in the practice of housebuilding. When the general patterning of material culture and special deposition practices are studied in similar ways, there are three separate, though still interconnected, datasets to answer the questions that are raised here.

In the sections above, the house type has been discussed at length, mainly because it has always been discussed more explicitly than has refuse deposition behaviour, for example. Still, the proposed method of describing phenomena as clusters of characteristics is certainly not restricted to the byre house alone. It is equally imaginable that refuse disposal is a composite of context (in pits, in now-empty postholes or on the surface), content (what is placed where) and treatment (during and after the period in which the objects are used and refuse is temporarily stored before deposition). For the special depositions, again a composite is imaginable of the context, content and treatment. In this approach, it thus also becomes possible to be more explicit about how the special deposition practices differ from the general, since some elements may be shared, while others may not be (fig. 2.3). This comparison between general deposition practices and special deposition practices is difficult to make if only restrictive labels, such as 'refuse pit' and 'abandonment deposit', are used.

2.4.4 Limitations of the dataset

In addition to being sensitive to theoretical concepts and working with a fitting methodology, it is important to be aware of the limitations of the dataset. A point of concern are the preservation circumstances. As discussed above, the research area is characterised by aeolian sand deposits at the surface (section 1.7), which means that preservation of organic remains is poor in general. The organic component of a feature or assemblage only remains visible when charred. Of the upright timber of longhouses, only discolourations in the soil remain (*e.g.* Waterbolk, 2009: figs 15-22). In addition to this, often 30 to 40 cm of topsoil is removed before reaching an level that that can be 'read'. This means that excavations levels are well below prehistoric floor levels (Waterbolk, 2009: 1-2). If features have not been dug in very deep, they are likely to have escaped from the archaeologists' attention. The study into housebuilding practices is thus the indirect study of the two-dimensional remains of three-dimensional objects. Preservation circumstances also hamper the understanding of the ways people treated their refuse, because most of the organic components of refuse must have dissolved over time. In a similar vein, the special deposition practices can only be studied for their inorganic components. Again, the organic components only remain visible when charred. These are the limitations that this study has to cope with. I address in the separate chapters how I have tried to overcome, or at least minimise, the biases of limitations of the evidence.

In the following three chapters, the topic of normativity and variation in material culture is discussed in three themes: housebuilding traditions (chapter 3), general deposition practices (chapter 4) and special deposition practices (chapter 5). These three themes represent three aspects of settlement life that are separate but still interconnected. The three chapters will provide a better understanding of normativity and variation in material culture with regard to the three individual themes, but together the three chapters also provide insight in how different practices may or may not be in sync with each other.

Chapter 3

Housebuilding traditions on the Fries-Drents plateau

3.1 Introduction

In this chapter, normativity and variation in Iron Age and Roman Iron Age housebuilding traditions on the Fries-Drents plateau are discussed. The aim of the chapter is to see to what extent a deeper understanding of (Roman) Iron Age building traditions can be accomplished – *e.g.* in terms of different paces of change or regional traditions – when not taking just uniformity, but also uniformity and diversity as a starting point. The main question in this chapter is whether this more detailed understanding of normativity and variation in housebuilding traditions provides a solid basis for discerning different social groups on the Fries-Drents plateau.

As has been discussed in the previous chapter, archaeologists have allowed for variation in their reconstruction of house types but have not explored this as a source of information. Often, it becomes evident that the archaeological record is even more varied and complex than typologies allow for (De Vries, 2017: 184-185). Studying both normativity and variation in housebuilding traditions can provide insights into the way in which people were part of larger communities and adhered to shared concepts, while also making adjustments to shared concepts. These adjustments may be significant in the current research not only to the ability to study households on different scales, but also to the improvement of our understanding of how traditions could change. A different perspective on housebuilding traditions is created which allows for a complementary, and thus deeper, understanding of the social aspects of housebuilding traditions.

In order to understand the social implications of normativity and variation in housebuilding traditions, a different approach is used here, in which houses are discussed as composed of an assemblage of characteristics. This is discussed below. After that, I will go into the social context of house building by asking if there is evidence for regional variability or for micro-traditions in dimensions or execution and, finally, whether all periods display the same degree of normativity and variation. Before all this, I will introduce the dataset.

3.2 Dataset

As was discussed earlier (section 1.6), the current study uses four periods: period 1 (800-400 BC); period 2 (400-0 BC); period 3 (AD 0-100) and period 4 (AD 100-300). For this chapter, an inventory was made of house plans from the Fries-Drents plateau thought to date roughly between 800 BC and AD 300. The total number of houses was 227, originating from 41 settlement sites.[36] Of these 227 houses, 155 houses from 36 settlement sites

36 For an overview of all sites including references, see appendix 1.

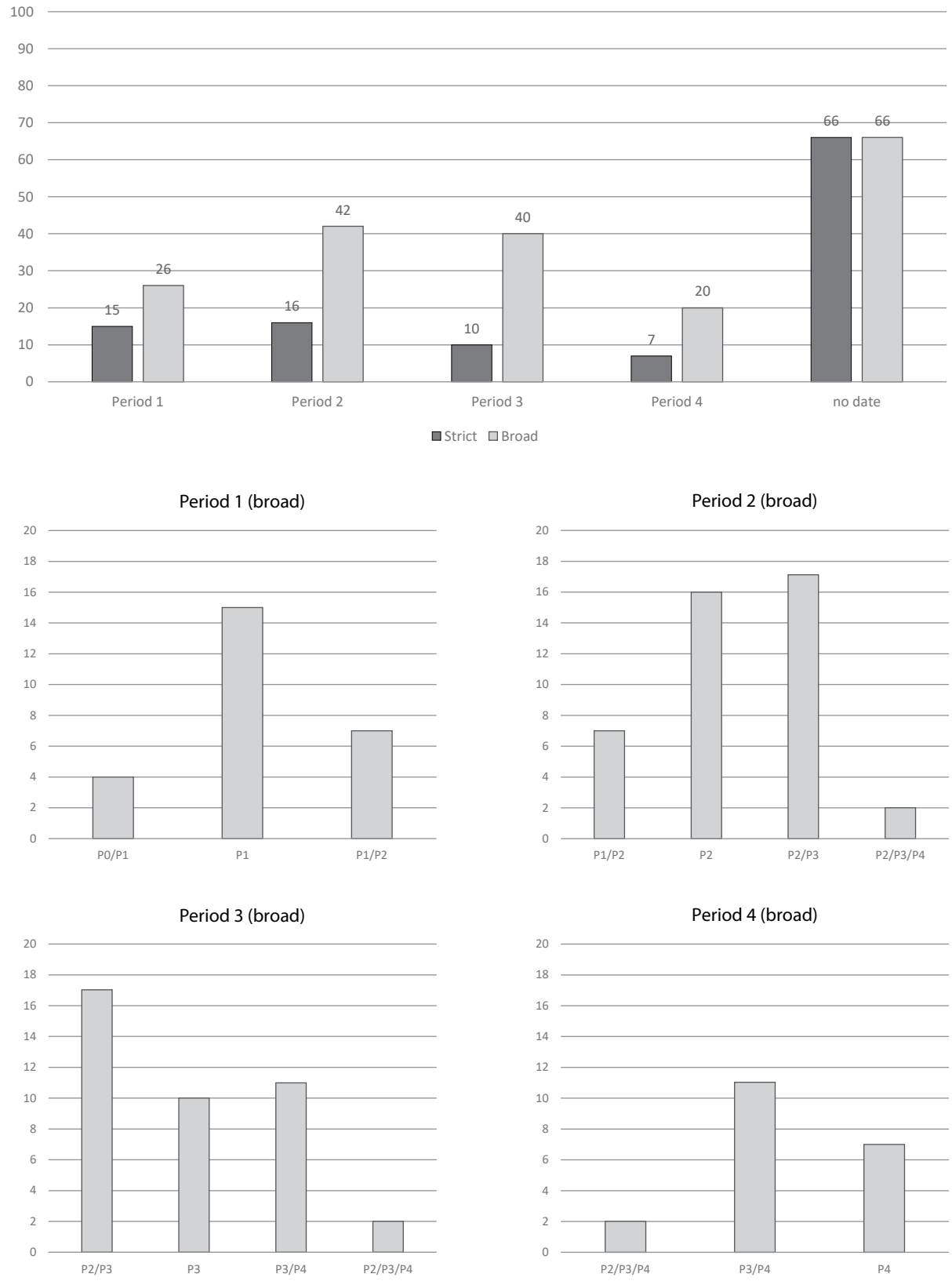


Figure 3.1: Top: number of house plans included per period. Middle and bottom: overview of the composition of the broad dates per period.

were included in the research.[37] After examination of the configuration of their posts, associated finds and radiocarbon dates, 72 houses were excluded, because they turned out to be too old or too young or because they were too poorly preserved for the purposes of this analysis.

Because this research discusses normativity and variation in building traditions, typological arguments could not be used to date the houses, since this would lead to circular reasoning. Therefore, the houses in this chapter have been dated based on associated finds, the vast majority being pottery; based on radiocarbon dates; or, only occasionally, based on an association with other houses or finds.[38] Of the total of 155 houses, 48 (31%) houses could be dated within a single period, 41 (26%) houses have dates that span two or more periods and 66 (43%) houses could not be dated at all (fig. 3.1). These 66 undated houses are included because they fit with the traditional typology and provide extra information on the spatial distribution of characteristics, without interfering with the temporal aspect of the study.

These relatively small groups result from the choice for a smaller dataset of greater accuracy over a bigger dataset of less accuracy. The gain in precision has resulted in a loss in quantity and vice versa. To overcome this, the analyses of this chapter are performed twice: once for the houses that have been dated within a single period (strict group) and once for all houses that are dated to that period (broad group).[39] The broad group comprises the houses from the strict period and houses that have broader dates, for example a house dated to period 1 and 2. The benefit of a double analysis is twofold: (1) the concession between accuracy and quantity is compensated for and (2) there is an extra control on the quality of the patterns visible, because there is the possibility to compare the strict and the broad groups to see whether or not patterns are repeated between the two. With regard to the diachronic aspect of the analyses, only the dated houses are used. As mentioned above, when the spatial patterns are discussed, the undated houses are sometimes incorporated as well to avoid misrepresented distribution maps.

As figure 3.1 shows, there is an unequal distribution of the number of house plans between the different periods. Most houses are attributed to period 2, both for the strict and for the broad group. Some differences exist in the composition of the broad groups. For period 1 (broad), the strictly attributed houses are the largest group. For period 2 (broad) and period 3 (broad), the houses that overlap between these periods (P2/P3) are the largest group. This can be explained by the fact that there is a relatively large group of houses within the dataset that has been dated to the Late Iron Age or Early Roman period (here period 2 and period 3), based on radiocarbon dates and associated pottery finds. As a result, the broad groups of period 2 and 3 may show more overlap in traits than do the other groups, such as the broad groups of period 1 and 2 or period 3 and 4, which share fewer houses between them.

With regard to the spatial distribution of the dataset, figure 3.2 shows that sites were equally distributed across the Fries-Drents plateau during period 1, period 2 and period 3. For period 4, settlement sites were predominantly located in the eastern part of the research area, the Hondsrug complex. However, we have to bear in mind that the distributions in this chapter are based on dated house plans alone. In a number of cases, it is quite likely that sites could have been added to the dataset if there had been clear associations between house plans and associated finds from the site. These particular sites, where there is no information on the direct association between pottery and house plans, have not been incorporated into the distribution maps. This is the case for Wijster-Looveen (Van Es, 1967) for example, where pottery and house plans have not yet been related to each other.[40]

Ironically, the 66 houses that could not be attributed to one of the four periods often have well-preserved house plans that are quite a good fit with the traditional typologies. Some originate from old excavations, such as the above-mentioned sites of Wijster-Looveen (Van Es, 1967) and Peelo-Es (Kooi, 1994a), for which the associations between finds and features are not known. Others were excavated in recent years by commercial firms but were dated based on typological arguments alone. Originally, the group of undated houses was larger, but 12 samples from 10 houses have been radiocarbon dated as

37 Dalen-De Spil, Emmen-De Holdert, Gees and Coevorden-S15 are settlement sites with only one house each, which was not incorporated in the analysis because the house plans were too fragmentary. The houses from Zeijen-II are not included either, because of the lack of details.

38 In this study, 9 houses were incorporated that were rebuilt in the same location. Often, only one of the two overlapping houses has been dated either chronometrically or through associated finds. In these cases, the other house has been dated based on association with its predecessor or successor. It is preferable if houses have been dated based on associated finds from features that part of the house structure. Finds from pits have been used to date houses in those cases where there was a clear association between the pit and the structure, as is the case, for example, at Holsloot-Holingerveld house 1 (Van der Velde *et al.*, 2003) and the houses from Hijken-Hijkerveld (Arnoldussen and De Vries, 2014).

39 See Appendix 2 for an overview of sites and houses per period.

40 In the case of Dalen-De Spil (De Wit, 2003b), Emmen-De Holdert (De Wit, 2014), Gees (Unpublished site, see for reference: Waterbolk, 1989: 289-290, fig. 2), Coevorden-S15 (Beuker, 1980) and Zeijen-II (Van Giffen, 1936b; Waterbolk 1977a: 109-113), house plans have been found, but they are in such a fragmentary state that they also have been excluded from the analysis. Some of these sites consist of one house or the remainder of only poorly preserved houses; therefore these sites have also been excluded from the spatial distribution maps in this chapter, even though house plans were found on-site.

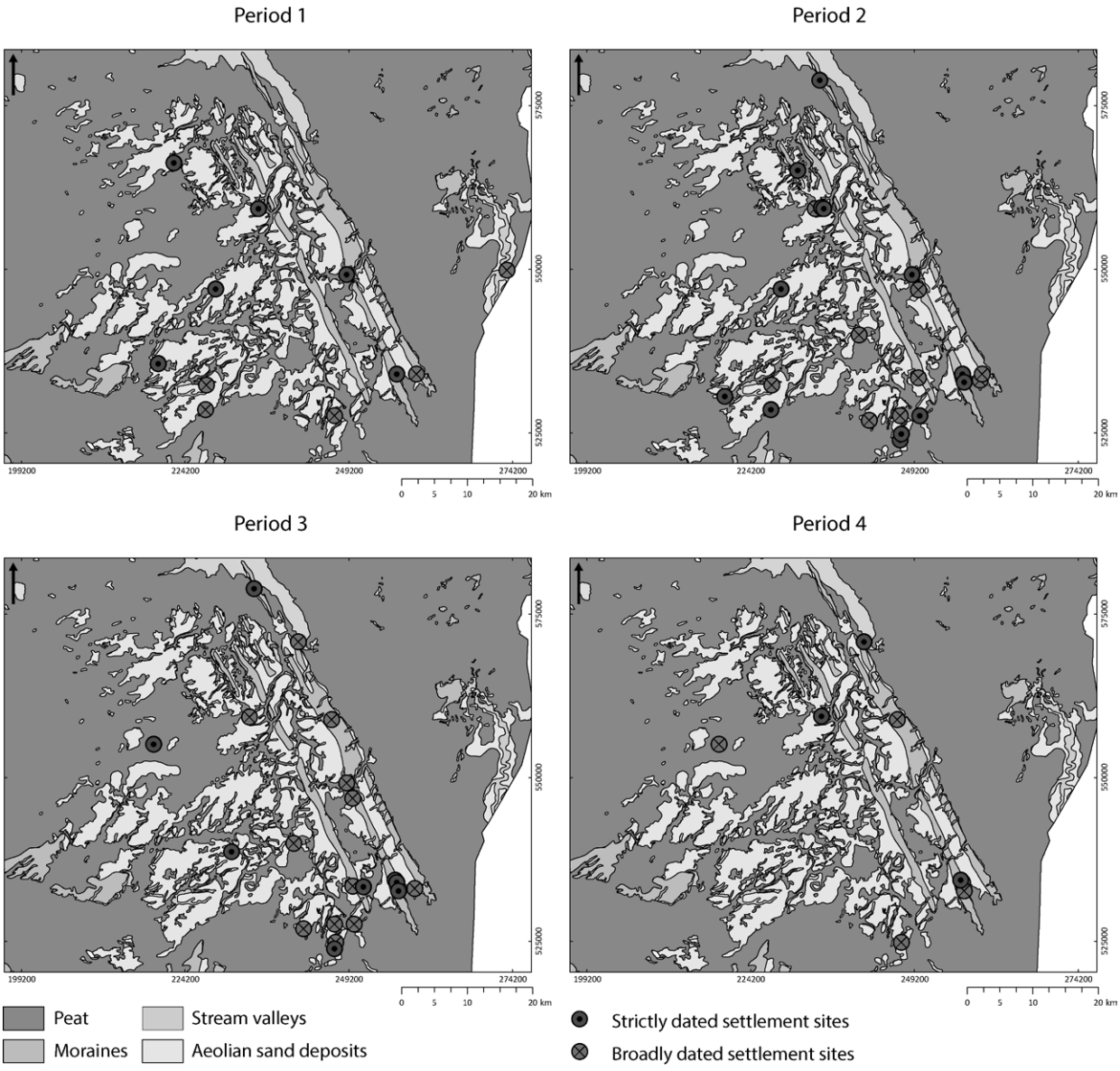


Figure 3.2: Geographic distribution of settlement sites per period plotted on the palaeogeographical map of 500 BC (Vos *et al.*, 2020).

part of this research.[41] The aim of these extra radiocarbon analyses was to increase the number of radiocarbon-dated house plans and provide a more solid baseline for individual characteristics. The samples chosen have provided absolute dates for the house plans that, up to now, had been dated solely on typology simply because they are well preserved and complete (*e.g.* Peelo-Haverland house 58: Kooi, 1995). Because of their complete state, these house plans provide valuable information for this research. However, they are only of use if they can be fitted in the chronology based on arguments other than house typology. Additionally, some samples were radiocarbon dated to confirm older, non-AMS radiocarbon dates of that specific site (*e.g.* Noordbarge-Hoge Loo: Harsema, 1976a; Van Zeist, 1981; Arnoldussen and Albers, 2015) or to check specific types of samples (*e.g.* Peelo-Es houses 3 and 27: Kooi, 1994a). For an overview of all radiocarbon-dated house plans, see Appendix 2.

3.3 Deconstructing (Roman) Iron Age housebuilding traditions

As has been discussed in the previous chapter, there is no such thing as an absolute and true typology. Typologies should always be composed with research questions in mind. In the current chapter, the questions relate to simi-

41 I kindly thank the Stichting Nederlands Museum voor Anthropologie en Praehistorie (SNMAP) for providing the funding for additional radiocarbon dates.

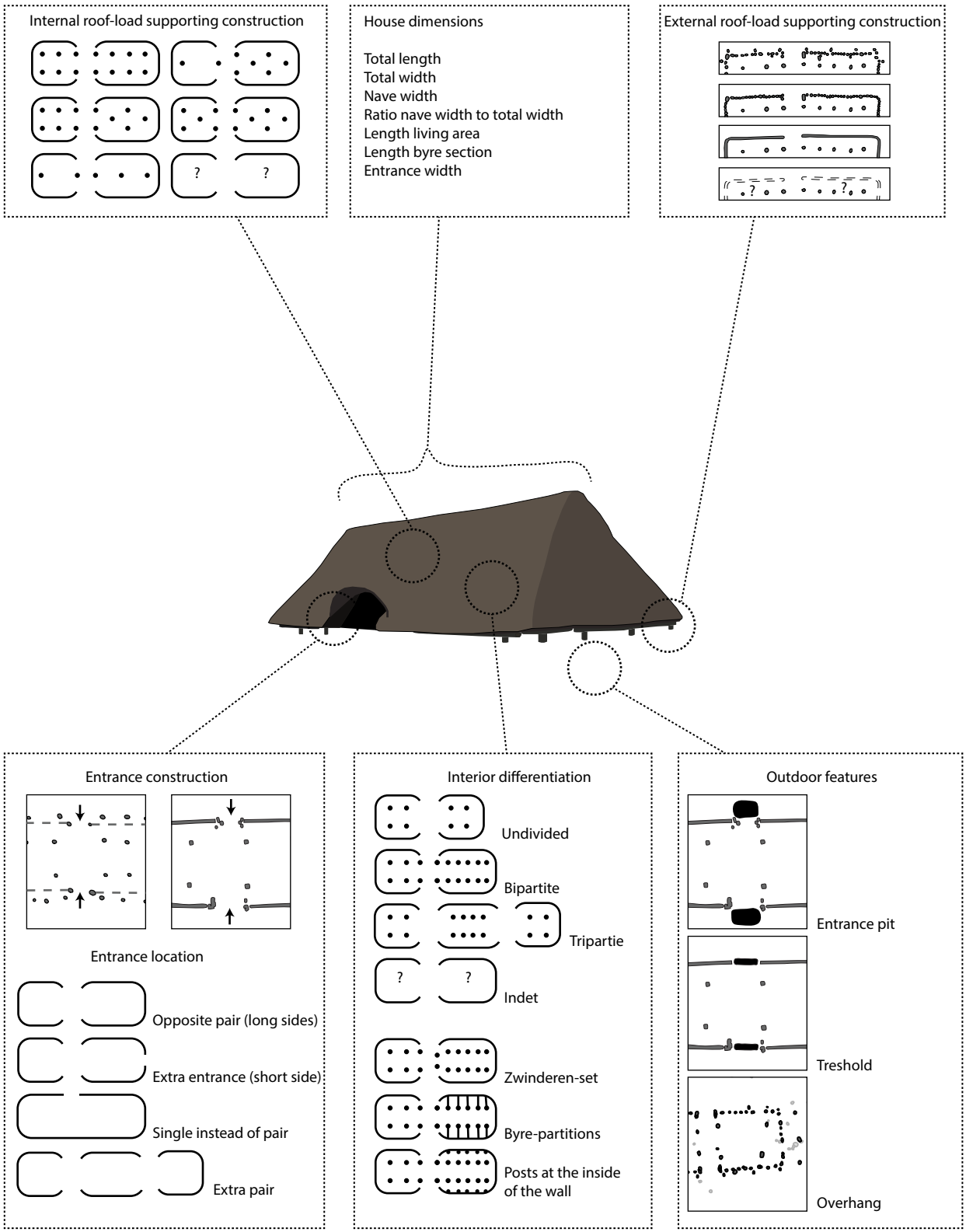


Figure 3.3: Schematic overview of characteristics of the Iron Age and Roman Iron Age houses studied in this chapter.

larities and differences between individual house plans. As a result, the analysis should be performed at a lower level than that at which traditional house typologies normally are composed. They should be performed not at the level of the house but at the level of the individual elements that comprise the house. This requires an approach in which house plans are subdivided into smaller elements or characteristics. As has been mentioned in the previous chapter as well, no one characteristic is deemed more valuable than another. Of course, some of the elements discussed here have been referred to in previous research, but often in a way that is either unsystematic or open to multiple interpretations (see discussion in De Vries, 2017: 176-184). The elements used in this analysis are discussed below (fig. 3.3).

3.3.1 Roof-load support structure

For different reasons, the roof-load support structure is of interest when studying normativity and variation in house-building traditions. The first reason to include the roof-load support structure is the fact that it was probably the very first step in building a house (*cf.* Harsema, 1980b: 36(166)-43(173), figs 7-14). Decisions made at this point must have influenced other aspects of the house, such as total width and total length. During the Iron Age and Roman Iron Age, house construction was based on earth-fast posts. Because of the long length above ground and the weight they needed to support, posts of the roof-load support structure are presumed to have been dug in more deeply than other elements (Huijts, 1992: 21-23). As a result, these posts have the best chances of survival in the archaeological record in case of later ploughing of sites or in case of decreased visibility of the features through pedogenesis (*cf.* Rindel, 2001: 79, fig. 8). This is particularly of importance for the present research area, where excavation levels are always below the prehistoric floor levels (Waterbolk, 2009: 1-2).

The second reason why the roof-load support structure is of concern here is the place of the Fries-Drents plateau within the wider tradition of the northwest European longhouse. As first proposed by Trier (1969, Tafel 2), northwestern Europe can be divided into two different traditions, two-aisled construction and three-aisled construction – although single-aisled and four-aisled constructions are also observed. The Netherlands is located at the divide between the two construction types. The southern Netherlands is traditionally considered to be part of the two-aisled tradition (Schinkel, 1998; Gerritsen, 2003) that is also found farther to the south, in Belgium (De Clercq, 2009), and the northern Netherlands is considered to be part of the three-aisled tradition (Huijts, 1992; Waterbolk, 2009) that is also found in Scandinavia (Webley, 2008; Beck, 2017a; Laursen and Holst, 2017).

However, the divide is not as strict as it seems. Within the Netherlands, there is a transitional zone in which two- and three-aisled houses co-occur, covering most of the provinces of Gelderland and Overijssel (Van der Velde, 2011: 199, fig. 6.7). In the research area, three-aisled structures are clearly dominant, but two-aisled structures are found as well (*e.g.* Dalen-Thijakkers: Harsema, 1987: 110-113). A similar transitional zone where two- and three-aisled structures co-occur can be found in northwestern Germany, across the border from the Dutch provinces of Overijssel and Drenthe (Fries, 2010, 2013; Donat, 2018: 95-133). Choosing a two-aisled or three-aisled roof-load support structure may reflect more than the preferred technology for keeping the roof up; it can be seen as an expression of affiliation to a larger social entity. Still, there are many subtleties to this choice that will be discussed below.

3.3.1.1 Internal roof-load support structure

On the scale of the house, the division between two-aisled and three-aisled can be somewhat obscured, as both two- and three-aisled constructions can be found within a single house (*i.e.* one part fully three-aisled, the other fully two-aisled). The actual construction above ground of the two- and three-aisled house plans was probably similar (Huijts, 1992: 83-85), which may be the reason that it is possible to find both construction techniques within the same structure. Even so, the consequences of choosing one over the other are noticeable in the way the interior space is divided into two or three longitudinal spaces. In addition, the choice between a two-aisled or three-aisled construction may have influenced earlier stages of the building process, for example the gathering of construction wood or the stabilising of the unfinished structure. In other words, even though the actual aboveground roof-load support structure may not have been different, the building process and the finished interior were. Studying roof-load support structure could thus shed light on the dispersal of these two different traditions, as well as on their possible mixing.

A comparison of roof-load support structures (fig. 3.4) shows that the three-aisled roof-load support structure is the most common for all periods in both the strict group and the broad group. The fully three-aisled houses can be found across the Fries-Drents plateau (see fig. 3.5-A). Still, most periods also show alternatives to the three-aisled constructions. For period 1, examples of houses with combined construction can be found at Peelo-Kleuvenveld (houses 107 and 109: Kooi, 1996b: 433-434, fig. 8 & fig. 9). For period 2, examples of not fully three-aisled houses can be found, for example, at Peelo-Haverland (house 52: Kooi, 1995: 175, fig. 8) and Hijken-Hijkerveld (house 18: Arnoldussen and De Vries, 2014: 99, fig. 11). During period 3, partially three-aisled houses were built, for example, at Diphoorn (Van Giffen, 1936a) and Groningen-Helpermaar (house 2: Huis in 't Veld, 2010: 29-31). For period 4, the site of Midlaren-De Bloemert shows multiple examples of constructions that are not fully three-aisled (House 7 and 8: Nicolay and Waterbolk, 2008: 96-112, fig. 6.3). This alternative to the three-aisled house can be found across the research area (see fig. 3.5-B).

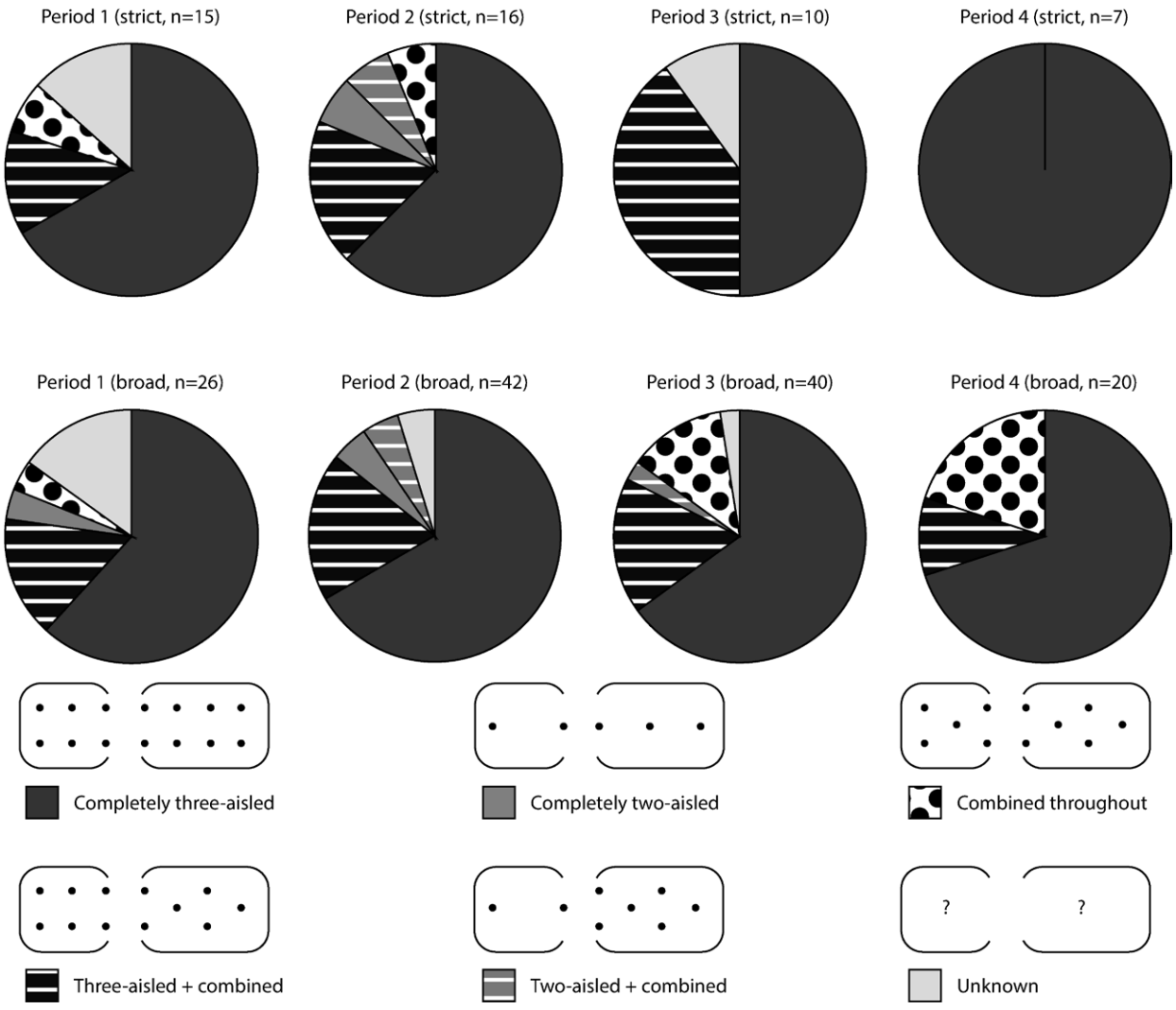


Figure 3.4: Proportion of different types of internal roof-load support structures per period for the strict group (top row) and the broad group (second row), and schematic overview of the different types. In cases where a roof-load support structure is partially combined, only one of the two options is given. Note that the combined construction can occur in both the living area and the byre section.

A true alternative construction to the three-aisled construction can be dated to period 2: the two-aisled structure or partially two-aisled structure (fig. 3.4). Only a limited number of sites contain houses that are strictly two-aisled, and they are restricted to the southeastern parts of the research area (see fig. 3.5-C).[42] At first glance, almost all of the two-aisled houses seem to have a combined construction, because of the recurring set of two posts located in the central part of the house. However, this set of posts does not seem to be part of the roof-load support structure. For example, in the house at Dalen-Thijakkers (house 1: Harsema, 1987: 112, fig. 5), these two posts appear less substantial in diameter and are more likely to have been used to close off part of the house.[43]

42 In the first months of 2020, an area was excavated adjacent to the excavations of Borger-Daalkampen II (2007 & 2008). Here, two-aisled structures were encountered. This means that the distribution of the two-aisled houses should be reconstructed further north. Because the report is not published yet [writing February 2021], this excavation could not be included in the dataset. A short evaluation report is available (Hielkema, 2020). I kindly thank Janneke Hielkema for inviting me on site and giving me the chance to see these wonderful house plans in 'real life'.

43 Unfortunately, no sections have been recorded, so the depth is unknown. At Ede-Park Reehorst, a similar two-aisled structure with a set of post has been found (Structure 10: Norde, 2019: 109, fig. 7.21). The set of post was indeed dug in less deeply than the other central posts (I kindly thank Eric Norde for providing this information, pers. comm. 7 October 2019). Within the Fries-Drents plateau, similar constructions can be found in three-aisled houses, for which there is evidence that these posts were dug in less deeply. See discussion below of this element in three-aisled houses (the so-called Zwinderen-set, see section 3.3.4.2).

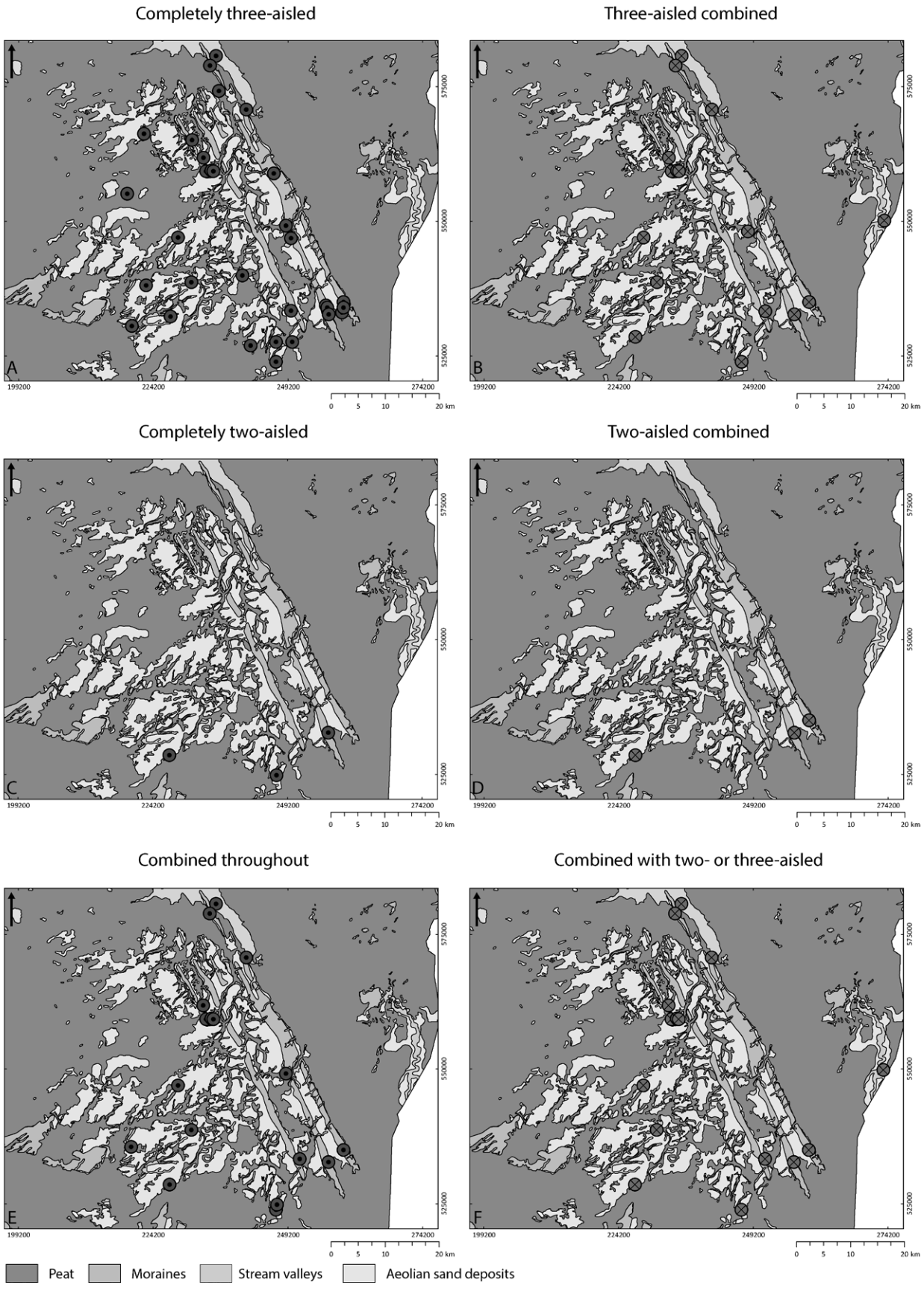


Figure 3.5: Geographic distribution of settlement sites per type of roof-load support structure for all periods combined as well as the undated houses plotted on the palaeogeographical map of 500 BC (Vos *et al.*, 2020).

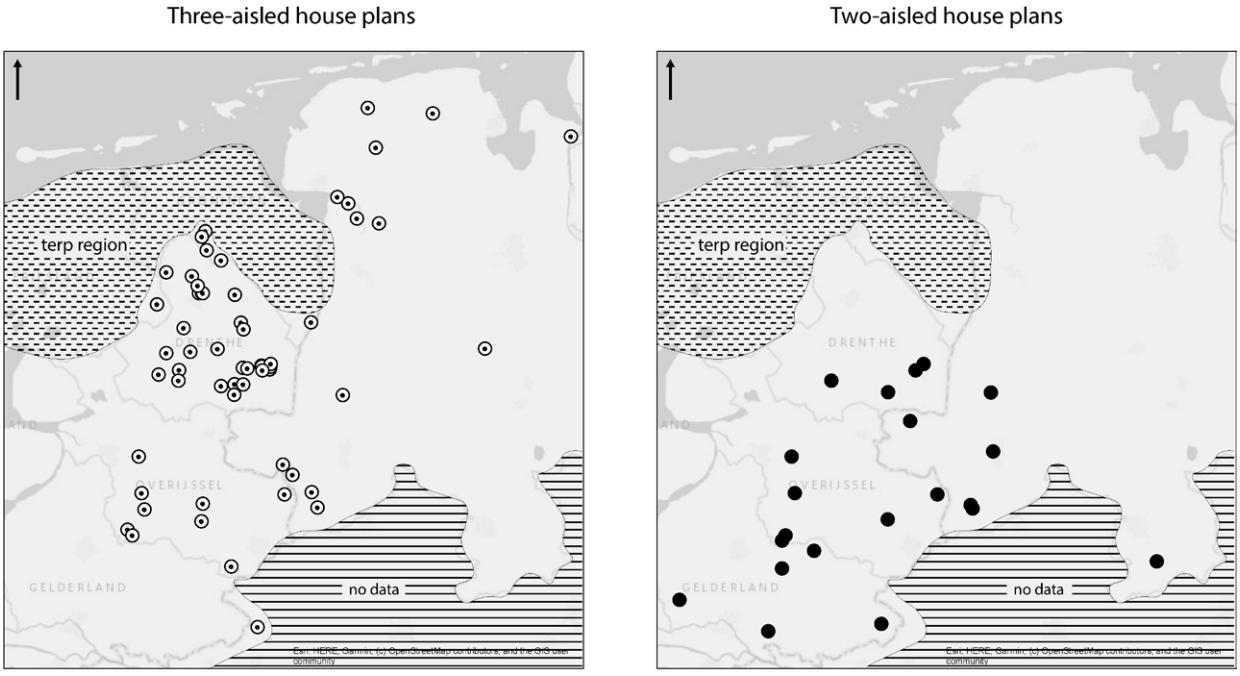


Figure 3.6: Distribution of fully and partially three-aisled houses (left) and of fully and partially two-aisled houses (right) on the Fries-Drents plateau and adjacent regions in the Netherlands and Germany. Data for Overijssel are based on Van der Velde (2011: 199, fig. 6.7). Data for northwestern Germany are based on Fries (2013: 5, fig. 4). Background: Esri, HERE, Garmin; Copyright Open StreetMap contributors, and GIS user community.

Examples from Fluitenberg-Zevenberg (structure 2: Schrijer and De Neef, 2008: 39-40, fig. 17) and Noordbarge-Hoge Loo (house 33: Arnoldussen and Albers, 2015: 161, fig. 8) may appear partially four-aisled, but are actually two-aisled with the addition of two rows of extra posts that were dug in less deeply and which should not be considered part of the roof-load support structure (Schrijer and De Neef, 2008: 39-40, especially fig. 17C).[44]

As with the three-aisled construction, there are variations on the fully two-aisled construction, in which part of the house has a combined construction. This variation can be found in periods 2 and 3. In period 2, this two-aisled and combined construction has been uncovered, for example, at Fluitenberg-Zevenberg (Structure 1: Schrijer and De Neef, 2008: 38-39, 44, fig. 16). A two-aisled house at Noordbarge-Hoge Loo can be dated in period 2 or period 3 (house 33: Arnoldussen and Albers, 2015: 161 fig. 8). Similarly to the fully two-aisled houses, the partially two-aisled houses are restricted to the southeastern part of the research area (fig. 3.5-D). The region in which these two-aisled houses were constructed extends towards the south, to the province of Overijssel and Gelderland and to the east, to Germany (fig. 3.6). In the adjacent regions, three-aisled houses are also found, which means that this area can be considered a wide transitional zone between the 'northern', three-aisled tradition and the 'southern', two-aisled tradition (Van der Velde, 2011: 199, fig. 6.7; Fries, 2013: 5, fig. 4). The southern parts of the Fries-Drents plateau may be part of the same transitional zone. If the two-aisled structures were constructed under the influence of contacts to the south of the plateau, as is suggested by the distribution of this type of structure (fig. 3.6), the question is how far these contacts reached geographically. The two-aisled and partially two-aisled constructions are mostly found at the southern borders of the plateau, suggesting interaction took place on only a limited scale. However, some house plans that have been interpreted here as having a mixed construction show similarities to other houses to the south as well. This is the case for house 25 in Borger-Daalkampen II 2007 (De Wit *et al.*, 2009b: 40, 42, fig. 2.32.). Even though the house plan is fragmentary, the construction in the western part of the house stands out because of two clear central posts as well as posts that would fit a three-aisled construction (fig. 3.7). This is reminiscent of houses plans found in the province of Overijssel, for example, at Epse-Noord (house 11: Hermsen *et al.*, 2016: 77-81, fig. 3.35).

Since the spatial distributions overlap between the full construction and the partial construction, both for the three-aisled and two-aisled house, it seems more likely that the

44 Ample examples of partitioning walls and extra rows of post can be found to the south, for example at the site of Ede-Park Reehorst, for example in structure 5, structure 10, structure 15 and structure 51 (Hendriksen, 2019: 335-383).

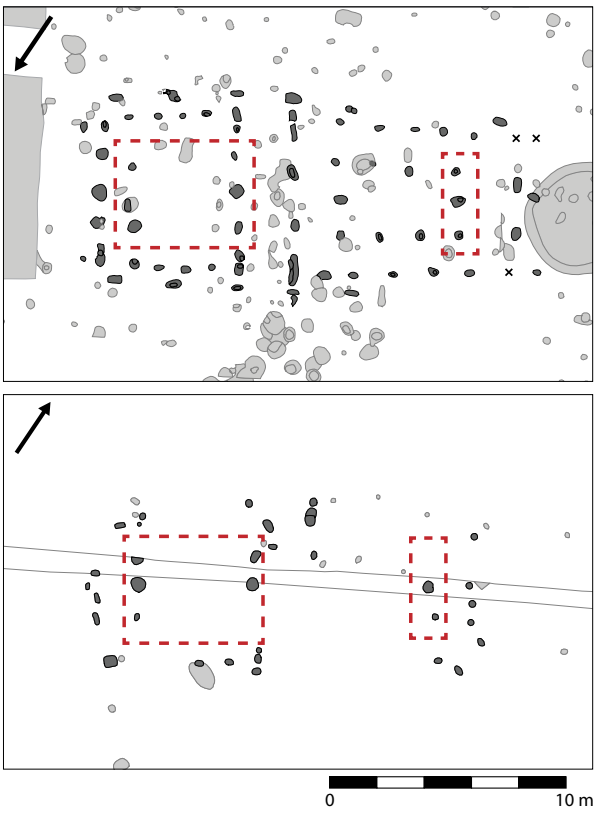


Figure 3.7: Comparison between house 11 at Epse-Noord, dating to period 2/3 (top), and house 25 at Borger-Daalkampen II 2007 (De Wit *et al.*, 2009a), which is undated (bottom). House plans are to the same scale. Drawing of house 11 at Epse-Noord adapted from Hermsen *et al.* (2016: 79, fig 3.35). Drawing of house 25 at Borger-Daalkampen II by the author, based on primary data.

combined constructions are ad hoc solutions to house-specific steps in the construction than a different tradition of house construction. In addition to the partial constructions, there is a third group of houses, with a combined structure throughout. Based on the broad dates, these houses date from all four periods (fig. 3.4). Based on the subset with only strict dates, they occur only in period 1 and period 2. The distribution of these houses with a fully combined construction covers the entire research area (fig. 3.5-E). Examples of these fully combined houses can be found at Dalen-Thijakkers (Harsema, 1987: 113, fig. 6) and at Westeinde-Noormansveld (Arnoldussen and De Vries, 2017: 83, fig.4). The spatial distribution of the fully combined houses does not differ from the distribution of the three-aisled houses but does also overlap with the distribution of the two-aisled houses. These houses are found at sites were 'regular' two-aisled and three-aisled houses have been found as well. They may be seen as the extreme versions of the partially two-aisled and partially three-aisled houses in which ad hoc solutions were made in all parts of the house.

For all periods on the Fries-Drents plateau, the three-aisled construction was the standard or normative way to build a house (fig. 3.4). However, different periods show different degrees and different types of variations on this three-aisled norm. In the strict group, an increase in variation is visible towards period 3, after which the fully three-aisled construction becomes dominant, although the numbers are low for period 4 (n=7). If variation is expressed in terms of the percentage of different house constructions, period 3 is the most varied, whereas if variation is expressed in terms of the number of alternative constructions present at any one period, period 2 is the most varied. These patterns are strongest in the strictly dated group, as the broad group is roughly equally varied in terms of percentage and types of alternatives per time period. Period 4 still shows the least variation, in terms of both percentages and the number of alternative constructions in the broad group.

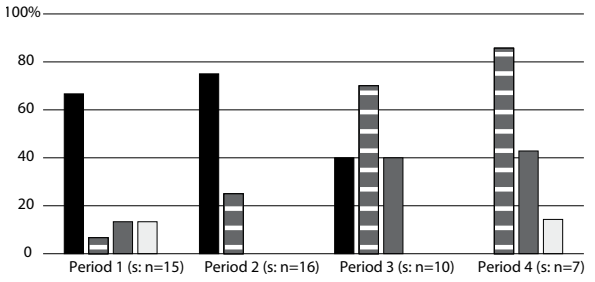
For all periods, the three-aisled construction was the most widely shared way to build a house. Variation is evident in the choice between three-aisled and two-aisled, but also within these two traditions between a full construction and a partial construction, to different degrees. Modifications can be seen in one part or throughout the house. The way in which people made local adaptations to the large-scale traditions is actually not that different between the two- and three-aisled constructions. Two-aisled structures become more like three-aisled structures, and vice versa. As a result, it is possible to say that there is a similarity in the variation of the two housebuilding traditions.

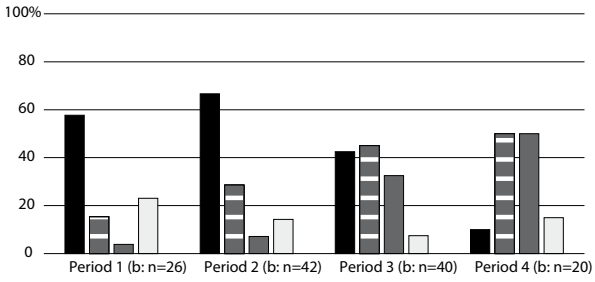
3.3.1.2 Exterior roof-load support structure

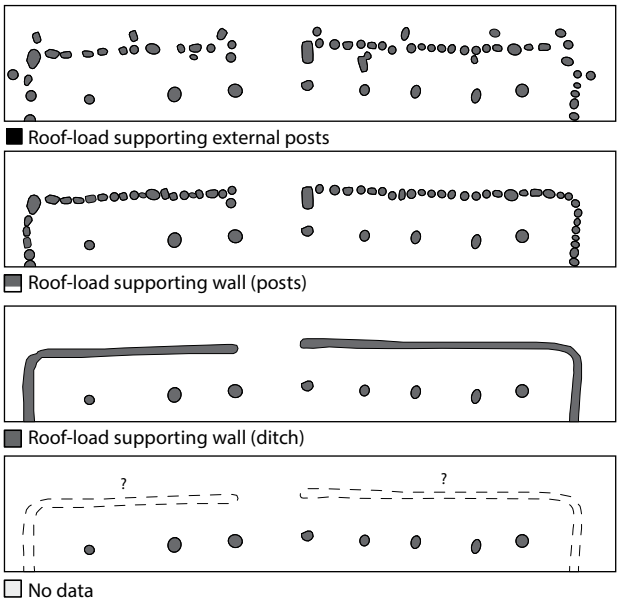
In addition to the interior roof-load support structure discussed above, part of the roof was supported by external elements, such as external roof-load supporting posts or roof-load supporting walls. For the Early Iron Age house type, these posts are thought to have supported individual rafters, in a tent-like fashion (Huijts, 1992: 69-71), whereas for the Middle Iron Age, an eaves-supporting beam is envisioned that supported the eaves as a whole (Huijts, 1992: 79-81). At the transition from the Middle to

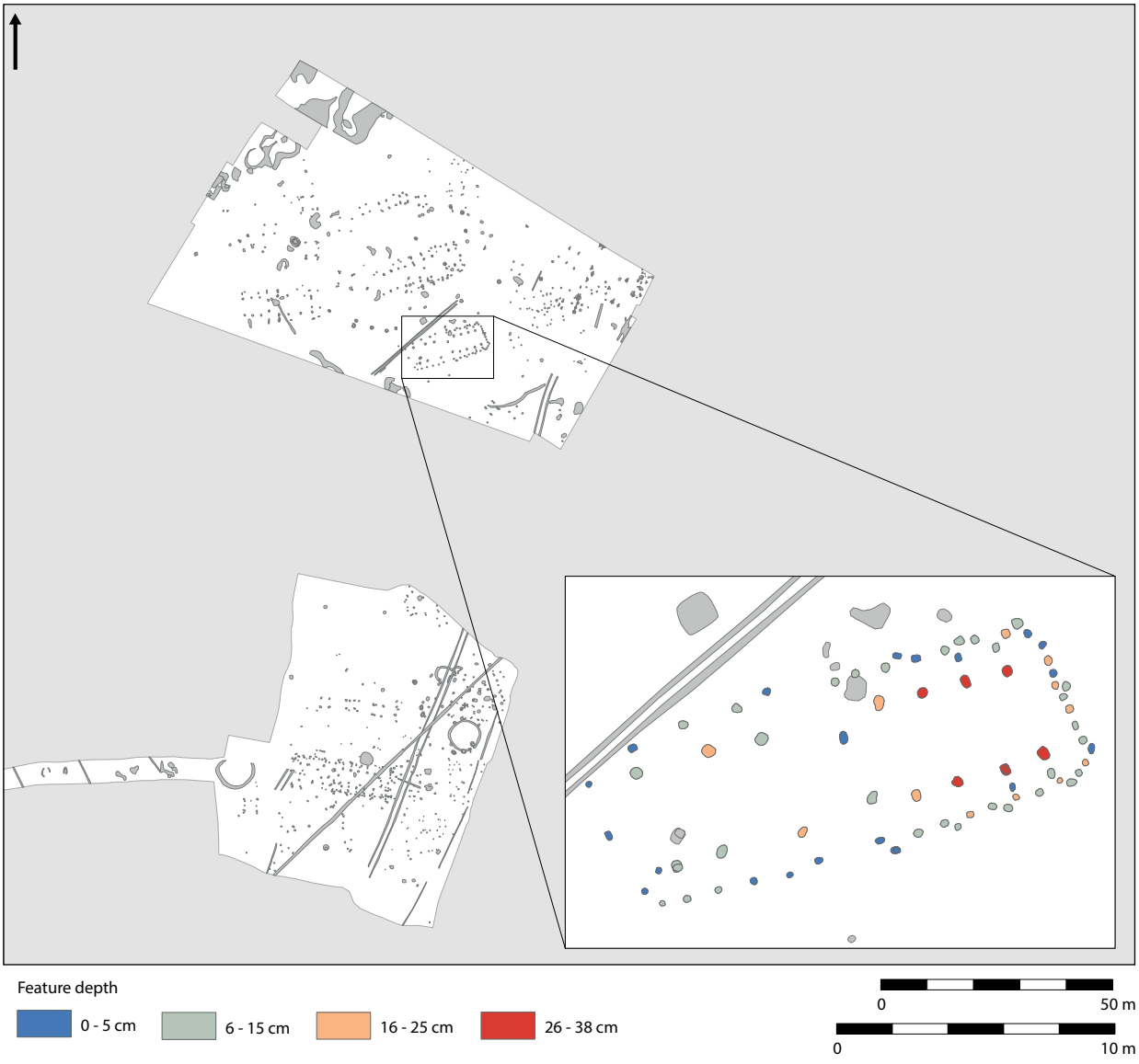
Figure 3.8: Left: proportion of different types of external roof-load supporting elements per period for the strict group (above) and the broad group (below). Right: sample plans of the different types of external construction.

Figure 3.9: Feature depth for house 4 at Holsloot-Holingerveld (Van der Velde *et al.*, 2003). Map drawn by the author based on primary excavation data provided by ADC ArcheoProjecten. Map of excavation to upper scale bar, house plan to lower scale bar.


100%
80
60
40
20
0
Period 1 (s: n=15)
Period 2 (s: n=16)
Period 3 (s: n=10)
Period 4 (s: n=7)


100%
80
60
40
20
0
Period 1 (b: n=26)
Period 2 (b: n=42)
Period 3 (b: n=40)
Period 4 (b: n=20)


Roof-load supporting external posts
Roof-load supporting wall (posts)
Roof-load supporting wall (ditch)
?
?
No data


Feature depth
0 - 5 cm
6 - 15 cm
16 - 25 cm
26 - 38 cm
0
50 m
0
10 m

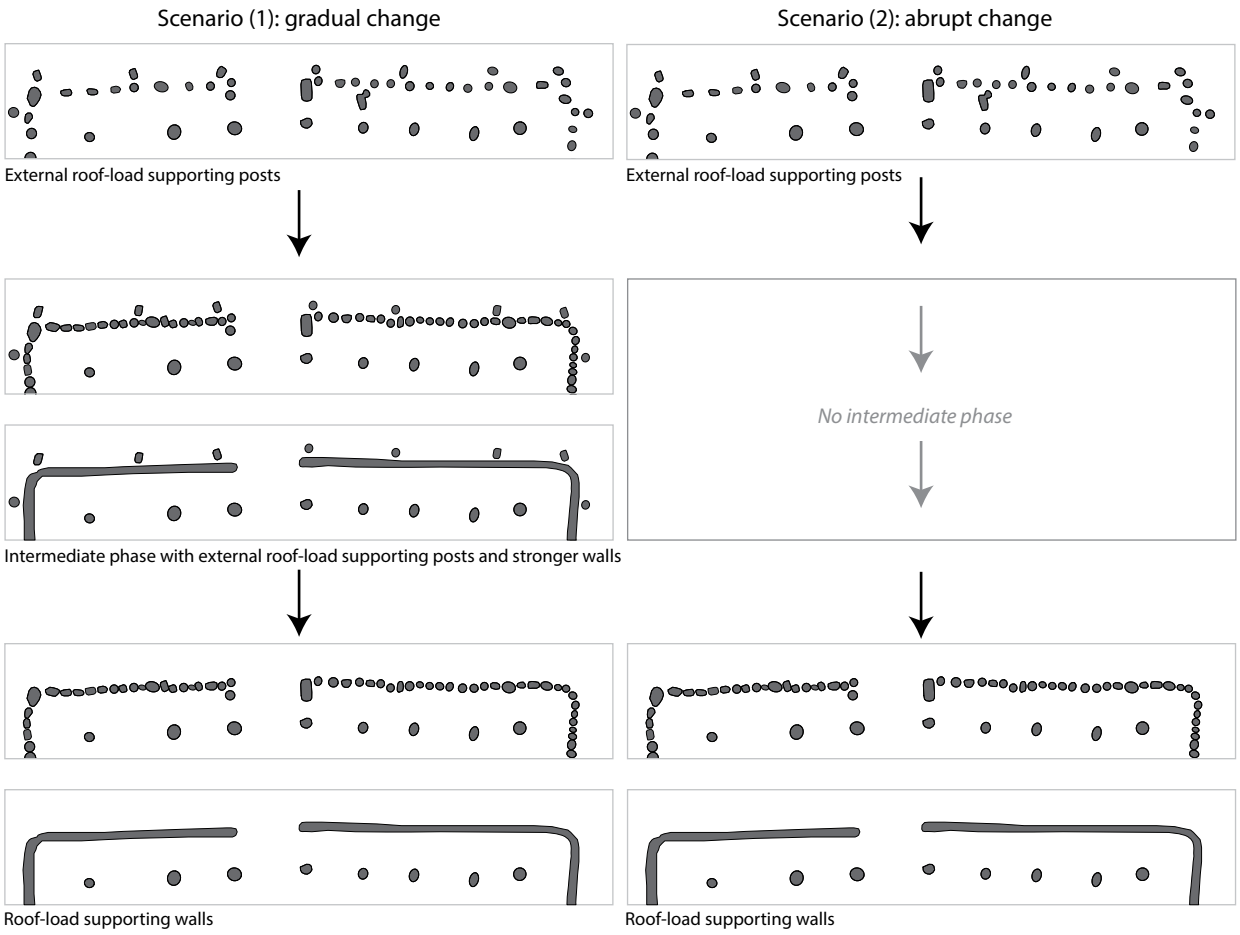


Figure 3.10: Different scenarios of change in external roof-load support structure. Scenario (1) entails a gradual change, in which walls first become stronger, while the roof-load is still supported by posts outside the walls. Scenario (2) entails an abrupt change, in which the roof-load support is changed from the posts outside the wall to the wall itself.

the Late Iron Age (during period 2 in this study), a major development is proposed especially with regard to the external roof-load supporting elements. This development entails a shift from a roof-load support structure that is partially supported outside the wall to a construction in which the roof-load is partially supported by the wall itself (Huijts, 1992: 91, 93; Waterbolk, 2009: 68).

As figure 3.8 indicates, clear changes in external roof-load support are visible that confirm a transition from roof-load supporting posts outside the wall to a roof-load supporting wall. During period 1 and period 2 (both strict and broad groups), there is a clear preference for roof-load supporting posts that stand outside the walls of the house. This preference gradually decreases and disappears (or at least strongly decreases) after period 3. This change seems more gradual than sudden. Evidence for roof-load supporting walls is found as early as period 1, for example at Hijken-Hijkerveld (house 22: Arnoldussen and De Vries, 2014: 94, fig. 8). In some cases, the external roof-load supporting posts stand so close to the wall that it seems likely that the wall and the posts each must have supported part of the roof-load. In these cases, there is little to no difference between the depth of the wall posts and the depth of the external roof-load supporting posts. Figure 3.9 shows an example of this from Holsloot-Holingerveld (house 4: Van der Velde *et al.*, 2003).

Figure 3.8 points towards a structural change in house-building construction: the replacement of roof-load supporting posts outside the wall by a roof-load supporting wall. The question that follows is how this change took place, either as (1) a gradual or phased change, whereby the walls were gradually being constructed in a more durable way, first with the addition of external roof-load supporting posts, or (2) as an abrupt change in which the external roof-load supporting posts with only a feeble wall were replaced by a strong, roof-load supporting wall (see fig. 3.10 for the two scenarios). To understand this transition, an analysis is needed in which houses with a similar

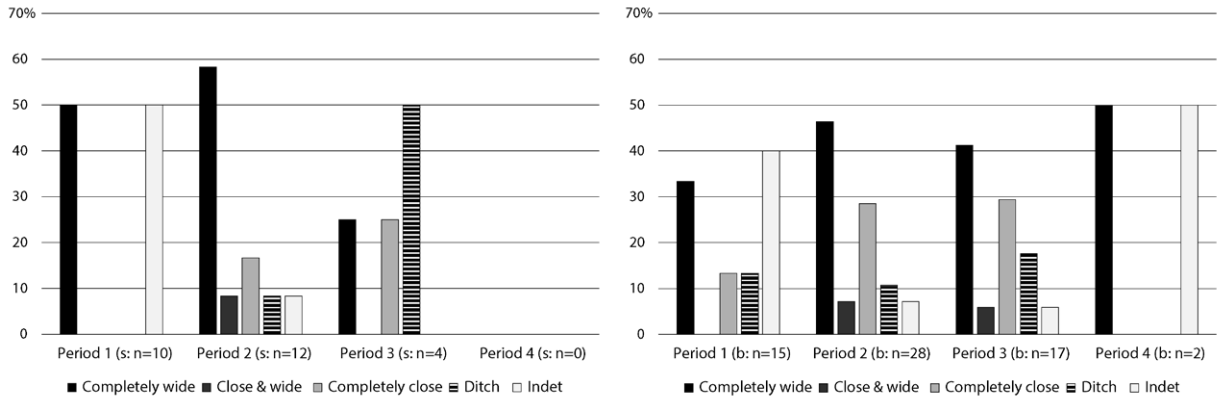


Figure 3.11: Percentages of recognised types of wall construction in houses with exterior roof-load supporting posts per period for the strict group (s; left) and the broad group (b; right).

construction can be compared with each other. This means that an analysis is performed on a lower level than the traditional typologies normally used to describe houses, since houses can be similar (*i.e.* with external roof-load supporting posts) and different (*i.e.* different types of wall construction) at the same time.

In order to understand this transition from external roof-load supporting posts to roof-load supporting walls, the construction of the wall was recorded for houses that have external roof-load supporting posts (fig. 3.11). Wall constructions are categorised as follows: post-built walls with widely spaced posts (gaps between wall posts larger than the diameter of the posts) versus post-built walls with closely spaced posts (gaps between wall posts smaller than the diameter of the posts) and wall trenches. Since house plans regularly have different wall constructions for different parts of the house, there is also the option of two different types of post-built walls.

For this transition, especially periods 2 and 3 are of interest (see fig. 3.8), as they show the most variation in the way the roof-load is supported externally. By comparison, wall constructions of the early period 1 and later period 4 are included in the analysis as well. Most walls in period 1 and period 2 were constructed with the use of widely spaced wall posts in all parts of the house (fig. 3.11). For period 2, more houses already have a wall consisting of closely spaced wall posts. Additionally, in contrast to period 1, period 2 has far fewer unknown wall constructions (listed as 'Indet'). This means either that in period 2 wall posts were dug down, whereas they were not dug down at all in period 1, or that wall posts were dug in more deeply than before. Both explanations suggest stronger walls than before. Between period 2 and period 3, there is an increase in the use of walls that consist of closely spaced posts (strict group) and wall trenches (both strict and broad groups). In period 4, external roof-load supporting posts are not in use anymore, which explains the low numbers and zero values in period 4.

The analysis of the wall construction, in combination with the presence of external roof-load supporting elements, suggest that this was a phased development (scenario 1). A second feature worth analysing in this change are the roof-load supporting posts outside the wall. These elements are mentioned as being typical for the Middle to Late Iron Age house types (Waterbolk, 2009: 55), but this does not mean that they are all alike. Indeed, the distance between the posts outside the wall and the walls themselves varies, from clearly separated by almost half a metre (*e.g.* Ruinen-Oldhave Bos, measurements between centre of the features, Zwinderen-Kleine Esch house 1, Hijken-Hijkerveld house 18) to posts that are almost part of the wall (*e.g.* Emmen-Noordbargeres house 8, Emmen-Noordbargeres Parkeerplaats house 2, Noordbarge-Hoge Loo house 13). This may be seen as another way in which walls gradually became stronger (see fig. 3.12).[45]

When we consider figures 3.8 and 3.11 in combination, period 3 stands out for the contemporaneous occurrences of different types of wall construction and external roof-load construction. This is of interest because there are seemingly two types of variations occurring within this period. On the one hand, there is the diachronic variation, the change from external roof-load supporting posts to roof-load supporting walls, which may not have occurred synchronously across the plateau. On the other hand, there is the possibility of synchronic variation. When a house was built, there was the choice in the way the roof-load supporting wall was constructed, with the use of either earth-fast posts or walls/wall posts placed in a trench. As figure 3.13 indicates, the older

45 This change in the position of the external roof-load support posts towards the walls is also observed for the houses in the transitional zone in the province of Gelderland (Scholte Lubberink *et al.*, 2015: 70-72).

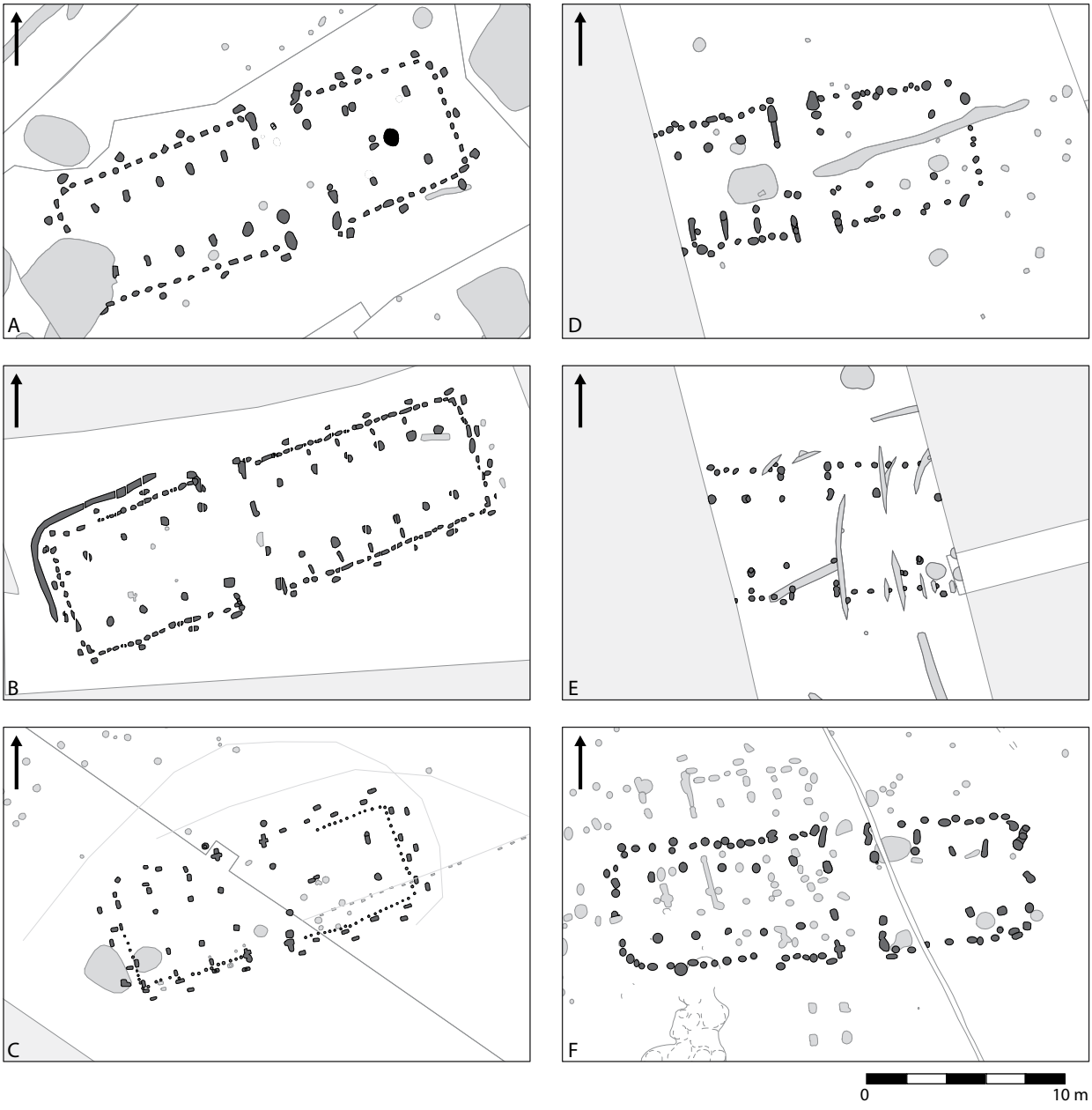


Figure 3.12: Overview of different distances between the wall and roof-load supporting posts outside the wall. Houses A-C show a clear gap, whereas houses D-F do not. A: Ruinen-Oldhave Bos house 1 (Koopstra and Lenting, 2016); B: Zwinderen-Kleine Esch house 1 (Van der Velde *et al.*, 1999); C: Hijken-Hijkerveld house 18 (Arnoldussen and De Vries, 2014); D: Emmen-Noordbargeres house 8 (De Wit, 2015a); E: Emmen-Noordbargeres Parkeerplaats house 2 (De Wit, 2018a); F: Noordbarge-Hoge Loo house 13 (Arnoldussen and Albers, 2015). All houses to the same scale and in the same orientation. All images are drawn by the author based on primary data. Dark grey: features of the structure. Medium grey: excavated features not belonging to the structure. Light grey: unexcavated areas.

construction of external roof-load supporting posts can be found throughout the research area, but most abundantly in the south. The newer construction of roof-load supporting walls was found across the plateau, the post-built walls more frequently than walls with wall trenches, but without any regional preferences for one of the two construction types. This suggests that the inhabitants of the southern parts of the region either were more reluctant to adopt new construction techniques or had little access to people who were already building these types of houses. The way in which roof-load supporting walls were constructed seems to have been a matter of household-level preference.

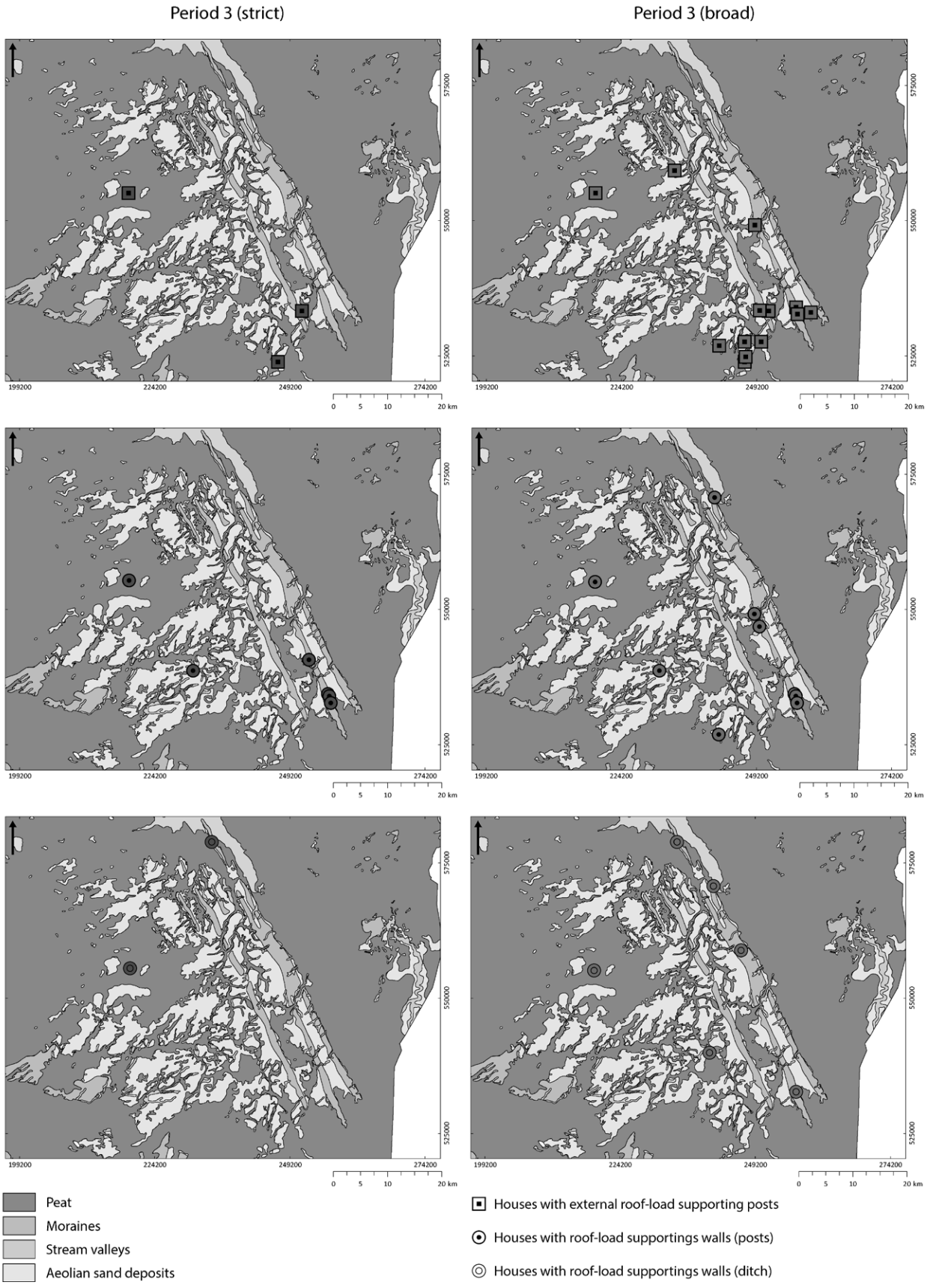


Figure 3.13: Geographic distribution of settlement sites per type of external roof-load supporting construction for period 3 plotted on the palaeogeographical map of 500 BC (Vos *et al.*, 2020).

3.3.2 House dimensions

To a degree, the dimensions of a house follow naturally from its roof-load support structure and roof shape. In the case of the three-aisled house, the width between pairs of posts equals the span of the house and, together with the pitch of the roof, this influences the total width of the house. The number of pairs of posts determines the total length. Variations in the roof-load support structure will have led to variations in house dimensions, as there are differences in length, width and span for the houses in the dataset within and between periods (see below).

First, from a social perspective, house dimensions have been used to infer social stratification.[46] Larger houses often have been attributed to the leaders of a community (for the Iron Age: Harsema, 2005: 554; for the Roman period: Nicolay, 2010: 120; for the correlation between power and energy-expenditure in house architecture, see Steadman, 2015: 223-227), and some authors have even made tentative connections between exceptional houses and exceptional graves (Reinders and Waterbolk, 2011: 101; Van der Sanden, 2018: 180-181; 193). For the Fries-Drents plateau, especially the combination of exceptional dimensions and a deviating layout of the house or the farmstead has been used as an argument for a site with the presence of chieftain, referred to with the German term *Herrensitz* (lord's seat). Most examples of a *Herrensitz*, though, date to the latest period of this research or later (*e.g.* Peelo-Haverland: Kooi *et al.*, 1987; Wijster: Waterbolk, 2009: 181-182, fig. 146; Midlaren-De Bloemert: Nicolay, 2010: 121, 2020: 157-160). Since not all sites were a chieftain's residence, it seems likely that social stratification was expressed in contemporaneous variation, both at the level of the settlement site and at the level of the research area.

Second, house dimensions have also been used to make inferences about the social structure of the society at large. For example, at the transition of the Bronze Age to the Iron Age, the general decrease in house size has been explained as reflecting the change from extended to nuclear family units (Fokkens, 1997: 364-367, 2002: 138-142). In this explanatory model, contemporaneous houses are similar, but differences are visible over time; hence all variation in house dimension should be visible on the temporal axis, and less so at a regional or site level as it relates to society-wide changes.

Third, house dimensions (and changes therein) are used as a proxy for subsistence (and changes therein); small houses, especially those without a clear byre section, are associated with arable farming (*e.g.* Kooi, 1996b: 463). An increase in house length, especially as the result of the construction of larger byres, is associated with an increase in the importance of animal husbandry (Van der Velde, 2011: 197-198, fig. 6.6). The increase in house length, as result of the enlargement of the living area and the addition of a working area, can point towards functional differentiation within the house, but also to an increase in the size of farm (Hiddink, 1999: 93-100). This particular type of variation can both be diachronic and synchronic. Van der Velde (2011: 197-198, fig. 6.6) proposes that the longer byres are a Late Iron Age-Early Roman period phenomenon, suggesting diachronic variation. Still, it has to be established whether the increase in byre length was a region-wide trend, marking diachronic variation, or a phenomenon specific to particular regions within the study area, as a regionally restricted occurrence of longer byres means that variation could be synchronic as well.

In all these examples, house dimensions are not informative on their own. Dimensions should be compared with those of other houses, both from the same period and from different periods. Because of the focus on the range of diversity, quantitative data are displayed in box plots and in jitter plots. Box plots are a common way to depict a dataset with the use of quartiles. This type of graph is well known and easy to read but is more suitable for datasets with a normal distribution. Archaeological datasets, however, do not necessarily have a normal distribution, and the present dataset is no exception. The jitter plots were added to visualise how the data are actually distributed. The dataset was plotted per period for both the strict group and broad group. Both the box plots and the jitter plots were made with the use of PAST 3.2.[47]

As figure 3.14 indicates, average house dimensions did change in the course of the Iron Age and Roman Iron Age, but not very dramatically. With regard to house length (fig. 3.14; upper graphs), there is a slight increase in absolute length and an evident increase in diversity between period 1 and period 3 and a steep increase between period 3 and period 4. This dramatic increase is actually only visible in the strict group, and it is caused by a very small group of houses in period 4 (n=2) that are quite long (> 25 m). The analyses of the broad group show a more gradual increase.

With regard to house length, period 1 (both strict and broad) comprises the shortest houses and is the most uniform of all groups. This corresponds with Waterbolk's observations for his Early Iron Age house types Een and Wachtum, which he calls relatively short and wide (Waterbolk, 2009: 54-55). What is striking in terms of house length in the strict group is the variability of group 3, seen

46 And these have been labelled accordingly, as is the case, for example, for the so-called Hauptlings-Hof from Fochteloo (Van Giffen, 1958: 53-58).

47 PAST is free software for scientific data analysis, with functions for data manipulation, plotting, univariate and multivariate statistics, ecological analysis, time series and spatial analysis, morphometrics and stratigraphy. See https://folk.uio.no/ohammer/past/. For reference to the software, see Hammer *et al.* (2001).

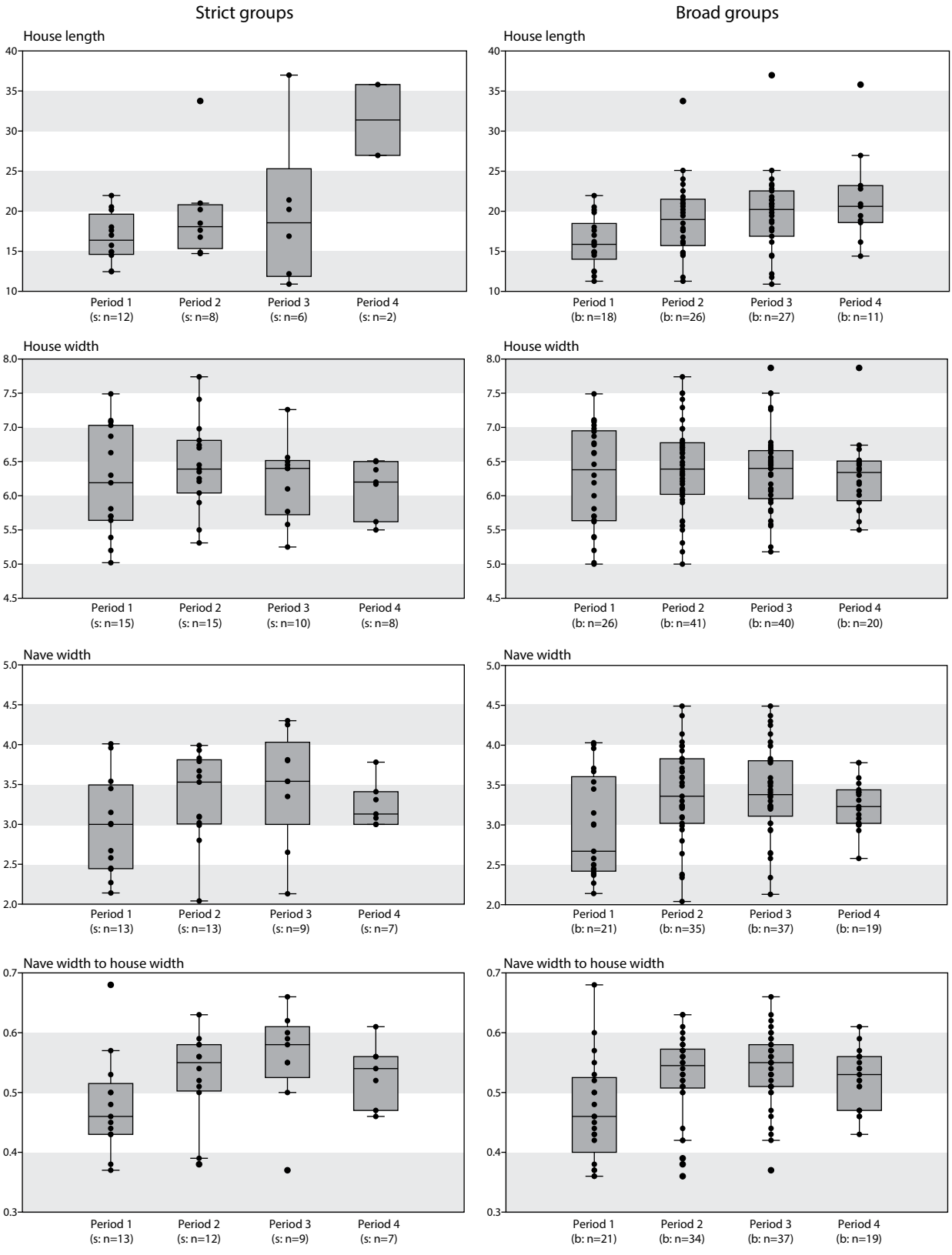


Figure 3.14: Boxplots and jitter plots for house length, house width, nave width and the ratio nave width-house width per period in the strict group (left) and the broad group (right) (m). Nave width to house width is the ratio between the two measurements.

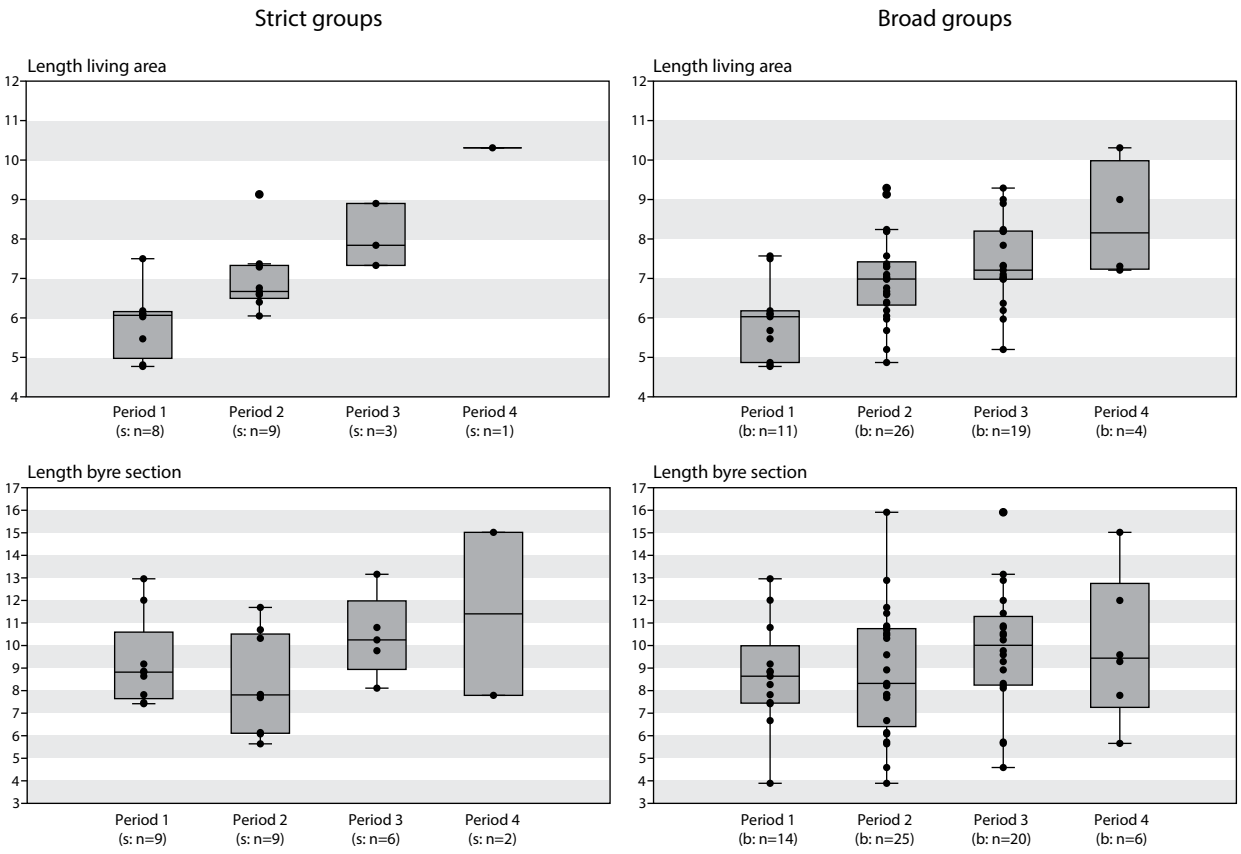


Figure 3.15: Length (m) of the living area (top) and the length of the byre section (bottom) per period for the strict (s; left) and the broad (b; right) groups.

in the boxplots as the largest interquartile range (*i.e.* the mid-spread or the middle 50% of the measurements). Even though group 1 may consist of the smallest houses in relative terms, group 3 (strict) comprises the smallest houses in absolute terms. In addition to this, the largest houses that can be strictly dated to a period date to period 3 as well. As the asymmetrical patterning in the boxplots indicates, the distribution of length in period 2 and period 3 does not have a normal distribution. In general, the outliers are found at the high end of the scale, which means that houses are occasionally longer than average but seldom much shorter than average. This indicates that there may have been a perceived appropriate or functional minimum length for the longhouse.

What caused these changes in the dimensions of the house? As was discussed earlier, the increase in house length at the end of the Iron Age and start of the Roman period (period 2 and period 3) has been explained by an increase mainly in the length of the byre section (Van der Velde, 2011: 197-198, fig. 6.6). Even though caution is needed for this functional interpretation (see discussion section 3.3.4.1), there is often a distinction in the placement of the posts that can be used to differentiate between the two parts of the house. The living area and byre section are used here as analytical labels. For all four periods (broad and strict groups), the length of these two elements of the longhouse has been measured and displayed in figure 3.15.

The increase in byre length between period 2 and period 3 as observed by Van der Velde (2011, 197-198, fig. 6.6; see discussion above) is visible in this dataset as well, both in the strict group and in the broad group. If changes in byre length are analysed for the entire period of research, byre sections actually slightly decrease in length between period 1 and period 2, before increasing from period 2 onwards. In the strict group, the length of the byre continues to increase after period 3, but in the broad group, it decreases. This difference is caused by the fact that the only two houses for which total length is known are exceptionally long. The length of the byre section changed over time, but it is the increase in the length of the living area that is more pronounced. This trend is visible in both the strict group and the broad group. What stands out is the fact that the size of the living area is much more uniform (as seen in the small interquartile ranges) than the size of the byre section, which means that the byre was much more open to adjustments in size to suit personal, local or functional preferences than was the living area.

The increase in house length is not matched by a similar increase in house width. As figure 3.14 indicates, there is an increase in house width between period 1 and period 2. After period 2, house width decreases again, even though house length continues to increase. This trend is most evident in the strict group, but not disputed by data from the broad group. For period 1, two groups seem to exist: one group that clusters at the upper quartile, which is higher than the upper quartile of period 2, and one group that clusters at the lower quartile, which is lower than the lower quartile of period 2. From this, it follows that for part of the houses from period 1, Waterbolk's observation is correct (Waterbolk, 2009: 54-55): they are short (shorter than later houses) and wide (wider than later houses). However, the second group is smaller in width compared with houses from later periods. In another way, this observation indicates that house width was not very restricted in period 1, but became more restricted towards period 4. This is the opposite of the trends in house length, in both the strict and the broad group.

House length and house width together determine the floor surface area of a house, the increase in both elements could result in a larger floor space within the boundaries of the walls. However, the effective floor space is influenced by a third factor, which is the width of the nave and the resulting open space in the central part of the house. Widening or lengthening the entire house creates more space, but widening only the nave may have had the same effect. In order to see if nave width is a characteristic that changed through time, as is suggested in the literature (*e.g.* Waterbolk, 2009: 55), this was also measured. As two-aisled houses do not have a nave, only three-aisled houses were incorporated in this part of the analysis.

As figure 3.14 shows, an increase in nave width is evident between period 1 and period 2. Both in the strict and in the broad groups, period 1 shows the most variation in nave width, as the interquartile range is largest. Period 2 and period 3, however, have the widest ranges in overall nave width. In period 2 (strict dates), two groups are visible with regard to the width of the nave: one group around the first quartile (circa 3 metres) and one around the third quartile (circa 3.7 metres). The increase in nave width is not completely coordinated with developments in the total width of the house, as the median of the nave width is higher in period 3 than in period 2, which is the opposite pattern to the total width. At the transition of period 3 to period 4, nave width decreases again. These developments are clearer in the strict group than in the broad group.

It is possible that the trend of wider nave width was caused by a gradual increase in total width. In order to see if naves became wider not only in absolute terms but also relative to the total width of the house, nave width and total width have been compared per period (fig. 3.14). The figures confirm that between period 1 and period 3, naves became wider not just in absolute terms, but also in relative terms. This is most evident in the strict group, but it also visible in the broad group. Again, period 4 deviates from this trend, as naves have become smaller than before, both in absolute terms and in relative terms. Of the four periods, period 1 shows the most variation in the ratio nave width-house width and period 2 the least.

For period 2, two groups are visible in the strict group and even more clearly in the broad group: one larger group with high ratios for nave width-total width (=/> 0.50, relatively wide naves) and one smaller group with low ratios for nave width-total width (< 0.50, relatively narrow naves). The distribution of these two groups (fig. 3.16) shows that houses with relatively wide naves are found across the region and seem to signal a widespread way of constructing houses. The smaller group, with relatively narrow naves, also does not show a clear spatial restriction, although they are recurrently found, for example, at Hijken-Hijkerveld. However, these houses are also found at settlement sites that also contain houses with relatively wide naves, as is the case at Peelo-Es and Noordbarge-Hoge Loo. This means that it is more likely that the houses with narrow naves were rare alternatives to the general practice of houses with a wide nave.

As was discussed before, house dimensions may be used to make inferences about the stratification, social structure and subsistence of prehistoric societies, but this is far from straightforward for the current dataset. If house dimensions were used to express differences in social status, a small and separate group of houses with large dimensions would have been expected, in contrast to a large group of smaller houses. Period 3 and period 4 do show a few examples that may point towards extraordinary houses, indicating that there may be few special houses or households. However, only few complete houses can be dated to these periods and this stratification was far from widespread across the plateau. For period 1 and period 2, there is even less evidence for these outstanding houses.

In addition to possible indicators for a slightly more socially stratified housebuilding tradition at the end of the research period, there are indicators for clear developments in house dimensions that must have affected the interior of the house. Between period 1, period 2 and period 3, there is a trend towards the creation of more open space inside the house. This was realised in several ways: the length of the living area was increased and occasionally the byre section was increased as well. In addition to this, the nave was widened in both absolute and relative terms, because of which more open space was created in the central axis of the house. Whether this was motivated by changes in the subsistence or social structure of the society is not clear, as creating more indoor space could have facilitated having more people under the same roof, but also more, or more different, activities, which were previously scattered outside and around the house (Hiddink, 1999: 93-100).

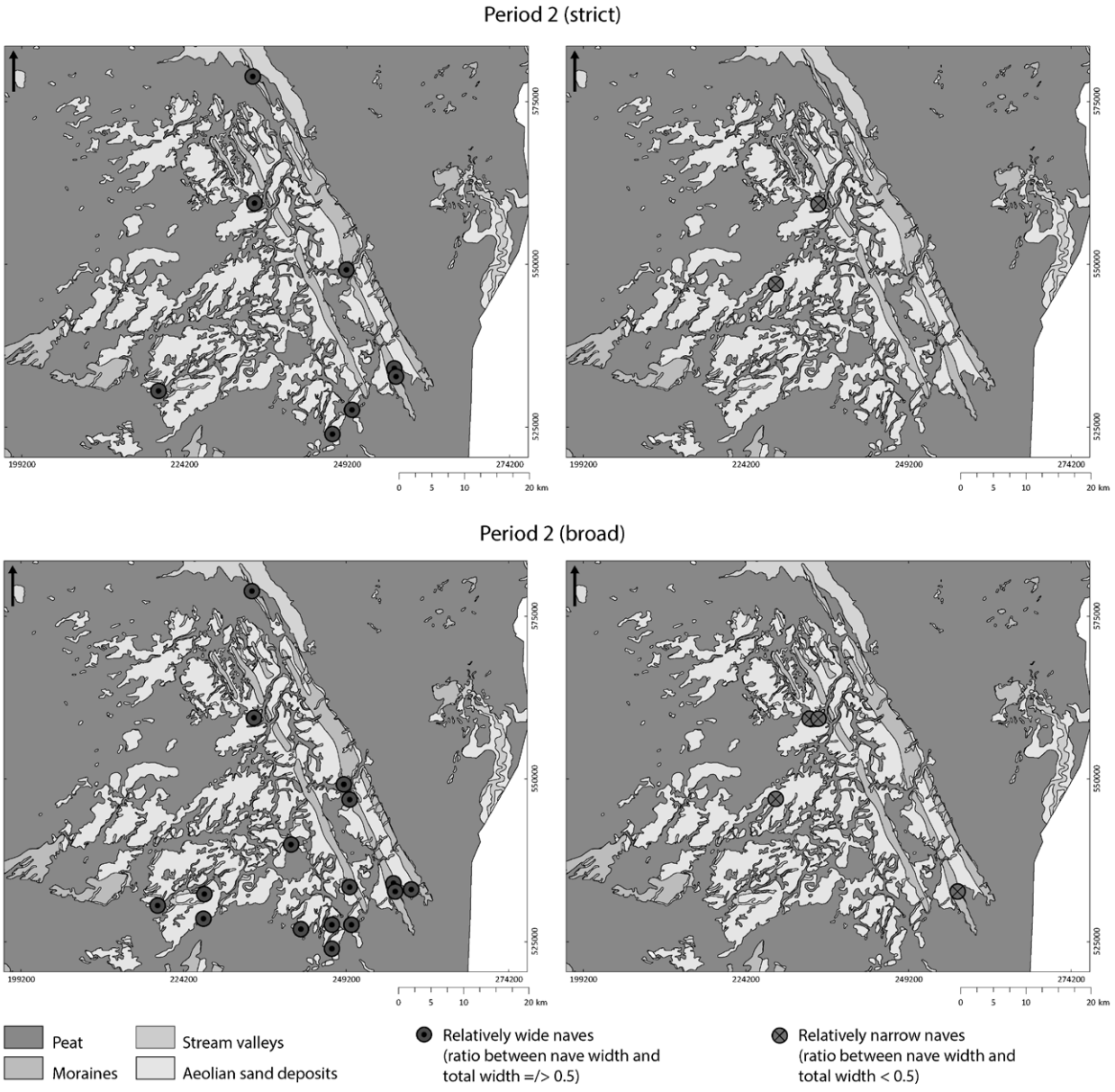


Figure 3.16: Geographic distribution of settlement sites with houses that have a relatively wide nave (left) and a relatively narrow nave (right) for period 2 for the strict dates (top) and broad dates (bottom) plotted on the palaeogeographical map of 500 BC (Vos *et al.*, 2020).

At the transition from period 3 to period 4, several elements of the house change again. House length increases, but house width decreases. In contrast to period 2 and period 3, house width in period 4 does not show a normal distribution, but a distribution skewed to the lower quartiles, suggesting that houses become smaller in general but occasionally were much smaller than before. Nave width decreases in both absolute and relative terms. This means that floor surface area is mostly created in the length of the house, and not as much in the width, as had been the case in earlier periods. Again, it is unclear whether this signifies different subsistence strategies or different ways of partitioning the house.

3.3.3 Entrances

Entrances are often loaded with meaning, as they divide the inside from the outside in both the literal and the symbolic sense.[48] The symbolic importance of the entrance can be emphasised by constructing it elaborately,[49] by decorating it elaborately[50] or by making it one of the

48 *E.g.* entrance pits to keep the inside clean (Huijts, 1992: 111). *E.g.* thresholds as a symbolic boundary between one's own space and the shared space outside the house (Rapoport, 1969: 79-80).

49 Beck (2014).

50 *E.g.* in medieval Norway (Hem Eriksen, 2019: 32-35).

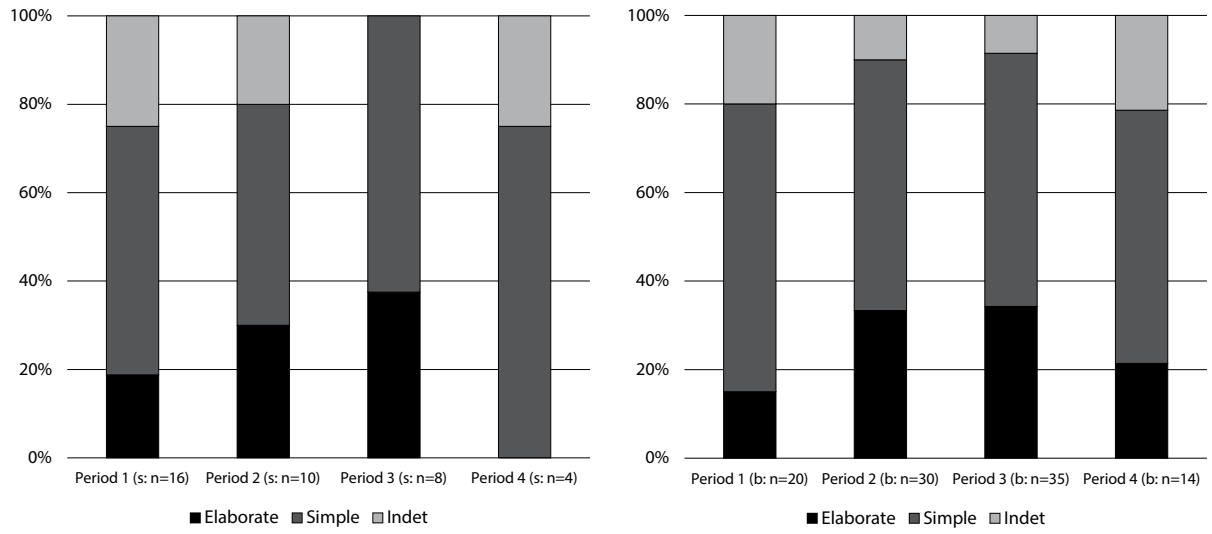


Figure 3.17: Proportion of entrance construction types per period for the strict group (left) and the broad group (right).

focal points for foundation offerings.[51] In addition to this, the location and width of the entrances can also create different degrees of accessibility to what is happening inside the house (Steadman, 2015: 127-128). For example, many Bronze Age houses had at least one entrance in one of the short sides of the house (Huijts, 1992: 36-53) that permitted a view across the entire interior of the house. Because the location shifted from the short sides to the long sides between the Bronze Age and the Iron Age, visibility became more restricted. The pair of opposing entrances may have provided a look at what was happening between the two entrances, but to see the interior, one had to step into the house and turn, either left or right. When entering the house, it was not possible to see all of the interior. In this way, the location of the entrance could also influence the degree of visual restriction on the interior.

For Iron Age houses on the Fries-Drents plateau and beyond, the paired opposing entrances are one of the most noticeable elements of the excavated house plan.[52] In addition to this, the location of the entrances seems to have been fixed: a set of two entrances opposite each other in the long sides creating a line of sight and dividing the house into two distinct spaces (Harsema, 1996). This fixed position of the entrances is a phenomenon that is also evident for the southern Netherlands (Schinkel, 1994: 48-50; 96-97; 149-155; Gerritsen, 2003: 42) and Belgium (De Clercq, 2009: 273), as well as northwestern Germany (*e.g.* Baccum, Emsland: Both *et al.*, 2010) and Denmark (Webley, 2008: 56).

The paired opposing entrances functioned as an entryway for both humans and their livestock if no separate entrance was available in the byre section. However, with the two entrances, it was possible to guide movements and distinguish between the two entrances. In Iron Age Denmark, distinctions are made between the northern and southern[53] entrance, the southern entrance providing access to the byre and the northern entrance giving entry to the dwelling area, indicated by the presence of stone paving at the northern entrance with slanted floors towards the slightly higher situated living area (Webley, 2008: 60-62).[54]

As noted above, the paired opposing entrances have been interpreted as a conspicuous and recurring element in the layout of Iron Age houses on the Fries-Drents plateau (Harsema, 1996). Even if this was a widely shared element reflecting much more widely shared norms, the entrance in later prehistoric houses was not static. For

51 *E.g.* in the Iron Age Meuse-Demer-Scheldt region (Gerritsen, 2003: 65). *E.g.* in Finish Folklore (Hukantaival, 2016: 91, fig. 16).

52 Iron Age Fries-Drents plateau: (Harsema, 1996); Iron Age Meuse-Demer-Scheldt region: (Gerritsen, 2003: 41-56); Iron Age Denmark: (Webley, 2008: 60-62).

53 As on the Fries-Drents plateau, houses had a roughly E-W orientation (Webley, 2008: 60, fig. 4.13). This means that one entrance was located in the northern long side of the house and the other in the southern long side of the house.

54 Similar differentiations may have been made in later prehistory in the southern Netherlands and Belgium as well, but no synthesis has been written on this. Examples can be found in Maldegem-Katsweg (Belgium), where ditches, possibly cattle drifts, found only to the north of the house (De Clercq, 2009: 280, fig. 10.8) and in Budel-Noord Duitse School, where double post lines were oriented at the southern entrance (Structuur 3: Bink, 2012: 36, fig. 6.5). I kindly thank Bart Van der Veken (pers. comm. 20 November 2018) for showing me this example.

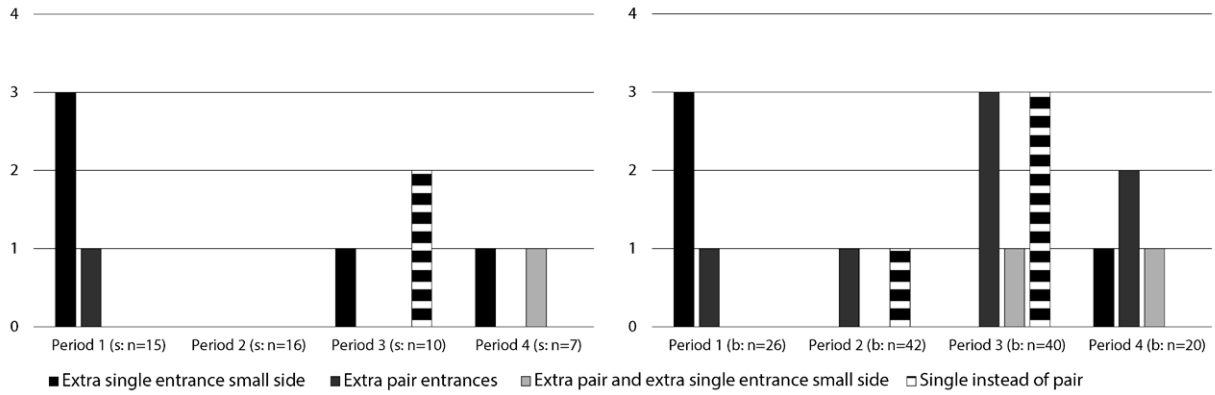


Figure 3.18: Number of occurrences of entrance types other than two opposed entrances in the long sides of the house, per period for the strict group (above) and broad group (below).

example, a narrowing of the entrance and a construction consisting of fewer posts (suggesting the entrance was less elaborately constructed) have been observed at the start of the Roman period (Waterbolk, 2009: 72-73). This raises the question whether the construction of the entrance was restricted to the double opposing entrance or if other alternatives were available as well. It also raises the question how this important element of later prehistoric houses changed over time.

To study entrances on the Fries-Drents plateau, different characteristics were recorded of the entrances: whether they were relatively simple (marked by one or two posts) or more elaborate (three or more posts), their location and their width. Often, entrance posts are the most visible feature of (Roman) Iron Age houses after the roof-load support structure, although this is not always the case. As figure 3.17 shows, most entrances are simple for all periods, both for the strict and for the broad groups. However, periods 2 and 3 stand out for their higher percentage of more elaborate entrances. In period 2 and period 3 (broad dates) the construction of the entrance is known for more than 90% of the house plans, which indicates that the effort that went into the construction of the house also added to the archaeological visibility of this element.

For 102 out of the 155 houses (65%), one or more entrances could be registered. Of the 102 houses, 88 contained one pair of opposing entrances (86%) in the long sides of the house. Occasionally, people deviated from the single pair of opposing entrances in the long sides. It seems that only sporadically extra entrances were added to the house in one of the short sides (fig. 3.18), although never during period 2. The number of extra entrances was so low that the use of percentages is not justified, and the data are therefore presented as counts only. The rarity of additional entrances is in contrast to what is described by Waterbolk (2009, 55) for the Hijken-type houses (Middle to Late Iron Age, roughly period 2 here) occasionally having extra entrances, as additional entrances in one of the short side are rare in general and more so for period 2. The example of the Hijken-type house with an additional entrance is atypical in more than one way, as this specimen is older than had been thought (Hijken-Hijkerveld, house 3: period 1). The additional entrance may be better explained by the dating of this particular house, because period 1 shows more examples of extra entrances, rather than as a recurring element of Waterbolk's Hijken type or, more generally, period 2 houses.

Other deviating types of entrances, such as an additional pair or an additional pair with an extra single entrance in one of the short sides of the house, are rare as well, as figure 3.18 indicates. Again period 2 shows the lowest number of diverging entrances both in the strict group (0 out of 16) and in the broad group (2 out of 43). This suggests indeed that, at least for period 2, the opposing pair of entrances in the long sides of the walls was an essential characteristic of house building that was rarely or never meddled with. Periods 3 and 4 show more examples of extra entrances, and actual occurrences may be underrepresented with the excavation of Wijster-Looveen not included because of lack of dated houses, as many houses at Wijster have more than one pair of opposing entrances. After period 2, the concept of paired opposing entrances is less strictly applied.

The different additional entrances seem to have different functions. The extra single entrance is associated with the byre section and not with the living area in cases where an internal differentiation can be made based on the configuration of posts. An example of such an extra entrance may be found at Hijken-Hijkerveld (house 3: Arnoldussen and De Vries, 2014: 94, fig. 8). Many of the undated houses at Wijster-Looveen have additional entrances in one of the short sides of the house, where the byre section is located (*e.g.* house XVII (17): Van Es, 1967, fig. 8 (appendix)). The extra pair of opposing entrances in

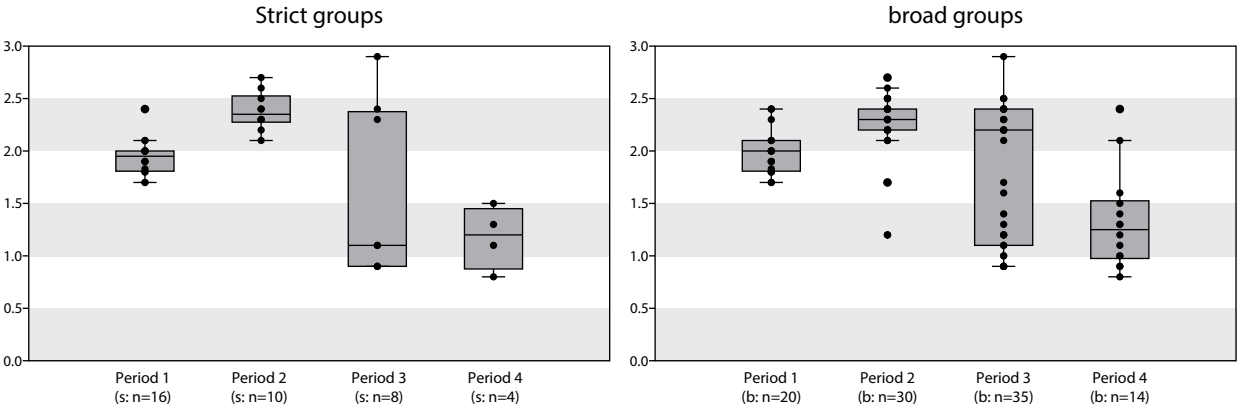


Figure 3.19: Entrance width (m) per period for the strict and broad groups.

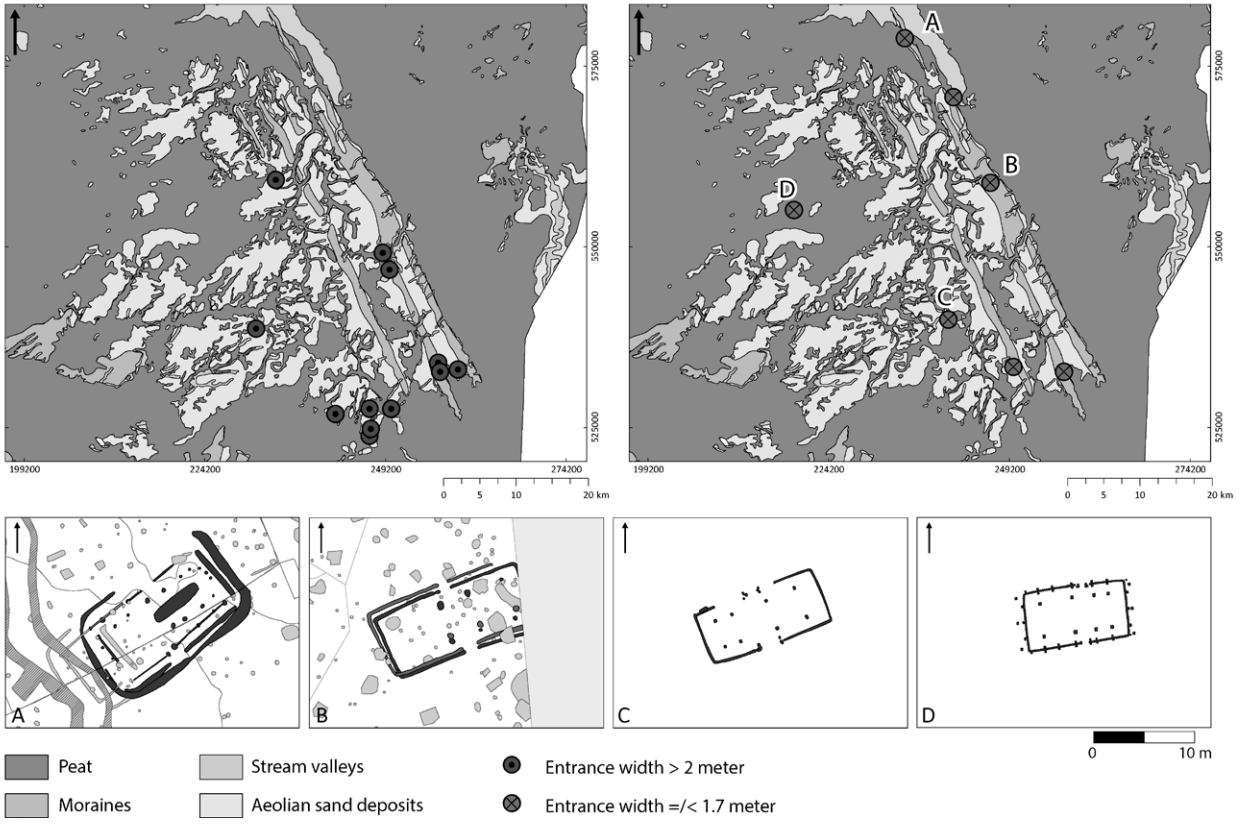


Figure 3.20: Geographic distribution of settlement sites with houses with wide entrances (left) and narrow entrances (right) in period 3 (broad dates) plotted on the palaeographical map of 500 BC (Vos *et al.*, 2020). A-D: sites with houses that show characteristics of both period 2 and period 3/4. A: Groningen-Helpermaar (house 2 phase 1: Huis in 't Veld, 2010); B: Gieten-OV Knooppunt (Loopik, 2010a); C: Orvelte (Harsema, 1973a); D: Fochteloo (house 1938 I-2/1938-III: Van Giffen, 1958: 61, fig. 14). For Groningen-Helpermaar and Gieten-OV Knooppunt, all features are depicted. For Orvelte and Fochteloo, only the features of the house plan are depicted. Images drawn by the author based on primary data.

the long sides of the house is associated with a larger floor area in the living area, either in the form of two entrances in one larger 'room', for example at Peelo-Haverland (house 58: Kooi, 1995: 177, fig. 10), or in the form of the addition of an extra living area at the other end of the house, for example at Borger-Daalkampen II 2008 (house 4: Van der Meij, 2010a: 21-23).

The width of the entrances in the long sides of the house also indicates that the concept of proper entrances differed per period (fig. 3.19). Between period 1 and period 2, entrances increased in width. In period 2, entrances are relatively homogeneous and include some of the largest in the dataset. Period 3 seems to have been a turning point with regard to entrance width. On the one hand, the increased indoor width seemed to have continued in period 3 (> 2 m), whereas on the other hand a completely different entrance type was used that was much narrower than before (=/< 1.7 m). As figure 3.20 shows, the distribution of these different types of entrances overlaps only in the southeast; they are mostly mutually exclusive.

Within the group of houses that can be dated to period 3, there is a group that shows traits both of the houses from period 2 and of the houses from period 4. In this sense, these houses form an intermediate group. Like the houses of period 2, these houses only have one pair of opposing entrances in the long side of the house, dividing the interior into two roughly evenly sized areas (see also discussion below). However, the narrow width of the entrance is reminiscent of the narrow entrances as is common in period 4. The houses of this intermediate group are all short (< 15 m). In addition to this, they do not have roof-load supporting posts outside the wall, but roof-load supporting walls placed in trenches. The change from the wide entrances to the narrow entrances took place at some point in period 3, which can be considered quite a rapid change. However, this did not mean that all elements changed in these houses at once, and overall, change may have been gradual and slow.

In period 4, the wide entrance is completely replaced by the narrow entrances. In addition to this, a greater proportion of the houses have extra entrances. This means that the way of entering and exiting the building is completely different than it was in period 2. This change is to be placed in period 3. This is the more remarkable if we take the duration of the different periods into account. Of the four periods, period 3 was the shortest, and only lasted roughly 100 years (see fig. 3.19).

From the above, it can be concluded that the inhabitants of the Fries-Drents plateau had clear concepts of what the proper ways were to enter a house. In addition to this, it has become clear that these concepts were period-specific. For periods 1, 2 and 3, entrances had to be in the long side, and people only occasionally diverged from this concept by adding extra entrances in one of the long sides or one of the short sides of the house. Remarkably, entrance width differs between periods while being uniform within periods. Period 3 is the exception to this, as it forms a transitional phase between concepts widely shared in the previous period 2 and the succeeding period 4. This restrictiveness can be seen as an argument for the (symbolic) importance of the entrance.

3.3.4 Interior differentiation

In contrast to houses from other regions where preservation circumstances are better,[55] Iron Age and Roman Iron Age longhouses in the research area are always excavated well below floor level. This means that no tangible evidence (*e.g.* intact floors, *in situ* finds or hearths) can be found for delineating different functional spaces within the house. Different functions are thus inferred from other differences, such as the location of entrances or differences in post settings (*e.g.* Waterbolk, 2009: 54-55; 64; 68).

From this observation, it follows that interior differentiation is a different category than, for example, wall construction, as it is an interpretation of the function of construction elements or the lack thereof, rather than an interpretation of the construction itself. In addition to this, there is a difference between discerning different areas and being able to tell what their use was. For example, if specific elements (*e.g.* a hearth or byre partitions) are present in one part of the house but not in the other, there is a reason to assume different functions for these different areas, namely, a living area versus a byre section. This means that there is both differentiation between the two areas and, following from this, an interpretation of the different functions. This reasoning can only be applied if preservation is good and if people dug down into subsoil to create hearths or byre partitions. If these elements are lacking completely or, conversely, occur in both areas, interpretations become more precarious. Other methods to discern different spaces in the house are based on scientific analyses, for example, the correlation of macro-botanical remains and/or geochemical traces (specifically phosphates indicating the presence of dung and indicate a byre function for part of the house) to the archaeological remains (*e.g.* Grabowski, 2014; Grabowski and Linderholm, 2014). The methods themselves are not applicable to the current research, since it deals with settlement sites that already have been excavated and for which suitable soil samples can no longer be taken. Lacking geochemical and macro-botanical analyses, here post settings combined with the location of the entrances are used to infer whether the house had any internal differentiation. The premise used here is that morphological differences

55 *E.g.* preserved fire places at Nørre Fjand (Hatt, 1957: 11, 17-18, fig. 10 & fig. 11); *e.g.* intact floors at the Assendelver Polders, in the western part of the Netherlands (Therkorn *et al.*, 1984: 360).

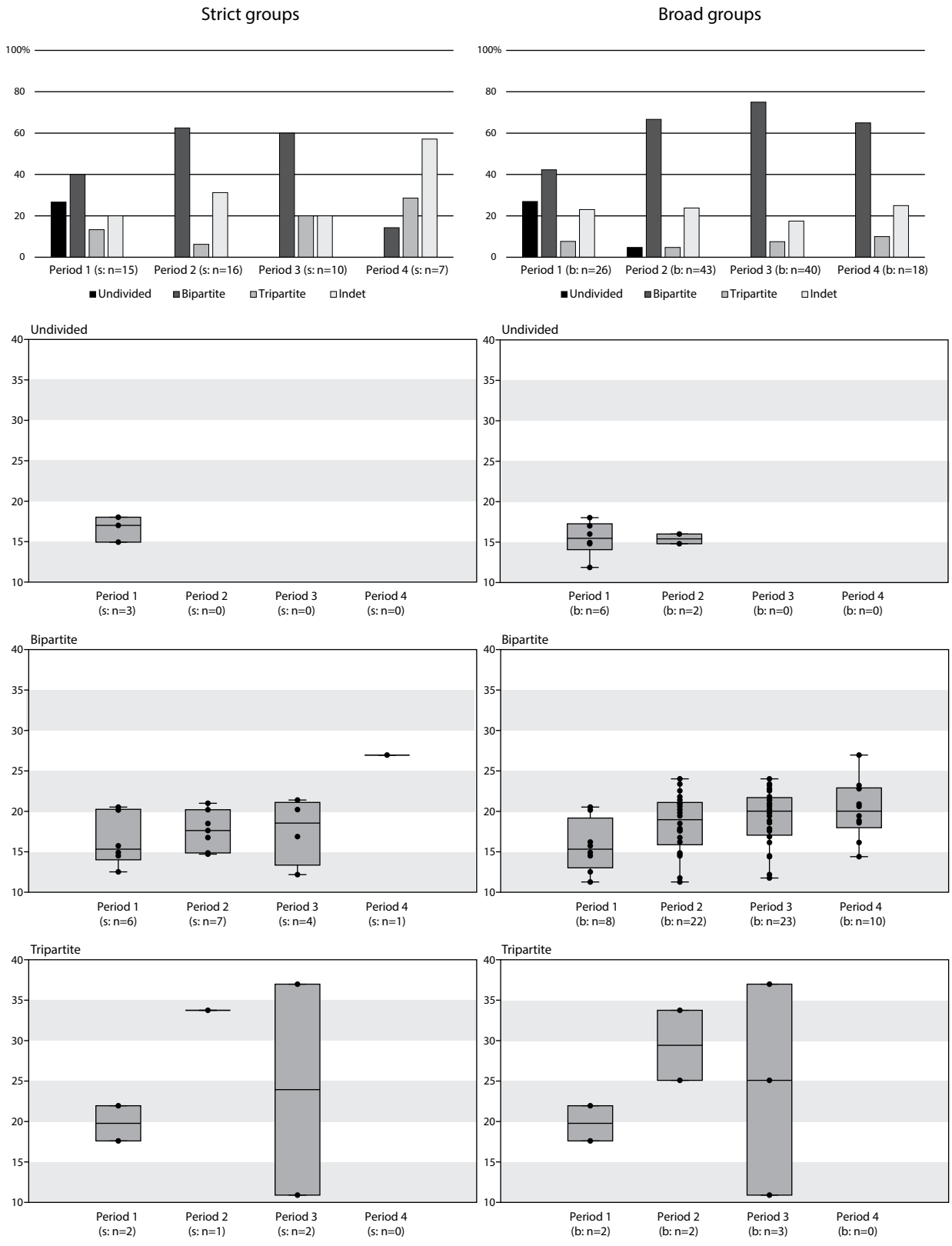


Figure 3.21: Proportion of undivided, bipartite and tripartite interior divisions per period for the strict group (left) and the broad group (right) and the relationship between interior division and house length (m). Only if the entire length of the house is known are its measurements registered.

between different spaces in the house and between houses can be registered, and that they are meaningful, even if we cannot prove what their exact meaning is. If these differences have a spatial or temporal patterning, they are still of relevance; they may indicate change in the use of space or regionally specific ways in which houses were used even if we do not know exactly what changed.

Iron Age longhouses in northwestern Europe are often characterised as byre houses, providing shelter to humans and animals alike (Harsema, 1996; Gerritsen, 2003: 66-70; Webley, 2008: 62-64; De Clercq, 2009: 272). It has been proposed that Iron Age houses were predominantly bipartite, with the entrance functioning as the dividing element between humans and animals (*e.g.* Harsema, 1996). However, more divisions of the interior are also known, such as the tripartite houses of Hijken-Hijkerveld (Period 1 (Early Iron Age/Middle Iron Age): Arnoldussen and De Vries, 2014: 94, fig. 8) or Borger-Daalkampen II 2008 (house 4 (undated): Van der Meij, 2010a: 22-23). In addition to this, it has been proposed that houses underwent profound changes in their layout in the course of the Roman Iron Age (Harsema, 1996: 59), thought to be the results of influences from the Roman empire (*cf.* Waterbolk, 1995: 17). For the interior of the house, changes have been argued to take the form of the addition of an extra area or extra open space in the interior, where posts were relatively far apart (Huijts, 1992: 95-96). These more open areas are considered designated spaces for production activities, such as weaving or the working of bone (*e.g.* Harsema, 1980a: 40-43, specifically discussing Noordbarge-Hoge Loo). The fact that there is evidence for tripartite houses as early as period 1 (in the case of Hijken-Hijkerveld) has made me question to what degree variation already existed in Iron Age house interiors. And did the bipartite interior continued into period 3 and period 4 (Roman Iron Age)?

The analysis of interior differentiation (fig. 3.21) indicates that period 1 shows the most variety, as undifferentiated, bipartite and tripartite houses could be dated to this period. This suggests that the complexity of the interior is not necessarily related to house length, because the houses of period 1 are shorter than the houses of the other three periods (see fig. 3.14). Variation in interior divisions decreases strongly after period 1. For the strict group, period 2 shows the most restriction in the interior of the house plans. This is comparable to the patterning in the entrances, discussed earlier, in that period 2 houses only have paired opposing entrances in the long sides of the house. Together, they were crucial and non-negational elements in period 2 housebuilding traditions. In the broad group, period 3 shows the most restriction in the interior. In the strict group, period 4 shows a clearly different distribution, as for the first time more houses are tripartite than bipartite. However, numbers are low, and for the majority of houses from this period, little can be said on their interior differentiation. The broad group for period 4 is more comparable to the previous periods, as in this group most houses are still bipartite, although there is a slight increase in the percentage of tripartite houses.

It is remarkable that the bipartite and tripartite interior layout of the longhouse is found both in houses with a three-aisled construction, such as at Emmen-Oude Meerdijk (house 2+3 (period 2/3): De Wit, 2011) and Borger-Daalkampen II 2008 (house 4 (no date): Van der Meij, 2010a),[56] and in houses with a two-aisled construction, such as at Fluitenberg-Zevenberg (structure 1 (period 2): Schrijer and De Neef, 2008). Even though the houses belonged to different large-scale traditions, the variations on the normative, bipartite construction were the same.

When interior divisions are compared with house length (fig. 3.21), the division of the interior is related to the length of the house, but within the constraints of the period. This means that within one period, bipartite houses are longer than houses without interior divisions. However, bipartite houses from period 3 are, on average, longer than bipartite houses from period 2. The tripartite houses are a scarce phenomenon, but, overall, they are longer than contemporaneous houses with fewer interior divisions. This means that the same alternatives to the bipartite interior were available throughout the entire period of research, but that there was a period-specific limitation to what was acceptable or possible length-wise.

3.3.4.1 Byre partitions

In some cases, specific elements within the house are more directly linked to particular functions of the house. This is the case for small trenches or light wattle-and-daub hurdles that have been dug in at straight angles to the wall, known as byre partitions. Even though they are a more convincing argument for the indoor housing of livestock than regularly spaced post, they do not provide any evidence for the particular species or the number of livestock present at any moment.[57] In other cases, only posts located close to the wall are evident, which are interpreted as posts that must have supported the byre partitions. These posts are not always restricted to just one of the areas, because interior posts, in more general terms, can be found throughout the house plan and may be related to all sorts of interior elements that were not part of the roof-load support structure. As these elements probably were dug down less deeply than

56 A G3-type fragment (period 2) was found in one of the postholes, but it originated from the fill of the posthole and not from the postpipe. This would give a date *ad quem* or *post quem* period 2.

57 The burnt house A371 at Nørre Tranders indicates that quite a variety of species were accommodated in the byre section, such as sheep, a pig, horses and dog (a puppy). Only part of the herd was stalled inside, probably the vulnerable and precious individuals. In addition to this, the remains of five people were found in the byre as well (Nielsen, 2007: 23-25, 27-29).

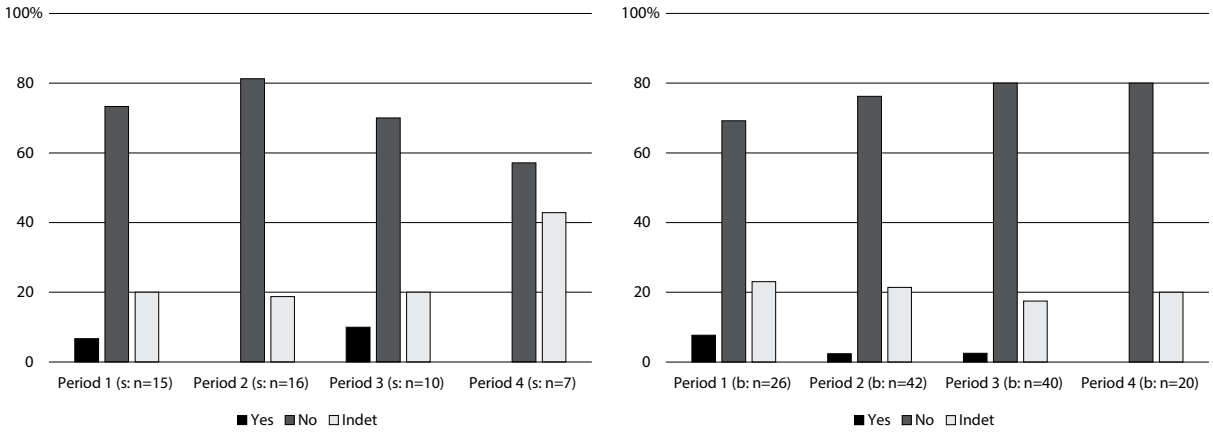


Figure 3.22: Percentage of houses that have visible byre divisions, in the form of either trenches or wattle-and-daub, per period for the strict group (left) and the broad group (right).

the roof-load support structure, their absence is easily explained if they were not dug in deeper than the 30 to 40 cm of topsoil that is generally removed before excavated. Still, we should be careful in projecting these elements onto to excavated house plans without supporting evidence, as the sections below will show.

As figure 3.22 indicates, the presence of archaeologically visible byre divisions is well under 10% for all periods and for all groups. For period 4, especially the strict group, it was more difficult to discern any interior features (see also below), as these houses are typically found in densely built areas, which makes it difficult to attribute features to specific house plans. What is remarkable, is that the houses in this study that are dated to period 4 show no evidence for byre divisions, even though byre divisions are often encountered in house types deemed typical for this period (Wijster type: Waterbolk, 2009: 73).

There may be different reasons for this apparent lack of byre divisions in period 4. The first reason is that the presence of trenches in the byre may have been given such chronological significance by archaeologists that they do not date houses which display this feature in any additional ways than based on typological arguments (such seems the case for house 21 at Peelo-Es: Kooi, 1994: 174) and that therefore dated houses of this type are lacking in this analysis. The second reason for the lack of byre divisions in period 3 and period 4 houses is that they were mainly found at Wijster-Looveen (7 out of 13 houses), from which hardly any houses could be included in any of the four periods because of the lack of association between finds and house plans. Therefore, on the one hand, these features have been considered typical for the site of Wijster-Looveen and, on the other hand, when they were found at sites other than this site, such houses were not dated other than on typological arguments.

3.3.4.2 The 'Zwinderen-set'

In the typology that is most frequently used today, the conventional Hijken type is the only type that has been divided into two subtypes: the Hijken-Hijken subtype and the Hijken-Zwinderen subtype (Waterbolk, 2009: 55). The only difference between the two subtypes is the positioning of the first pair of posts in the supposed byre section: for the Hijken subtype, all posts are aligned (fig. 3.23 above), whereas for the Zwinderen subtype, the posts of the first pair are placed slightly closer together and hence slightly farther from the wall (fig. 3.23 below). This phenomenon of the more closely spaced first pair of posts is not unique to houses ascribed to the Hijken type.[58] Houses ascribed to the Dalen type show similar pairs of posts. Houses in the central parts of the Netherlands also display this feature regularly (Ede: Taayke *et al.*, 2012: 226-228, fig. 10.3a-c; Wekerom-De Vijfsprong: Arnoldussen and Scheele, 2014: 15, fig. 8; Ede-Park Reehorst: Norde, 2019: 103-114). This feature can also be found in adjacent regions across the German border (Baccum: Both *et al.*, 2010: 62, fig. 9).

In general, these first two posts seem to have been dug in less deeply than the other posts forming the roof-load support structure, suggesting that they perhaps functioned as partitioning walls and were not part of the actual roof-load support structure (see fig. 3.23)[59]. This becomes even more evident in examples of this construction in two-aisled

58 The 1938 excavation of Fochteloo yielded a Zwinderen-set from the largest house as well, but from the living area (Fochteloo 1938 house 1 (I-1): Waterbolk, 2007: 71, fig. 2.A). In this sense, it is reminiscent of other types of partitioning walls that are located in the living area. See *e.g.* the house excavated at Fochteloo in 1935 (Waterbolk, 2007: 70, fig. 2.F) or Emmen-Frieslandweg house 6 (De Wit, 2003d: 21, fig. 2.5).

59 Note that the first set of posts in house 4 at Holsloot-Holingerveld were also dug in less deeply (see figure 3.9).

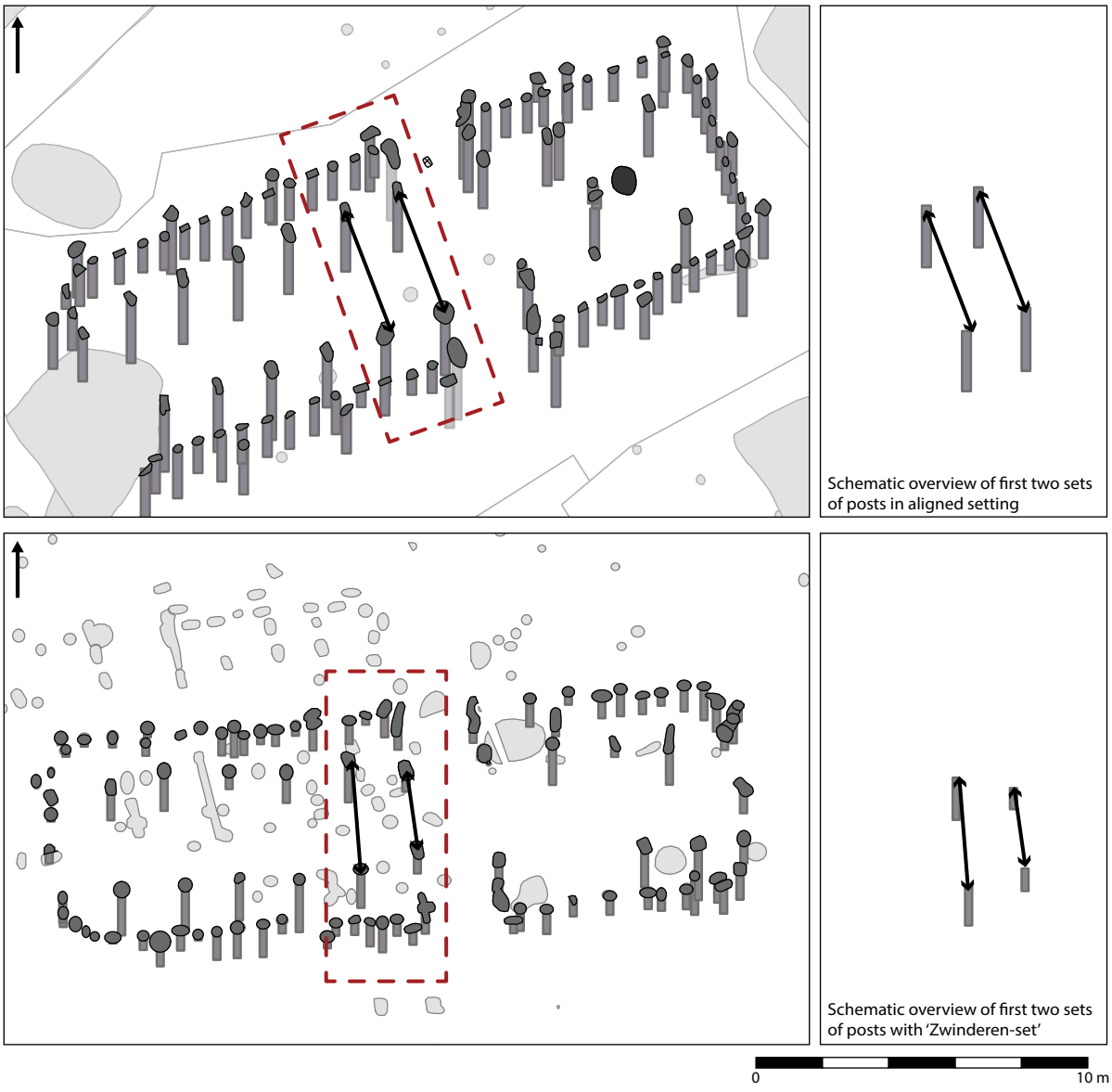


Figure 3.23: Visual representation of feature depth of the house at Ruinen-Oldhave Bos (above: Koopstra and Lenting, 2016) and of house 13 at Noordbarge-Hoge Loo (below: Arnoldussen and Albers, 2015). The first set of posts to the west (inside the red dashed line) of the entrance were dug in less deeply for the house at Noordbarge-Hoge Loo, but not for the house at Ruinen-Oldhave Bos (see also the schematic overview to the right). Images drawn by the author based on primary data.

houses. In these houses, the 'Zwinderen-set' has posts that have smaller diameters than the central roof-load supporting posts, as can clearly be seen in Dalen-Thijakkers (house 1: Harsema, 1987: 112, fig. 5) and Ede-Park Reehorst (house 10: Norde, 2019: 109, fig. 7.21). In the two-aisled structures, the Zwinderen-set was dug in less deeply as well.[60]

As figure 3.24 indicates, the Zwinderen-set is predominantly a phenomenon of period 2 and to a lesser degree of period 3. Only in the broad group is there evidence for continued use of this Zwinderen-set into period 4. In the group of houses that can be dated strictly to period 2, 44% of the houses has the Zwinderen-set, 25% have an aligned placement of posts, and 31% have an indeterminate placement. This means that the Zwinderen-set occurred frequently, but that it was not perceived as a necessary element of the house. The same

60 This was registered for house 10 at Ede-Park Reehorst. I kindly thank Eric Norde for sharing this information with me (pers. comm. 7 October 2019).

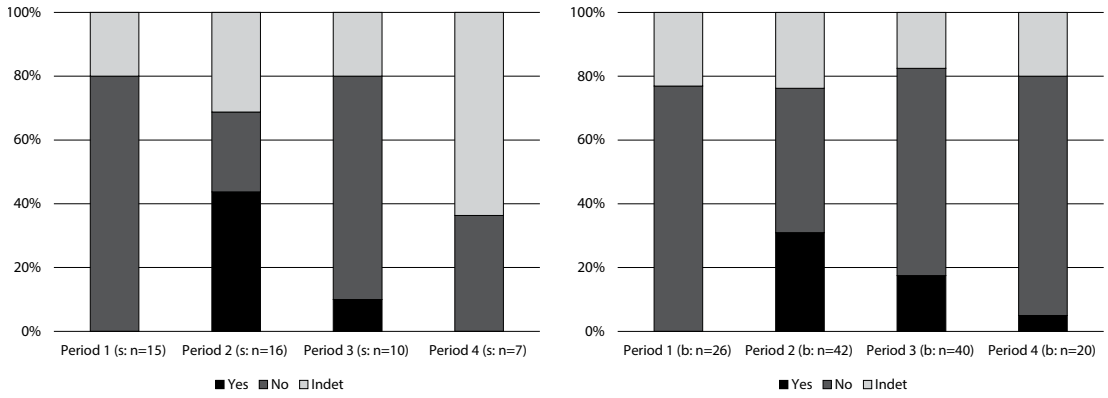


Figure 3.24: Distribution of houses with and without the Zwinderen-set per period for the strict group (left) and for the broad group (right).

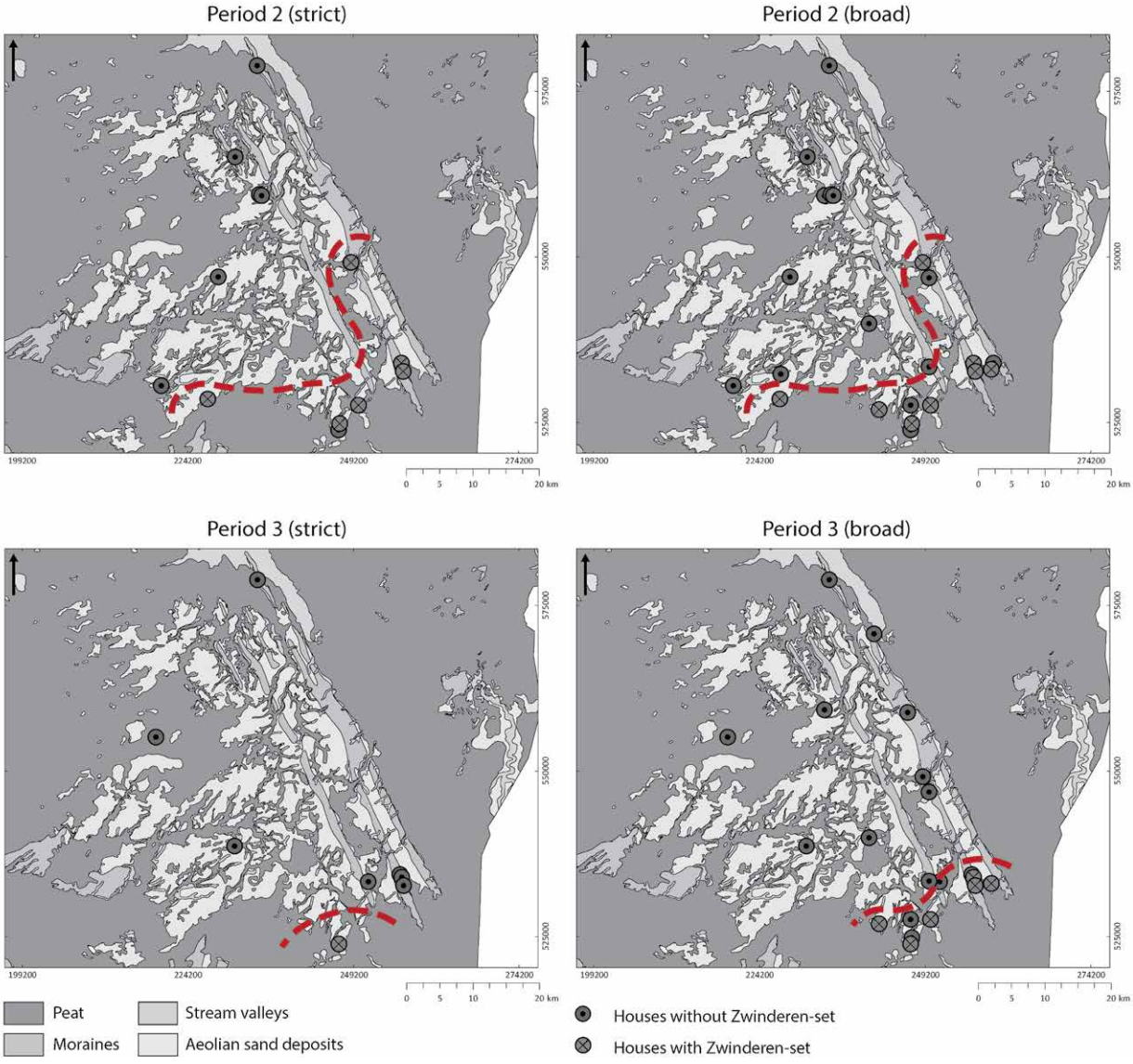


Figure 3.25: Geographic distribution of settlement sites with houses with a Zwinderen-set compared with all sites from the same period plotted on the palaeogeographical map of 500 BC (Vos *et al.*, 2020).

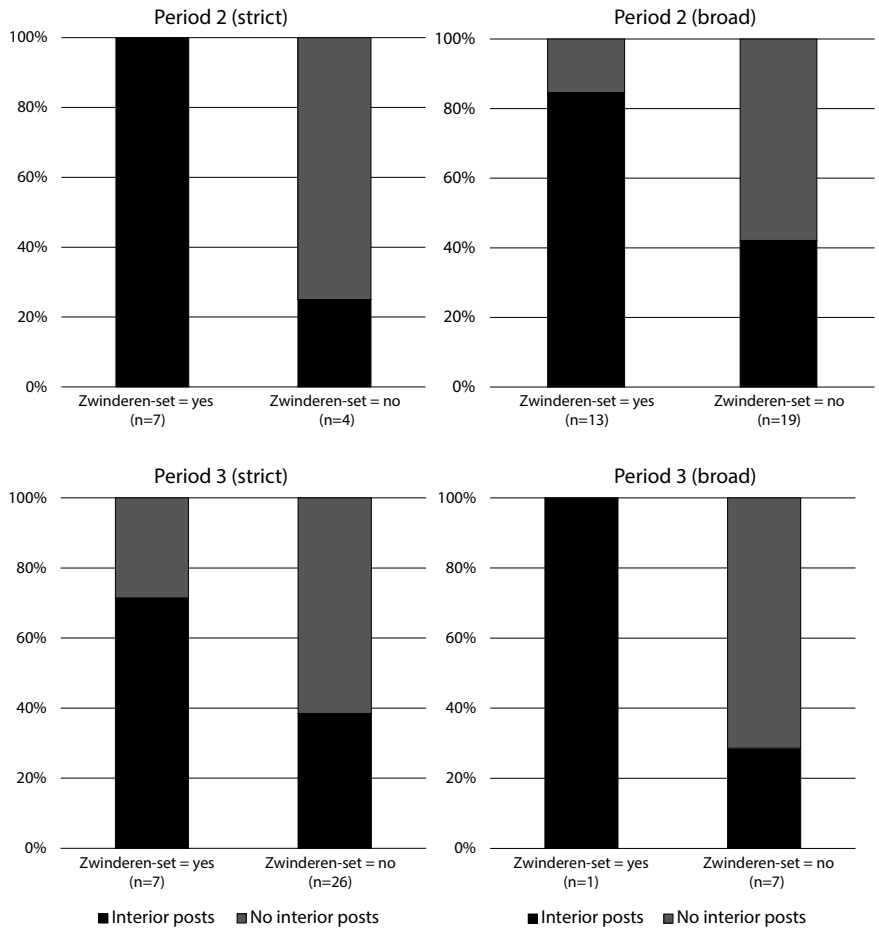


Figure 3.26: Co-occurrence of the Zwinderen-set and interior posts for period 2 and period 3.

is true for the houses that belong to the broadly dated groups of period 2 and period 3.

The Zwinderen-set not only has a temporal restriction, to periods 2 and 3, but also spatial restriction (fig. 3.25). The majority of sites comprising this feature can be found in the southern and southeastern regions of the Fries-Drents plateau. The occurrence in space and time of the Zwinderen-set is similar to the occurrence of the two-aisled roof-load support structures, which also predominantly date to period 2 and are also predominantly found in the southern and southeastern parts of the plateau (see fig. 3.25). One explanation could be that this element was introduced together with the two-aisled housebuilding tradition and was subsequently adapted to the three-aisled housebuilding tradition.

The spread of the Zwinderen-set is less restricted than that of the two-aisled construction proper, as houses with the Zwinderen-set were also found at Borger-Daalkampen II 2008 (structure 1, 3 and 4: Van der Meij, 2010a: 14-23) and Hijken-Hijkerveld (house 2: Arnoldussen and De Vries, 2014: 94, fig. 8).[61] Although no two-aisled structures have been encountered this far north, other structures at Borger-Daalkampen II 2007 (house 25: De Wit *et al.*, 2009b: 42, fig. 2.32) show resemblances to housebuilding traditions that have been attested for the province of Overijssel, such as clear central posts supplemented with adjacent smaller posts that create a combined roof-load support structure (see also fig. 3.7).

The northern parts of the plateau have yielded period 2 houses that share features with the three-aisled houses with a Zwinderen-set, such as the wide entrances and the exterior roof-load supporting post, but that do not have the Zwinderen-set itself. Even though the Zwinderen-set is found in the southern parts of the research area, house building in the south

61 In the 2014 publication, house 2 was dated to period 1 (EIA/MIA) based on association. Since no pottery is associated with the structure and no radiocarbon dates are available for this house, in the current study, it is assigned to the group 'no date'. Therefore, the house is not depicted on the map. The distribution of the two-aisled houses was probably further north, as new excavations at Borger-Daalkampen II have shown in early 2020 (Hielkema, 2020).

of the research area is not limited or restricted to the use of this feature alone. Houses with and houses without this set of posts can be found at the same site, such as at Noordbarge-Hoge Loo (Arnoldussen and Albers, 2015) and at Zwinderen-Kleine Esch (Van der Velde *et al.*, 1999).

Given that houses with and without the Zwinderen-set are found at the same site, we may ask why people chose one or the other. The answer is hinted at in another type of features that are encountered in period 2 houses, which are the interior posts termed *stalschotsteunpalen* (literally byre partition support posts) in Dutch. As was mentioned above, posts placed interiorly from the wall are often found in what is considered the byre section and are thought to have supported hurdles for restricting the movement of cattle. If a house is constructed with a Zwinderen-set in period 2, this set it is always located at the transition between the byre section and the entrance. When these two types of features are studied in relation to one and other, their co-occurrence stands out (see fig. 3.26). Houses with the Zwinderen-set have these interior posts more often than do houses without the Zwinderen-set. This pattern is most visible in the strict group and within that most strongly in period 2. The combination of the Zwinderen-set and interior posts perhaps indicates the wish of the inhabitants to close off part of the house and at the same time to restrict the movement of animals that were housed inside the house.

The case of the co-occurrence of the Zwinderen-set and interior posts (*stalschotsteunpalen*) is a good example of how the emphasis on homogeneity has resulted in a loss of data. In the traditional typology, stable hurdles are often added when house plans are depicted, as it is generally assumed that this was a standard feature of all the byre houses (see also discussion in chapter 2), even though there are well-preserved house plans that clearly have no interior posts in the byre section (*e.g.* Ruinen-Oldhave Bos: Koopstra and Lenting, 2016). If the presence or absence of interior posts were randomly caused by post-depositional processes, a combined occurrence with other features would have been very unlikely. The co-occurrence of the interior posts and the Zwinderen-set therefore indicates that the presence or absence of interior posts is better understood as deliberate choices in the way the interior was partitioned than as the result of differences in preservation of archaeological features among excavations. In this sense, it is also a caveat that we should study what is actually found, and not fill in data according to how we think this should be.

3.3.4.3 Hearths

The symbolic importance of the hearth for the house and its inhabitants is often mentioned (*e.g.* in the case of Denmark, where the clay cappings of hearths are often decorated: Webley, 2008: 64-68).[62] Its demolition can be associated with specific abandonment rituals (*e.g.* Nijmegen-Oosterhout: Van den Broeke, 2002: 49-51).[63] From an archaeological point of view, hearths suggest interior divisions because the hearth is associated with the dwelling area of the house (*e.g.* Gerritsen, 2003: 70). As has been discussed above, excavation levels are often placed well below prehistoric floor levels, so only if hearths were dug down is there any chance of them being recovered. Pits encountered within house plans are often interpreted as storage pits when there is no evidence for heating. When there is evidence for fire, either in terms of the discolouration of the lining of the pits or in terms of the presence of charcoal, pits are interpreted as hearths.

For the Fries-Drents plateau, only 18 possible hearths could be indicated for a total of 155 houses. Of this total, 11 could not be assigned to a specific location, because the houses themselves did not show any division in the interior; 5 were found in what is generally considered to be the byre section; 1 was found outside the house; 1 was found at the entrance of the house; and only 1 was located in what is generally considered to be the dwelling area. This means that the location of these possible hearths is more likely to contradict the dwelling-byre division than confirm it.[64]

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62 In a modern context, the hearth is used as a metaphor for the entire house or for the household, its well-being and hospitality. This becomes evident, for example, in the stories told by 19th century settlers in Australia (Moore, 2015). Other evidence can be found in the fact that hearths played an important role in vernacular architecture in Ireland in the 18th century and were lit for the first time using coals from the parental house, emphasising continuity (O'Reilly, 2011: 200). In Dutch culture, even though the hearth has been almost completely replaced by central heating, sayings about the hearth still illustrate its symbolic value and it representation of the house(hold). Examples are '*eigen haard is goud waard*' (litt. one's own hearth is golden, meaning there is no place like home) and '*van huis en haard verdreven*' (litt. driven from one's house and hearth, meaning being without a home).

63 The hearth had been fragmented, secondarily fired, and then fragmented again prior to being deposited in one of central posts of the house.

64 In addition to the 18 possible hearths, pits have been found that show traits associated with hearths. Often these pits show traces of fire and contain charcoal and burnt objects, such as pottery sherds or stones. The location of these pits, in combination with specific sets of objects (*e.g.* pottery and stone tools), hint towards a different interpretation, that of special or structured depositions. These will be discussed in chapter 5.

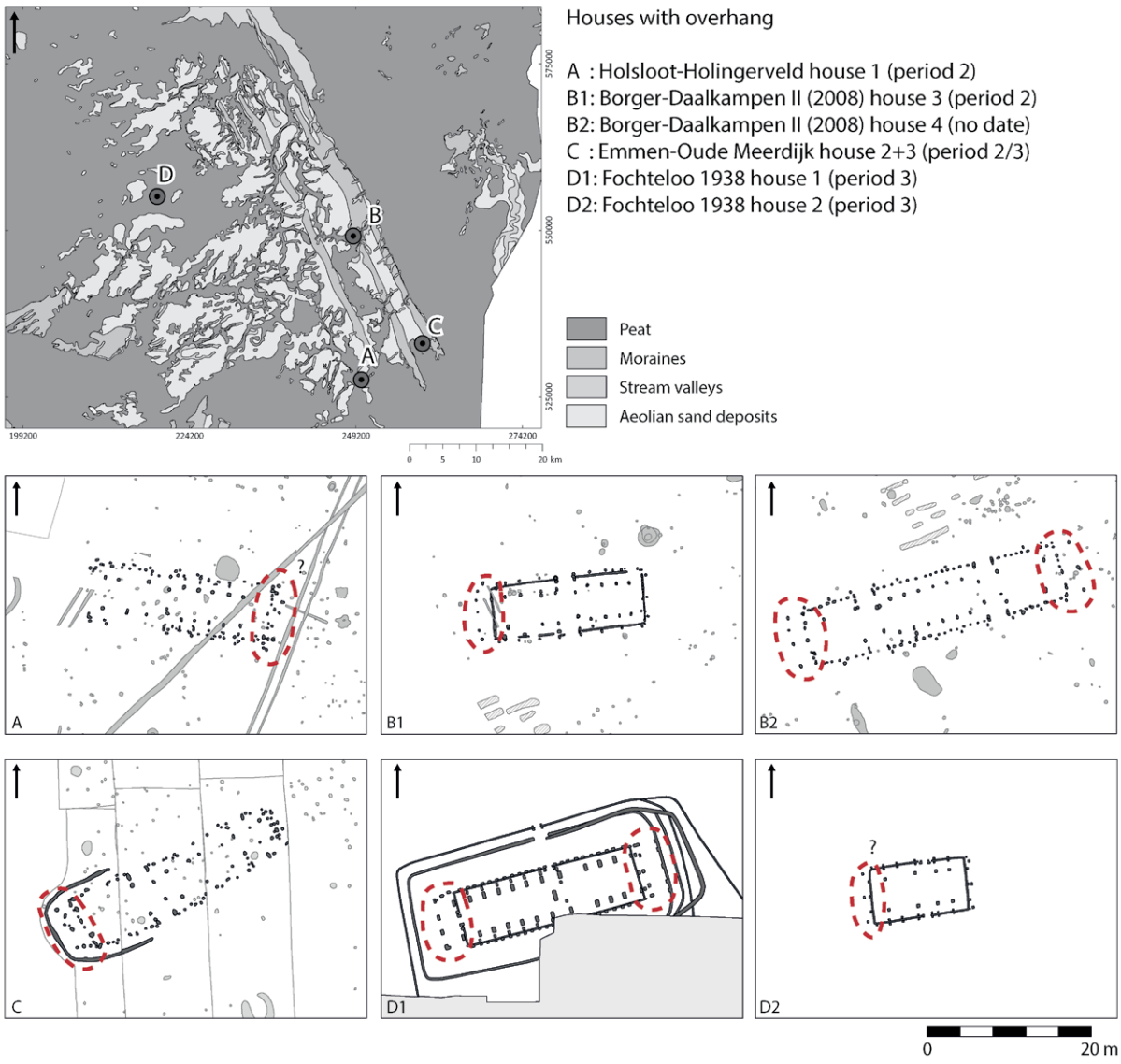


Figure 3.27: Geographic distribution (top) plotted on the palaeogeographical map of 500 BC (Vos *et al.*, 2020) and house plans (below) of houses with an overhang on one or both of the short sides. The house plans are to the same orientation and at the same scale. Fochteloo 1938 house 3 and house 4 are not depicted. For references, see appendices 1 and 2. Images drawn by the author based on primary data.

3.3.5 Use of exterior space

The design of a longhouse comprises more than what can be found between its walls. Elements outside the house may also be associated directly with the design of the house. The eaves of the roof were probably made for the protection of the wattle-and-daub walls, but occasionally the distance between the eaves-supporting posts is much larger, creating extra useable space outside the walls, under the cover of the roof (*i.e.* an overhang). In eight houses within the dataset, evidence for such an overhang was found (fig. 3.27).

The distribution of this phenomenon is not restricted spatially, but, as the dates of the houses in figure 3.27 indicate, it is predominantly a phenomenon of periods 2 and 3. In the case of Borger-Daalkampen (fig. 2.37-B1) and Emmen-Oude Meerdijk (fig. 3.27-C), this extra space was added by the inhabitants to what is generally considered to be the dwelling area. In the case of the double house at Borger-Daalkampen (fig. 3.27-B2), both sides of the house have this feature. At Fochteloo (fig. 3.27-D1) and possibly at Holsloot-Holingerveld (fig. 3.27-C), this element is placed on the other side of the house. Whether this should be considered a shared practice or a similar, ad hoc solution is unsure.

Figure 3.28: Geographic distribution (top) plotted on the palaeogeographical map of 500 BC (Vos *et al.*, 2020) and houses (below) with trenches around part of the house. The house plans are to the same orientation and at the same scale. Fochteloo 1938 house 2, house 3 and house 4 are not depicted. For references, see appendices 1 and 2. Images drawn by the author based on primary data.

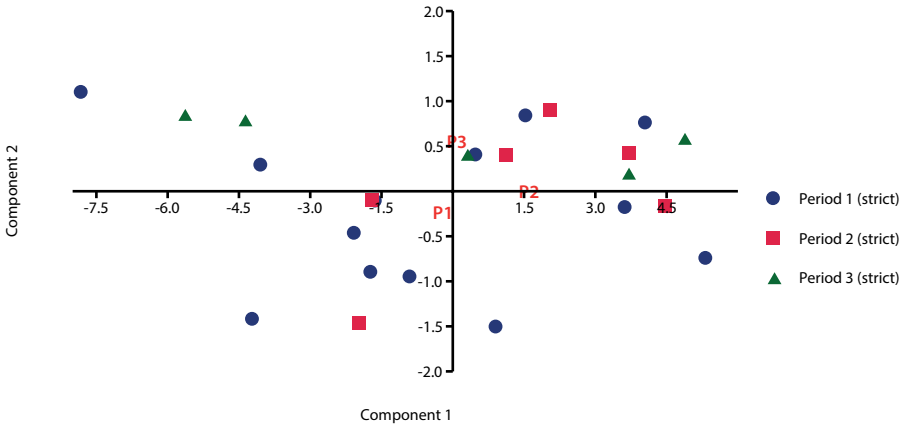


Figure 3.29: Principal component analysis of the 24 strictly dated houses from periods 1-3 for which total length, total width, nave width, the ratio nave width-house width and entrance width are known.

Other features that may not be part of the actual structure but that are closely associated with the house are the trenches that surrounded part of the house (fig. 3.28). There are 12 examples within the dataset of houses that are directly surrounded by trenches. These houses with associated trenches are found across the Fries-Drents plateau and in different periods. Without considering the landscape, this would make for a very random distribution. However, there is a logic to this distribution: all of the houses with house trenches are found at settlement sites at the transition of a sandy areas to a wetter and lower-lying area, where the environment is wetter and drainage of the house site would have been necessary.[65] Their construction may be seen as an adaptation to the local environment, more than a regional or chronological phenomenon.

3.3.6 Measurements combined

In section 3.3.2, the measurements are mostly discussed as separate elements of the house. In this section, the measurements are studied in relation to each other to find out if temporally specific practices in the measurements of the house can be discerned. The correlation between two variables can be displayed via a scatter plot. However, when the correlation between three or more variables needs to be displayed, a scatter plot does not suffice. A way to summarise data that consists of three or more dimensions and a way to study the correlation between multiple variables is via a principal component analysis, or PCA (Read, 2009: 140-143). If the combination of house measurements (length, width, width of the entrance, etc.) are specific for a period or region within the study area, it can be expected that houses from different periods or regions would form discrete clusters if all these measurements were combined in a principal component analysis. An example of temporally significant clusters can be found in later prehistoric housebuilding traditions in Jutland (Christiansen Broch, 2019: 206, fig. 5).

For the Iron Age and Roman Iron Age houses of the Fries-Drents plateau, a principal component analysis was carried out based on house length, house width, nave width, ratio nave width-house width and entrance width to analyse the correlation of these variables. The analysis was performed twice. First, analysis was performed for the strictly dated houses of period 1, period 2 and period 3 for which all five measurements are known. Because only one house from period 4 met all the criteria, period 4 was not included (fig. 3.29). Second, analysis was performed for the houses for which all five measurements are known, regardless of whether they could be dated to any of the four periods, which means that 67 of the 155 houses (43%) were included. The dated houses from one period were compared with the overall dataset of 67 houses (*i.e.* both dated and undated) to ensure that the four graphs of the PCA are comparable (fig. 3.30).

In figure 3.29, component 1 is predominantly explained by the maximum length of the house, whereas component 2 is explained by a combination of the maximum width and the width of the nave of the house.[66] As is evident from the lack of distinction between the clusters for period 1, period 2 and period 3, there are no clusters of measurements that are time-specific, meaning that length and width differed too little to set houses from period 1 to period 3 apart from each other. In the PCA of all houses from this study (fig. 3.30), component 1 is still mostly explained by the maximum length of the house, whereas component 2 is mostly explained by the maximum

65 A thirteenth example of a house plan directly surrounded by a ditch has been excavated at Haren-De Vork. From the preliminary publication, it is clear that the house dates to period 2 (circa 200 BC) and was located in a wet environment near the river Hunze. The find of this house is remarkable, since the expectation was that by that time the area would already have been too wet for habitation. The addition of a ditch around the house may have made it possible for the inhabitants to live there (Van Kruining and Schrijer, 2018).

66 Component 1: mostly explained by variation in maximum length (loading > 0.99); component 2: mostly explained by maximum width (loading = 0.72) and width of the nave (loading = 0.66).

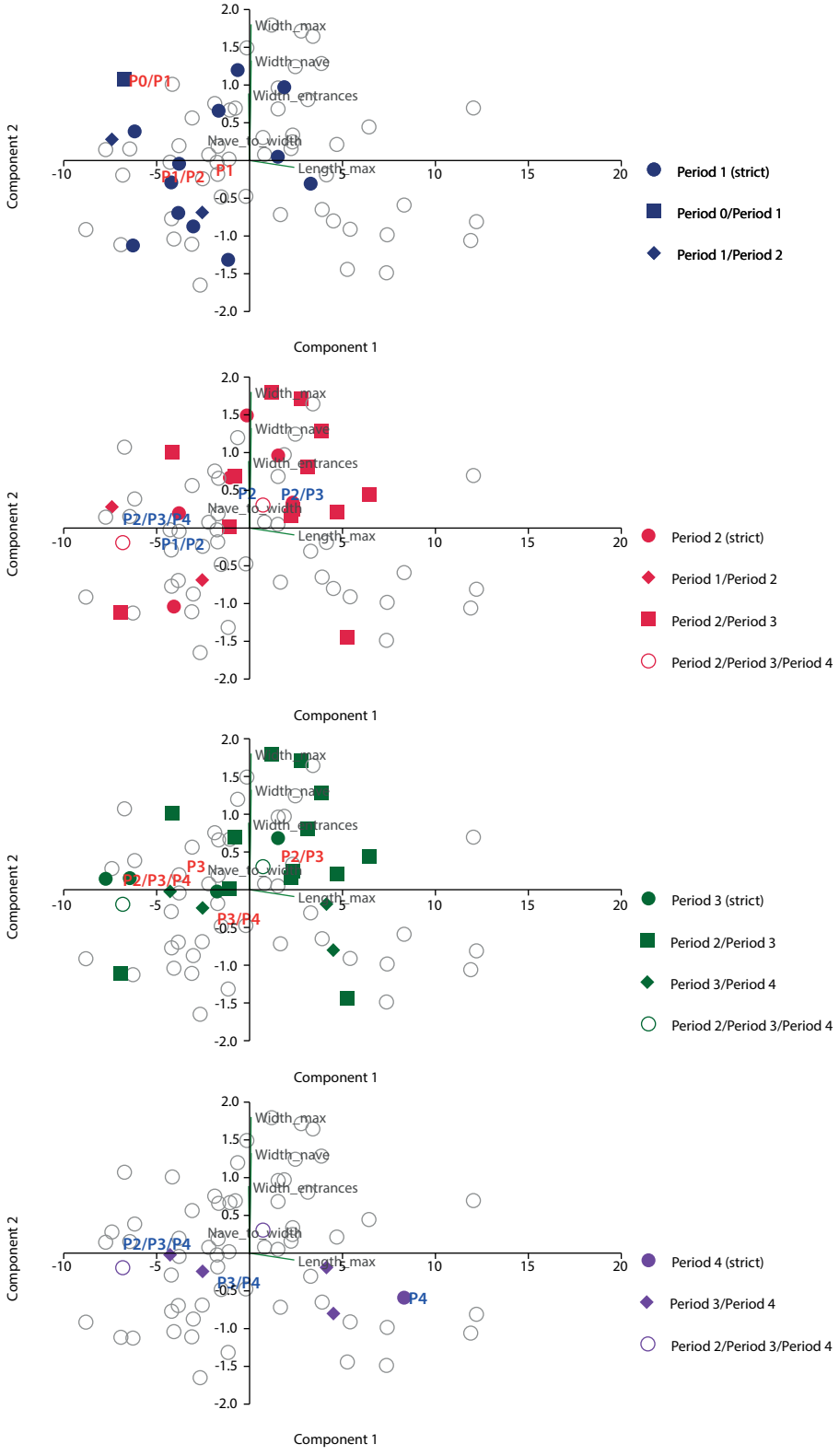


Figure 3.30: Principal component analysis of the 67 houses for which total length, total width, nave width, the ratio total width-nave width and entrance width are known. In grey the biplot of the measurements. In blue and red the group labels.

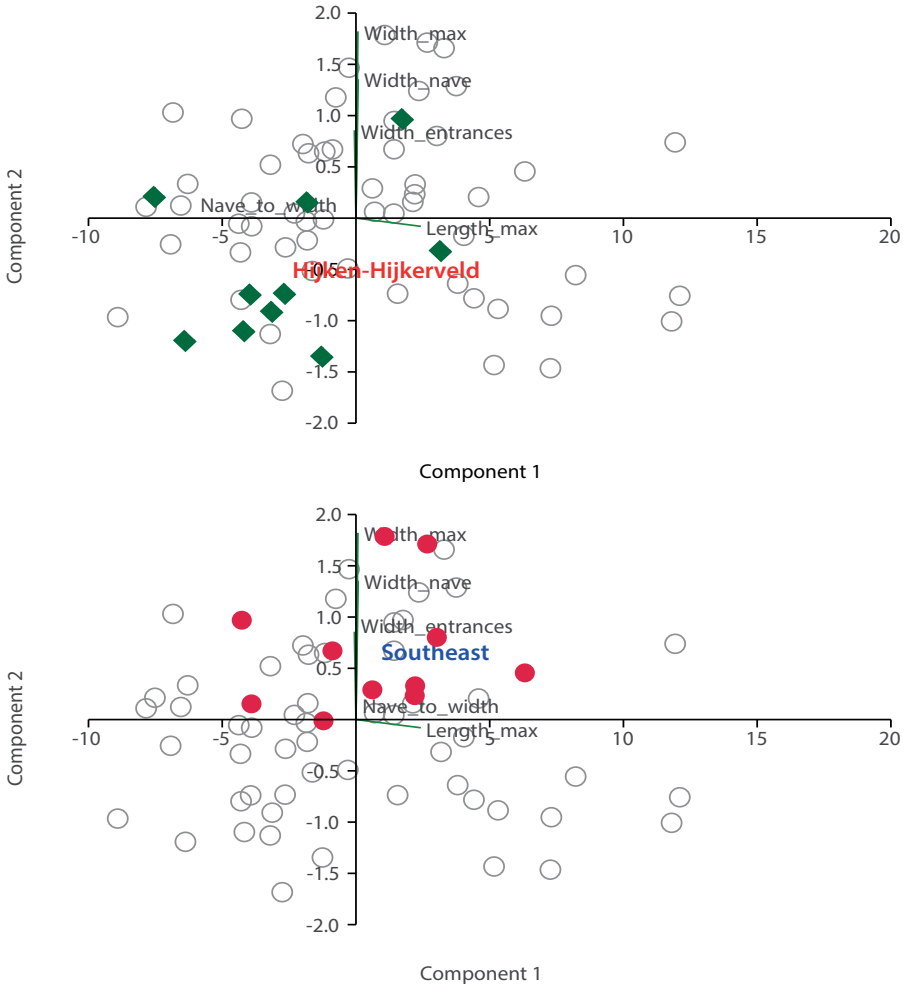


Figure 3.31: Principal component analysis of the houses at Hijken-Hijkerveld (above) and southeastern region (below), for which total length, total width, nave width, the ratio nave width-house width and entrance width are known.

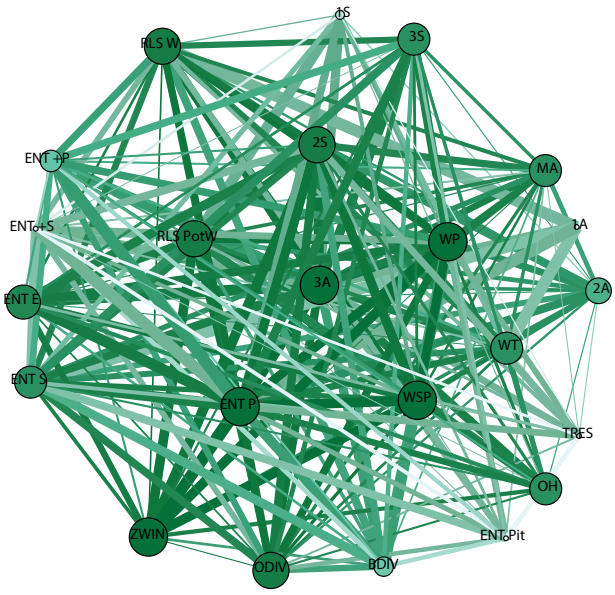
width, more so than for the strict periods.[67] Only the houses from period 4 show a slightly different clustering in the graph, and they can thus be considered truly different from the houses of the previous three periods. This difference in length and width was already observed in section 3.3.2.

What this means is that building traditions with regard to length and width in period 1, period 2 and period 3 were varied (which explains the wide scatter) and varied in a comparable way (which explains the overlapping scatter). Apparently, the other measurements did not have a significant effect on the clustering. An additional explanation for the lack of difference between the periods can be found in the large group of houses from period 2 or period 3 (red squares in the period 2 graph and green squares in the period 3 graph in fig. 3.30), but still this broad group also shows considerable overlap with houses from period 1, for example (blue dots in the period 1 graph in fig. 3.30).

This lack of chronological clustering of measurements is remarkable since there are individual measurements that seem to have chronological significance, such as the ratio nave width-house width (fig. 3.14) and the width of the entrance (fig. 3.19). Apparently, these measurements are obscured by incorporating other dimensions of the house that are less period-specific. As the plotting of groups of houses from specific sites or regions shows (fig. 3.31), a lower scale ordering of the data sometimes leads to a better clustering. These two groups have been highlighted in the same PCA, as has been discussed above. In the case of Hijken-Hijkerveld (fig. 3.31 upper graph), multiple period 1 houses cluster in the lower left section of the graph. Different period 2/period 3 houses from the southeast of the region[68] (fig. 3.31 lower graph) cluster in the upper half of the graph. This means that practices at the level of the settlement site or at the level of the subregion may explain part of the distribution.

67 Component 1: mostly explained by variation in maximum length (loading > 0.99); component 2: mostly explained by variation in house width (loading = 0.90) and to a lesser degree by nave width (loading = 0.77), entrance width (loading = 0.55) and ratio nave width-house width (loading = 0.29).

68 These are Zwinderen-Kleine Esch (Van der Velde *et al.*, 1999), Wachtum-Noordesch (Van der Velde *et al.*, 1999), Holsloot-Holingerveld (Van der Velde *et al.*, 2003), Noordbarge-Hoge Loo (Arnoldussen and Albers, 2015) and Emmen-Noordbargeres (De Wit, 2015a, 2018a).



Legend

3A	: three-aisled interior roof-load supporting structure
2A	: two-aisled interior roof-load supporting structure
1A	: single-aisled interior roof-load supporting structure
MA	: mixed or combined interior roof-load supporting structure
RLS PotW	: post outside the wall as external roof-load supporting structure
RLS W	: walls as external roof-load supporting structure
WT	: wall trenches
WP	: wall posts
Zwin	: Zwinderen-set
BDIV	: byre divisions
ODIV	: other interior divisions
WSP	: supporting posts next to the wall at the inside
1S	: single spaced interior / undivided interior
2S	: bipartite interior
3S	: tripartite interior
ENT S	: simple entrance construction
ENT E	: elaborate entrance construction
ENT P	: paired opposite entrances at the long sides of the house
ENT +S	: additional entrances at the small side of the house
ENT +P	: additional paired opposite entrances at the long sides of the house
ENT Pit	: entrance pit
OH	: overhang at the small sides of the house
TRES	: treshold at the entrance

Figure 3.32: Clustering of the house construction characteristics discussed in chapter 3, for all 155 house plans.

From this, it follows that the individual dimensions of the house changed, often irrespective of each other, and sometimes in a way that was specific to the practices of particular settlement sites or regions within the Fries-Drents plateau. This resulted in houses that partially showed old measurements and partially new measurements. Similar observations of phased change were noticed in the replacement of the exterior roof-load support structure (section 3.3.1.2) and the replacement of wide entrances by narrow entrances (section 3.3.3).

3.3.7 Characteristics combined

In the previous section, housebuilding traditions on the Fries-Drents plateau were discussed from a deconstructed perspective. Characteristics were discussed separately or in combination with one other characteristic. In this section, the separate characteristics are again studied in comparison. Considering the fragmentary and incomplete nature of the archaeological record in general, and of house plans on the sandy soils in particular, caution must be exercised when describing causality between the co-occurrences of individual characteristics. Because of this, here all the possible co-occurrences between two characteristics have been counted. With the use of Gephi 0.9.1,[69] these have been visualised for all 155 house plans (fig. 3.32) and for the four broadly dated periods (fig. 3.33).

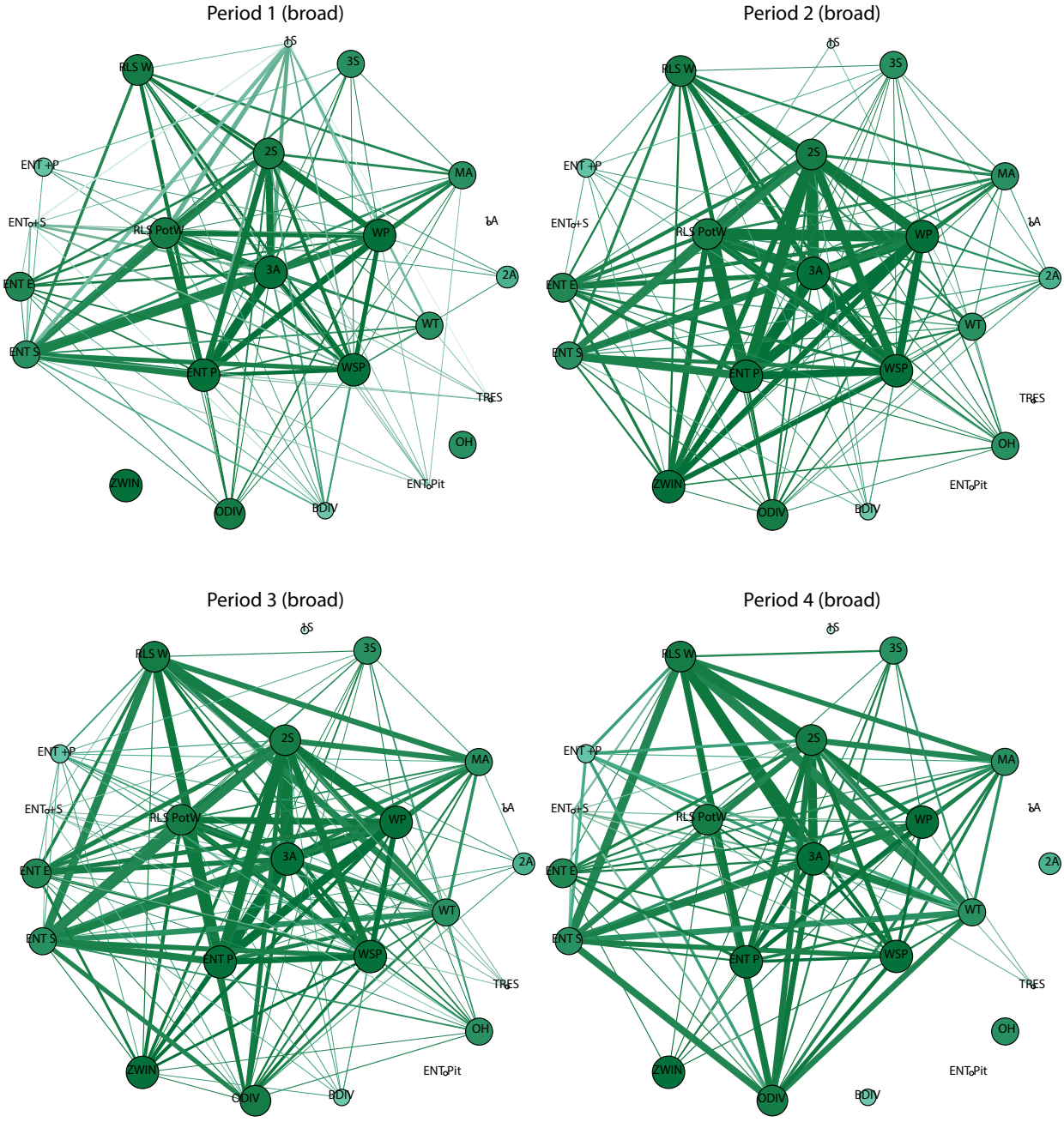
What stands out from figure 3.32 is the frequency in which characteristics co-occur within the entire dataset. The characteristic of the three-aisled interior roof-load support structure (3A in the graph) is connected to all other characteristics, which confirms its normativity, as displayed earlier (see fig. 3.4). In addition to the three-aisled structure, the following are also frequently encountered together: paired opposing entrances in the long sides of the houses (ENT P), bipartite interior (2S), walls made up of posts (WP), a simple entrance construction (ENT S), supporting posts at the inside face of the wall (WSP) and roof-load supporting posts set outside the walls (RLS PotW). This is expressed in figure 3.32 by the size and colour of these characteristics (the nodes) and the thickness of the lines (edges) connecting them.[70] These elements form the constructive and conceptual basis of the Iron Age and Roman Iron Age longhouse on the Fries-Drents plateau.

Together, these characteristics have little chronological value, as they frequently occur in all four periods.[71] However, when the connections between the characteristics of the four broadly dated periods are studied, chronological differences between the periods emerge (fig. 3.33). Compared with the other three periods, period 1 (broad) stands out because of the lack of connections as expressed as thin edges and unconnected nodes. Only

69 Gephi is an open-source, free visualisation and exploration software; see https://gephi.org/.

70 Edge thickness and node size are calculated based on the frequency within the dataset, expressed as a percentage of the total. A weight of 50 means that half of the houses show co-occurrence of these specific two characteristics. See appendix 4 for the overview of the occurrences.

71 3A: section 3.3.1.1 and figure 3.4; ENT P and ENT S: section 3.3.3; 2S: section 3.3.4 and figure 3.21; WP: fig. 3.8 and fig. 3.11; RLS PotW: section 3.3.1.2.



Legend

3A	: three-aisled interior roof-load supporting structure	1S	: single spaced interior / undivided interior
2A	: two-aisled interior roof-load supporting structure	2S	: bipartite interior
1A	: single-aisled interior roof-load supporting structure	3S	: tripartite interior
MA	: mixed or combined interior roof-load supporting structure	ENT S	: simple entrance construction
RLS PotW	: post outside the wall as external roof-load supporting structure	ENT E	: elaborate entrance construction
RLS W	: walls as external roof-load supporting structure	ENT P	: paired opposite entrances at the long sides of the house
WT	: wall trenches	ENT +S	: additional entrances at the short side of the house
WP	: wall posts	ENT +P	: additional paired opposite entrances at the long sides of the house
Zwin	: Zwinderen-set	ENT Pit	: entrance pit
BDIV	: byre divisions	OH	: overhang at the short sides of the house
ODIV	: other interior divisions	TRES	: treshold at the entrance
WSP	: supporting posts next to the wall at the inside		

Figure 3.33: Clustering of characteristics as discussed in chapter 3 for the broadly dated periods.

the three-aisled structure (3A), wall posts (WP), supporting posts at the inside face of the walls (WSP), external roof-load supporting posts (RSL PotW), bipartite interior (2S), paired opposing entrances (ENT P) and simple entrance construction (ENT S) are recurrent in period 1 houses. This either means that period 1 houses in the dataset were in a fragmented state when they were excavated or that the houses actually did not have many extra elements, for example, to divide the interior into compartments. This is of relevance for their recognisability, as the elements that define them are frequently found in other periods as well.

Period 2 shows more frequent connections between different characteristics, which becomes visible in more lines and thicker lines. In addition to this, period 2 shows more elements that are commonly found in houses. Compared with the previous period 1, the more regular occurrence of elaborate entrances (ENT E) stands out, as well as the frequent occurrence of the Zwinderen-set (ZWIN), which is not found in period 1 at all. The increase in variation in interior roof-load support structure (two-aisled, three-aisled or combined construction), within a single structure and between different structures, is seen in more connections between those elements (upper right part of the outer ring of nodes). The nodes with 2A and MA not only show connections to each other, they also show connections to more other characteristics. The stronger association between the characteristics adds to the recognisability of houses from this period, but individual elements, such as the elaborate entrance constructions and Zwinderen-set posts, add to the recognisability of individual house plans even if they are excavated in an incomplete state. The strong association between the elements suggests that the shared concept of what elements a house should contain was stronger than in period 1 and that it consisted of more elements.

The clustering of period 3 is complex in the sense that even more characteristics are found in this period and they all frequently co-occur. Especially the increase in connections relating to the roof-load supporting walls (RLS W, upper left outer ring of nodes) stands out. This signifies a major change in the external roof-load support structure, as discussed above. Smaller developments in house construction can also be seen, such as the more frequent occurrence of wall trenches instead of post-built walls. In a similar vein, the roof-load supporting walls and external roof-load supporting posts (RLS PotW), on the one hand, and the wall trenches (WT) and post-built walls (WP), on the other hand, are connected to the same characteristics. What this means is that some elements in house construction could change while many of the other characteristics of the house remained the same. This suggests that most of the change in housebuilding tradition was slow and phased. The clustering of the characteristics of period 3 is best understood in relation to period 2 and period 4 (see below). In this sense, it confirms the transitional nature of this period, as was discussed earlier with regard to, for example, entrance width.

In the group of houses broadly dated to period 4, the different nature of the exterior roof-load support structure becomes evident in the way the node of the roof-load supporting walls (RSL W) is now connected to many other nodes, at the cost of the roof-load supporting posts outside the wall. Many of the characteristics in the outer ring of nodes are either no longer or less frequently connected, which means that they have not been registered in houses that are dated to this period. In some cases, this reflects a true pattern, *e.g.* in the case of the Zwinderen-set (ZWIN) and the overhang (OH). It also reflects the problem that many of the houses at the site of Wijster-Looveen could not be included, because the finds could not be associated with the houses. Elements such as byre divisions (BDIV) and entrance pits (ENT pit) are frequently found at this site and are presented in figure 3.32, but they are unconnected in the cluster in figure 3.33.

Here the discussion returns to the points made in chapter 2 on the current approaches to housebuilding traditions (see also: De Vries, 2017). Based on what is described in this section, there is reason to distinguish between two clusters of characteristics that signify recurring building practices, one specific for period 2 and one specific for period 4, both of which occurred in period 3. For period 2, houses are frequently constructed with a three-aisled roof-load support structure, external roof-load supporting posts, a post-built wall and one set of paired opposing entrances, which creates a bipartite division of the interior. Occasionally, these houses may have elaborately constructed entrances and a Zwinderen-set. For period 4, houses are frequently constructed with a three-aisled roof-load support structure. The external part of the roof-load is supported by the walls, which can be either post-built or placed in wall trenches. The entrance construction is most often simple but regularly involves additional entrances.

However, caution is still called for because, as this chapter has shown, individual characteristics tend to have much longer periods of use and measurements tend to overlap between different periods. In addition to this, it is not possible to discern clear sets of mutually exclusive characteristics in the current analysis. This means that the dates proposed here are broader than those suggested elsewhere and that they only have value if multiple characteristics are found in association. Finally, it should be noted that these descriptions of housebuilding traditions for the periods should be seen as a tool, a shorthand to describe house plans.

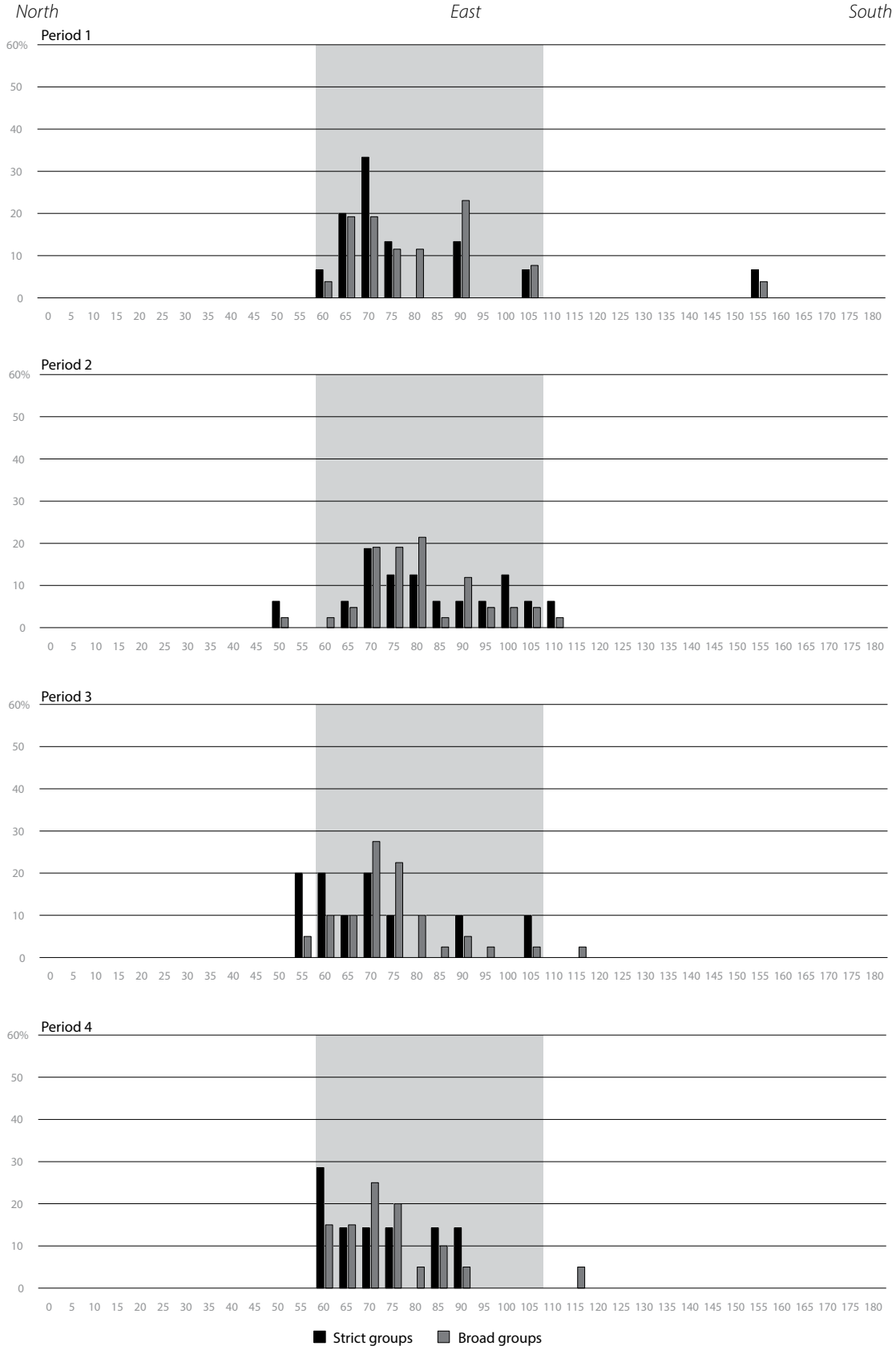


Figure 3.34: Distribution of house plans (%) with regard to their orientation (degrees) per period for strict group (dark grey) and broad group (light grey). Grey band marks the range between 60 and 105 degrees.

3.3.8 Orientation

As mentioned above, Iron Age and Roman Iron Age houses are frequently divided by their set of opposing entrances. For the Fries-Drents plateau, it has been observed that houses are predominantly placed in an east-west orientation, which may have resulted in a division of the interior into opposing pairs, such as warm-cold or dark-light (Harsema, 1996: 58),[72] although more functional arguments can be thought of as well. For example, the need to shield the house and its inhabitants from the prevailing winds or to make the most of the warmest hours of the day can influence the orientation of the house (Harsema, 1996: 58; Webley, 2008: 56-58). In Belgium, in the first two centuries AD, houses are built with a primarily NE-SW orientation, although differences exist between the regions within the research area (De Clercq, 2009: 314-315). In addition to the orientation of the entire house, the interior layout may also have been regulated according to the cardinal points. In Denmark, for example, houses are erected in an E-W to ESE-WNW orientation, with the living area predominantly located in the western part of the house (Webley, 2008: 58-59).

For the research area, I studied house orientation to see if indeed houses generally followed an east-west orientation (as has been proposed in the literature) or, if not, whether regional differentiation within the research area is evident, as is the case in Belgium. In addition to this, if house orientation were the result of more than just adaptations to the local climate, it would be relevant to see if particular changes in the elements listed above co-occurred with changes in house orientation. To establish this, house orientation is presented in figure 3.34 in degree increments between 0 and 180, where 0 is north and 180 is south. First, I performed an analysis based on the orientation of the entire house, without making a distinction between the living area and the byre section. As becomes evident from figure 3.34, the orientation was roughly the same for all periods, as it falls between 60 and 105 degrees, or roughly between ENE-WSW and ESE-WNW.

However, the four periods do not share the exact same orientation, and the four periods show different degrees of variation in orientation. In period 1, orientation is more restricted and houses tend to be oriented more towards the lower degrees, with a peak around 65 and 70 degrees. Period 2, on the contrary, shows more variety, as it covers the entire range between 60 and 105 and even slightly higher. Period 2 has its peak at 70 degrees for strict dates and 80 for broad dates. For period 3 and period 4, there is a shift back to the left side of the graph, or more to the north. In addition to this, the orientation in period 3 and period 4 is more restricted than that in period 2.

The determining of house orientation may be the result of a preferred or ideal orientation on the one hand and the local landscape on the other hand. One of the most prominent, although large-scale, landscape elements within the research area is the Hondsrug, a ridge that is located in the eastern part of the research area. Even though the Hondsrug may not necessarily be perceived in the way it is used here, it is imaginable that local topography was influenced by this ridge, which has an orientation of roughly 150 degrees (or roughly ESE-WNW). To the west of the Hondsrug lies a boulder clay plateau intersected by small streams and peaty areas. In contrast to the Hondsrug, this area lacks a clear orientation. In order to see if the landscape influenced house orientation at the level of the settlement, four settlements were compared that all contain a large number of houses. The settlements are Borger-Daalkampen II (n=18), Wijster-Looveen (n=15), Hijken-Hijkerveld (n=10) and Emmen-Noordbargeres (n=8). See figure 3.35.

As figure 3.35 shows, the house orientation of the two sites on the Hondsrug and the two sites on the plateau is not markedly different. This contradicts the notion that large-scale landscape units may have influenced local house orientation. When the four sites are compared, it becomes evident that variation at the level of the settlement site is more restricted than the widely shared range between 60 and 105 degrees (as depicted by the grey band in fig. 3.34 and fig. 3.35).[73] This coherence at the level of the settlement sites signals locally shared norms on house orientation that may have been influenced by the local relief. In addition to this, local house orientation may also be pre-set by the local cultural landscape, for example, by the continuous use of a previously established Celtic field system (as seems to be the case at Hijken-Hijkerveld: Arnoldussen and De Vries, 2014: 100-101).

In the previous sections, house orientation has been discussed without taking the interior divisions of the longhouses into account. As mentioned above, evidence from Denmark suggests that the interior divisions played an important role in the general orientation of the house, as the living area was preferable oriented towards the west (Webley, 2008: 56-58). For the Fries-Drents plateau, it has been suggested that interior orientation was not very rigid during the Iron Age (*cf.* Harsema, 1996: 59). This was indeed confirmed here for all four periods, by relating the interior

72 See the discussion of the Kabyle house for other oppositions in house construction and house organisation (Bourdieu, 1977: 90-91). Oppositions within the house, such as animal-human, may also be extended to the farmstead (Huijbers, 2007: 328-330).

73 For similar observations on house orientation on Bronze Age sites, see Arnoldussen (2008: 302, fig. 6.15).

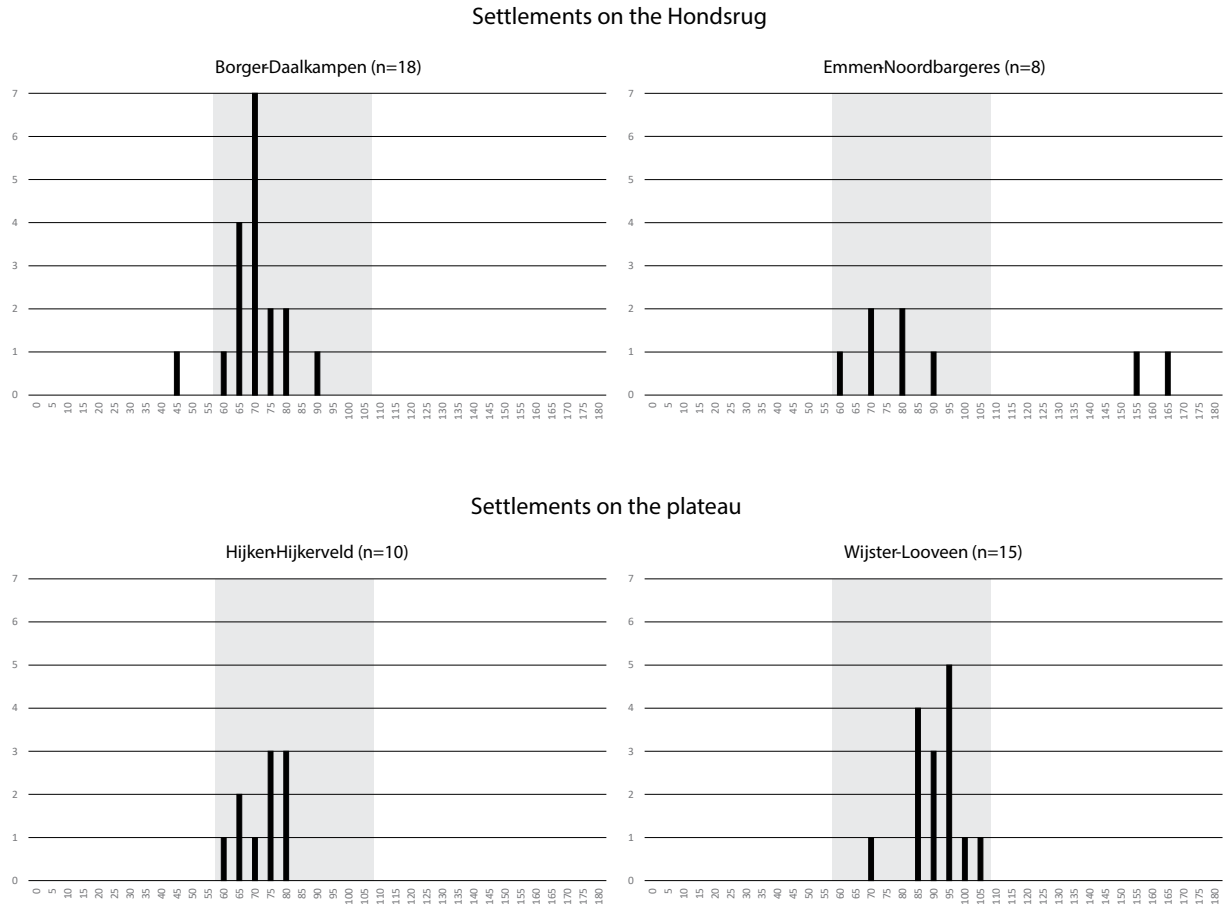


Figure 3.35: House orientation for two settlement sites on the Hondsrug, Borger-Daalkampen (De Wit *et al.*, 2009a; Van der Meij, 2010a) and Emmen-Noordbargeres (De Wit, 2015a), and for two settlement sites on the plateau, Hijken-Hijkerveld (Arnoldussen and De Vries, 2014) and Wijster-Looveen (Van Es, 1967). Grey band marks the range between 60 and 105 degrees.

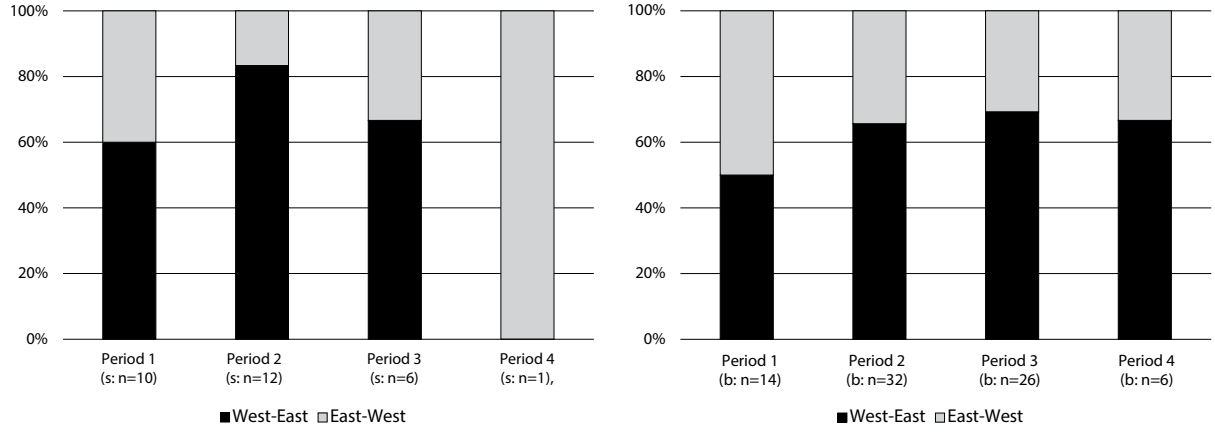
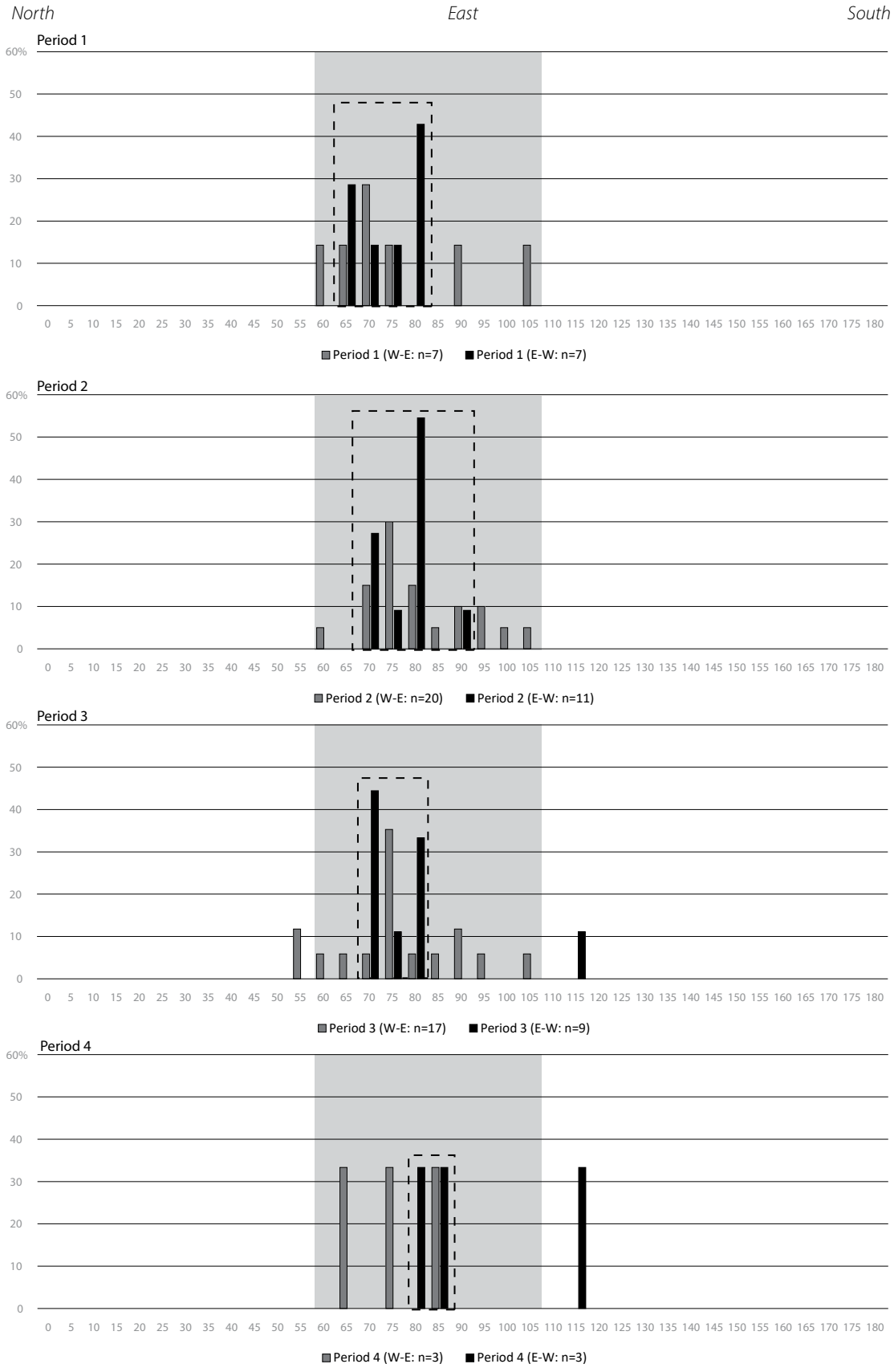


Figure 3.36: Distribution of houses (%) in relation to their internal layout per period for the strict group (left) and the broad group (right). Dark grey: living area is located in the western part of the house; light grey: living area is located in the eastern part of the house.

Figure 3.37: Distribution of house orientation (%) per period for the broadly dated houses with known interior divisions. Dark grey: houses with the dwelling area roughly to the west. Light grey: houses with the dwelling area roughly to the east. The grey band depicts orientations between 60 and 105 degrees. The dotted line delimits the orientation of the houses with their dwelling area to the east within the broader distribution of houses with their dwelling area to the west.


North
East
South
Period 1
60%
50
40
30
20
10
0
0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95 100 105 110 115 120 125 130 135 140 145 150 155 160 165 170 175 180
Period 1 (W-E: n=7)
Period 1 (E-W: n=7)
Period 2
Period 2 (W-E: n=20)
Period 2 (E-W: n=11)
Period 3
Period 3 (W-E: n=17)
Period 3 (E-W: n=9)
Period 4
Period 4 (W-E: n=3)
Period 4 (E-W: n=3)

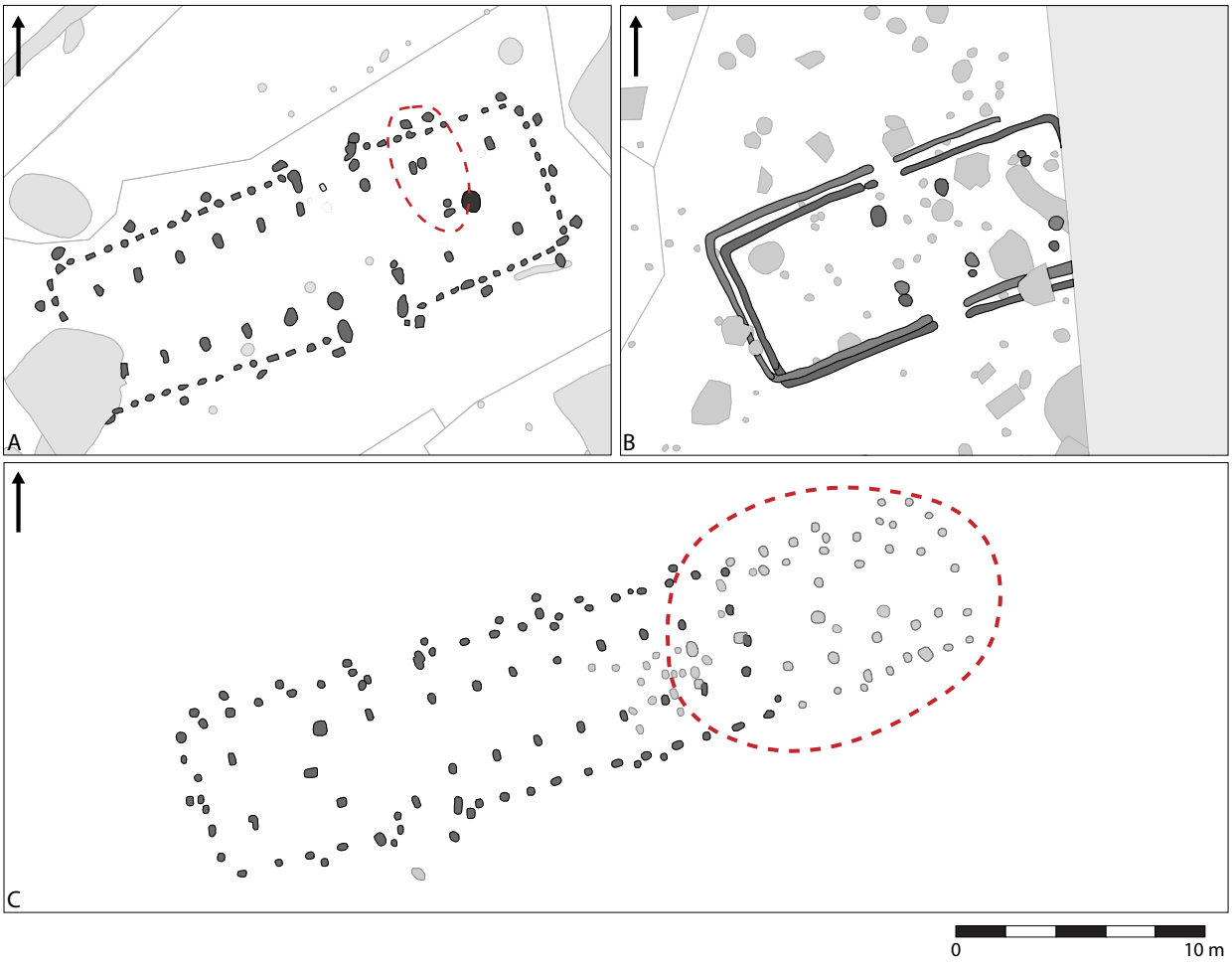


Figure 3.38: Examples of different types of house modifications: A: renovation at Ruinen-Oldhave Bosch (Koopstra and Lenting, 2016); B: rebuild at Gieten-OV Knooppunt (Loopik, 2010b); C: extension at Peelo-Es (Kooi, 1994a). For Peelo-Es, only the house is depicted, not the adjacent features. All houses to the same scale. Images drawn by the author based on primary data.

layout of the house to its general orientation (see fig. 3.36).[74] As the figure shows, there is a preference for a western orientation of the living area, but not a very strong one. For the strict group, 30% to 40% deviate from this orientation. In the broad group, the preference is even less evident.

The precise orientation of the houses with a western or eastern orientation of the living area is not completely comparable though. Figure 3.37 shows that houses with a deviating orientation, that is, with the living area to the east, show more restriction in orientation than the houses with a living area to the west. In addition to this, the orientation of the houses with the living area to the east falls within the wider range of the houses with the living area to the west. This is a good example of how behaviour can be varied and normative at the same time. Apparently, deviation from a western orientation of the living area was allowed, but the general orientation of the house needed to be maintained. If people chose to reverse the internal layout of the house, this was done in a more restricted manner.

3.3.9 House modifications

All matters discussed above relate to the initial stage of use, the moments before and during construction. Up until now, houses have been described according to a mental image of what people thought a house should

74 As discussed above, ascertaining the internal layout of longhouses or byre houses is problematic, as often too little evidence exist to allocate a true byre function to either part of the house. However, there is a morphological difference between what is supposed to be the dwelling area and what is supposed to be the living area (see discussion above). These differences have been used here to establish the relationship between house orientation and interior orientation.

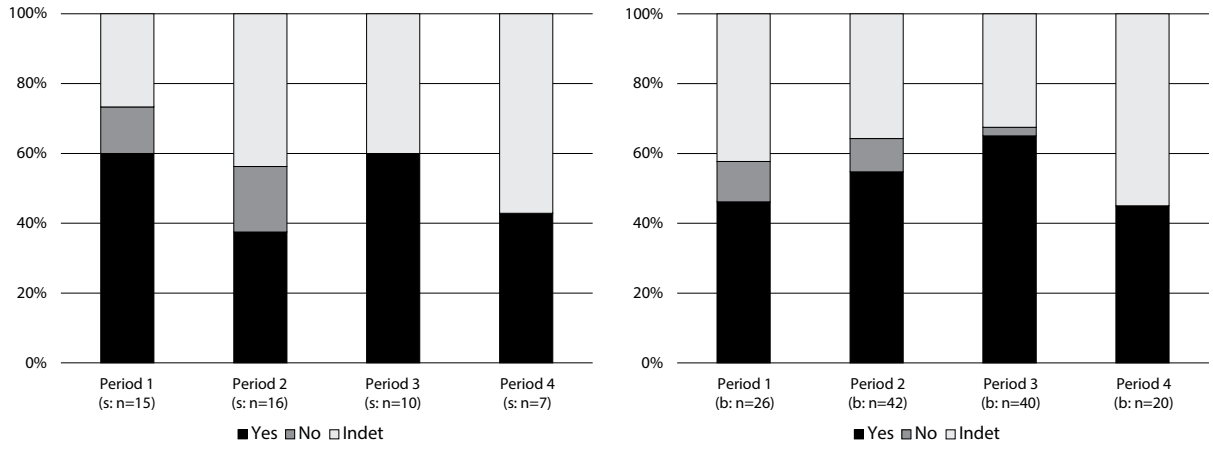


Figure 3.39: Frequency of house modifications (%) per period for the strict group (left) and the broad group (right).

look like. Still, houses were not pristine objects that were left untouched after they were constructed. Indeed, they were the opposite of static objects, as they were meant for daily use, and perhaps even more than just that. This means that houses may also have undergone modifications during the period of their use. Small malfunctions were repaired (*e.g.* plastering of the walls) but also more drastic adjustments are imaginable (*e.g.* replacement of part of the roof-load support structure). Here, house modifications are subdivided into three categories. The first category is repairs to the construction, which left the original dimensions mostly unchanged. The second category is changes in the dimensions of the house. These modifications were more profound, such as the elongation of houses. The third category is the integral rebuilding of the house on the same footprint. See figure 3.38 for examples of these three categories.

These modifications to the initial house layout or house construction are relevant because they relate to concepts of the ideal and real use life of houses (Gerritsen, 1999, 2003: 75-79) and because house modifications may also be indicative of continuity of habitation in a period that is predominantly described by the discontinuity of house sites (the so-called wandering farmsteads: Roymans and Fokkens, 1991: 11-13; Arnoldussen and Jansen, 2010: 385-388), because modifications can be interpreted as the wish to extend the period over which a house can be inhabited. In general, a (modern) human generation, which is roughly 25-30 years, is seen as the typical duration of habitation in one place and as the average lifespan of a prehistoric house (Roymans and Fokkens, 1991: 11; Brück, 1999: 149; Gerritsen, 2003: 39; Webley, 2008: 40). From a technical point of view, this estimate is criticised for its dependence on many different factors, such as durability of wood and soil conditions, as well as life expectancy (for a full discussion, see Arnoldussen, 2008: 88-90). This model, however, can also be criticised with the possibility of house modifications in mind, as specific repairs may extend the lifespan of the house (see for full discussion: De Vries, 2019).

A different reason to study house modifications in the context of the current research is the fact that they provide glimpses of what people actually thought about the houses they had built. House modifications, especially extensions and rebuilds, provide small-scale site chronologies that are often lacking due to the 'wandering' of farmsteads and the lack of vertical stratification in the research area. In this way, house modifications can demonstrate whether people were satisfied with the design and dimensions of their houses or thought they needed to be adapted to new demands. The moment people renovate their house, it signals satisfaction with the overall structure and with the location of the house and the farmstead. Apparently, for the inhabitants, it was worth prolonging the lifespan of the house. The moment the inhabitants extended the length of their house, it indicates that remaining in the same house and staying in the same location outweighed the inconvenience of the adaptations needed to meet new demands. The rebuilding of houses showcases the wish to stay as well. Apparently, there was a necessity to rebuild the house, but, in contrast to the average practice of relocating, the house was built on the same footprint again. Similar considerations about the design, dimensions and location of the houses occurred probably at every instance of construction, but it is difficult to attribute two structures to the same group of builders. Therefore, it is difficult to know if two different houses represent two households with different needs or one household with changing needs. House modifications articulate the changing needs of one household the most clearly and provide us with glimpses of prehistoric decision making.

Figure 3.39 displays the percentage of houses that show signs of modification ('Yes'; dark grey), that show no signs of modification ('No'; medium grey), and that

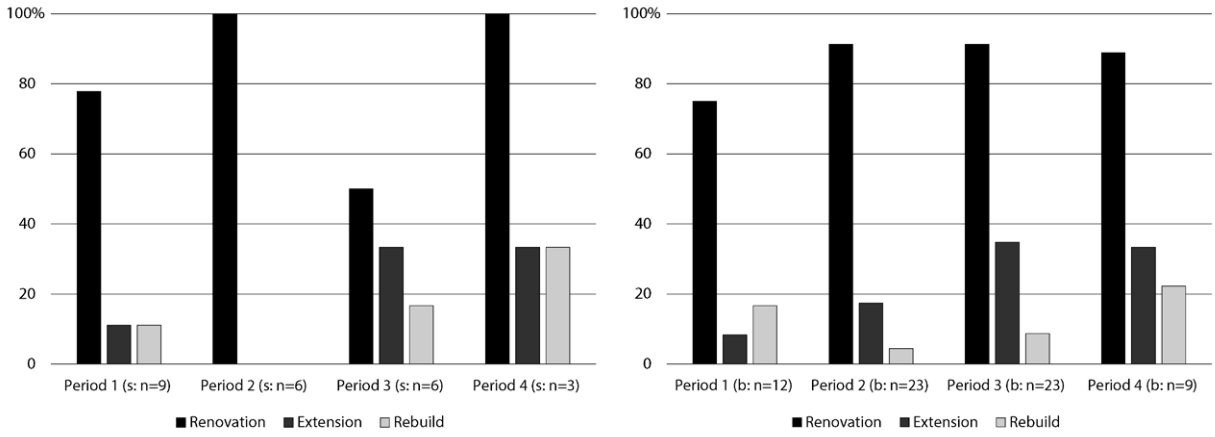


Figure 3.40: Frequency of types of modifications (%; if modification = yes) per period for the strict group (left) and the broad group (right). Total percentages may be more than 100%, as different types of modification can occur within a single house.

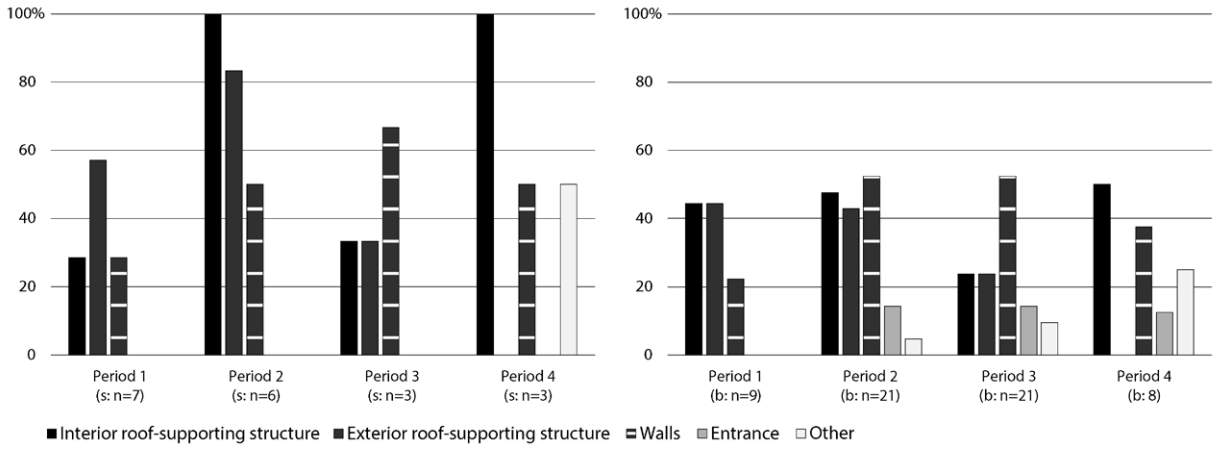


Figure 3.41: Frequency of the location of renovation (% of the total of the period) for the strict group (above) and broad group (below).

are so poorly preserved that they are indeterminate in terms of modifications ('Indet'; light grey). This figure clearly indicates that house modifications are a frequent occurrence in all periods and are not at all rare. This is in contrast to the previously published concept that Iron Age houses were rarely repaired since they were in use for a short period (Kooi, 2005: 115). For the strict group, the percentage of houses with modifications varies between circa 40% and 60%. Only for period 1 and period 2 is there evidence that some houses were not modified (period 1 (strict): no = 13%; period 2 (strict): no = 20%). In the broad group, there is an increase in house modification from period 1 to period 3, after which a decline is visible. It has to be said, though, that the indeterminate group is largest in period 4, which means it is more likely that renovations were missed archaeologically in this group. The reason for the uncertainty in period 4 is the same as mentioned earlier in relation to interior divisions and byre divisions, in that most of the houses from period 4 were encountered within dense clusters of features. Therefore, it could not always be established what features could be interpreted as modifications for a specific house or as belonging to other house plans.

Figure 3.40 displays the distribution of the different types of house modification per period. From this figure, it becomes evident that renovations are the most frequent type of house modification in all periods, both in the strict group and in the broad group. In both the strict and broad groups, period 2 has the most renovations proportionately, and period 3 the most extensions, although the percentages are much lower. Even less often, houses were rebuilt in the same location. Apparently, this happened least often in

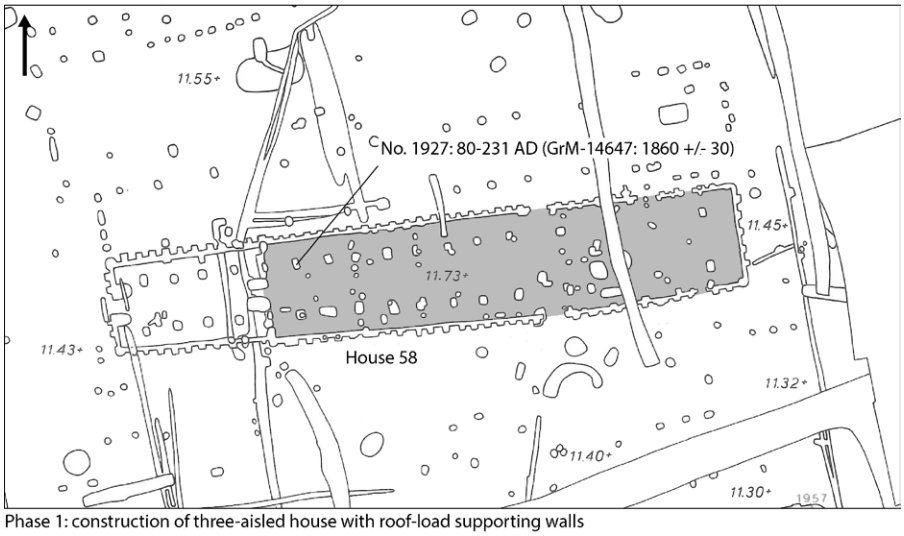
Figure 3.42: Repetitive extension of houses 5, 6 and 7 at Noordbarge-Hoge Loo (blue) and other contemporaneous houses (green). Map drawn by the author based on primary data Arnoldussen and Albers (2015: 153; 160, fig. 3 & fig. 7) and Van Zeist (1981: 178, fig. 2).

period 2 (strict: 0%; broad: 4%). Notably, the rebuilding of houses was relatively frequent in period 1 and period 4, at least in the broad group.

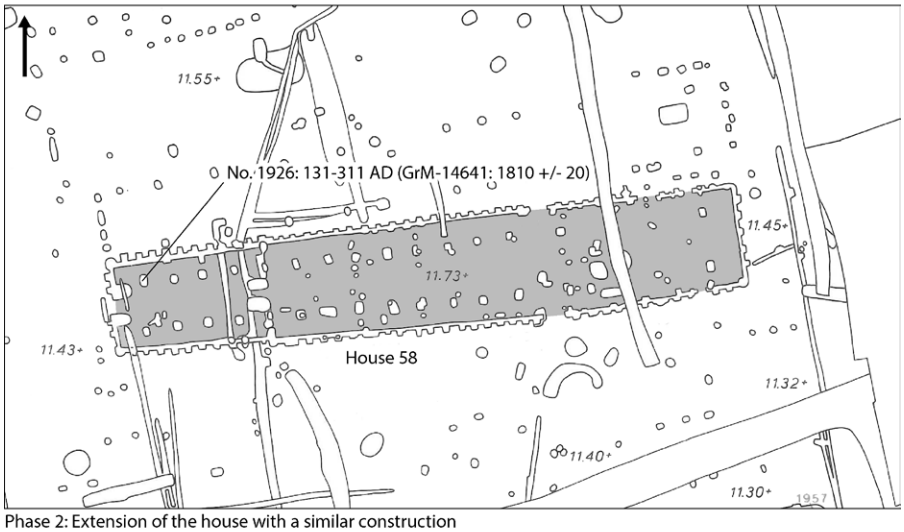
There are some differences between the periods of what specific elements are repaired, as can be seen in figure 3.41. Not all of these differences, however, should be considered changes in attitude towards the repair of specific elements of the house. Rather, the patterns reflect changes in the ways houses were constructed, which is of consequence for the archaeological visibility of specific features. For example, in period 1, the exterior roof-support structure is often the most evident and, hence, if we can discern modifications, this is where we will find them. In some cases, however, explanations are less straightforward. For example, in period 2, walls are not yet considered to be roof-load supporting. Still, they are subject to renovation in 47% of the houses. Similar numbers were found for period 3. Again, I believe this is the result of the archaeological visibility of the house features in question, rather than a preference for repairing specific elements over others.

The following has to be added in this particular analysis: it is quite certain that, if all archaeologically visible elements show signs of repairs, there will have been additional repairs that were not picked up archaeologically. These repairs were probably performed on the elements that do not leave any traces in the archaeological record. Examples may be repairs of the roof itself or the (re)daubing of the walls. For all periods, most repairs are interpreted here as major repairs, either because the repairs relate to the roof-load support structure and must have been fundamental or because one house shows many repairs. Again, this can be explained by the fact that in most cases, the roof-load support structure remains the best visible in the archaeological record. This means that if repairs are visible, they immediately relate to modifications of the roof-load support structure. Therefore, all repairs can be considered major renovations.

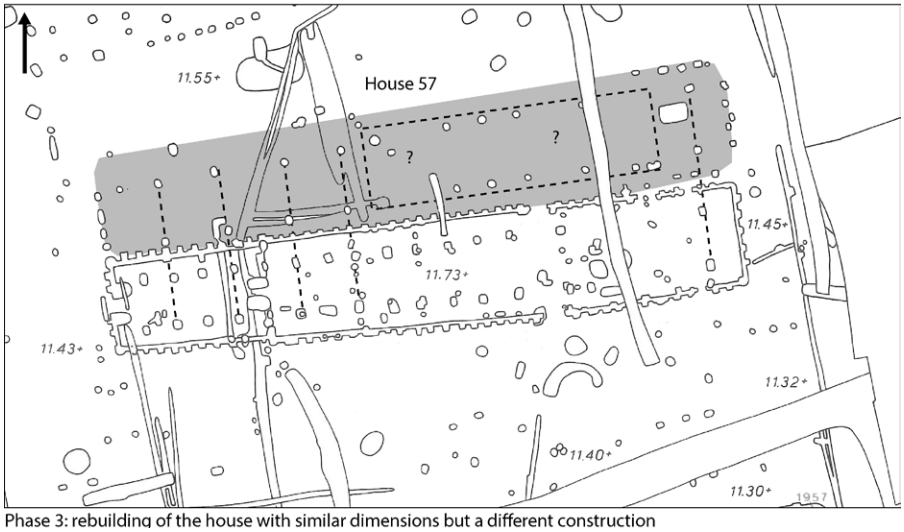
The settlement site of Noordbarge-Hoge Loo forms a curious outsider with regard to house modifications, since houses 5 (period 2/3), 6 (no date) and 7 (period 3/4) were repeatedly extended, all in a similar way. The way the houses were extended was shared between the different inhabitants who lived within a demarcated settlement. This suggests that they shared a concept of what was proper conduct, which was specific to them alone. From this, it follows that these three houses should be dated to the same period, probably period 3. Other houses that can



Phase 1: construction of three-aisled house with roof-load supporting walls



Phase 2: Extension of the house with a similar construction



Phase 3: rebuilding of the house with similar dimensions but a different construction

Figure 3.43: Three phases of house 58 and house 57 at Peelo-Haverland. House 58 (phase 1) measures circa 27 metres. Images adapted from Kooi 1995, fig. 6 (II) & fig. 57.

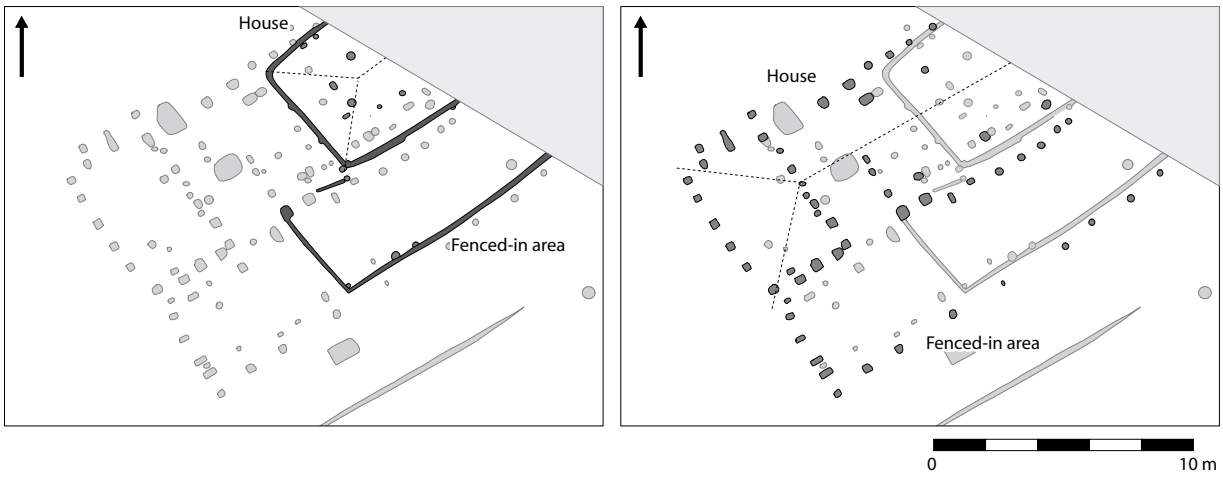


Figure 3.44: House 2 with its fenced-in area (left) and house 3 with its fenced-in area (right) at Noordbarger-Hoge Loo. Images adapted from Huijts (1992: 104, 106, fig. 101 & fig. 103).

be dated to this period as well, such as house 25 (54-127 AD: period 3/4)[75] and house 1 (37 BC-126 AD: period 2/3/4), do not show these repeated extensions, which means that the need to elongate the house was not shared by all inhabitants at Noordbarge-Hoge Loo (see fig. 3.42).

In most cases, when houses were rebuilt, the builders stuck to the original dimensions and the original construction (*e.g.* Groningen-Helpermaar: Huis in 't Veld *et al.*, 2010; *e.g.* Emmen-Emmerhout house 6 and Emmen-Angelsloo house 75; Kooi, 2008: 336, 356 fig. 4; *e.g.* Gieten-OV Knooppunt: Loopik, 2010b).[76] However, in two cases, it is evident that a different construction was chosen deliberately. In the case of Peelo-Haverland, house 58 was built with a three-aisled roof-load support structure as well as with roof-load supporting walls (Kooi *et al.*, 1987; Kooi, 1995: 177, fig. 10). Based on a radiocarbon date on charred seeds from a posthole of one of the central roof-supporting posts, the house was dated to between 80 and 231 AD (1860 BP +/- 30; GrM-14647).

At some moment in time, what is supposedly the byre section was extended towards the west. At the present time, the resolution of our chronology is too coarse to pinpoint this moment, but the radiocarbon date on charred seeds from one of the postholes from the elongated part places it between 131 and 311 AD (1810 BP +/- 20; GrM-14641). The third use phase of this house consisted of a rebuilding of the structure at the same location but slightly to the north. The length of the new houses was the same as that of the elongated first house; however, a different construction was used that no longer had roof-load supported walls in trenches, but walls made up of posts. Some elements were kept, such as the location of specific pairs of posts, and some were changed, such as the nave width between the posts (see fig. 3.43).

A second, similar example is that of houses 2 and 3 at Noordbarge-Hoge Loo (Huijts, 1992: 104, 106, fig. 101 & fig. 103: see figure 3.44). Unfortunately, these two house plans could not be dated based on arguments other than typological ones, but the sequence is similar to that of house 58. The first house at Noordbarge-Hoge Loo was a three-aisled house with roof-load supporting walls that were placed in a wall trench. At some point, this structure was replaced by a structure of the same dimensions that was placed slightly to the southwest. Unfortunately, the eastern part of the house was not excavated. This means it is not known whether the new house was elongated or only slightly moved. Both examples show that changes could be drastic and that people were active agents in these changes.

3.4 Conclusion

In this chapter, I raised the question whether it is possible to discern different social groups on the Fries-Drents plateau based on normativity and variation in housebuilding traditions during the Iron Age and Roman Iron Age. I also raised the question whether it is possible to understand temporal and regional variation better when houses are studied based on individual characteristics and not as types. The emphasis on normativity and variation and on individual characteristics instead of types can make social groups visible through patterning in the material culture.

The first method through which different social groups become visible is in the different extent to which

75 Find and feature no. 999 (sample no. 8269): 54-127 AD; 1921 +/- 15 BP (GrM-14114). Charred cereal from posthole.

76 Probably houses were rebuilt more often, although in a different location, as suggested by evidence for removed roof-load supporting posts, for example at Borger-Daalkampen II (2008) (house 1: Van der Meij, 2010: 15-17, especially fig. 8). Similar evidence can be found in the province of Overijssel, for example at Epse-Noord (house 5: Hermsen *et al.*, 2016: 68-75).

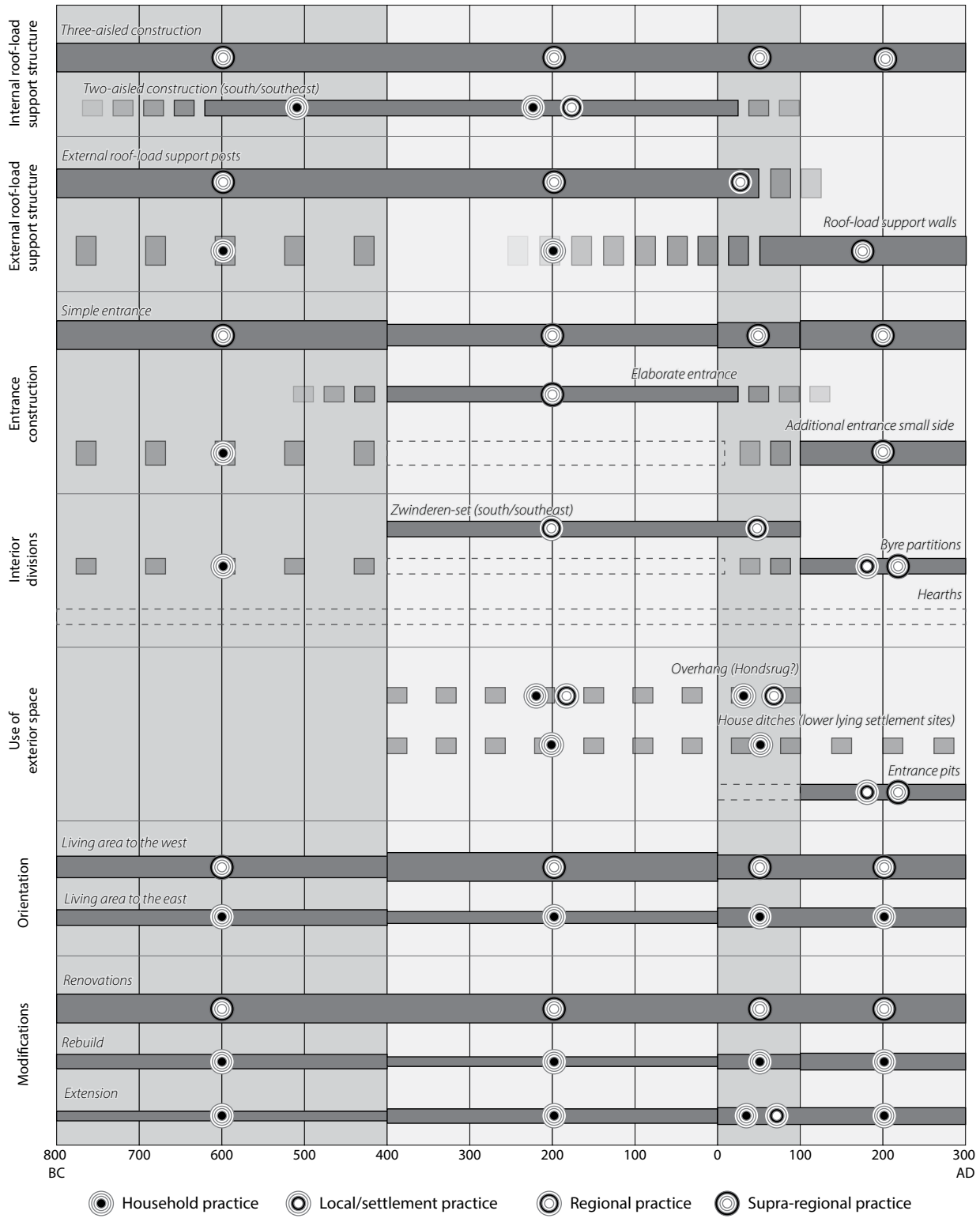


Figure 3.45: Chronological development of characteristics in housebuilding as discussed in this chapter.

different households may have participated in larger communities through which they had access to information on new techniques (diachronic variation versus diachronic normativity), but also the different extent to which traditions were passed through the generations (stasis). The second method to discern social groups is more nuanced: in the adoption and use of different techniques that are considered synchronous (synchronic variation versus synchronic normativity, see fig. 3.45). On the scale of northwestern Europe, for example, the difference between the two-aisled and three-aisled roof-load support structure may be considered an example of synchronous variation indicating different social groups. Within the research area, this divide is visible because the two-aisled houses are restricted to the south, but this division is not absolute (see discussion section 3.3.1.1). Of course, these two ways are not completely separate, as the one follows from the other. In the following sections, I will discuss whether it is possible to discern different social groups on the Fries-Drents plateau based on these two ways.

3.4.1 Slow change and rapid change

In terms of temporal change, normativity in material culture signifies the elements that people were reluctant to change and that are therefore found in many periods or in all four periods. In this chapter, housebuilding traditions have been discussed in different ways: in terms of separate characteristics or measurements (sections 3.3.1 to 3.3.5), combined measurements (section 3.3.6), combined characteristics (section 3.3.7), house orientation (section 3.3.8) and, finally, adjustments to the houses (section 3.3.9). These different perspectives sometimes give contrasting answers to what normativity is; at other times, they are in agreement.

What stands out first and foremost in the discussion of the individual characteristics is their long periods of use. None of the characteristics can be placed securely in just one of the four periods. The fact that specific elements within the construction of houses are used for a very long time suggests that, overall, house building was normative and changes were slow. The replacement of the external roof-load supporting system of post outside the wall by a roof-load supporting wall was gradual. First, the walls were enforced while the external roof-load kept on being supported by exterior posts. At some point, when the walls were strong enough, the use of external roof-load supporting posts was abandoned.

The fact that characteristics were in use for long periods does not mean that they were used as frequently throughout these periods, and it also does not mean that all characteristics can be found in all four periods. Often, characteristics form a minority only to become (more) common in the subsequent periods and to decrease after this period (see, for example, the use of elaborate entrances; fig. 3.17). This fits with a model in which information or practices are gradually transmitted and used across connected groups of people, to be abandoned at some point in favour of something else.

The pace of change of individual characteristics explains why change is so hard to recognise if houses are described as types. With the use of typology, change can only be described when multiple elements change and lead to an attribution to one type instead of another. There is no change until there is a complete change. The deconstructed approach to change in house building provides a different understanding. The temporal distribution of the individual characteristics shows that change is slow and that people only reluctantly changed their houses drastically (they only replaced specific elements and not the construction as a whole at once). And because of the deconstruction of housebuilding traditions into smaller units, this research also shows that change was, in fact, ever-present. The inhabitants of the Fries-Drents plateau adjusted specific elements while keeping others, and they were not tied down to one particular way of constructing their house. This is also emphasised by the fact that no two houses are the same.

Still, not all change was slow and gradual. This can, for example, be seen in the measurements of specific elements of the house. The nave width, for example, changed quite dramatically between period 1 and period 2 (fig. 3.14, nave width), even more so when the total width of the house is taken into consideration (fig. 3.14, nave width-total width). In a similar vein, the change to the width of the entrance suggests that change can be radical. Even though period 3 forms an intermediate period with regard to nave width, there are two clear groups to be seen: a group of the old and wide entrance and a group of the new and narrow entrances. There is no intermediate and transitional phase in the transition from one type of entrance to the other. In the course of period 3, lasting merely 100 years, the entrance width was halved.[77]

In more than one way, period 3 can be considered an example of rapid change. At the level of the individual characteristics, period 3 often forms an intermediate phase, showing evidence both for the continuation of the dominant characteristics of the previous period 2 and for the characteristics that will become dominant in period 4. The speed of these multiple changes is obscured by the fact that not all periods have the same length. Period 3, being the shortest period, is an example of how change can also be rapid.

77 This would be like you remembering your grandfather Bompa telling you that his dad used to unload his cart inside the house, while there is no chance that you yourself could fit yours through the doors of your own home.

With regard to orientation, there is a clear, shared concept of how houses should be placed in the landscape. Even though there are some variations, overall it is widely shared and unchanged for the entire period of research. In this sense, house orientation can be seen as the most conservative element of all that has been discussed in this chapter. Even though house construction changed completely, the ENE-WSW to ESE-WNW orientation remained the standard, and a westerly orientation of the dwelling area remained the most common position of the house in the landscape. Between the periods, there are differences in the uniformity within this range and there are differences in the frequency in which inversions (with the living area to the east instead of the west) occurred. Remarkably, when houses had an inversed orientation, there was less variety in terms of degrees than in the houses with a regular orientation, which was probably deliberate. The frequency of house modification throughout all periods also suggests that people were open to change and adjustments, even if the original layout adhered to widely shared practices.

In some extraordinary cases, it has been possible to point out direct and rapid change. The extensions of houses indicate a radical and invasive adjustment to their original layouts. Since both phases of the houses can plausibly be related to the same household, it is evident that people were active agents and that change could be very visible. Other examples of rapid change can be found in the reconstruction of houses according to a different building principle than the house that was being replaced. These are examples of a complete replacement of one building and building tradition by another one, such as at Peelo-Haverland (fig. 3.43) and Noordbarge-Hoge Loo (fig. 3.44).

Not all characteristics show an even and similar distribution across the Fries-Drents plateau. This suggests that innovation, access to new information or the willingness to accept new knowledge was distributed unevenly as well. Still, it is almost never possible to pinpoint the origins of specific phenomena. Because the chronology in this study is relatively coarse, these origins will only be visible if an invention or early introduction crosses different periods. However, often this is not the case, and changes are only visible at the level of the Fries-Drents plateau proper. An exception is formed by the southeastern parts of the Fries-Drents plateau, where there is more evidence for regionally differentiated practices. These will be discussed below.

3.4.2 Regional groups and local households

In many cases, the individual characteristics recorded and discussed here show a distribution throughout the research area, from the settlement sites of Peelo and Groningen in the north of the research area and beyond to the settlement sites at Emmen and Dalen in the south. Nonetheless, two characteristics form exceptions to this rule because they are spatially restricted. These characteristics are the two-aisled (or partially two-aisled) construction and the Zwinderen-set. Both these phenomena seem to have been restricted to the south and southeast of the research area but frequently occur in the provinces of Overijssel and Gelderland, south of the research area, as well.

The Zwinderen-set and the two-aisled construction can be considered the expression of cultural ties to the regions to the south, an association with communities other than the inhabitants in the north of the Fries-Drents plateau. Like the provinces of Overijssel and Gelderland, the southern part of the Fries-Drents plateau may be considered part of the transitional zone, because the three-aisled structure has been attested here as well. Frequently, two-aisled and three-aisled constructions are found within the same excavation, for example at Dalen-Thijakkers (Harsema, 1987) and Fluitenberg-Zevenberg (Schrijer and De Neef, 2008). Even though it cannot be proven that the two-aisled and three-aisled houses were in use at the same time, the co-occurrence of the two at such a low spatial level suggests that the choice may have sat at the level of the household.

If the choice between these different types of roof-load support structures is seen as an expression of affiliation or association with a larger community, households belonging to different communities were living intermixed. In this way, people may have belonged to multiple communities simultaneously and information from the south of the region could thus spread farther to the north. How far these connections would have reached is unsure, but at least as far north as the settlement of Borger-Daalkampen. At this settlement site, multiple three-aisled houses with a Zwinderen-set have been found (fig. 3.25). There is also house 25 at Borger-Daalkampen II 2007, which shows clear affiliation to other houses in Overijssel and Gelderland (fig. 3.7).

Except for the two-aisled construction and the Zwinderen-set, both typical for periods 2 and 3, there is little evidence that the inhabitants of the Fries-Drents plateau could be associated with different communities. In this sense, norms around house building were shared over the entire region, and many diachronic developments can be traced throughout the region. In many ways, the boundaries of the social groups overlap with the boundaries of the research area, and finer-grained social groupings cannot be seen. Still, the change did not always have the same pace. Again, the north-south divide shows this the most clearly, for example in the replacement of external roof-load supporting posts (section 3.3.1.2).

Notwithstanding the widely shared practices, local customs or lower-level norms can occasionally be

seen. Sometimes, they are expressed in the repeated use of specific dimensions in the house (fig. 3.31), and sometimes they become clear in the repeated addition of elements to the house that are scarcely used elsewhere, such as the extra overhang (fig. 3.27). Occasionally, local practices become evident not so much in the way the houses were constructed, but in what was considered the proper way to live in the house. The repetitive extensions to houses at the site of Noordbarge-Hoge Loo are sometimes mentioned as typical for the eponymous type (*e.g.* de Wit *et al.*, 2009a: 48), whereas it is mainly typical for the site itself. Other examples of local traditions can be found in the numerous entrance pits at the site of Wijster-Looveen (section 3.3.5), in contrast to their scarcity at other settlement sites.

Based on the discussions above, housebuilding traditions are best viewed as a nested phenomenon. The conceptual model of the longhouse or byre house was not unique to the Fries-Drents plateau; indeed, the opposite is true. The model found on the Fries-Drents plateau (and to a degree in the regions to the south) is only one of many expressions of how this tradition took shape across northwestern Europe. At the supra-regional level of the Fries-Drents plateau, concepts such as the three-aisled roof-load structure were shared. At the regional level, a different practices can be found as well, the two-aisled roof-load structure, but the occurrence of the element within the two- and three-aisled houses also seems to be restricted to the same regional level. Local or settlement traditions become most evident in the expression of site-specific phenomena, be it a special feature to keep mud out of the house or the choice to rebuild and rebuild again. Still, choices at the level of the household are visible as well, for example in the addition of an entrance in one of the short sides or to rebuild the houses in a completely different construction technique.

Chapter 4

Deposition practices on later prehistoric settlement sites

4.1 Introduction

The previous chapter dealt with normativity and variation in housebuilding traditions on the Fries-Drents plateau during the Iron Age and Roman Iron Age. From the discussion there, it has become clear that housebuilding traditions usually changed gradually, but occasionally very rapidly and that the degree of normativity in aspects of housebuilding traditions changed throughout the period of research. For all periods, however, it has become clear that strict uniformity was not something that was strived for, as there was room for adaptation to local or household preferences. As the previous chapter has shown, concepts related to the proper construction of the house were negotiated every time a house was built, resulting in houses that could be very similar, but never fully identical, as well as houses that are really different but still refer to the prevailing traditions.

In settlement archaeology, the shared concepts involved in house building, known as housebuilding traditions, have received ample attention, and major diachronic developments have been made explicit in the form of typochronologies (see chapter 2). Once patterning in housebuilding tradition is discussed explicitly, its potential for understanding the social significance of these traditions is made explicit.

Housebuilding traditions were not the only element in prehistoric life that was governed by social conventions. In all likelihood, most aspects of life were to some degree directed by shared concepts of proper conduct. Not all these aspects of life, however, have received the same amount of attention from archaeologists, resulting in an uneven understanding of how social norms led to normative behaviour in the different aspects of prehistoric life. A second element of prehistoric daily life, which is discussed in this chapter in the context of the social significance of normativity and variation in material culture, is the shared practices of the use of material culture. These practices relate to the ways in which domestic material culture was produced, used and then dismissed. Specifically the final stage, the dismissal of 'unwanted' objects, is of interest, as most material found in settlement context is generally interpreted as refuse (*e.g.* Kooi, 1994a: 271, 273, 1995: 247-252; De Wit *et al.*, 2009b: 63-67; Loopik, 2010b: 33). In this sense, material culture as refuse is one of the most frequently encountered elements of prehistoric life on the Fries-Drents plateau, in addition to the features of the buildings people lived in. The ways of dealing with refuse may have been a significant part of day-to-day life in the past, just as they still are today (Högberg, 2017). It is a social practice that is shaped by social conventions about what is and is not waste and by social conventions of how to deal with this (see the seminal work of Douglas, 2002: 8, 51).

Understanding how people dealt with material culture is of interest because it provides another way to study normativity and variation in later prehistoric settlement sites on the Fries-Drents plateau. In this sense, the extent to which people followed conventions when dealing with refuse may either complement or contradict the way house-

building traditions were shared. A more detailed study into the nature of the material that archaeologists call refuse can provide insights into the extent to which the deposition of refuse was a widely shared practice through time and space. What is more, understanding general patterns in the deposition of refuse is also relevant to the interpretation of structured or special depositions, which have received much attention in recent years.[78] Debate on the topic of special deposition suggests that maybe not all finds in settlement contexts should be interpreted as refuse, even though the materials used in special depositions may be considered ordinary and can also be found as refuse (Gerritsen, 2003: 81-83).

What this means is that refuse and special depositions are not separate entities, but practices that are related to each other (*cf.* Hill, 1995: 99). From this, it follows that to understand special deposition practices in settlement contexts, it is necessary to understand both the special and the general (*cf.* Garrow, 2012). This distinction is especially salient in the light of understanding general and special deposition practices on the Fries-Drents plateau, since both the special and the general may look the same on the face of it, both being 'material placed underground'. In addition to this, the lack of explicit debate on what refuse actually consists of has resulted in a picture of a very uniform way of dealing with refuse throughout prehistory.[79] However, the practices of depositing objects in the ground may have been prone to change or open to smaller-scale traditions and preferences, just as housebuilding traditions were not static and uniform over time and space (see chapter 3).

The main questions in this chapter are whether a more detailed understanding of normativity and variation in general deposition practices can be used to discern social groups based on synchronic variation, like they can for housebuilding traditions (section 3.4) and whether understanding normativity and variation in general deposition practices can provide insight into temporally and regionally or locally specific practices. In a similar vein to chapter 3, general deposition practices are considered here to be clusters of characteristics that can be shared between sites and between different periods. First the processes that influence our understanding of general deposition practices are discussed (section 4.2) and then the dataset that will be used for answering these questions (section 4.3). After that, general deposition practices in postholes are discussed, both quantitatively and contextually (section 4.4). Next, general deposition practices in pits are discussed, again quantitatively and contextually (section 4.5). After the separate discussions, pits and postholes are discussed together (section 4.6). Finally, general deposition practices are discussed as potential sources for understanding social groups in later prehistory on the Fries-Drents plateau (section 4.7).

4.2 Processes of pottery deposition

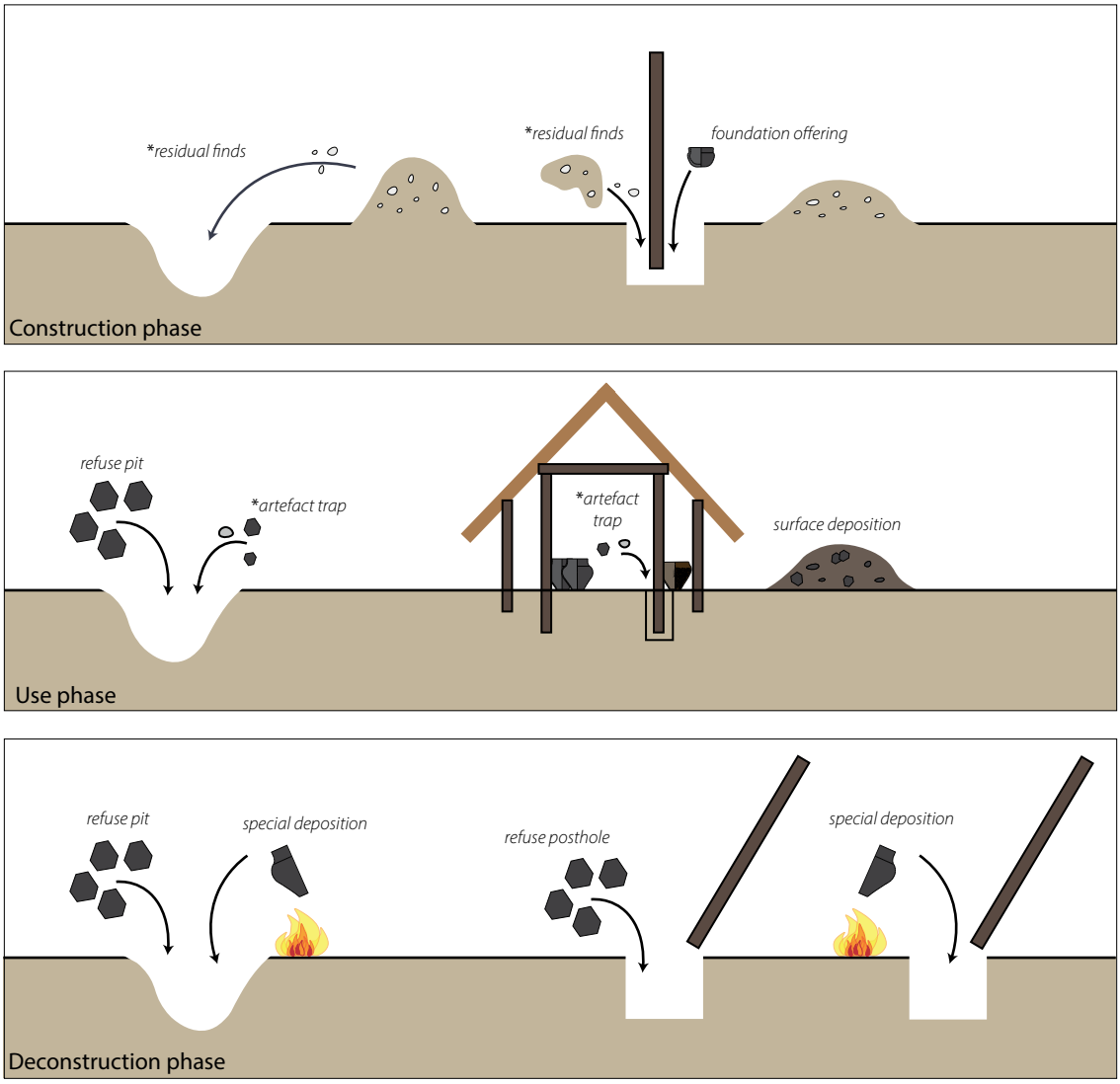
This chapter deals specifically with one type of domestic material culture, namely, pottery. Of course, refuse must have comprised much more than pottery sherds alone, but this other material does not survive because within the Fries-Drents plateau, unburnt organic objects stand little chance of preservation. Contemporaneous settlement sites from other research areas with better preservational circumstances indicate that the refuse must have comprised a large organic component (wood and unburnt bone, for example, are found abundantly in the terp region: Nieuwhof, 2018: 43). In contrast to pottery, worked flint and stone is less frequently found in settlement contexts (Van den Broeke, 2005b: 603). Unworked stone and flint cannot be used, because they are part of the subsoil. This means that stone finds cannot always be interpreted straightforwardly. Since pottery is clearly made by people and has the highest chance of survival, it will be used as a proxy for refuse here. The patterning of pottery can therefore be used to infer disposal practices.

Refuse disposal has been much discussed in the context of formation processes of the archaeological record in the seminal works of Schiffer (1972, 1987). Schiffer (1972: 161-163, esp. fig. 3) distinguishes between primary refuse (objects discarded where they were used), secondary refuse (objects not discarded in the same place where they were used) and *de facto* refuse (objects that enter the archaeological record without being actively discarded). It is generally assumed that for settlement sites, the primary refuse is often lacking in the archaeological record, because settlement sites are regularly cleaned, a process through which primary refuse is turned into secondary refuse (Schiffer, 1987: 58-64). In addition to this, even if refuse had been systematically deposited at the surface and not later moved elsewhere, the refuse would still be lacking in the current study. Material left at the surface would have been dispersed and probably ploughed into the topsoil. Because of soil formation, features cannot be discerned in the top 30 to 40 cm. If finds are still present in this 30 to 40 cm layer, they are often removed to create an excavation plane that can be read. As a result, only material placed in features that were dug in deeper than

Figure 4.1: Overview of the different ways in which material is deposited in features in the sites discussed.

78 Bloo and Van Mousch (2014); Van den Broeke (2002, 2015); Brück (1999); Gaffrey (2014); Gerritsen (2003: 96-102); Van Hoof (2002); Stapel and Stapel (2014); Trebsche (2008b, 2014); De Vries (2016).

79 Schinkel, for example, argues that no typochronological sequence can be established for refuse pits at Oss-Ussen because of their long periods of use (Schinkel, 1994, proposition 4). However, the fact that the shape of individual pits did not change much does not necessarily mean that the frequency of use and the content of the pits were the same throughout later prehistory.



(*) = incidental deposition = weathered sherds = pristine sherds = older sherds = contemporaneous sherds

Label	Context	Content	Treatment
***Residual finds** *Finds with a diachronic signal*	posthole: *in filling, not in postpipe* Pit: *odd sherds in layers with finds or in layers with little finds*	*mixed dates between* *- finds from same feature* *- different features*	*weathered sherds* *highly fragmented sherds* *unique sherds*
Foundation offer *Finds with a synchornic signal*	posthole: *in filling, not in postpipe*	*contemporaneous with structure*	*complete vessel*
***Artefact trap** *Finds with a synchronic signal*	posthole: *in filling or in postpipe* pit: *odd sherds in layers with finds or in layers with little finds*	*contemporaneous finds* *- small numbers* *- low total weight*	*weathered and pristine sherds* *highly fragmented sherds* *unique sherds*
Surface deposition *Finds with a synchronic signal*	*??* *possibly nearby the house*	*??* *possibly large quantities*	*??* *between pristine and fragmented*
Refuse *Finds with a synchronic signal*	posthole: *in backfill of the posthole* pit: *one layer with many finds or multiple recutting layers*	*large quantity of sherds in total number and total weight*	*weathered and pristine sherds* *fragmented sherds* *unique sherds*
Special deposition *Finds with a synchronic signal*	posthole: *in backfill of the posthole* pit: *one layer with many finds*	*special content* (*see chapter 5*)	*special treatment* (*see chapter 5*)

the depth of the excavation plain has been preserved (Kooi, 1994a: 271-272).

In order to understand normativity and variation in deposition practices in the Iron Age and Roman Iron Age on the Fries-Drents plateau, Schiffer's concepts of secondary refuse and *de facto* refuse have been adapted to the archaeological evidence found within the research area. A distinction is made here between intentional and unintentional and between diachronic and synchronic. In addition to this, intentional depositions are further divided into general refuse and special depositions, two practices which are thought to differ in the treatment of the material (for an extensive discussion, see section 5.2). In this chapter, pits and postholes are the primary focus of discussion. Of course, other types of contexts can be encountered in prehistoric settlement sites as well, such as ditches or sunken huts, but pits and postholes form the vast majority. In addition, these two types of features are the most frequently represented and therefore allow for better comparisons.

There are different phases during which pottery can enter the features of a structure either intentionally or unintentionally (fig. 4.1). During the construction phase, pots can be placed deliberately in features as a foundation offering or as the container for a food offering (*cf.* Gerritsen, 2003: 63-66). Older finds can become deposited in features unintentionally during construction if older material was already present in the soil or at the surface. The inclusion of older material is one example of unintentional deposition, both for pits (*e.g.* Bronze Age sherds in Roman period pits at Emmen-Frieslandweg: Ufkes, 2003: 62, table 3.3) and postholes (*e.g.* Neolithic pottery in a period 2 house at Emmen-Noordbargeres: Kuiper, 2018: 39). These older pottery sherds are labelled residual finds here. Residual finds can contradict other material that is used for dating a feature or structure (see, for example, house SK134 at Oss-Schalkskamp: Fokkens, 2019: 176-180).

All of the residual finds discussed in this chapter are pottery sherds. However, other types of materials can constitute residual finds as well, such as flint or charred botanical remains. Botanical remains as residual finds seem to have caused diverging radiocarbon dates for house 27 at Peelo-Es. The charred twigs from the posthole have a radiocarbon date of 372-208 BC (GrM-14110; 2229 +/– 15 BP. See appendix 3). From the same sample from the same posthole, three charred fruits of *Persicaria lapathifolia* were radiocarbon dated to 52 BC-AD 59 (GrM-15122; 2005 +/– 25 BP. See appendix 3). This suggests that the older charred twigs were deposited accidentally at the same moment as the charred fruits. Still, caution is needed, as the label of residual finds can lead to circular reasoning. Finds may be considered residual only because they do not fit with other accepted typochronologies, while they may, in fact, indicate that the typochronologies need adjusting.

However, not all accidentally deposited pottery sherds are older, residual finds *per se*. Based on experimental data, it is known that posts rot immediately below the ground surface even when the posts are part of the interior roof-load support structure and are protected from the elements (Reynolds, 1995: 4). This means that finds can already enter the posthole during the use phase of the house (Beck, 2017: 71, fig. 1; Trebsche, 2008: 266, pl. 32) and should be considered contemporaneous finds. These sherds may be considered *de facto* refuse in Schiffer's terminology. Depending on what happens to the posts after the house is abandoned, these accidental finds may be found archaeologically in the upper part of the posthole (if posts are left to rot) or at the base (if posts are removed). In a similar way, sherds can enter pits while the pits are still used in their initial function, *e.g.* as well or silo. In both cases, features function as artefact traps. Unfortunately, the degree of detail necessary for the reconstruction of the location of finds in features is often lacking, which means that inferences cannot always be made about, for example, the final use phase of pit or the way the structure the postholes belonged to was deconstructed.

Deliberate deposition during the use phase may be envisioned for surface depositions of refuse. Because of the preservational circumstances, this type of deliberate deposition is lacking in the archaeological record and cannot be studied here. It is likely that part of the residual finds that end up in features were, in an earlier phase, part of refuse scattered at the surface. Another example of deliberate deposition during the use phase of the house is the act of cleaning the farmstead and depositing refuse in pits. If pits were systematically filled with refuse, either when the farmstead needed to be cleaned or when a pit was closed up (because leaving it open would be a hazard), a larger quantity of finds can be expected for refuse pits than for pits with residual finds or for pits that functioned as artefact traps.

After the abandonment of the house and during the deconstruction phase, postholes may have been filled for pragmatic reasons such as the cleaning or clearing of the house site (*e.g.* in Bronze Age Westfrisia: Steffens, 2016: 108-111, esp. fig. 2; *e.g.* house 1 at Borger-Daalkampen II 2008: Van der Meij, 2010: 16, esp. fig. 8). In this case, the posthole has a similar function as the refuse pit. Finds from refuse postholes and refuse pits are the equivalent to secondary refuse in Schiffer's terminology. However, the deliberate depositing of pottery in the posthole after abandonment can be symbolic as well (see chapter 5). Analogous to the process of deposition in postholes, pits can be filled deliberately for different purposes at the moment of abandonment or deconstruction of the house. Pits can be dug primarily to clear refuse from the house site, but can also be used for the deposition of pottery or pottery fragments as symbolic acts. This will be discussed in more detail in chapter 5.

	Type	Temper (%)				Quality of the fabric	
		Plant fibre	Grog	Grit	Sand		
Period 1	G0	-	-	100	4	+	Moderately well fired
	G1	-	-	100	4	++	Fairly well fired
	G2	-	-	100	-	*No data*	*No data*
	V1	-	-	100	-	++	Fairly well fired
	S1	4	-	100	-	+	Moderately well fired
Period 2	G3	3	5	95	7	−	Fairly brittle
	G4	18	14	77	10	−/+/++	Fairly brittle to fairly well fired
	V2	2	2	94	6	+++	Well fired
	V3	7	2	95	14	(+)++	Predominantly well fired
	S2	-	8	100	15	++	Fairly well fired
Period 3	G4	18	14	77	10	−/+/++	Fairly brittle to fairly well fired
	Gw5	24	17	71	17	+	Moderately well fired
	V3	7	2	95	14	(+)++	Predominantly well fired
	V4	7	-	90	17	(+)++	Predominantly well fired
	K1	35	20	65	15	−	Fairly brittle
	K2	13	13	57	36	+++	Well fired
	S3	5	2	96	4	+	Moderately well fired
Period 4	G6	1	2	94	6	+++	Well fired
	V5	5	-	100	-	+++	Well fired
	K3ab	2	-	72	38	+/++/+++	Moderately well fired to well fired

Table 4.1: Overview of the temper and quality of the fabric by pottery type by period, as described by Taayke (1995). Descriptions of the fabrics are scored on a scale from – to +++, based on the descriptions by Taayke. A translation of the descriptions has been added by me. In the case of types that are composed of multiple types, *e.g.* Gw4 and Ge4, the average have been calculated and used here. This is the case for G4, Gw5 and K3ab, the averages have been calculated and used here.

4.2.1 The effects of fabric and temper on the state of pottery in the archaeological record

In addition to the different processes of pottery deposition, the fabric of the pottery may also influence its chance of survival and hence our understanding of general deposition practices. For hand-built pottery, the combination of temper and firing temperature affects many of the characteristics of the pottery (Skibo *et al.*, 1989). Different types of temper, such as plant fibre temper,[80] shell grit temper or (stone) grit temper, affect the ease with which the clay can be shaped (Skibo *et al.*, 1989: 135-137). However, different types of temper may not necessarily cause differences in the quality of the pots. With regard to resistance to heat, all types of temper provide roughly equal improvement of the thermal shock resistance needed for cooking vessels (Skibo *et al.*, 1989: 132-133). The resistance to freeze-thaw cycles is influenced to some extent by the temper used. Plant fibre-tempered fabrics are less resistant than grit-tempered fabrics, for example. Finally, the firing temperature affects the resistance to freeze-thaw cycles more than does the temper (Skibo *et al.*, 1989: 137-139; 141).

For the current research, types of temper and quality of the fabric as described by Taayke (1995) have been summarised in order to see whether specific periods can expected to be underrepresented because of the use of different tempers or a poorer quality of the fabric. As can be seen in table 4.1, some differences in quality of the fabric exist, as well as differences in the temper used, both between and within the four periods. Over time, the overall quality of the fabric seems to increase and more plant fibre and grog temper is used. Plant fibre and grog temper results in pottery that is less resistant to decay compared with (stone) grit temper, especially under moist preservational conditions This would mean that, based on temper alone, younger pottery types stand a less good chance of survival, especially in moist circumstances, but that based on quality of the fabric alone, younger types stand a better chance of survival. None of the periods systematically yielded pottery of a lesser quality than the other periods, either in terms of temper used or in terms of the quality of the fabric. Even if particular vessel types within a period are of a lesser quality and more prone to be affected by *e.g.* moisture or freeze-thaw cycles, still the presence of other vessel types can compensate for that. Therefore, there is no reason to assume that all the pottery from one or more periods is underrepresented in the archaeological record.

80 Often the generic label 'organic temper' is used to mean plant temper; however, shell grit temper is also an organic temper, as noted by Schepers and De Vries (2018: 34).

4.2.2 Treatment of pottery as part of deposition practices

The treatment of the pottery prior to deposition is yet another aspect that can provide information on the different practices of storing and treating refuse and non-refuse prior to deposition. Examples of such treatment are fragmentation or secondary firing. Just as depositing can be accidental or deliberate, so the treatment of the pottery prior to deposition can be accidental or deliberate. Fragmentation can occur when sherds are stored at the surface for some time prior to deposition, but objects can also be fragmented deliberately (see chapter 5). Secondary firing is another example of treatment prior to deposition that can occur deliberately and accidentally (for different examples of the occurrence of secondary firing, see Van den Broeke, 2012: 191-192). In this chapter, only the aspect of fragmentation is used to study the treatment of pottery as part of the general deposition practices. The reason for this restriction lies in the fact that this information is easier to obtain than information on secondary firing (see discussion below).

Average sherd weight is often used to discuss the degree of fragmentation (as suggested in the guidelines of the Kwaliteitsnorm Nederlandse Archeologie (the quality standards for Dutch archaeology, or KNA): Bloo *et al.*, 2017: 21).[81] As is the case for many proxies, the average sherd weight is not a perfect way of expressing fragmentation *per se*. First, it is an average, which that tells us little about the variation within the summary unit that is used for calculation. Second, average sherd weight is influenced by the fabric of the pottery, such as thickness of the sherds or temper used (see discussion above), and by the method of collecting pottery fragments (see discussion below). The benefits nonetheless outweigh the drawbacks in this study, because this study deals with a relatively uniform fabric of the pottery (mostly grit tempered: Taayke, 1995: 87, table 3) and average sherd weight is easy to calculate when the total number and total weight of the pottery fragments are listed per find number. As a result, it provides a large and comparable dataset to study treatment of pottery in different types of features between different sites.

The fragmentation of pottery sherds has been used to make inferences about the amount of time the material was left at the surface (*e.g.* Kuna, 2015: 282). It is generally assumed that the higher the fragmentation, and thus the lower the average sherd weight, the longer pottery sherds have been lying at the surface before being deposited underground. High fragmentation may be the result of trampling, although the effects of trampling decrease with the reduction of the size of the sherds (Nielsen, 1991: 493). Trampling is most likely to occur unintentionally, but intentional fragmentation is also imaginable. Pottery may have been fragmented or, alternatively, already broken vessels may have been further reduced in size for the production of grog temper (Van den Broeke, 2012: 189, fig. 10.1). Fragmentation of pottery may also have been a symbolic action (*e.g.* Chapman, 2000; for a more detailed discussion, see chapter 5).

4.2.3 The influence of excavation techniques

The discussion above on deposition, pottery fabrics, and fragmentation relates to scenarios that would have played out in the past. However, the picture we construct of past practices is also influenced by excavation techniques. Sieving, for example, will result in the collection of smaller fragments than will manual collection, but also in a different ratio between smaller and larger fragments (Arnoldussen and De Vries, 2019: 200, fig. 5). However, sieving does not lead to ever-smaller fragments, as sherds may not become smaller than a certain size due to such factors as their fabric, the curvature of the original vessel, and the ways in which fragments are typically reduced in size (Nielsen, 1991: 493).[82]

Inferences are occasionally made of the fragmentation of pottery sherds and the time they spent at the surface prior to deposition. At the site of Gieten-OV Knooppunt, the average sherd weight of 15.3 grams was used to conclude that the material was only left at the surface for a short time before it ended up in the features (Taayke, 2010: 25). In the case of the settlement site of Borger-Daalkampen II 2007, an average of 14 grams is even considered to be high for a later prehistoric settlement site (Bürmann, 2009: 76). Even though remarks have been published about the fragmentation of pottery in relation to this site type, little systematic research has been undertaken.

Since the ratification of the Valletta treaty,[83] the number of excavations has increased dramatically (see *e.g.* Van Beek, 2009: 43-44 for the situation in the eastern parts of the Netherlands), but archaeological techniques have further

81 See also the reports on the pottery from Gieten-OV Knooppunt (Taayke, 2010: 25), Borger-Daalkampen II 2007 (Bürmann, 2009: 77), Emmen-Oude Meerdijk (Bürmann, 2011: 35), and Groningen-Helpermaar (Ufkes and Bürmann, 2010: 60-61). Other ways to describe completeness of pots involve the use of estimated vessel equivalences (EVE). This is, however, a more labour-intensive method, as it is often based on rim percentages, which means that more characteristics have to be measured. See discussion in chapter 5.

82 For the Fries-Drents plateau, it can be assumed that the ground surface was relatively soft. The trampling of sherds on a harder substrate (*e.g.* granite) may, for example, reduce the size of sherds in the smallest size category of sherds within an assemblage or excavation, but this is not a likely scenario for the Iron Age and Roman Iron Age.

83 European Convention on the Protection of the Archaeological Heritage (revised), adopted in 1992 and came into force in 1995. The convention is also known as the Malta Convention (Dutch: *Verdrag van Malta*).

		Year	Total weight (g)	Total number of sherds	Average sherd weight	References
BAI excavations	Angelsloo-Emmerhout	1961	312803	24688	12.7	Unpublished data GIA – Analysis G. Nieuwlaat
	Hijken-Hijkerveld	1971	281181	9732	28.9	Unpublished data GIA – Analysis by the author
	Borger-Daalkampen 1994	1994	1930	97	19.9	Unpublished data GIA – Analysis A. Kuiper
	Borger-Daalkampen 1995-1997	1995	52412	2694	19.5	Unpublished data GIA – Analysis A. Kuiper
Excavations performed under the Valletta Treaty	Holsloot-Holingerveld	2001	9600	1062	9.0	Taayke, 2003
	Emmen-Frieslandweg	2001	205045	11533	17.8	Ufkes, 2003
	Midlaren-De Bloemert	2006	735652	54990	13.4	Nieuwhof, 2008
	Borger-Daalkampen II 2007	2007	57684	4118	14.0	Bürmann, 2009
	Groningen-Helpermaar	2008	9139	2424	3.8	Ufkes and Bürmann, 2010
	Borger-Daalkampen II 2008	2008	2181	181	12.1	Drenth, 2010
	Donderen	2008	8140	284	28.7	Hielkema, 2008a
	Ees-Zuides	2009	216	26	8.3	Hensen, 2012
	Eelde-Grote Veen	2009	305000	24197	12.6	Taayke *et al.*, 2014
	Emmen-Oude Meerdijk	2009	4889	217	22.5	Bürmann, 2011
	Gieten-OVKnooppunt	2010	4835	315	15.4	Taayke, 2010
	Groningen-Helperzoom	2011	3312	238	13.9	Kuiper, 2013
	Emmen-Noordbargeres	2012	76074	6079	12.5	Kuiper, 2015
	Ruinen-Oldhave Bos	2012	7798	501	15.6	Primary data from excavation
	Groningen-Coendershof	2012	4114	142	29.0	Bürmann, 2013
	Dalen-Molenakkers II 2014	2014	6100	969	6.3	Kuiper, 2016a
	Dalen-Molenakkers II 2015	2015	6636	594	11.2	Kuiper, 2016b
	Emmen-Parkeerplaats	2015	5408	317	17.1	Kuiper, 2018

Table 4.2: Overview of settlement sites on the Fries-Drents plateau for which information was available from which to calculate overall average sherd weight, arranged by year of excavation.* The sites of Emmen-Angelsloo and Emmen-Emmerhout are here treated as a single site, Angelsloo-Emmerhout.
*)The total weight for Dalen-Molenakkers II 2015 given here is lower than the published weight because I adjusted the weight of the finds from feature 137 (n=17) from 21706 grams to 217.06 grams based on the finds descriptions (in which the number of sherds is given as 17) and section drawings of the feature.

improved as well.[84] In order to find out to what degree this has influenced the nature of pottery finds from archaeological sites, in table 4.2, details are listed for excavations for which the total number of sherds and total weight of sherds is known – 4 old BAI excavations and 18 development-led excavations. The average sherd weight of the BAI excavations ranges between 12.7 (Angelsloo-Emmerhout) and 28.9 (Hijken-Hijkerveld) grams, whereas that of the development-led excavations ranges between 3.8 (Groningen-Helpermaar) and 28.7 (Donderen) grams.

The site of Groningen-Helpermaar is the only one of the 14 development-led excavations where soil was systematically sieved (compare fig. 5.1 and fig. 5.3 in Van der Harst-van Domburg and Van der Velde, 2010: 39, 41). This provides us with more insight into variation in average sherd weight, but it also renders the site incomparable to the other sites. The lowest average sherd weight after Groningen-Helpermaar is from Dalen-Molenakkers II 2015, for which the average sherd weight is 6.3. This is still much lower than the average of 12.7 grams from Angelsloo-Emmerhout. The same holds for the average of 8.3 at Ees-Zuides and 9.0 at Holsloot-Holingerveld. Still, other excavations have average sherds weights that are comparable to the older BAI excavations, such

84 In the current system, the KNA indicates that all features should be registered and described (BRL 4000, Protocol 4004-OS05, see https://www.sikb.nl/archeologie/richtlijnen/brl-4000). In the earlier BAI excavations, features were only registered if they contained finds. Even then, not all features with finds have descriptions. Especially in the older BAI excavations, not all pottery finds were collected (*e.g.* a bias of complete pots over fragments in the terp region: Nieuwhof, 2015: 21).

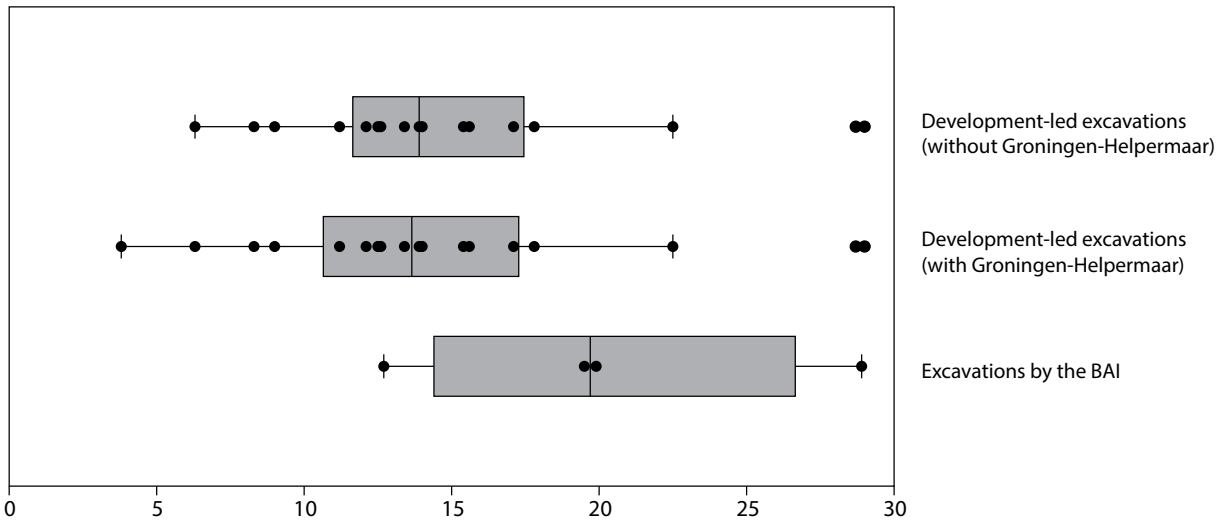


Figure 4.2: Average sherd weight (g) per excavation for development-led excavations and BAI-led excavations.

as Emmen-Oude Meerdijk (average sherd weight 22.5). When the average sherd weight of the different sites is compared, it becomes clear that the BAI excavations show a higher average than the development-led excavations (fig. 4.2).

4.3 Dataset

Not all sites are suitable for studying the general practices around deposition of pottery. Especially the older excavations within the current dataset, such as Peelo-Es (Kooi, 1994a) or Wijster-Looveen (Van Es, 1967), do not provide the level of detail that is necessary for the current analysis, as the total number and total weight of pottery sherds have not been published. As was discussed above, it cannot fully be excluded that differences in excavation techniques have led to a difference in the way the pottery were collected. The biggest obstacle for the current study, however, is the lack of sufficient detail in the registration of features. Therefore, even in cases where the pottery of older sites has been recently re-examined (*e.g.* Hijken-Hijkerveld: Arnoldussen and De Vries, 2014), it is still not possible to include these sites because of the lack of feature descriptions. The site of Groningen-Helpermaar cannot be included because of the different methodology that was employed (*i.e.* the systematic sieving of part of the excavation).

In order for a site to be used in this chapter, the following aspects should be known: the total number and total weight of the pottery sherds per feature, the dating of the pottery, and, finally, the nature of features both for those with and for those without pottery finds. Initially, data on secondary firing was listed as criterion for inclusion, but this information is often lacking and has therefore been omitted. In addition to this, I preferentially included sites representing different locations across the Fries-Drents plateau and covering all four periods under study here. Based on these criteria, the following nine sites were selected for detailed analysis: Borger-Daalkampen II 2007 (De Wit *et al.*, 2009a), Borger-Daalkampen II 2008 (Van der Meij, 2010a), Dalen-Molenakkers II (De Wit, 2016b, 2016a), Emmen-Oude Meerdijk (De Wit, 2011), Emmen-Frieslandweg (Western part, or P-West: De Wit, 2003a)[85], Emmen-Noordbargeres (De Wit, 2015a), Midlaren-De Bloemert (Nicolay, 2008a), Donderen (Hielkema, 2008a) and Ruinen-Oldhave Bos (Koopstra and Lenting, 2016); see fig. 4.3 and table 4.3.[86] Sites that do not meet all criteria are still valuable for the occasional illustration of specific phenomena.

The analysis of the pottery differs per excavation and per specialist, for example, in degree of details listed, the attribution of sherds to types or the way dates are assigned to finds. As a consequence, the analyses are not directly comparable. In addition to this, I use different periodisation than standard in this thesis (see section 1.6). Therefore, I have converted to dates of the

85 Only for the western section of the excavations are the total numbers and total weights of the pottery sherds available. For both the western and eastern sections, minimum number of individuals (MNI) have been published (Ufkes, 2003). The MNI form the basis for general distribution of pits with and without finds, as discussed below.

86 For the total number of features in table 4.3, not all types were included. The following categories were left out: 'xxx' (indeterminate), 'lg' (layers) and blanks. As settlement sites on the Fries-Drents plateau have almost no vertical stratigraphy, finds found in layers have been considered finds without context here.

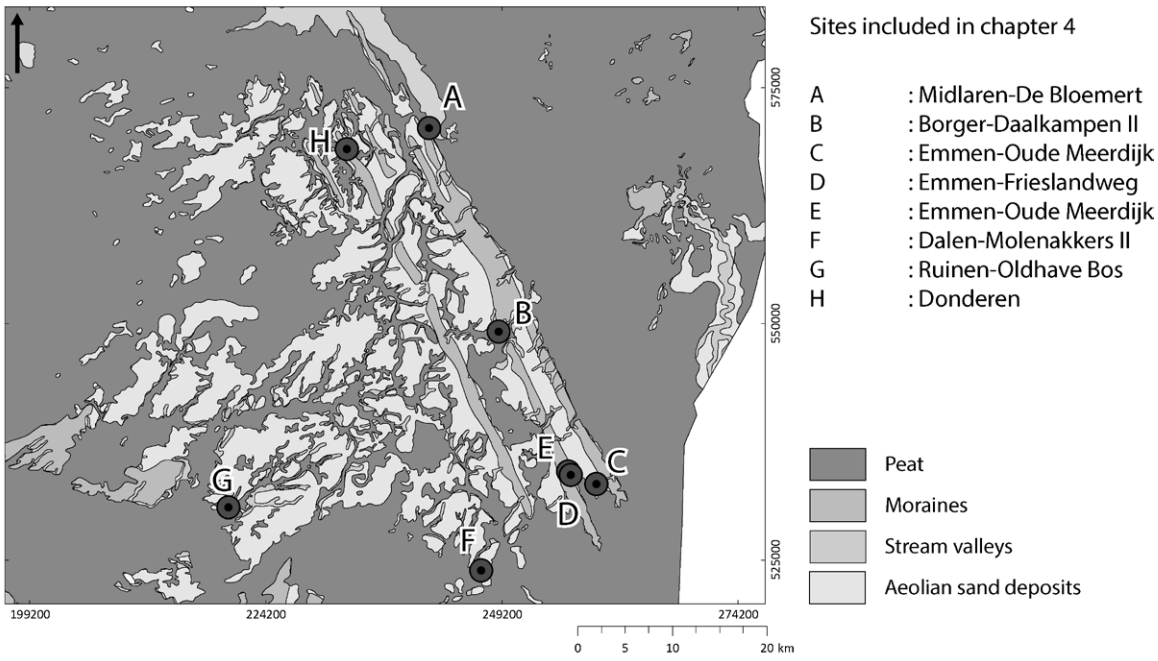


Figure 4.3: Geographic distribution of the nine sites discussed in chapter 4 plotted on the palaeogeographical map of 500 BC (Vos *et al.*, 2020).

Site and excavated area	Period(s) of site use						Excavated area (ha)	(1) Total number of features	(2) Total number of features with finds	(3) Total number of pits	(4) Total number of postholes	(5) Total number of other features
	<P1	P1	P2	P3	P4	>P4						
Borger-Daalkampen II (2007)							*c.* 4.0	5014	374	313	2956	1745
Borger-Daalkampen II (2008)							*c.* 3.0	2234	32	66	720	1448
Dalen-Molenakkers II (2014 & 2015)							*c.* 0.4	594	86	30	328	235
Emmen-Oude Meerdijk							*c.* 0.9	1477	25	59	636	782
Emmen-Frieslandweg (P-west)							*c.* 1.8	3097	96	269	1733	1095
Emmen-Noordbargeres							*c.* 6.5	4047	440	306	1694	2047
Midlaren-De Bloemert							*c.* 4.8	13832	2922	1768	8131	3933
Donderen							*c.* 0.2	306	35	9	142	155
Ruinen-Oldhave Bos							*c.* 0.6	878	64	272	428	178

Table 4.3: Overview of sites included for detailed analysis of general pottery deposition practices. For the periods of site use, white indicates no evidence for use; light grey indicates presence of pottery; dark grey indicates presence of pottery and house plan(s).

pottery to the four periods of this study to make them comparable. Frequently, a single feature comprises multiple find numbers that represent different phases of the excavation process, not different, archaeological fills. Considering that the aim is to understand deposition practices with regard to type of archaeological feature, all of the sherds from a single feature have been grouped together. Because not all finds could be re-assessed within the scope of this research, I have chosen to attribute finds to specific periods when a vessel shape or pottery type was recognised by the original pottery specialist. When this was not the case or when dates were very broad (*e.g.* Iron Age-Roman period), I have labelled the finds as 'preh', for prehistoric. This label covers both the Iron Age and the Roman Iron Age.

Site	Total number of features	Features with finds		Total number of postholes		Postholes with finds		
		N	% of total features	N	% of total features	N	% of features with finds	% of all postholes
Borger-Daalkampen II (2007)	5014	374	7	2956	59	274	73	9
Borger-Daalkampen II (2008)	2234	32	1	721	32	25	78	3
Dalen-Molenakkers II	594	86	14	328	55	56	65	17
Emmen-Oude Meerdijk	1477	25	2	636	43	21	84	3
Emmen-Frieslandweg (P-West)	3097	96	3	1733	56	18	19	14
Emmen-Noordbargeres	4047	440	11	1694	42	235	53	1
Midlaren-De Bloemert	13832	2922	21	8131	59	1477	50	18
Donderen	306	35	11	142	46	22	63	15
Ruinen-Oldhave Bos	878	63	7	428	49	42	67	10

Table 4.4: Detailed overview of number of features by site, features with finds (n and %), postholes (n and %) and postholes with finds (n, % of total, % of total number of postholes).

4.4 Patterns in posthole deposition practices

Before patterns in posthole deposition can be discussed, it is necessary to understand to what degree sites can be compared. In table 4.4, the total number of features, the number of features with finds, the total number of postholes and the number of postholes with finds are listed. As is evident from the table, there is considerable variation between the individual sites. The total number of features, for example, is the outcome of many aspects that are related to the later prehistoric occupation (*e.g.* the number of phases of habitation, whether the sites mostly contains scattered or clustered settlement sites) and aspects that do not relate to the later prehistoric occupation (*e.g.* the total area that has been excavated, the presence of older or younger phases of habitation, the depth at which the level was placed).

In a similar vein, the total number of postholes is the product of the number of phases, the number of post-built structures per phase and the number of features per structure. Even if the percentage of postholes compared with the total evens out some of the differences, it is difficult to compare these percentages. In addition to this, it is often not possible to completely disentangle a settlement site into its separate phases. When a site comprised multiple phases of habitation, features without finds cannot be attributed to specific phases without difficulty. What is more, the evidence for human presence of several sites also covers periods that are not under study here.

At best, the percentages in table 4.4 can give the upper limit of the frequency with which postholes are used for any of the types of posthole deposition listed in figure 4.1. This upper limit ranges between 1% at Emmen-Noordbargeres to 18% at Midlaren-De Bloemert. If it is taken into consideration that these percentages represent the total presence of the different types of posthole depositions, the only conclusion that can be made is that that the individual types of deposition are all scarce and that the deliberate deposition of pottery fragments into postholes cannot have played an important role in the clearing of refuse from the settlement site.

4.4.1 Quantitative analysis of finds from postholes

Just as we have limited knowledge of the frequency with which postholes are used for the deposition of finds, we have limited understanding of the nature of pottery finds from postholes (but see for initial attempts: Arnoldussen and De Vries, 2019). Therefore, a general overview is presented that describes pottery from postholes based on the nine sites that are listed above. For all the posthole that are dated to period 1 to period 4 and for postholes with finds that cannot be dated better than '*preh*', the total number of sherds, the total weight of the sherds and the average sherd weight has been determined. These data are depicted in figure 4.4.

With regard to the total number of finds from postholes, it becomes clear that postholes often contain only small numbers of sherds and that the vast majority

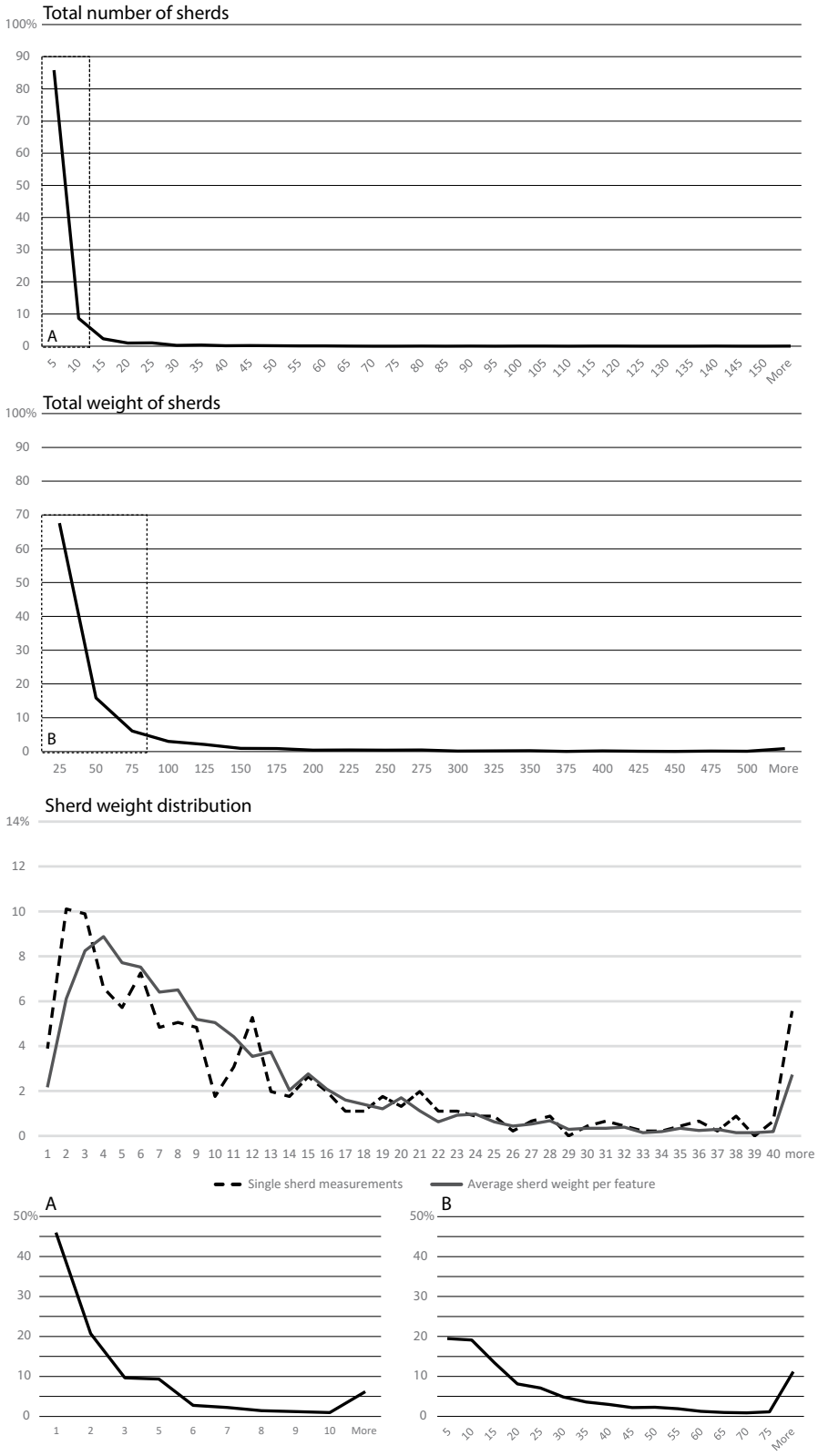


Figure 4.4: Distribution of total number of sherds (top), total weight of sherds (g) (second from top) and average sherd weight for the features that contain single sherds or individually weighed sherds and for all features (third from top) for pottery finds from postholes, as well as a more detailed depiction of the first part of distribution of the total number (A) and total weight of the sherds (B). On the horizontal axis the classes of number and weight are depicted, on the vertical axis the percentage of the total of finds the measurement represents.

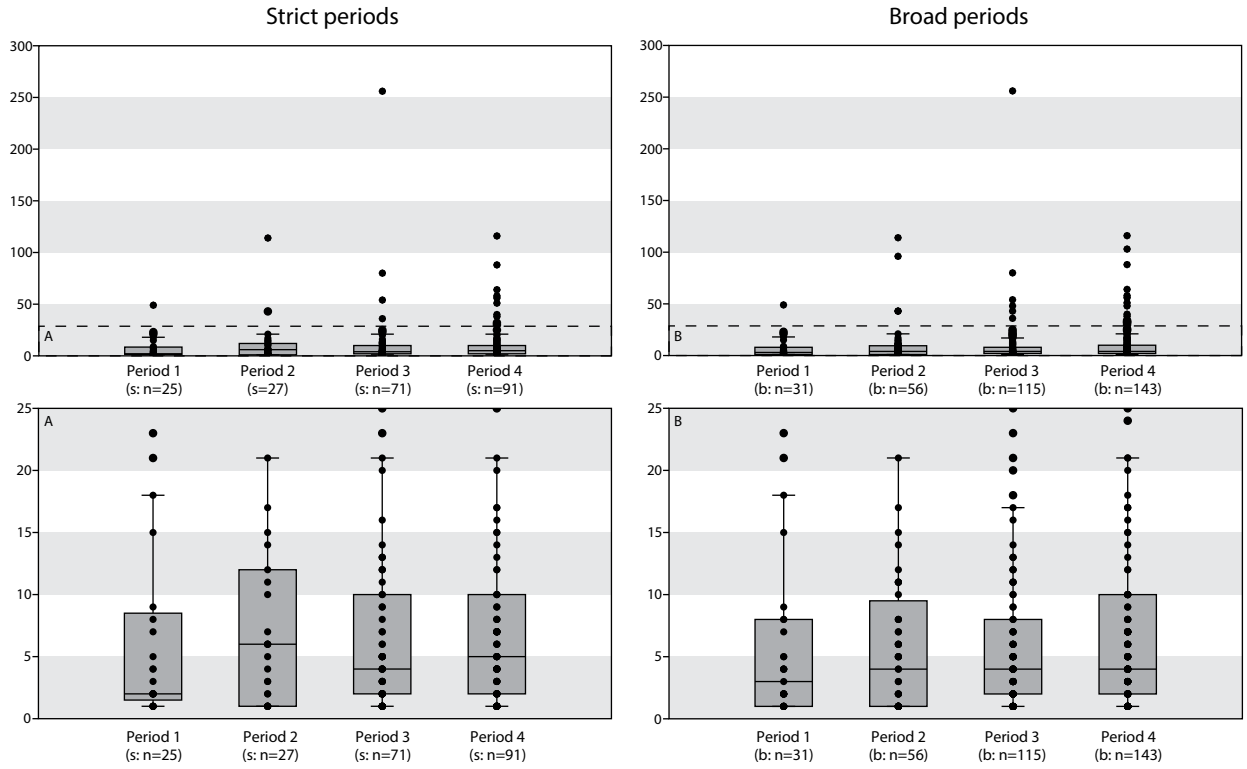


Figure 4.5: Distribution of number of sherds from postholes for pottery finds that could be strictly dated, *i.e.* to a single period (left), and pottery finds that could be broadly dated (right), showing entire distribution (top) and a detail with the interquartile range (bottom).

of postholes yielded 10 sherds or fewer. This is visualised by the steep drop-off in the curve of the graph for the total number of sherds per posthole. When the distribution of postholes with 10 or fewer sherds is studied in more detail (fig. 4.4 inset A), it becomes clear that the distribution is even more restricted, as 46% of all postholes with finds contain only one sherd and 75% contain up to three sherds. This uniformity is remarkable because the nine sites cover multiple periods across the research area. In a similar vein, the distribution of sherd weight shows a clear drop-off, with most finds from postholes (89%) weighing 75 grams or less. A more detailed graph of the range between 0 and 75 grams (fig. 4.4 inset B) shows that 60% of the postholes with finds contain sherds with a total weight of 20 grams or less. From this, it can be concluded that a very large proportion of postholes through time and space contained only a few sherds, with low weights.

To understand the general treatment of pottery prior to its deposition, sherd weight distribution has been calculated. There are two ways in which this was done. In the first method, a selection was made of postholes that contain only one sherd that was weighed (in which case no average is needed) or postholes for which individual sherds were weighed (n=455). The weights were divided into classes and the distribution was calculated as the percentage of the total. In the second method, all postholes were used and the average sherd weight per feature was calculated (n=2061). In the first method only observed values are used and in the second method both observed and calculated values are used. The different methods provide somewhat different distributions, with the single-sherd postholes comprising, on the whole, a lower sherd weight, with a peak at 2 grams, indicating smaller sherds, than all postholes on average together.

One explanation for this difference is that single-sherd postholes contain smaller sherds than multiple-sherd postholes. Most of the single sherd weight measurements represent single sherd finds. This means that the distribution may not be representative for all pottery sherds in settlement sites, but only for a selection. In the case of individual pottery sherds, it is likely that they were mostly deposited unintentionally, either as residual finds or in artefact traps. In the case of postholes as artefact traps, the chance of a sherd ending up in the cavity below the surface will depend on the size of the sherd. In such a scenario, small sherds will be overrepresented in single-sherd postholes and will, overall, provide a too low average sherd weight. The average sherd weight may also not provide a faithful representation of the distribution of sherd sizes, because internal variation is evened out.

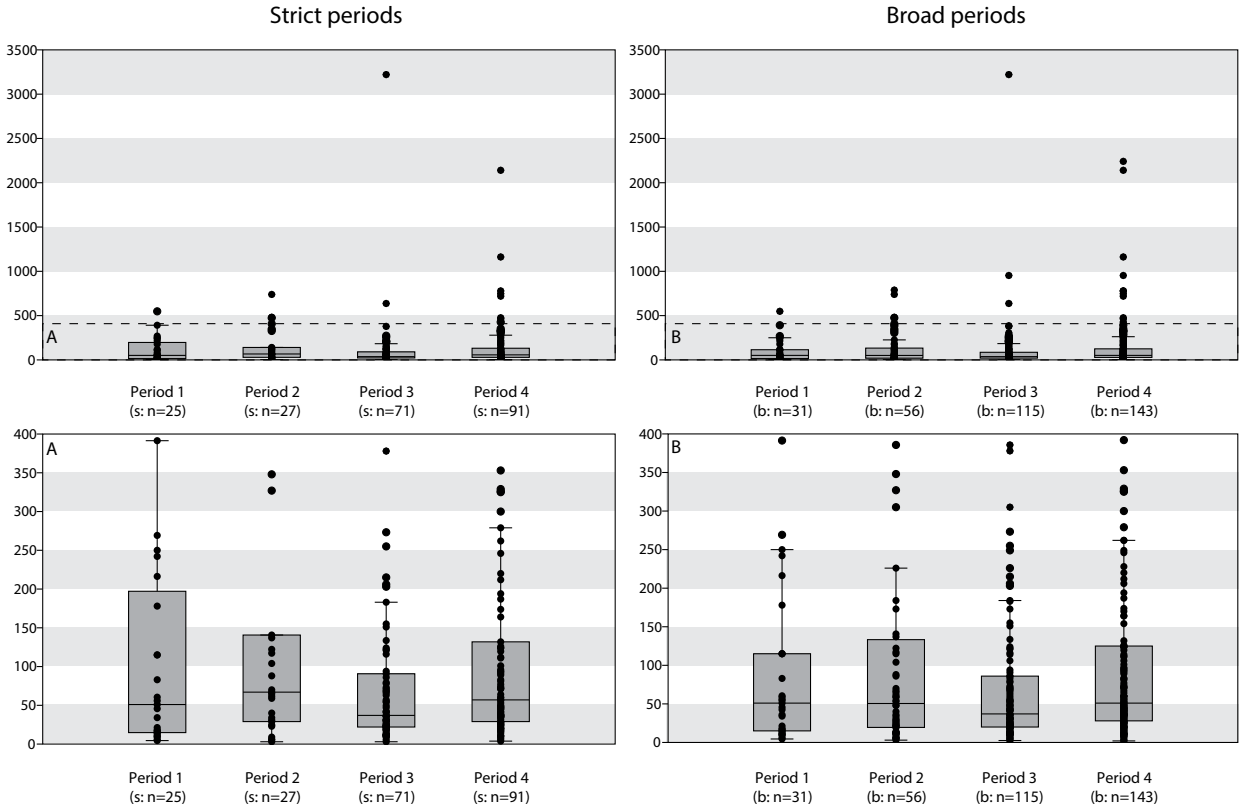


Figure 4.6: Distribution of total weight (g) of sherds from postholes for pottery finds that could be strictly dated, *i.e.* to a single period (left), and pottery finds that could be broadly dated (right), showing entire distribution (top) and a detail with the interquartile range (bottom).

With this method, the smallest and the largest sherds will be underrepresented. Compared with the total number of sherds and the total weight of the sherds, sherd weight distribution shows a fall-off curve, although the method of calculating influence the steepness of the curve. For both methods, however, the curve is less steep than the graphs of total number and total weight, suggesting that average sherd weight may be the least restricted of the three variables (total number, total weight, and average sherd weight) under study here.

When the content of postholes is studied for the four periods, the overall similarity observed above is again evident. For all periods, postholes contain mostly small numbers of sherds (fig. 4.5). Most medians are below 5 and all are below 10. Still, subtle differences between the four periods can be observed. Period 1 stands out because more than half of the postholes (13 out of 25) contain only one or two pottery sherds. Postholes from period 1 can occasionally contain more sherds. Period 2 has the largest interquartile range. Based on the distribution of the individual values (dots in the graph), this large range is more likely to be caused by the presence of two groups, one group with few sherds (<7) and one group with more sherds (>10), than a single, varied group. The patterns of number of sherds per posthole are most clearly visible in the strict period but are not completely invisible in the broad periods. Periods 3 and 4 show a more continuous distribution, with a gradual drop-off. In addition to this, period 3 and especially period 4 have many more outliers than periods 1 and 2.

Compared with the total number of sherds, the total weight of pottery finds from postholes is more varied (fig. 4.6). Using the strict periods, the boxplot of period 1 shows that total weight is varied in this period. Again, this seems not to be caused by a single, varied group of posthole depositions but by two different ways of depositing pottery sherds in postholes or of them ending up in postholes. There is one group of postholes that contained pottery sherds of 60 grams and less and there is another group of postholes that contained pottery finds with a total weight of 150 grams or more. This is visible in both the strict and the broad groups of period 1. This divide, however, is not visible in the graphs of periods 2, 3 or 4.

The weight of the finds from period 2 shows a more even distribution, most evident in the strict groups. Period 3 stands out because of the low weights of finds from postholes, both in the strictly dated groups and in the broadly dated groups, although period 3 also has many outliers towards the higher total weights. The picture of

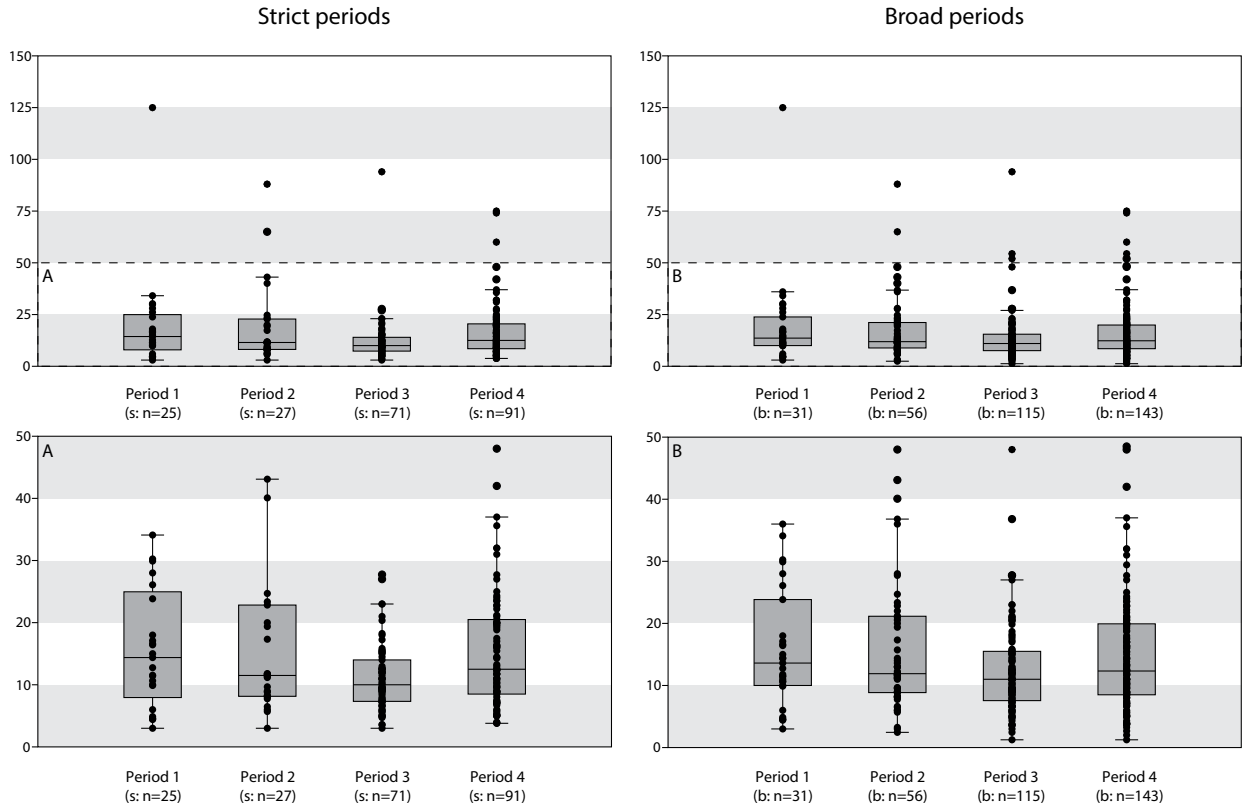


Figure 4.7: Distribution of average sherd weight (g) of sherds from postholes for pottery finds that could be strictly dated, *i.e.* to a single period (left), and pottery finds that could be broadly dated (right), showing entire distribution (top) and a detail with the interquartile range (bottom).

finds from period 4 is comparable to that of period 3: mostly finds with low weights, although this period has more finds with higher total weights, as is indicated by the larger third quartile and the greater number of outliers with higher weights. This means that for periods 3 and 4, most postholes contain only low weights (and small numbers), but occasionally a posthole could contain many finds.

With regard to the sherd weight distribution (fig. 4.7),[87] there is a decrease visible from period 1 to period 3. In period 4, the average sherd weight is higher than in the previous period. This is visible in both the strictly dated periods and the broadly dated periods. Period 3 stands out because of its low means and the low variation in average sherd weight per posthole. In combination with the small interquartile range, this means that in period 3 the treatment of pottery or what happened to the pottery prior to deposition resulted in a homogenous and highly fragmented assemblages. The outliers for period 3 indicate that occasionally larger fragments were deposited as well.

The distribution of average sherd weight in period 1 shows a differentiated treatment prior to deposition that is not visible in periods 3 and 4. Especially when the distribution of the individual postholes (points in the graph) is studied, it becomes clear that average sherds weight is not a continuum but splits into three groups, one group with very fragmented sherds, well below 10 grams on average, a second group with an average sherd weight between 10 and 20 grams and, finally, a third group with an average sherd weight of 23 to 30 grams. The broadly dated group 1 shows a similar tripartite division of the average sherd weight. In a similar vein to period 1, period 2 also shows discrete groups instead of a continuum of measurements. The lowest group has an average sherd weight between 1 and slightly more than 10 grams. The second, middle group, consists of postholes with an average sherd weight between 17 and 25 grams. Finally, there is a possible third group with weights above the 35 grams or a group of outliers with high average sherd weights. In the broadly dated group of period 2, this pattern is obscured, probably by postholes whose dates span periods 2 and 3.

The observed division cannot be explained as the result of local or site-specific practices, since features with high and low average sherd weights are found in multiple excavations in both periods, although the practice of depositing large fragments is more widespread in period 1 than in

87 Here solely based on the average sherd weight per dated posthole.

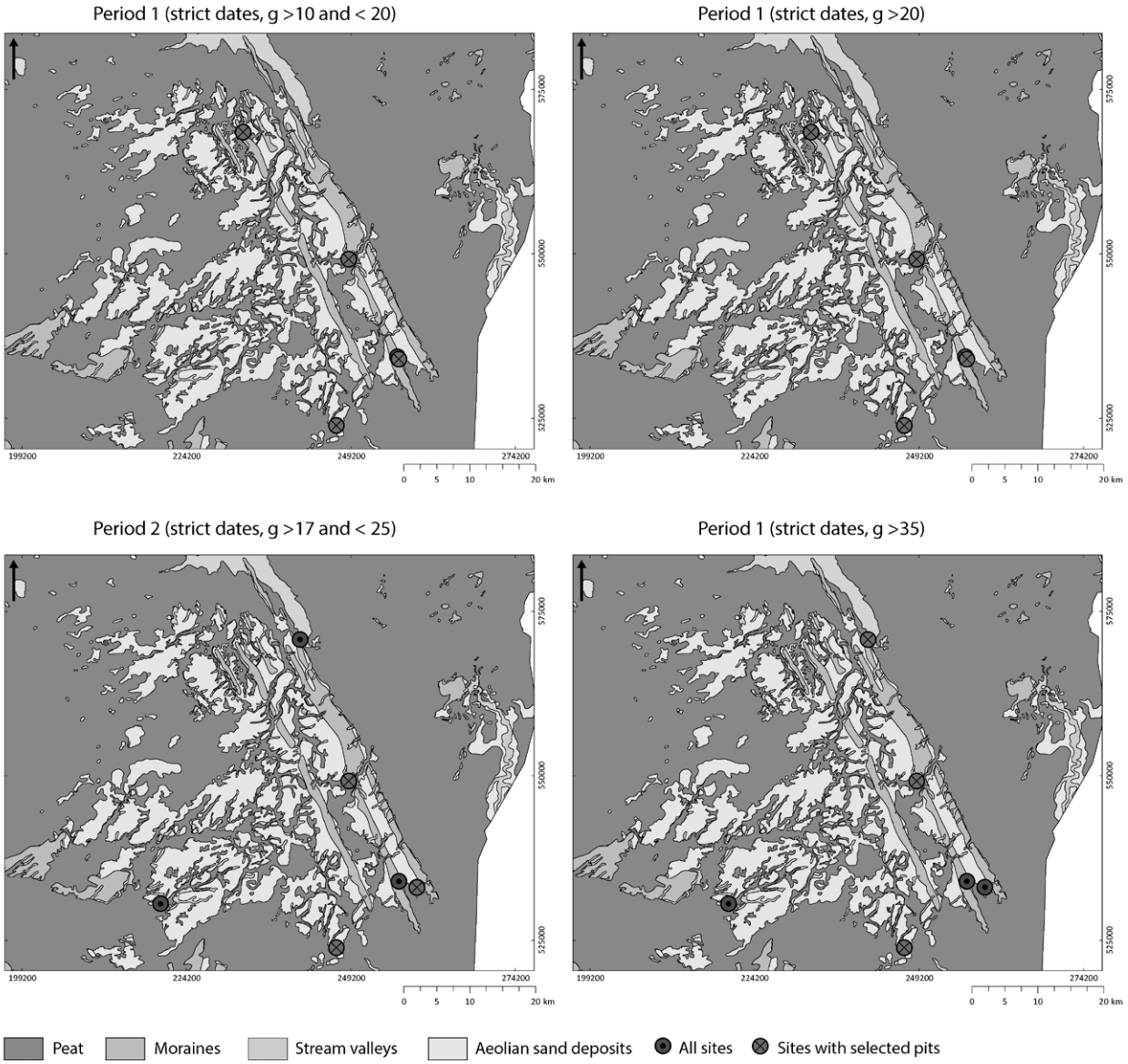


Figure 4.8: Geographic distribution of sites for period 1 (strict dates) and period 2 (strict dates) with postholes with ceramic finds of a particular average sherd weight (g) plotted on the palaeogeographical map of 500 BC (Vos *et al.*, 2020).

period 2 (fig. 4.8). The observed divisions in average sherd weight in period 1, and probably in period 2, indicate that there were different practices of sherd deposition that were shared between settlement sites. Based on the division in average sherd weight, there seems to be a group of highly fragmented sherds that may have slipped into the cavity of decaying postholes. The middle segment of sherds, with an average between 10 and 20 grams, possibly represents material that entered a feature as secondary refuse after it had spent some time at the surface. The middle group also is the most similar to the overall average sherd weights for later prehistoric settlement sites in the region (see fig. 4.2). The final group of postholes, with high average sherd weight and thus low fragmentation, suggests a more direct deposition of the material. This range between 20 and 30 grams is reminiscent of the average sherd weight listed for assemblages that have been interpreted as special depositions (for an overview, see Arnoldussen and De Vries, 2019: 200, fig. 5). For period 2, a similar division may be envisioned but with different weight classes attributed to the divisions.

The distribution of number of sherds, total weight of the sherds and, especially, average sherd weight indicates that part of the deposition practices are recurring in all four periods and part of the deposition practices are period-specific. Postholes with a few sherds, which have a low total weight and are highly fragmented, are found in all four periods. They are more likely to be the result of

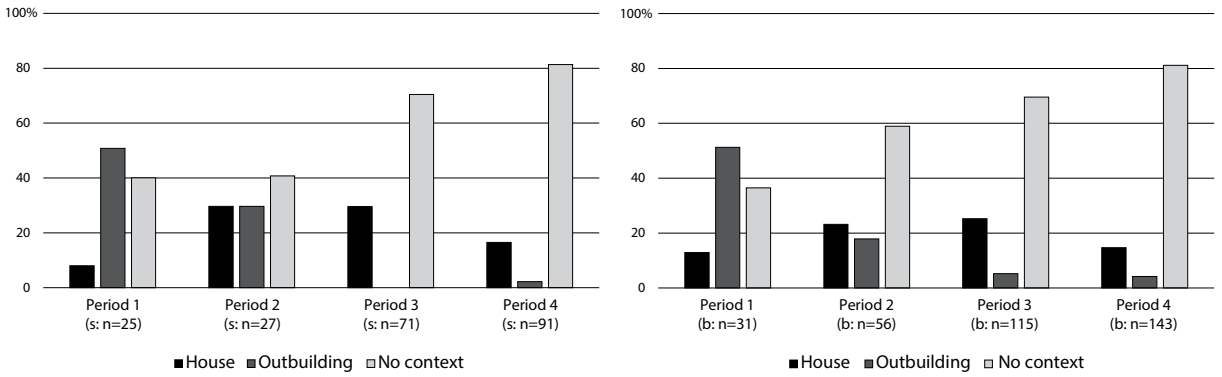


Figure 4.9: Context of postholes with dated pottery finds for the strictly dated periods (left) and the broadly dated periods (right).

unintentional processes, through which pottery becomes deposited, rather than of long-term practices or habits. The patterns are the results of taphonomic processes related to earth-fast wooden structures and the use of hand-built pottery. This type of postholes-with-finds are also likely to be found in the Bronze Age and the early medieval period. Other differences point towards practices that were specific to the periods under study. The division into discrete groups based on average sherd weight in period 1, for example, suggests that deposition may be governed by shared concepts. The relative uniformity and many outliers in periods 3 and 4 also suggest that similar practices are at play. An additional factor that can be decisive in the interpretation of pottery finds from postholes is the context of posts with finds. For example, context can be decisive in the differentiation between residual finds and contemporaneous finds from artefact traps. In the following section, the context of pottery finds from postholes within house plans is discussed in more detail.

4.4.2 Contextual analysis of postholes with pottery finds

In this section, another element is added to the analysis of pottery depositions in postholes, which is the context of the postholes with pottery finds. The context of postholes with pottery finds will be discussed at different levels in this section. First the context of the structure will be discussed, including whether the pottery sherds were predominantly found in postholes of houses or of outbuildings (fig. 4.9)[88] or in postholes without a clear context, for example, in isolated postholes or, conversely, in clusters of postholes. After that, the context of pottery finds is discussed at the level of the house. Finally, four house plans will be studied in detail to gain insight into the processes that led to pottery deposition in postholes.

In period 1, most of the pottery fragments are found in postholes relating to outbuildings, especially four-post granaries. The second most frequent context of period 1 pottery is postholes that have no clear structural context. Pottery from period 1 is only rarely found in the postholes of period 1 house plans. In the previous section, it was observed that the average sherd weight distribution for period 1 can be divided into three groups. There is a clear association between pottery finds with a high average sherd weight and granaries. In addition to this, pottery finds from granaries also belong to the higher spectrum of total weights. At Emmen-Noordbargeres, for example, one posthole of a granary (find no. 1004, trench 88, feature 69) contained 15 sherds from G1-type and G2-type vessels, with a total weight of 391 grams. The average sherd weight of this find is 26.1 grams.[89] At Borger-Daalkampen II 2007, four of the postholes of a six-post granary yielded finds. One of the four postholes with finds yielded two sherds of a G0-type vessel with a total weight of 56 grams and average sherd weight of 28.0 grams (find no. 244, trench 62, feature 4).[90] Also at Ruinen-Oldhave Bos (fig. 4.10) the posthole of a granary contained pottery, namely, 9 pottery sherds of the same G1-type vessel, with a total weight of 269 grams and an average weight of 29.9 grams (find no. 81, trench 23, feature 51).[91] In comparison, the few pottery finds from house plans are much more fragmented.

The fact that find assemblages with large fragment counts and high total weights, at least in period 1, are mostly found in the posts of outbuildings challenges the notion of pottery being primarily used in and around the house and disposed of in the direct vicinity of the house (as is the case in the peat regions in the western parts of the Netherlands: Van Heeringen, 2005: 590-591). What is more, granaries

88 Granaries with four or six posts or other small structures. Sunken huts were not counted as outbuildings.

89 For an analysis of the pottery, see Kuiper (2015) and appendix 9 in De Wit (2015b). Pottery data have been combined with primary excavation data.

90 For an analysis of the pottery, see Bürmann (2009) and appendix 2 in De Wit (2009a).

91 Based on primary excavation data.

Figure 4.10: Excavation plan of Ruinen-Oldhave Bos, showing the period 2 house plan and, south of that, a granary with a posthole (no. 81; inset) that contained large pottery fragments dating to period 1. Figure by the author, based on primary data (Koopstra and Lenting, 2016).

with large fragments or large quantities of fragments are not necessarily found in close proximity to house plans. At the site of Ruinen-Oldhave Bos, for example, no period 1 building has been found, even though a granary with large pottery sherds dating to period 1 was encountered there. In a similar vein, the granaries at Emmen-Noordbargeres are dispersed throughout the excavated area and are not always situated in close proximity to contemporaneous structures. This recurring, isolated context points towards an interpretation as special deposition.

Additionally, there are other arguments that favour an interpretation of a special deposition instead of common refuse disposal for some of the pottery depositions in granary postholes. These arguments are found in the treatment of the pottery and the way the pottery was placed in the feature. At, for example, Emmen-Noordbargeres, the individual sherds were visible on the photos taken in the field. The sherds are clearly secondarily fired and possibly even stacked at the base of the posthole. At Ruinen-Oldhave Bos, the field photos indicate that at least some of the nine sherds of the same G1-type vessel were placed upright at the centre of the posthole.

The practice of deposition in granaries seems to have been widely shared, within and beyond the research area. Within the study area, the settlement site of Hijken-Hijkerveld provides a convincing example of special deposition of pottery in postholes. At this site, a small cup was found in the centre of a posthole. Similar cups were found in period 1 pits at the same site. Prior to deposition, the cup was fragmented, and the fragments were secondarily fired, although to different extents. After secondary firing, the larger part of the cup was placed in a posthole from which the post had been removed. The other fragment was deposited in one of the other features of the same structure (Arnoldussen and De Vries, 2014, plus primary excavation data). For other regions in the Netherlands, special depositions in granaries that predominantly date to the first half of the Iron Age are known as well (Gerritsen, 2003: 93, table 3.11; Van den Broeke, 2002, 2015). In contrast to the examples discussed here, the quantity of finds from these granaries is significantly larger, with total

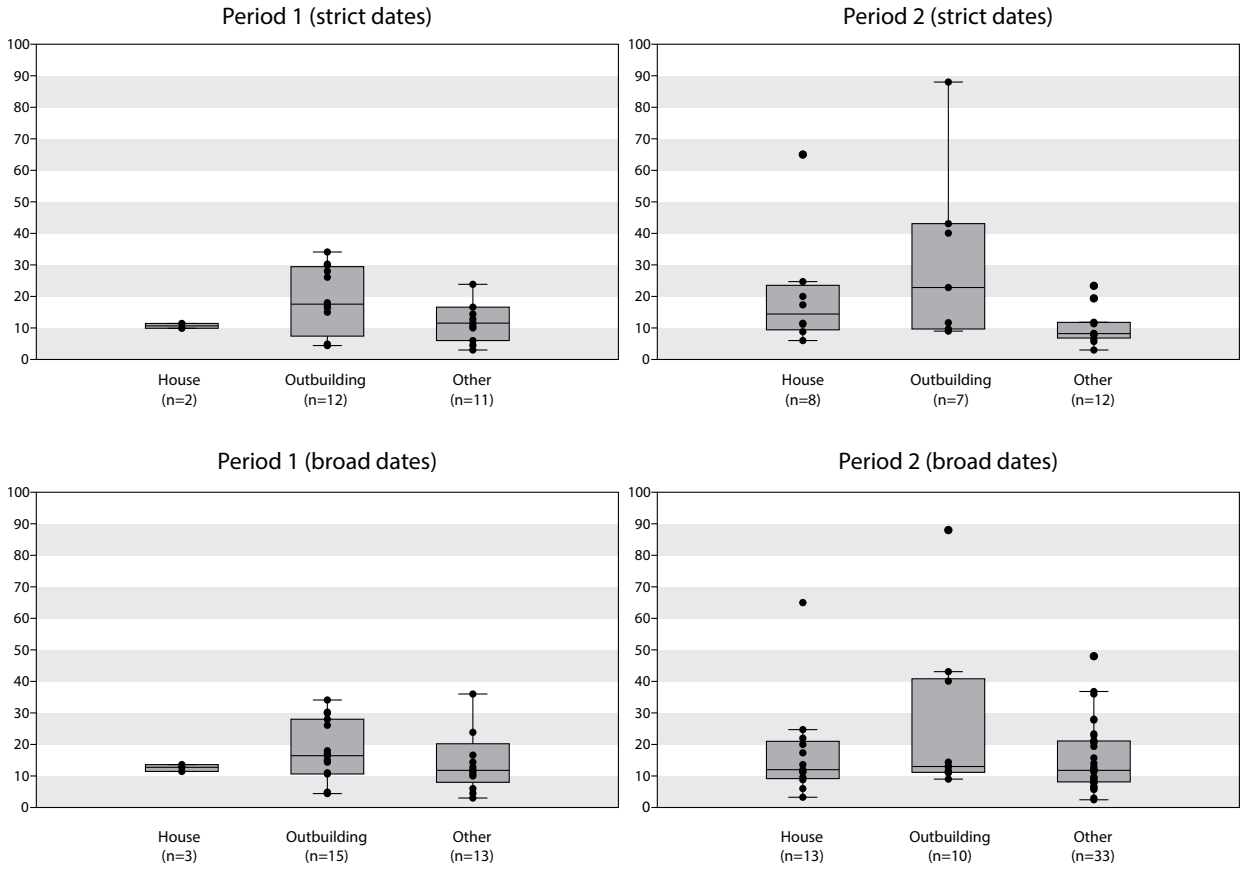


Figure 4.11: Distribution of average sherd weight (g) per context of sherds from postholes for pottery finds that could be strictly dated, *i.e.* to a single period (top), and pottery finds that could be broadly dated (bottom). One outlier with an average sherd weight of 125 g ('other' context) from period 1 is not depicted in the graph.

weights up to several kilograms (*e.g.* Nijmegen-Lent: Van den Broeke, 2002: 52, table 1). In this light, the finds of the Fries-Drents plateau can be seen as a more modest expression of a widely shared concept of pottery deposition in granary posts.

The few depositions of pottery fragments in period 1 house plans may at first glance be easily explained by the fact that only two of the nine sites under study here comprise house plans from this period. If there are no houses, they cannot be the context for pottery deposition. However, it is remarkable how many granaries have been found with period 1 pottery, even though no houses have been found in the direct vicinity. When the context of the posthole is compared with the fragmentation of the sherds it contains (fig. 4.11), the special status of granaries is once again emphasised. Postholes in houses and isolated postholes have average sherd weights that are comparable to overall site averages, as discussed above. In addition to this, they show only limited variation. Postholes from granaries, conversely, show much variation, because while they can include small fragments (<10 grams) and average fragments (10-20 grams), they are specifically the contexts where large fragments (>20 grams) are found. This indicates, again, that a different treatment or a different selection of sherds was employed for pottery sherds that were to be deposited in the postholes of granary posts.

In period 1, postholes from houses contain moderately fragmented pottery sherds with an average weight of circa 10 grams. On the whole, postholes associated with granaries contain larger fragments than those associated with houses. Postholes from other contexts are somewhere in between houses and granaries with regard to the treatment of the sherds. For period 2, the average sherd weight of the dated fragments from house plans is higher, which means sherds are less fragmented than during the previous period. The period 2 sherds from granaries show more variation in average sherd weight. Both small and large fragments are deposited in granaries. The larger fragments in granary postholes in period 2 can be seen as a continuation of older practices or possibly even a more extreme version of period 1 practices, as average sherd weight is occasionally much higher in period 2. In addition to this, in period 2 there is also a large second group with smaller fragments, which does not point towards intentional deposition practices.

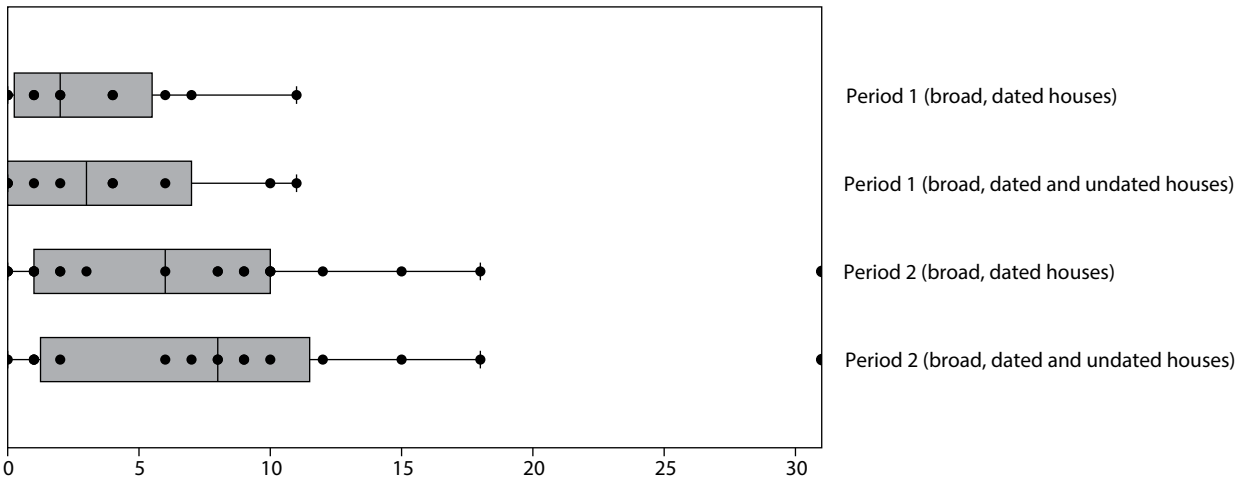


Figure 4.12: Distribution of number of postholes with finds per house for houses from period 1 (broad dates) and period 2 (broad dates), for the dated houses only and for the dated and undated houses combined.

In period 2, granaries are still used to deposit pottery fragments, although the finds stand out less from the rest of the pottery finds from this period. In addition to this, pottery is more frequently found in the context of houses. This is, again, at first glance easily explained by the fact that more of the nine sites comprise houses that date to period 2. Since the ratios between pottery deposition change between period 1 and period 2, presence or absence of houses cannot be the only explanations for the observed differences. Pottery seems to have been deposited in house plans at the cost of being deposited in the features of a granary. This change of context between period 1 and period 2 also becomes visible in a change in average sherd weight for houses. In addition to containing small fragments (< 10 grams), postholes from houses now also contain fragments of 15-25 grams, which suggests other underlying processes of deposition (fig. 4.11).

The pottery finds from house plans that have been discussed up till now relate to pottery finds that can be dated to one or more periods. Often, however, most of the pottery finds from house plans can only be dated broadly, *e.g.* Iron Age or prehistory, or cannot be dated at all. The fact that these pottery sherds cannot be dated does not mean that they cannot provide other information. To understand the possible difference in deposition processes related to postholes of house plans in period 1 and period 2, a comparison is made between period 1 and period 2 houses. For this analysis, the following houses have been studied: 10 houses that could be dated to period 1 (broad),[92] 16 houses that could be dated to period 2 (broad)[93] and 9 houses that could not be dated to a specific period, but morphologically fit in period 1 (n=2) or 2 (n=7) based on the characteristics described in section 3.3.7.[94]

For the houses dated to period 1 (broad), 7 out of the 10 houses have at least one feature with pottery finds. For the group of houses dated to period 2 (broad), 15 out of 16 houses have at least one feature with pottery finds. In the case of the 9 undated houses, 6 houses contained at least one feature with pottery finds. Both of the period 1-like house plans contained finds, which means that 4 out of the 7 period 2-like houses comprised at least one posthole with pottery finds. This means that if the houses are clustered based on the morphological traits, period 1 consists of 12 houses, of which 9 contain pottery finds (75%), and period 2 consists of 23 houses, of which 19 have pottery finds (82%). This means that there are no clear differences in the frequency in which pottery is found in house features.

92 Wachtum-Noordesch: Early Iron Age house (Van der Velde *et al.*, 1999); Emmen-Noordbargeres: house 5 (De Wit, 2015b); Hijken-Hijkerveld: houses 1, 3, 10, 12, 16, 17 and 22 (Arnoldussen and De Vries, 2014); Peelo-Kleuvenveld: house 106 (Kooi, 1996a).

93 Borger-Daalkampen II 2008: houses 1 and 3 (Van der Meij, 2010a); Zwinderen-Kleine Esch: houses 1, 2 and 3 (Van der Velde *et al.*, 1999); Wachtum-Noordesch: house Late Iron Age (Van der Velde *et al.*, 1999); Holsloot-Holingerveld: houses 1, 3 and 4 (Van der Velde *et al.*, 2003); Emmen-Oude Meerdijk: house 2+3 (De Wit, 2011); Emmen-Noordbargeres: house 6 (De Wit, 2015b); Hijken-Hijkerveld houses 10 and 18 (Arnoldussen and De Vries, 2014); Peelo-Haverland: house 52 (Kooi, 1995); Peelo-Kleuvenveld: house 107 (Kooi, 1996a); Ruinen-Oldhave Bos: house (Koopstra and Lenting, 2016).

94 Like period 1: Zwinderen-Kleine Esch: house 5 (house in trench 22/23: Van der Velde *et al.*, 1999) and Peelo-Kleuvenveld: 109 (Kooi, 1996a). Like period 2: Daalkampen II 2007: house 25 (De Wit *et al.*, 2009a); Daalkampen II 2008: houses 2 and 4 (Van der Meij, 2010a); Holsloot-Holingerveld: house 2 (Van der Velde *et al.*, 2003); Emmen-Oude Meerdijk: house 1 (De Wit, 2011); Emmen-Noordbargeres: house 8 (De Wit, 2015b); Hijken-Hijkerveld: house 2 (Arnoldussen and De Vries, 2014).

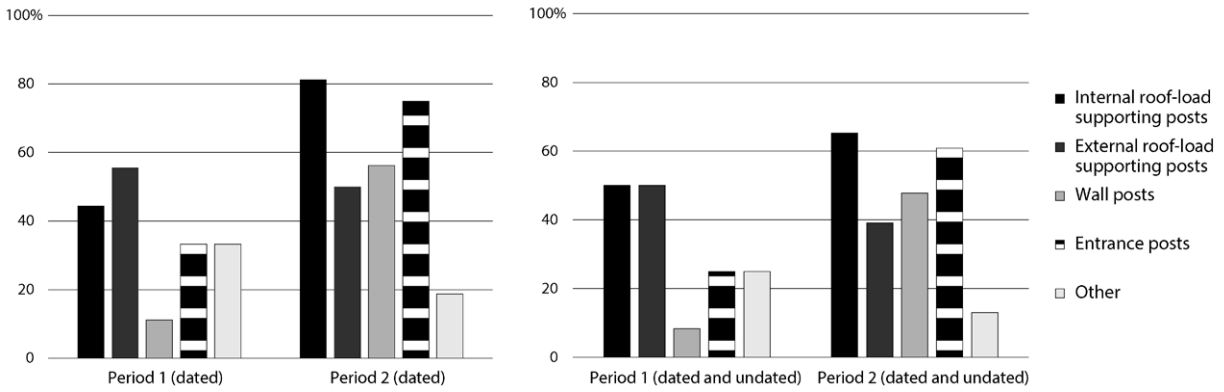


Figure 4.13: Distribution of types of postholes with finds (% of total postholes) for period 1 (broad dates) and period 2 (broad dates), for the dated houses and for the dated and undated houses combined.

When the number of postholes with finds is compared for period 1 and period 2 (fig. 4.12), it becomes clear that the group with dated and undated house plans contains fewer postholes with finds, both in period 1 and in period 2. The likely explanation for this difference is that houses with fewer finds have less of a chance to include pottery sherds that can be used to date the structure. Still, both groups with dated houses comprise house plans without finds, which means that the postholes yielded other material used for dating the house, which is predominately charred material or charcoal for radiocarbon dating. Two other aspects stand out as well. First, both period 1 and period 2 are varied with regard to the number of features with finds. Second, on the whole, period 2 houses have more postholes with finds than period 1 houses, suggesting that different processes affect the chance of pottery sherds being deposited, intentionally or unintentionally, in features of the house.

Based on the distribution of finds from specific features (internal roof-load supporting posts, external roof-load supporting posts, wall posts and entrance posts), it can be concluded that pottery fragments can become deposited in every part of the house, but that they are predominantly found in the roof-load support structure (fig. 4.13). For period 1, this is predominantly in the external roof-load supporting posts, and for period 2 this is predominantly in the internal roof-load supporting posts. In period 1 houses, pottery is almost never found in wall posts (see remarks section 3.3.1.2). In period 2 houses, pottery is almost never found in other features than the four kinds that have been listed here.

Some difference in the location of pottery deposition in postholes of houses between period 1 and period 2 can be explained by morphological difference between these two groups. Walls are not frequently found in period 1 houses (fig. 3.11), which means they lack one of the types of context in which pottery can be found. Other differences seem to represent actual differences in prehistoric deposition practices. The fact that, in period 1 houses, pottery fragment are often found in external roof-load supporting posts raises the question how pottery sherds are deposited in these posts, as the walls of the house would have shielded these posts from pottery fragments deriving from inside the house. These postholes with finds cannot be explained as artefact traps. Only a scenario in which pottery sherds were stored outside, but close to the house, could lead to deposition in the post during habitation. More likely, sherds were either incorporated in the fill of the features during the construction phase, as residual finds, or during the deconstruction phase, when postholes were filled in, either as refuse postholes or as special deposition.

The pottery finds from Peelo-Kleuvenveld house 106 are exemplary of a scenario in which the material did not end up in the external roof-load supporting posts during habitation (fig. 4.14). Based on charred acorns from feature no. 1093, the house has a radiocarbon date of 756-408 BC (2445 +/– 35 BP (GrN-12341): Kooi, 1996a: 422). A fragment of a *halsbiconische* pot[95] was found in one of the external roof-load supporting posts (1091). Even though the vessel now consists of multiple, reconstructed fragments, it is likely that it was in one piece immediately prior to excavation and that the fractures occurred during excavation, because the entry of 1091 states “pot uit wandpaal”

95 Late Bronze Age pottery from the Fries-Drents plateau is characterised by a biconical shape, with a vertical rim (termed *halsbiconisch* in Dutch, which translates as neck-biconical) and a well-finished surface both inner and outer (Taayke, 2019: 165). Based on this description, the vessel could date as early as the 9th century BC. It would antedate the house and may be considered an heirloom deposition. However, vessels with a similar shape have been found in the south. In the Oss-Ussen typology, the vessel can be described as type 43, which remains in use from phase A2 to phase E, or 800/775-450 BC (Van den Broeke, 2012: 67-68).

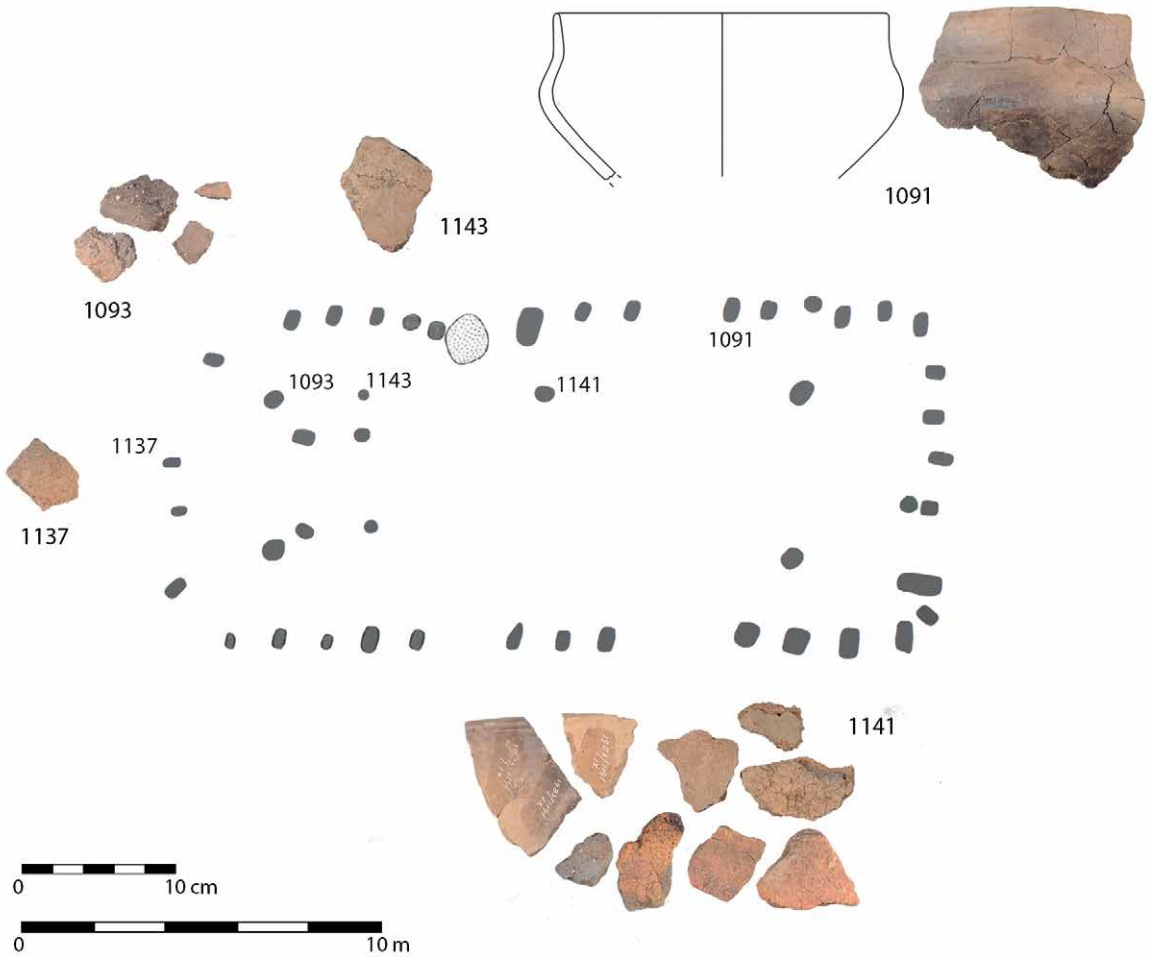


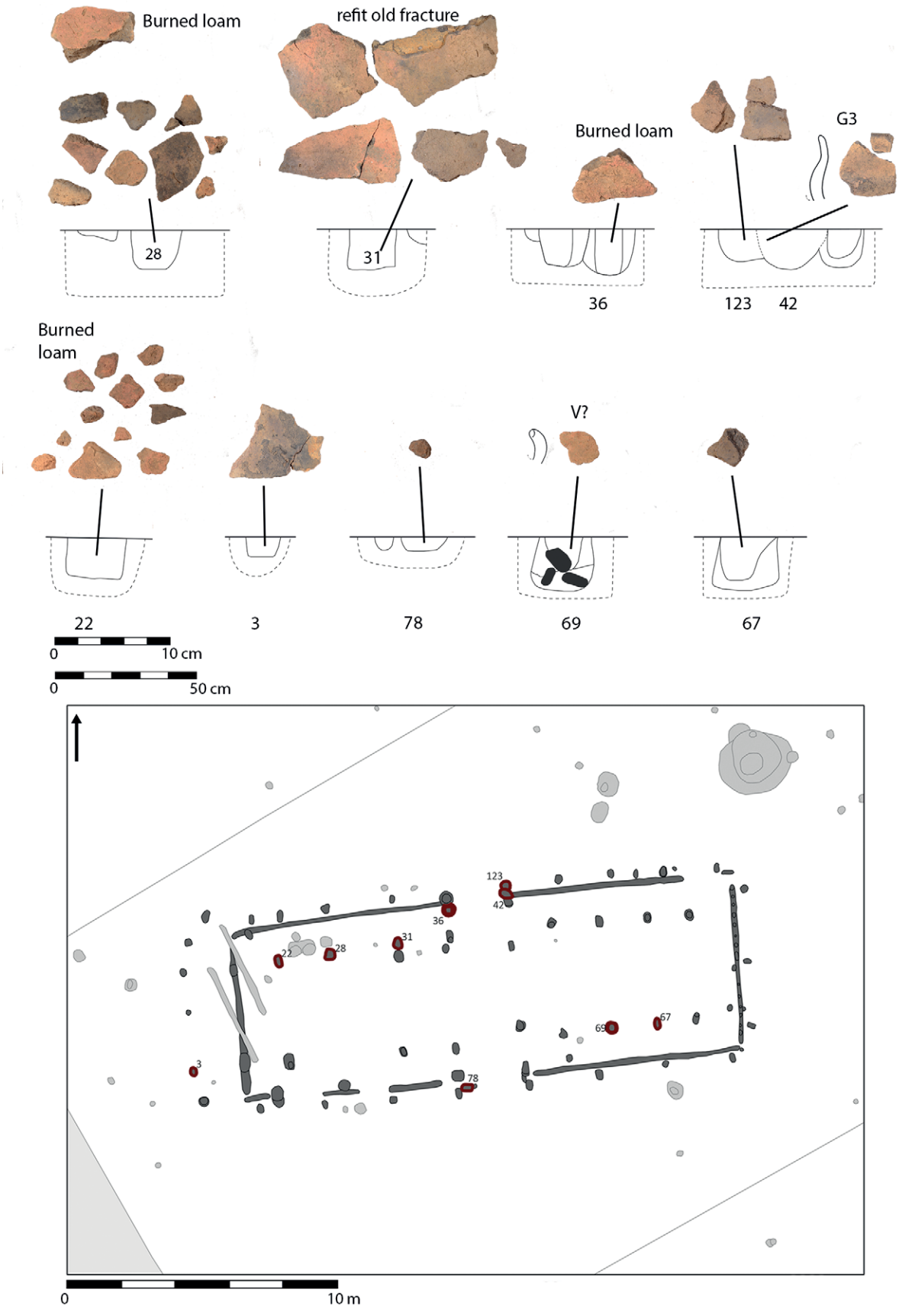
Figure 4.14: Pottery finds from the postholes of house 106 at Peelo-Kleuvenveld (Kooi 1996b: 433, fig. 106). Periphery: pottery finds from the postholes of the house. Centre: house plan, showing feature numbers for the postholes with ceramic finds. Pottery to the upper scale bar, house plan to the lower scale bar.

(meaning vessel from wall post),[96] not sherds. Considering that the level of the excavation is 30-40 cm below the surface, the large fragment must have been located at the base of the feature. The most likely interpretation is a special deposition in the feature after this particular post was removed. Other pottery fragments from this house plan are a large fragment of a G0-type vessel (1143), of which we do not know how it entered the feature. In one of the interior roof-load supporting post (1141), an assemblage of sherds was found that consisted of two rim fragments of possibly the same S1-type vessel and multiple body fragments that were secondarily burnt, some to the extent that they became completely porous. Unfortunately, no section drawings could be found, but these finds may be explained as a second special deposition or as the content of a refuse posthole. Other fragments, such as those from feature 1093, may have slipped into the posthole during the use of the house or at the moment of construction.

In period 2, most of the pottery originates from postholes that were part of the roof-load support structure, located inside the house. Postholes that are part of the entrance are the second context in which pottery fragments were deposited. Additionally, in half of the house plans, one or more postholes that are part of the wall contain pottery fragments. Almost half of the houses in the dated group and slightly less than 40% of the houses in the dated and undated group have one or more postholes from the external roof-load supporting posts in which pottery fragments were deposited. The picture that arises from this distribution is that pottery deposition was varied and that no context type was the preferred context type for pottery deposition.

Part of this variation should be seen in the light of unintentional pottery depositions. However, other signif-

96 Finds administration *Peelo Gem. Assen. Vanaf 1982/1983. No. 810 t/m 1144*. Entry number 1091, 24 October 1983. Groningen Institute for Archaeology/University of Groningen.


Burned loam
refit old fracture
Burned loam
G3
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31
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42
Burned loam
V?
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3
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10 cm
0
50 cm
123
42
36
31
28
22
3
78
69
67
0
10 m

icant differences may lead to differences in unintentional deposition in artefact traps. If, for example, pottery was used predominantly in one part of the house, for example, the living area, fragments would have been more likely to accumulate in posts in this area and not in the posts of the byre section. If there was such a division in the use of space in period 2 houses, this may be reflected in the distribution of pottery finds. When the traditional division between living area and byre section is incorporated to study the distribution of pottery finds in the house, we see that 9 out of the 23 houses from period 2 have finds both in the byre section and in the living area, 3 houses only have pottery finds in the living area and 4 houses have pottery finds only in the byre section. This means that, if we assume that not all pottery finds in features should be interpreted as residual finds, there is no preferred location for where pottery was used or was discarded. Especially the occurrence of pottery in the byre section exclusively is remarkable, since it contrasts with divisions known for other areas, where the dwelling area was used for the storage of pottery and probably the consumption of food (such as in Denmark: Webley, 2008: 79-94).

In order to interpret pottery finds according to figure 4.1, pottery has to be studied in detail, both with regard to fabric and treatment and with regard to the context in which it was found. This analysis has been performed for three houses that can be dated to period 2 (broad), based either on the pottery finds or on their morphological traits. These are house 3 at Borger-Daalkampen II 2008 and houses 6 and 8 at Emmen-Noordbargeres.

House 3 at Borger-Daalkampen yielded a total of 36 pottery sherds, with a total weight of 557 grams (fig. 4.15). For at least two postholes with pottery finds, there is evidence that the posts were removed prior to the deposition of the pottery fragments. In the case of feature no. 31, 5 sherds were deposited, with a total weight of 212 grams (average sherd weight: 42.4 grams). All five sherds show a similar fabric and surface treatment but different extent of secondary firing. Two sherds could be refitted on old fractures, suggesting that these sherds were broken prior to deposition. The dimensions of these five sherds are too large for them to have been deposited accidentally in the feature while the house was in use. For the same reason, it seems unlikely that the sherds were placed in the feature as part of backfilling or a foundation offering. In addition to their size, their secondarily fired state makes the sherds brittle and more likely to break when pressure is put on them. This is yet another argument why the sherds were not part of the fill prior to the placement of the post. The most likely interpretation of these large sherds is that they were deposited after the post had been removed, either at the end of the use phase of the house or when the post was replaced.[97] In addition to the five pottery sherds, charcoal and charred bone fragments were also found in this feature, which suggests that the fragments were not deposited alone, but as part of a mixed secondary fill.[98]

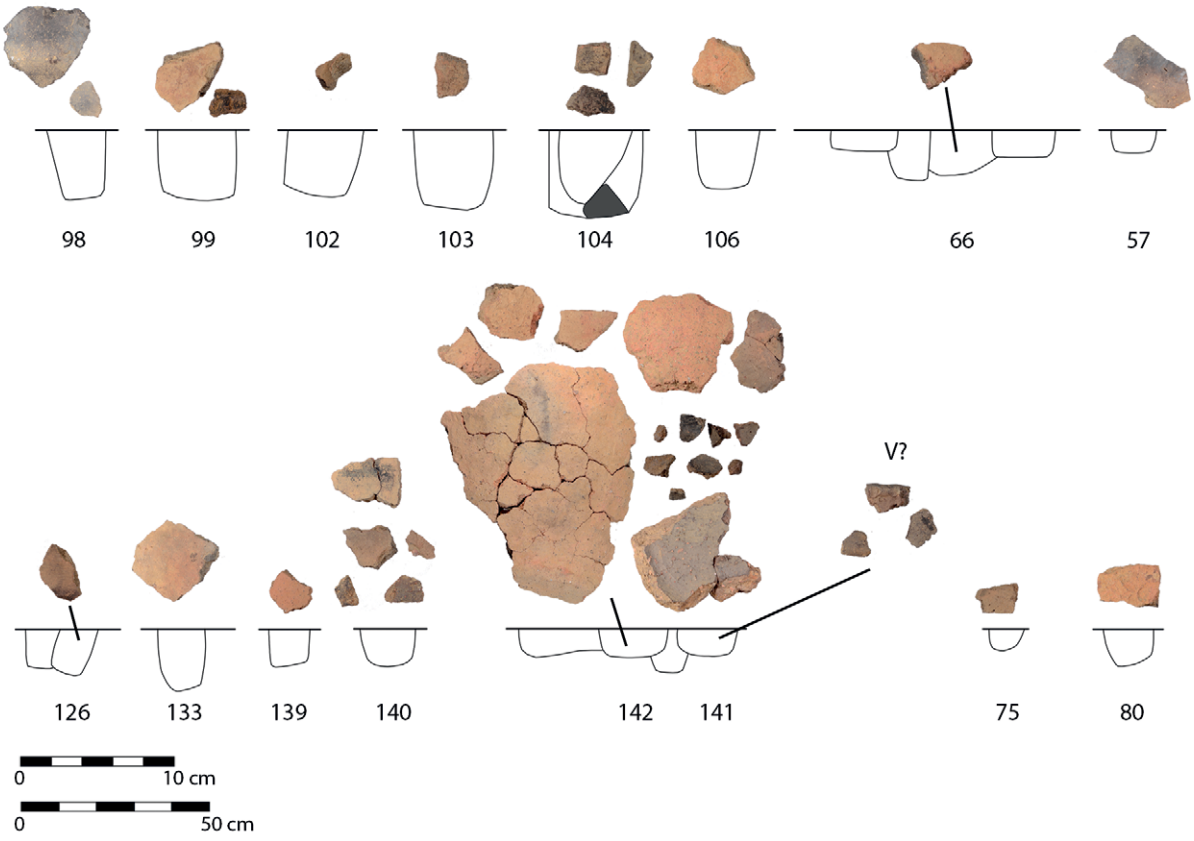
Figure 4.15: Pottery and burnt loam finds from the postholes of house 3 at Borger-Daalkampen II 2008 (Van der Meij, 2010). Top: finds shown above the section profile of the posthole from which they originate. Finds to the upper scale bar, feature sections to the lower scale bar. Drawings of pottery sherds adapted from Drenth (2010: 47-48, fig. 36 & fig. 42). Bottom: house plan, showing postholes with ceramic finds outlined in red.

In the case of feature no. 69 in the same house, the presence of three large stones in the feature suggests that the post was removed at some point and the posthole was filled. A small fragment of a V2- or V3-type vessel was deposited together with the stones, after the small fragment had been secondarily fired. Other features also contain secondarily fired sherds that belong to different vessels, some with a roughened surface (probably V-type vessels) and some with a smooth surface (probably G-type vessels). Notwithstanding the fact that the sherds have been secondarily fired, none of the sherds appear to have spent a long time at the surface, because neither the fractures nor the surfaces look worn. No sherds could be refitted between the different features. Still, in feature nos. 28 and 36, secondarily fired loam was found that was tempered with plant fibre. These two fragments could not be refitted, but they look similar and are very different from all of the other finds from the house. The lack of imprints of branches suggests that they belonged to a hearth rather than a wattle-and-daub wall. They may have belonged to one and the same feature of the house. Since there is evidence that at least two posts have been removed and that the open features were filled with related fragments, the possibility exists that the entire structure was demolished and the house site was cleaned. Whether feature no. 31 should be considered a refuse posthole or as a special deposition is difficult to tell, because there is no information on the exact location and positioning of the sherds in the feature. The pottery fragment from feature no. 69 is so small that is more likely to have been deposited accidentally. The large stones from the feature could be part of a clean-up phase of the house site or of a special deposition.

A similar quantity of finds was retrieved from the features of house 6 at Emmen-Noordbargeres: a total of 49 sherds, with a total weight of 698 grams (fig. 4.16). In seems likely that most of the pottery fragments in the postholes were deposited unintentionally. The sherds from the internal roof-load supporting posts of the byre

97 There is an additional post which can be interpreted as a renovation of the house.

98 As described on the section drawing of the feature.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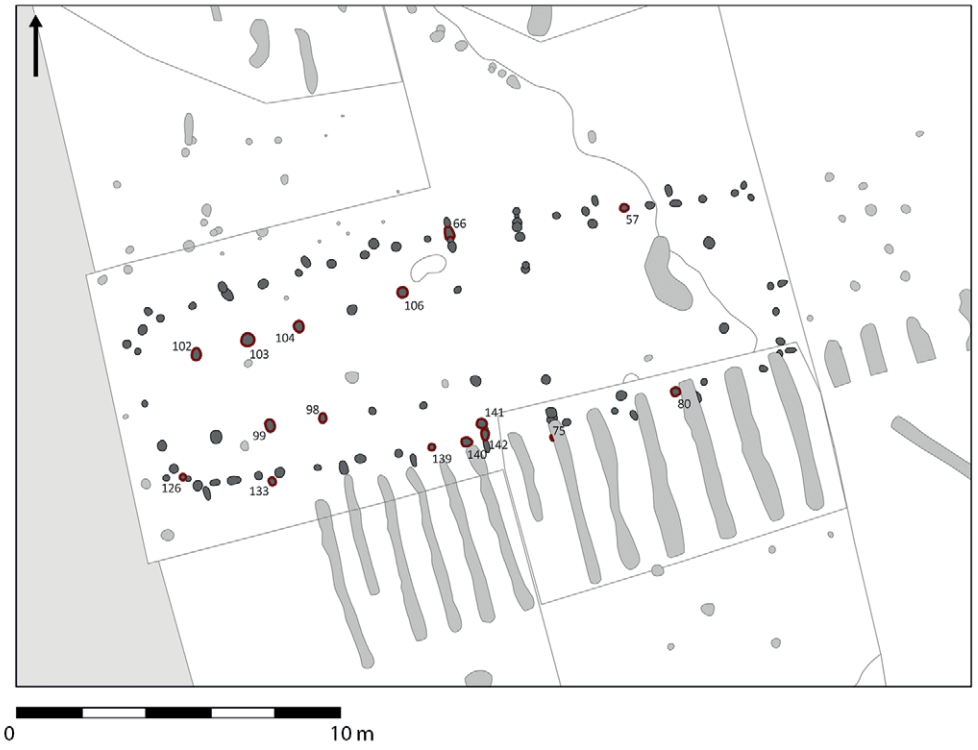
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section (feature no. 98, 99, 102, 103, 104 and 106) contain only a few, small fragments, which could have easily slipped into the posthole when the house was still in use. Even though the fragments are all small, they do not have smooth edges or a worn appearance. In addition to this, the fabric of the small pottery fragments is similar to that of the pottery that could be dated, with a noticeable coarse temper of pink stone grit. This does not suggest that the undated material from the byre section is much older than the dated material from the entrance. Only the base fragment from feature no. 98 stands out because of the smooth finish of the outer surface. In the case of feature no. 142, it seems likely that the post had been removed prior to the deposition of a very large base fragment of a vessel with a roughened surface and stone grit temper. When the base fragment was studied in the archaeological depot, it was found to consist of many small fragments that appeared to have been fractured recently, at least in the middle section of the fracture. The most likely explanation for this is that the base fragment had been secondarily fired and had sustained heat cracks that fractured when the fragment was excavated. In addition to this, two fragments of another base were found that stand out because of their pink stone grit temper. In the adjacent feature no. 141, a small rim fragment of a V3-type or possibly V4-type vessel was found with a similar pink stone grit temper. Even if the two fragments cannot be matched to the same individual vessel, the resemblance suggests that the material of feature nos. 141 and 142 can be associated with the house. The quantity of feature no. 142 and the size of the large base fragment suggest that the post would have had to be removed before the pottery became deposited in the feature.

In contrast to house 3 at Borger-Daalkampen II 2007 and house 6 at Emmen-Noordbargeres, house 8 at Emmen-Noordbargeres does not show any evidence for the removal of one or more posts and subsequent deposition of material (fig. 4.17). The total number of fragments that was retrieved from the postholes is low (nine fragments larger than 1.5 cm, plus grit, with a total weight of merely 61 grams). All fragments are small, and all postholes only comprise a small number of sherds that could have slipped in the posthole when the house was still in use. Some of the fragments do not appear to be worn (*e.g.* from 233 and 40), while others have rounded edges (feature 39) or a worn outer surface (feature no. 223), which leaves the possibility that at least some of the fragments may have entered the postholes as residual finds at the moment of construction.

Figure 4.16: Pottery and burnt loam finds from the postholes of house 6 at Emmen-Noordbargeres (De Wit, 2015a). Top: finds shown above the section profile of the posthole from which they originate. Finds to the upper scale bar, feature sections to the lower scale bar. Bottom: house plan, showing postholes with ceramic finds outlined in red.

From the descriptions of the three houses from period 2, the variation in finds within the features of a single house and between the features of different houses becomes evident. Some of this variation is caused by the different moments in time when pottery fragments can become deposited unintentionally, but some of this variation is also caused by different practices in the abandonment of the structures. In the cases of house 3 at Borger-Daalkampen II 2008 and house 6 at Emmen-Noordbargeres, there is a shared practice of removing posts and depositing objects in the now-empty features. House 8 at Emmen-Noordbargeres indicates that deconstruction need not have taken place every time a house was abandoned, but it could also indicate that different practices existed in the cleaning of the house site. The fact that the abandonment of the house was culturally defined (Gerritsen, 2003: 37-40, fig. 3.1) does not mean that there was only one way to do this in period 2 and that different practices could not have coexisted within one settlement site.

As figure 4.9 has already shown, the context of postholes with pottery finds from periods 3 and 4 is clearly different from that of the two earlier periods. For periods 3 and 4, the majority of postholes with pottery finds cannot be attributed to either a house plan or an outbuilding. This difference can be explained by the fact that the nature of the settlement changed at the end of the Iron Age and the start of Roman period (between period 2 and period 3 in this study). During this time, a transition in settlement structure is thought to have occurred, from houses that were periodically relocated (so-called wandering farmsteads) to stable settlements or hamlets (Gerritsen, 2003: 181-189; Arnoldussen and Jansen, 2010: 381-382). At the site of Emmen-Noordbargeres (see fig. 4.24), this becomes visible by a nucleation of habitation and a demarcation of settlement in the northwestern part of the excavation (De Wit, 2015a: 172-173). At Emmen-Frieslandweg, this is also evident, as the period 3 to period 4 settlement is clearly demarcated by a system of ditches. Houses are rebuilt multiple times within the boundaries of the settlement (De Wit, 2003a: appendix 2). At the site of Midlaren-De Bloemert, the settled terrain may not be as clearly demarcated by ditches as at the other two sites (see fig. 4.18), but still the habitation is clearly clustered in the central area of the excavation, where multiple phases of the settlement are superpositioned (Nicolay, 2008a, Pl. 11.7-11.10).

When the total number of sherds, total weight of the sherds and average sherd weight are plotted for period 3 (strictly dated) for Midlaren-De Bloemert, the complexity of the distribution of features with finds becomes evident (fig. 4.18). Some postholes with pottery finds are part of the structure of the houses, some postholes are located within the demarcation of the house plans, and,

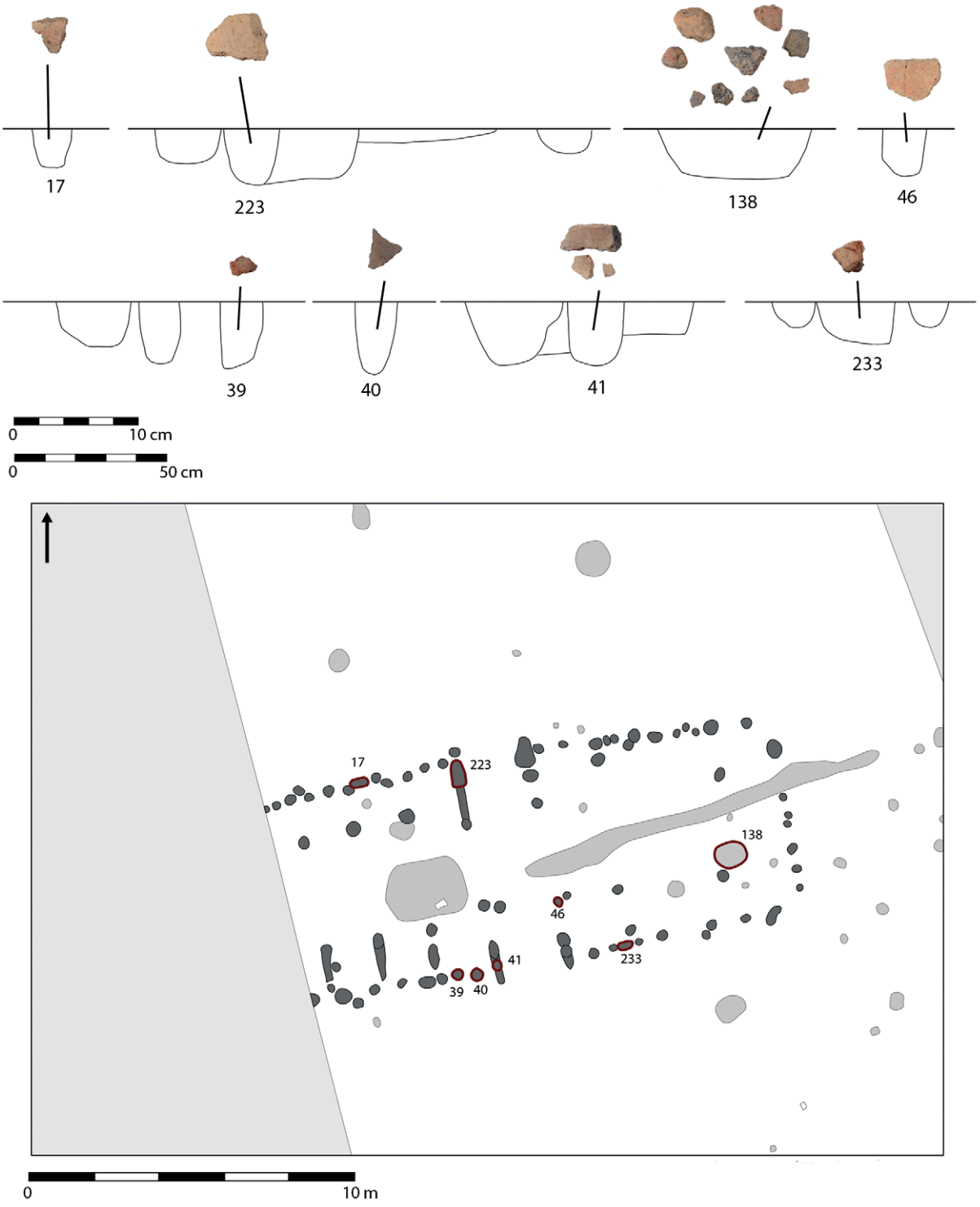


Figure 4.17: Pottery and burnt loam finds from the postholes of house 8 at Emmen-Noordbargeres (De Wit, 2015a). Top: finds shown above the section profile of the posthole from which they originate. Finds to the upper scale bar, feature sections to the lower scale bar. Bottom: house plan, showing postholes with ceramic finds outlined in red.

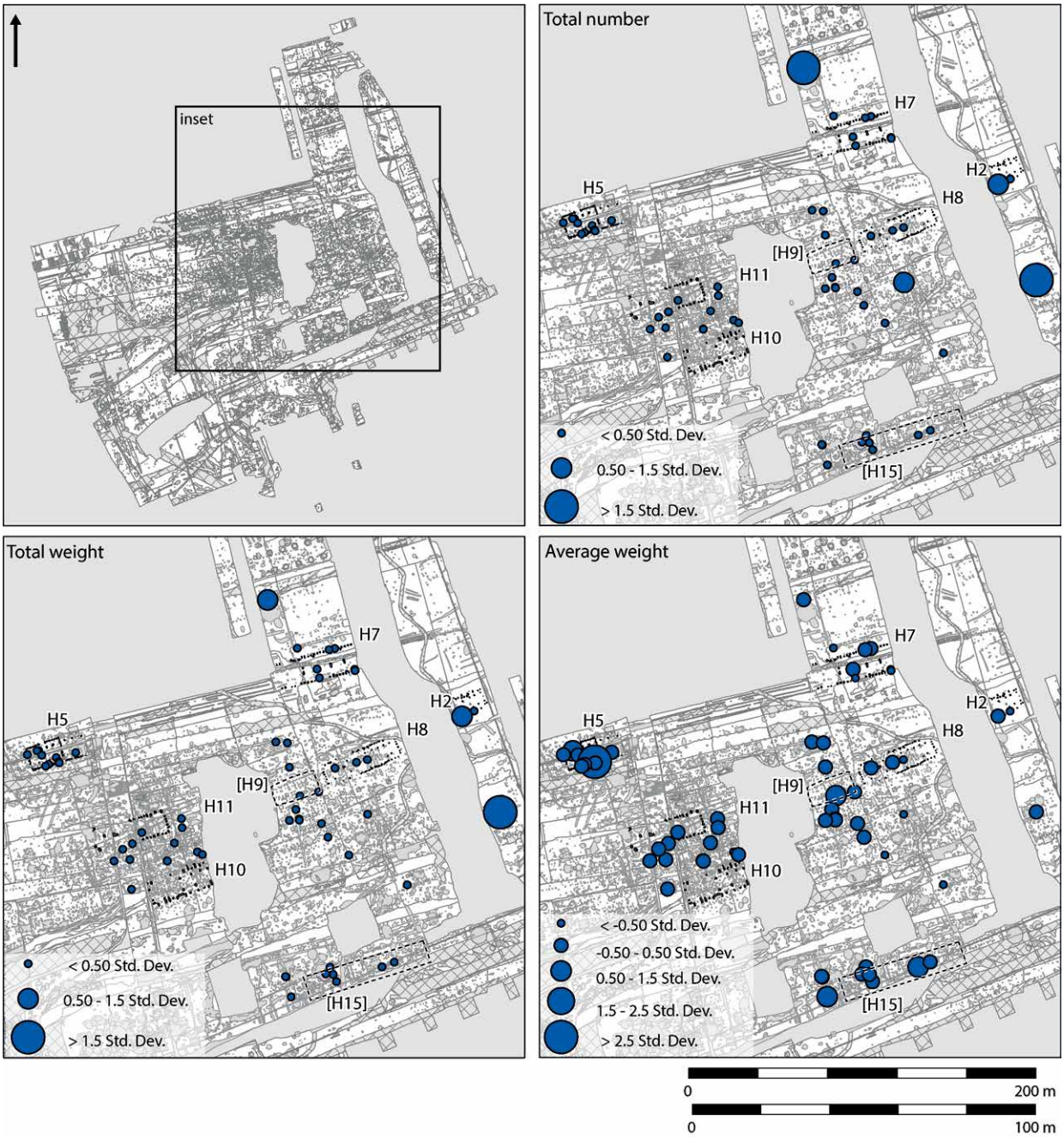


Figure 4.18: Spatial distribution of postholes with pottery finds (period 3, strict dates) at Midlaren-De Bloemert (Nicolay, 2008a), with possibly contemporaneous houses outlined in dashed lines. Site plan to the upper scale bar, detail plans to the lower scale bar. Total number: mean = 13, Std. Dev. = 34; Total weight: mean = 140, Std. Dev. = 420; Average sherd weight: mean = 13, Std. Dev. = 12.

finally, some postholes are seemingly scattered around the houses or on the farmsteads. When the total number of sherds is plotted, the features with high numbers are mostly located in clusters of features and are not part of recognisable structures. The same is true for the total sherd weight of postholes with finds. Again, postholes with large ceramic assemblages are not part of recognisable structures. When the average sherd weight is plotted, the distribution is more even. Both highly fragmented sherds and minimally fragmented sherds are found inside and outside structures. Some of the finds are contemporaneous, but some features with large pottery sherds are

also found in the features of the younger houses 9 and 15 and should be considered residual finds. Only house 5 (in the northwestern part of the excavation) stands out from the rest of the houses for the large pottery fragments that were found in its features.

One consequence of this clustering of habitation and continuation of habitation in the same place is that many structures overlap. If discarded pottery fragments were not removed from site, but remained at the surface or were placed in pits near the house, these fragments would have stood a high chance of ending up in features of younger structures. For Midlaren-De Bloemert, this is suggested for some of the finds from house 15, which dates at the very end of the third century AD or to the fourth century. An additional consequence of this clustering and continuation of habitation is the difficulty of attributing individual postholes to structures. In addition to this period-specific problem of attributing features to structures, the sites of Midlaren-De Bloemert and Emmen-Frieslandweg also yielded many more posts with finds than the other sites, as a result of which these two sites affect the overall pattern even more.

4.4.3 Synthesis: posthole deposition practices

Based on the descriptions above, pottery deposition in postholes is in general uniform in terms of total number of sherds, the total weight of the sherds and the average sherd weight. Still, differences in posthole deposition practices can be discerned from a diachronic perspective, both in content, context and treatment. Pottery fragments in postholes dated in period 1 and period 2 contrast to pottery fragments in postholes dated in periods 3 and 4, because in periods 1 and 2, pottery depositions seem to be ruled by more differentiated practices than in periods 3 and 4. This differentiation is most evident in period 1, when there is a direct association between context (granaries), content (higher total number and total weight of the sherds) and treatment (low fragmentation). In period 2, there still is a differentiated deposition practice, which has a stronger focus on the house and a lesser focus on the outbuildings, but still outbuildings form an important context for deposition. In periods 3 and 4, pottery often occurs in features of unidentifiable contexts, as residual finds, but also in postholes, and it does so in larger quantities than in periods 1 and 2.

4.5 Patterns in pit deposition practices

In comparison to postholes, which were dug with a clear and single objective, which is to contain posts, pits are less straightforward to define. The four main functions of pits that are generally discerned are wells, hearths or hearth pits, silos or storage pits, and, finally, refuse pits. Often differentiation is difficult, because the interpretation of the (primary) function of pits can be based on different elements, such as their shape,[99] the nature of their fills and finds,[100] and/or their location within the settlement, more specifically in their spatial relation to structures.[101] During the past decades, a fifth function has been added to the list, which is that of pits as context for special deposit, which stands out from other pits mostly by the content and treatment of the finds (see chapter 5). These interpretations of the function of pits are sometimes questionable. What is the use of having a well located against the wall of the house, underneath its eaves (Holsloot-Holingerveld, house 1: Van der Velde *et al.*, 2003)? Or what is the use of having a hearth pit placed in the byre section (Sleen-Zuidsleen: Van Giffen, 1939a)? Matters can become even more complicated when pits have a secondary function as refuse pit. In order to avoid these interpretative problems, all pits are defined here as non-linear features that were dug to hold neither posts (*i.e.* postholes) nor the dead (*i.e.* graves; *cf.* Schinkel, 1998: 267).

For pits, it is even more difficult than for postholes to infer the frequency of occurrence per period. Postholes may be part of larger structures and may be attributed to a specific period even when empty, but for pits this is impossible when they do not contain any finds. More general comments can be made, however, about the use of pits at the level of the site. Compared with the frequency of postholes in later prehistoric settlement sites (see above), pits occur less often (table 4.5). The percentage of features that are listed as pits ranges between 3% and 31%. To a degree this make sense, since a single house has to have many postholes but not necessarily more than one pit. However, if pits were a systematic part of the general deposition practices in later prehistoric settlement sites, the numbers are low when the often long periods of habitation are taken into consideration. In addition to this, when pits were dug, they were not always filled with pottery after their primary use. In the case of Emmen-Noordbargeres, the site was continuously inhabited throughout the period of research, but fewer than half of the pits were used to deposit pottery fragments (see table 4.3). The frequency of use for deposition may be low for pits, but there is still the possibility that the pits that have been listed in table 4.5 make up a varied group of pits with residual finds, artefact traps, refuse pits, and, possibly, special deposits.

99 De Wit (2003d: 45, 54); Nicolay (2008b: 171-172).

100 Van der Velde *et al.* (2003: 18-19); Loopik (2010b: 20); Van der Meij (2010b: 41); Schepers *et al.* (2015).

101 Koopstra *et al.* (2016: 22).

Site	Total number of features	Features with finds		Total number of pits		Pits with finds		
		N	% of total features	N	% of total features	N	% of features with finds	% of all pits
Borger-Daalkampen II (2007) Excavated area: ca. 4 ha	5014	374	7	313	6	75	20	24
Borger-Daalkampen II (2008) Excavated area: ca. 3 ha	2234	32	1	66	3	6	19	9
Dalen-Molenakkers II Excavated area: ca. 0,4 ha	594	86	14	30	5	10	12	33
Emmen-Oude Meerdijk Excavated area: ca. 0,9 ha	1477	25	2	59	4	2	8	3
Emmen-Frieslandweg (P-West) Excavated area: ca. 1,8 ha	3097	96	3	269	9	51	53	19
Emmen-Noordbargeres Excavated area: ca. 6,5 ha	4047	440	11	306	8	118	27	39
Midlaren-De Bloemert Excavated area: ca. 4,8 ha	13832	2922	21	1768	13	1004	34	57
Donderen Excavated area: ca. 0,22 ha	306	35	11	9	3	6	17	67
Ruinen-Oldhave Bos Excavated area: ca. 0,57 ha	878	63	7	272	31	13	21	5

Table 4.5: Detailed overview of number of features by site, features with finds (n and %), pits (n and %) and pits with finds (n, % of total, % of total number of pits).

4.5.1 Quantitative analysis of finds from pits

Even though pits are thought to have been used for the disposal of refuse,[102] the actual content of these so-called refuse pits is almost never discussed in a systematic way. This aspect of pits is worth investigating, because a better understanding of what is found can lead to a better understanding of how pits are or are not used as part of site maintenance practices. Based on general observations on the frequency in which pits are found in settlement sites, a systematic use of pits as refuse pits seems unlikely. In the current section, the pits that contain pottery are studied in more detail. In a similar vein to pottery finds from postholes, pottery finds from pits are described in terms of the total number of sherds and the total weight of the sherds. The treatment of the pottery is discussed in terms of average sherd weight (fig. 4.19).

Both the total number of sherds and the total weight of the sherds show a fall-off curve (fig. 4.19). This means that the majority of the pits contain only a small number of sherds, with a low total weight. For pits with finds, 80% contain 30 sherds or fewer. Additionally, 80% of the pits comprise finds with a total sherd weight of 350 grams or less. This means that often only a small number of sherds have found their way into pits. This is what can be expected if pits predominantly functioned as artefact traps or contained residual finds. Even if pits with finds only represent the end result of occasional clean-up phases, it would be expected that the graph would not follow a fall-off pattern, but, rather, a peak more towards the higher end of the x-axis. What this means is that, in addition to the overall low frequency of pits with finds, when pits contain pottery finds they are modest as well. From this, it follows that pits were not systematically used to dispose of large quantities of refuse and that refuse pits are not a common element in later prehistoric settlement sites.

For the average sherd weight of pits in general, the same two methods are used as for the average sherd weight from postholes. First, the sherd weight distribution is calculated based on measurements of single sherds (n=86). When this method is used, most sherds weigh 3 grams. This graph of single sherd measurements does not show a clear fall-off curve, but a more irregular line. This suggests that the weight, and thus the size, of the sherds that ended up in pits is varied. This can be explained by the fact that the dimensions of pits are much larger than the dimensions of postholes, especially when the post still stands in the posthole. When the average sherd weight per feature is used for all pits (n=1077), the peak lies more towards the right, at 7 grams. There is a second, smaller peak at 9 grams. After the 9 gram mark, the graph decreases, but only gradually. Sherds with an average weight of 15 grams or less comprise nearly 80% of all finds from pits. This is not much different than the overall average sherd weight of later prehistoric settlement sites on the Fries-Drents plateau (see table 4.2 and fig. 4.2).

When the total number of sherds is studied per period, all graphs show that the median lies well below 50 pottery

102 *E.g.* in the discussion of the nature of the settlement site of Gieten-OV Knooppunt (Loopik, 2010c: 33) and Borger-Daalkampen I (Kooi, 1996b: 49). *E.g.* as part of general waste management (De Wit *et al.*, 2009b: 63). *E.g.* as an assumed standard element of prehistoric settlement sites, whose absence can only be explained by the positioning of the trenches (Hensen, 2012: 50).

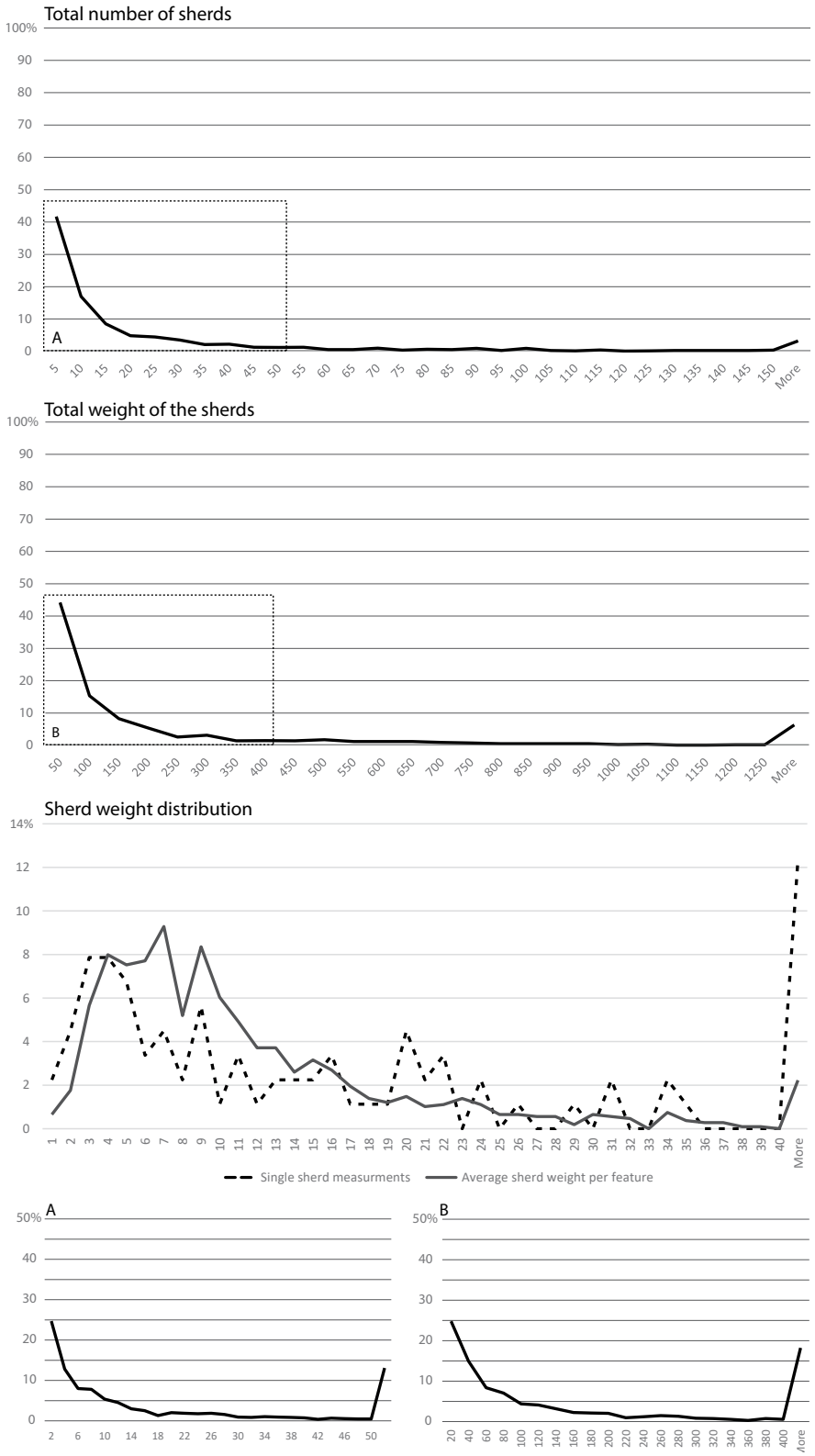


Figure 4.19: Distribution of total number of sherds (top), total weight of sherds (g) (second from top) and average sherd weight for the features that contain single sherds or individually measured sherds and for all features (third from top) for pottery finds from pits, as well as a more detailed depiction of the first part of distribution of the total number (A) and total weight of the sherds (B). On the horizontal axis the classes of number and weight are depicted, on the vertical axis the percentage of the total of finds the measurement represents.

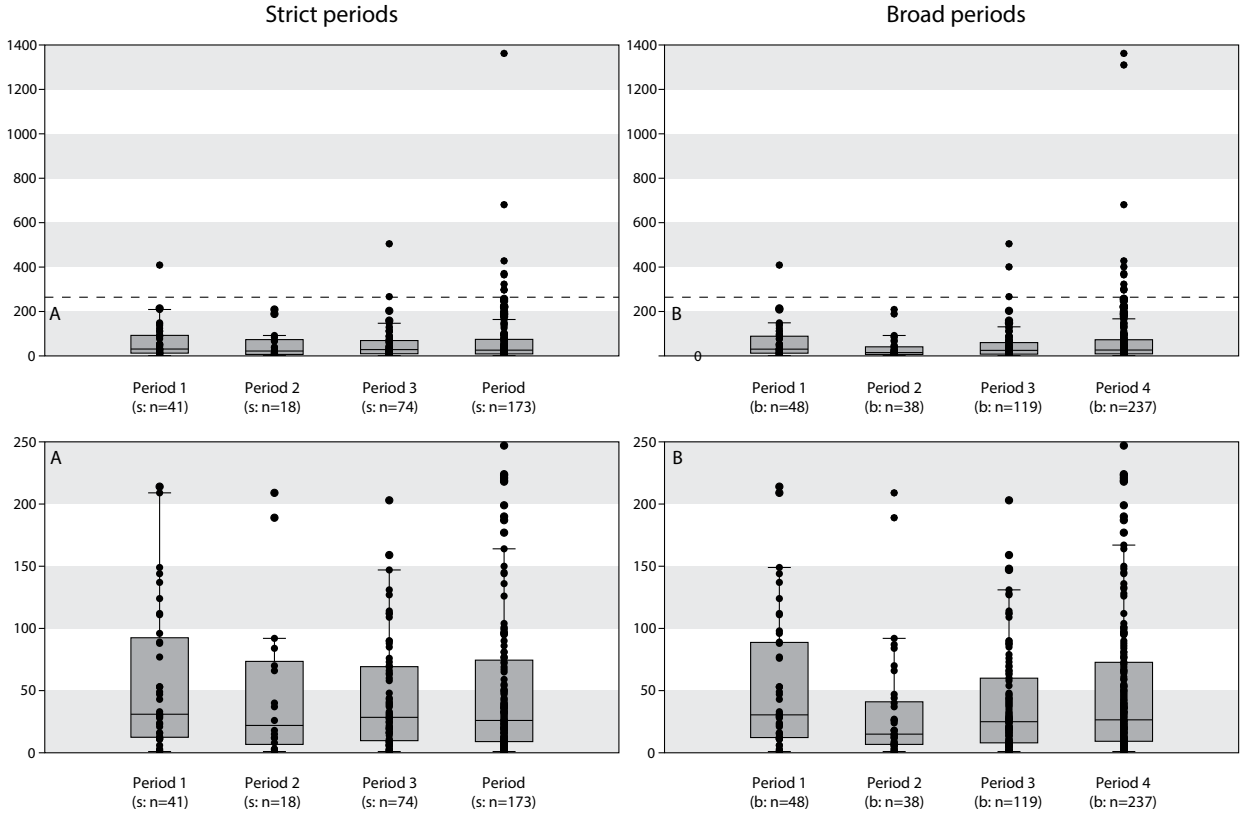
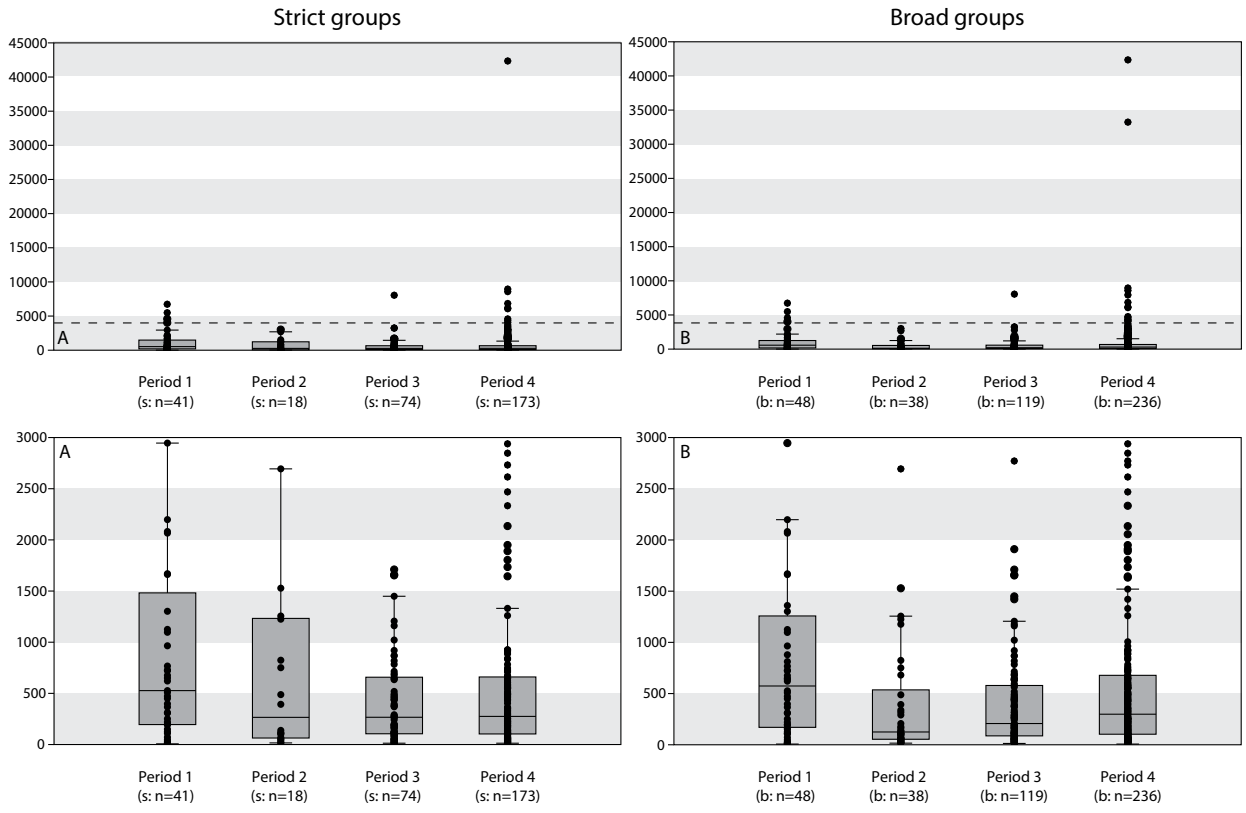


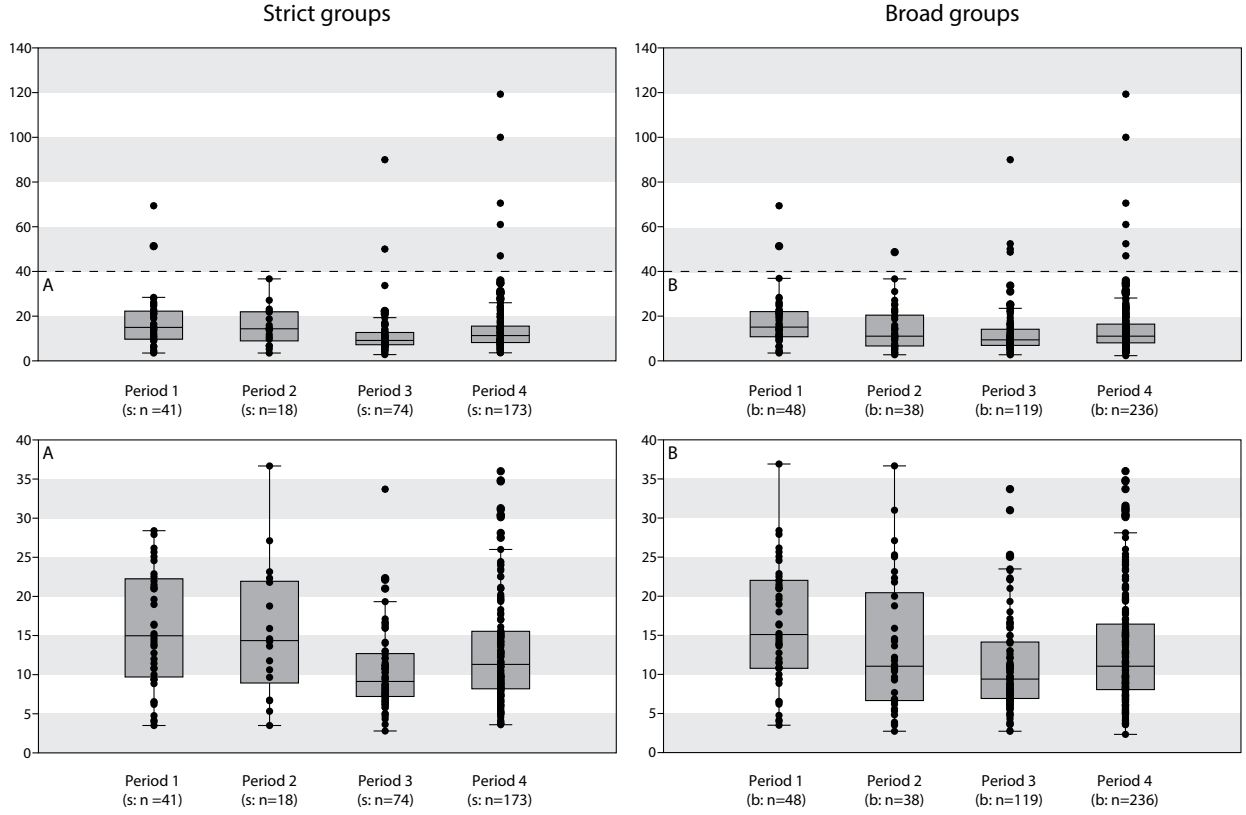
Figure 4.20: Distribution of number of sherds from pits for pottery finds that could be strictly dated, *i.e.* to a single period (left), and pottery finds that could be broadly dated (right), showing entire distribution (top) and a detail with the interquartile range (bottom).

sherds per pit (fig. 4.20). This is consistent with the general distribution of sherds from pits as discussed above. Between the periods, subtle differences can be observed. Period 1 shows slightly more variation than the other three periods. When the range of the four quartiles is taken to describe the variation, period 1 shows the most variation. However, this variation does not take the form of a normal distribution, but of two distinct peaks in the data. There is one group of pits with only small numbers of sherds, and there is a second, smaller group with between 75 and 150 sherds. Period 2 (strict dates) shows the least variation. Similarly to period 1, the number of sherds does not display a normal distribution but shows two peaks. Both peaks are lower compared with the two peaks in period 1. Periods 3 and 4 both show a more continuous distribution in which most pits contain few finds. Periods 3 and 4 have many outliers as well. This indicates that, overall, few sherds were deposited in pits, but that larger quantities of sherds were deposited more frequently than before.

The distribution of number of sherds for period 1 is barely different between the strict and broad groups (fig. 4.20). The two separate peaks in the distribution of the strict group are visible in the broad group as well. The distribution of period 2, conversely, is much more restricted. Compared with the strictly dated group, the broadly dated group of pits from period 3 also shows more restriction, which must be explained by the pits that span period 2 and period 3. The distribution of number of sherds from period 4 (broad dates) is comparable to the distribution of that from strictly dated pits. From this, it can be concluded that especially the group of pits that spans period 2 and period 3 contains only a few sherds, because of which the median decreases. Since period 2 (strict) consists of a lower number, the effect is more pronounced.

With regard to the total weight of pottery sherds from pits, especially period 1 stands out, both in the strict groups and in the broad groups (fig. 4.21). Compared with pits from the other three periods, pits from period 1 have a higher total weight. In addition to this, period 1 pits are more varied than pits from the other three periods. Pits from period 1 seem to have been divided into a first, more uniform cluster of pits with total weights below the 500 gram mark and a second, more varied group with total weight ranging from slightly more than 500 to 5000 grams and more. Period 2 shows the second most amount of variation. For the strictly dated groups, periods 3 and 4 show comparable distributions of total weight, although period 4 comprises many more outliers.


Strict groups
Broad groups
A
B
Period 1 (s: n=41)
Period 2 (s: n=18)
Period 3 (s: n=74)
Period 4 (s: n=173)
Period 1 (b: n=48)
Period 2 (b: n=38)
Period 3 (b: n=119)
Period 4 (b: n=236)


Strict groups
Broad groups
A
B
Period 1 (s: n =41)
Period 2 (s: n=18)
Period 3 (s: n=74)
Period 4 (s: n=173)
Period 1 (b: n=48)
Period 2 (b: n=38)
Period 3 (b: n=119)
Period 4 (b: n=236)

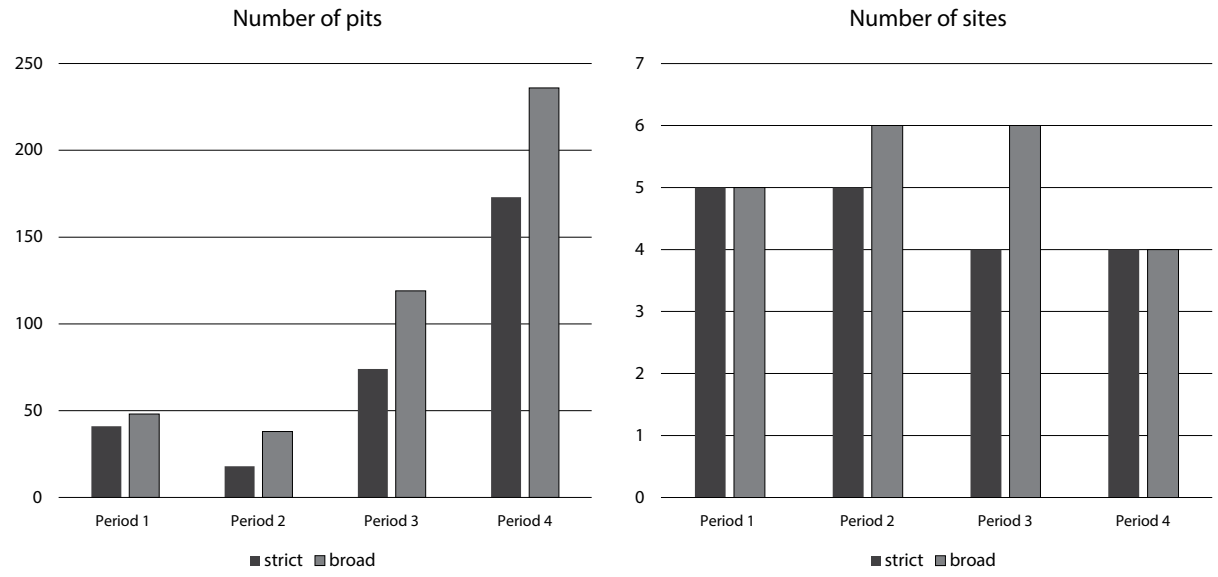


Figure 4.23: Number of pits for the strictly and broadly groups (left) and number of sites from which these pits originate for the strictly and broadly dated groups (right).

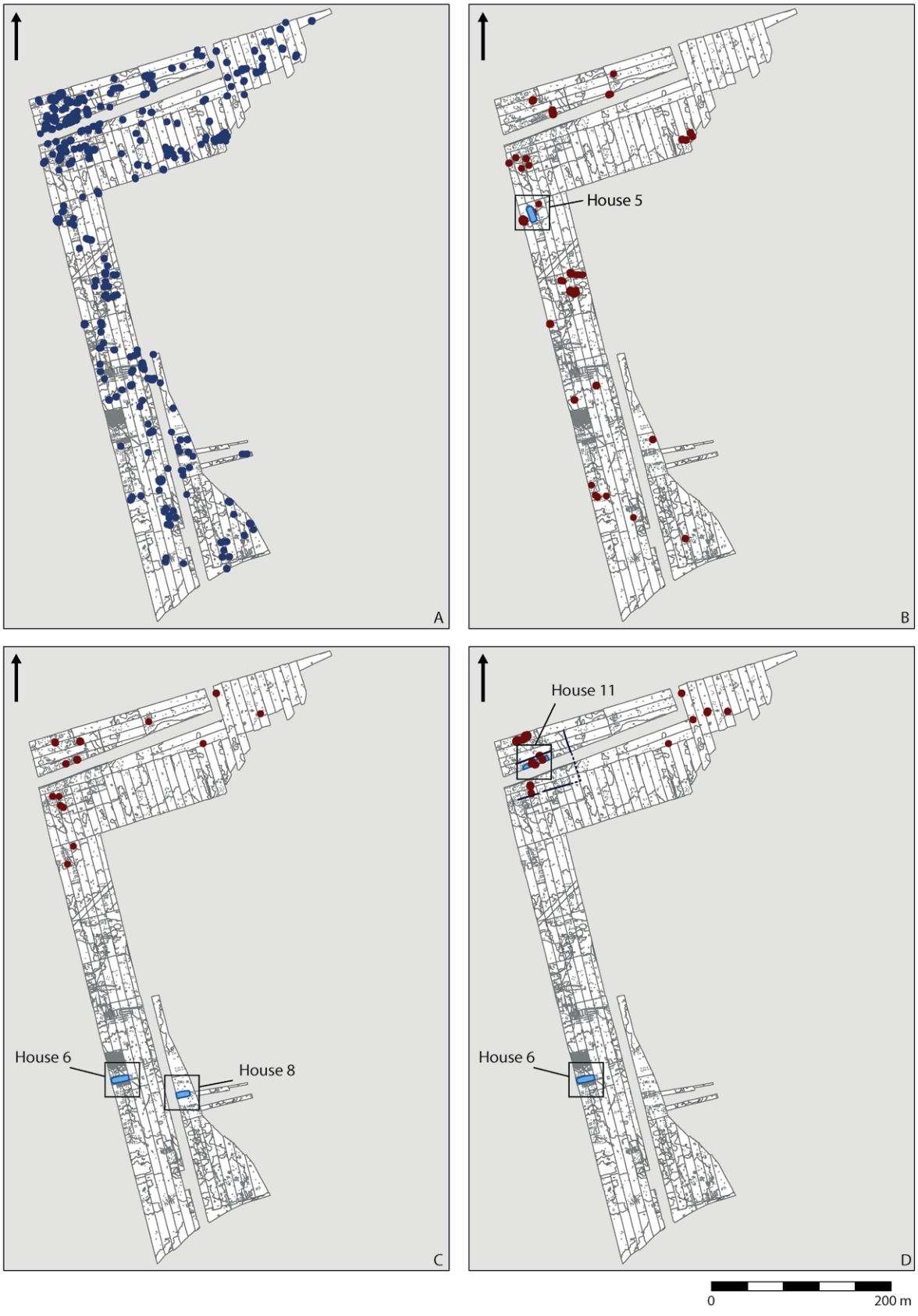
When the strict and broad periods are compared, especially the difference in period 2 stands out. For the strictly dated group, pits from period 2 contain a varied total weight. For the broad dates, period 2 pits are least varied and contain, on the whole, the lowest total weight. In a similar vein to the distribution of the total number of sherds, the distribution of the total weight of period 2 (broad dates) is lower and less varied than the distribution of the strictly dated group from period 2. Again, this suggests that a shared group of pits between period 2 and period 3 consists of few sherds with only low weights.

With regard to average sherd weight in the strict groups (fig. 4.22), period 3 stands out because the average is lower than the other three periods and the sherd weight distribution is more restricted. Period 4 pits have slightly higher average sherd weight and are slightly more varied. Periods 1 and 2 display higher average sherd weights and more variation as well. In a similar vein to the total number of sherds, period 1 does not show a normal and continuous distribution, but, rather, a distribution with two or possibly three peaks. There is a small group of pits with very fragmented sherds, weighing around 5 grams on average. A second group of pits has average sherd weights between circa 10 and 17 grams, which is comparable to the average of later prehistoric settlement sites, as discussed earlier. Finally, a third group of pits contains pottery fragments with an average weight between 18 and 28 grams. In the broadly dated groups, the average sherd weight of pottery fragments from period 1 pits is even slightly higher. The three groups in the average sherd weight graph are not as evident, though. In comparison to the strictly dated pits in period 2, the broadly dated pits have a lower average sherd weight. The broadly dated pits from period 3 have a slightly higher average weight.

Information on the use of pits is not just found in the content of the pits, but also in the quantity of the pits. For periods 1 and 2, the numbers are modest: when the strict dates are used, 41 pits are dated in period 1 (from 5 sites of which 2 yielded house plans) and only 18 in period 2 (also from 5 sites, of which 5 yielded house plans). When the broad dates are used, 48 pits from 5 sites are dated in period 1 and 38 pits from 6 sites in period 2. For periods 3 and 4, the numbers are much higher. When strict dates are used, 74 pits originate from 4 sites for period 3 and 173 pits originate from 4 sites for period 4. For the broad dates, 119 pits from 6 sites date to period 3 and 237 pits from only 4 sites date to period 4. Especially at the site of Midlaren-De Bloemert, many pits have been excavated. This suggests that there is a difference not just in the content of the pits between the four periods, but also in the frequency with which pits were dug or filled (fig. 4.23).

Figure 4.21: Distribution of total weight (g) of the sherds from pits for pottery finds that could be dated strictly into one period (left) and pottery finds that could be broadly dated (right). Above the complete distribution is depicted. Below the interquartile range is displayed in more detail.

Figure 4.22: Distribution of average sherd weight (g) of sherds from pits for pottery finds that could be strictly dated, *i.e.* to a single period (left), and pottery finds that could be broadly dated (right), showing entire distribution (top) and a detail with the interquartile range (bottom).


A
House 5
B
House 6
House 8
C
House 11
House 6
D
0
200 m

4.5.2 Contextual analysis of pits with pottery finds

Especially in the case of pits with pottery finds, the spatial distribution is of interest. Because postholes are often part of a bigger whole, such as a house or outbuilding, the association between the proposed centre of habitation, the house, at the locus of deposition is evident. As has been discussed above, pits were probably not systematically used as refuse pits. This means that pits are not a standard element of later prehistoric farmsteads. If pits with finds are found, they are much more difficult to associate with individual houses, especially if the pits are located outside the confines of the house plan. There are settlement sites at which the relationship between house plan and pit is evident, for example, Hijken-Hijkerveld, where the relationship between pit and house is also confirmed by the refit between pottery sherds from a pit and a posthole (Arnoldussen and De Vries, 2014: 92-94). More often than not, however, there is no direct association. This lack of a direct association is often explained in terms of overlooked house plans, either in clusters of features or outside the limits of the excavation (Kooi, 1995: 294, 1996a: 463; De Wit, 2015b: 154). Too easily, the assumption is made that every farmstead must have included a refuse pit and that every pit with pottery finds must have been associated with a structure.

In order to understand the difference in spatial association between pits and houses, the site of Emmen-Noordbargeres was studied in more detail (fig. 4.24). The excavation at Emmen-Noordbargeres is the largest of the nine studied here (6.5 ha) and covers period 1 to period 3, both in house plans and in pottery finds. When the pits of the site are studied, several differences stand out between the periods. First of all, many pits can be attributed to period 1 (fig. 4.24.B). These pits occur scattered throughout the excavated terrain. In the excavation report, more house plans were dated to the Early Iron Age or period 1 in this study (De Wit, 2015b: 20, see appendix 8). However, for some houses the construction was not convincing, some houses did not render enough evidence to securely date them to period 1, except for house 5. Therefore only house 5 was included in the analysis. There is a clear discrepancy between the pits and the house plans, both in number and in spatial distribution (fig. 4.24.B).

Two houses at Emmen-Noordbargeres are assigned to period 2 (see discussion section 4.4.2): houses 6 (based on pottery) and house 8 (based only on house morphology). The pits that are attributed to period 2 (broad dates) are clearly not located in the direct vicinity of the houses (fig. 4.24.C). A possible explanation for this lies in the broad dates of many of the period 2 pits, which means that it is possible that most of the pits belong to period 3 instead of period 2. What stands out for period 2 is the lack of pits that are strictly dated to this period. Even though the possibility of the existence of features outside the excavated area should never be fully dismissed, it is remarkable that the space to the north and south of these two houses is empty. This means that even if period 2 pits do exist, there is no direct spatial association between house and (refuse) pit. Period 3 stands out by the strong clustering of pits in the northwestern section of the excavation, which contains at least one house (house 11) and is clearly demarcated (fig. 4.24.D). Based on the distribution map, it is evident that most pits are clustered within or close to the settled terrain and that only a few pits are located at some distance for the demarcated settlement.

Figure 4.24: Plan of Emmen-Noordbargeres (De Wit, 2015a), showing pits in dark blue or red and ditches in light blue. A: all pits, dated and undated. B: pits and houses from period 1 (broad dates). C: pits and houses from period 2 (broad dates). D: pits and houses from period 3 (broad dates).

In order to quantify these spatial patterns, a so-called near analysis has been performed in ArcGIS 10.5. With the aid of the Near tool, it is possible to calculate the distance to the nearest structure for each individual pit. In addition to this, it is also possible to calculate the distance to the nearest other pit for each individual pit. This analysis was performed for periods 1, 2 and 3 and for all pits. These measurements are displayed in a box plot with individual measurements displayed as data points (fig. 4.25).

The measurements from the near analysis confirm what had already been established visually: the distances between pits and structures differ per period. For period 1, the mean distance between pits and houses is more than 100 metres. The mean distance between a pit and the nearest house in period 2 is around 350 metres. This is visible in the empty space around houses 6 and 8. Period 3 has the lowest mean, of less than 50 metres, and the least variation of all three periods. The combination of a near analysis of pits to houses and pits to pits shows the different nature of the settlement in the three different phases. In period 1, pits are located at similar distances from each other (mean is low; variation is low). The scattered nature of the settlement becomes evident in the variation in distance between pits and the nearest house; some pits are very close to the house, but the distribution of pits also radiates outward. In period 2, pits are located at greater distances from each other, but the mean is still low (under 50 metres, fig. 4.25 right). The distance to the nearest house is great and less varied (all pits are far away), with outliers to the higher values. This means that pits may be clustered, but they are not associated spatially with the house. In period 3, pits are located even closer to each other than in period 1. In addition to this, distances between pits and the house are lower and clearly fall into two groups. The largest group of pits (smallest quartile) are very close to the house and a second, smaller group of pits are at some distance. This means that the settlement overall is most clustered in period 3. These spatial patterns are clearly distinctive between the periods at the site of Emmen-Noordbargeres. In the following

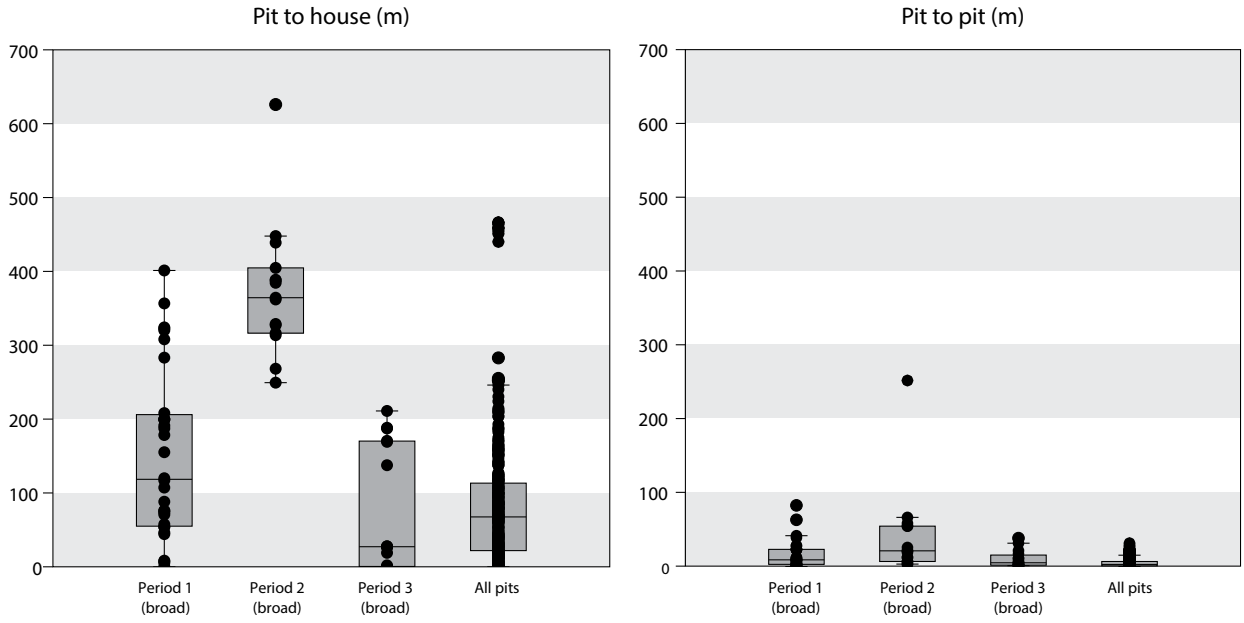


Figure 4.25: Near analysis for pits from periods 1 to 3 (broad dates) at Emmen-Noordbargeres. Left: nearest distance for each pit to a house from the same period. Right: nearest distance for each pit to another pit from the same period.

sections, other sites are discussed to see if these patterns are specific to Emmen-Noordbargeres or more widely shared.

Other sites with evidence for human presence in period 1 confirm the image that pits and houses need not be located in close proximity to one another. The site of Donderen (fig. 4.26), for example, yielded five pits with finds, of which three could be dated to period 1. No traces of houses were found, only traces of several granaries. Even though the dimensions of this excavation are smaller than the dimensions of Emmen-Noordbargeres, the pits are located in the centre of the excavations. This means that if the pits had been located in close proximity to a house, these house plans would have been found. Based on their content and treatment, two of the four pits have been interpreted as special depositions (Hielkema, 2008a).

Other sites also show this scattered nature of period 1 pits and house plans. At the site of Peelo-Kleuvenveld (Kooi, 1996a; see also chapter 5), both period 1 houses and period 1 pits were found, but not in direct spatial association. The pits occur scattered across a much wider area. The site of Rhee, which is predominantly known for its Roman period demarcated settlement terrain (known as a *versterkte nederzetting* in Dutch, meaning a fortified settlement), was already in use in the Early Iron Age (period 1). Even though multiple house plans are listed for this phase (Waterbolk, 1977a: 141-150), only one house (house 1) can be dated to period 1.[103] In addition to this single house, multiple pits were found scattered throughout the excavated area, containing pottery fragments that could be dated to period 1. This is yet another example of a clear discrepancy between the pits and the house plans, both in number and in spatial distribution (fig. 4.27). In the large-scale excavations at Wijster-Looveen (Van Es, 1967) and Gasselte (Waterbolk and Harsema, 1979), large period 1 pits were similarly found without any contemporaneous house plans in the vicinity.

Another argument for a less direct spatial association between pits and house plans for period 1 can be found in the occurrence of isolated period 1 pits throughout the Fries-Drents plateau, both as single finds and as part of wider excavated areas (fig. 4.28). Period 1 pits may often be found amidst granaries, without other settlement traces (fig. 4.28 left).[104] Within the settlement site of Hijken-Hijkerveld, isolated groups of granaries with large pits have been found in relatively empty terrain (Arnoldussen and De Vries, 2014: 93, fig. 7).

In addition to the archaeological recovery of period 1 pits in 'empty' excavated terrain, there are reports by vigilant amateur archaeologists and farmers of 'large pits with finds' during construction work or agricultural activities.

103 The remaining four houses are not convincingly period 1. House 2 has wall trenches that cut the Roman period ditch system, house 3 is a continuation of Roman period house 15, and houses 4 and 5 have a too irregular post-setting.

104 Examples can be found at the sites of Eelde-Paalakkers (pit near a six-post structure: Harsema, 1974: 65(199)-70(204)), Ruinen-Mr. Harm Smeengestraat (pit without other structures: De Roller, 2009: 12-13), Assen-Messchenveld (pit within a Celtic field, context uncertain: Ter Wal, 2008: 35-36, 41-42), Gees (pit within Celtic field: Waterbolk, 1989: 288-289, fig. 2; primary documentation Groningen Institute for Archaeology), Laude-Beukhorst (Van Giffen, 1939c: 83-86, fig. 5) and Dalen-Huidbergsveld (Kooi, 1991).

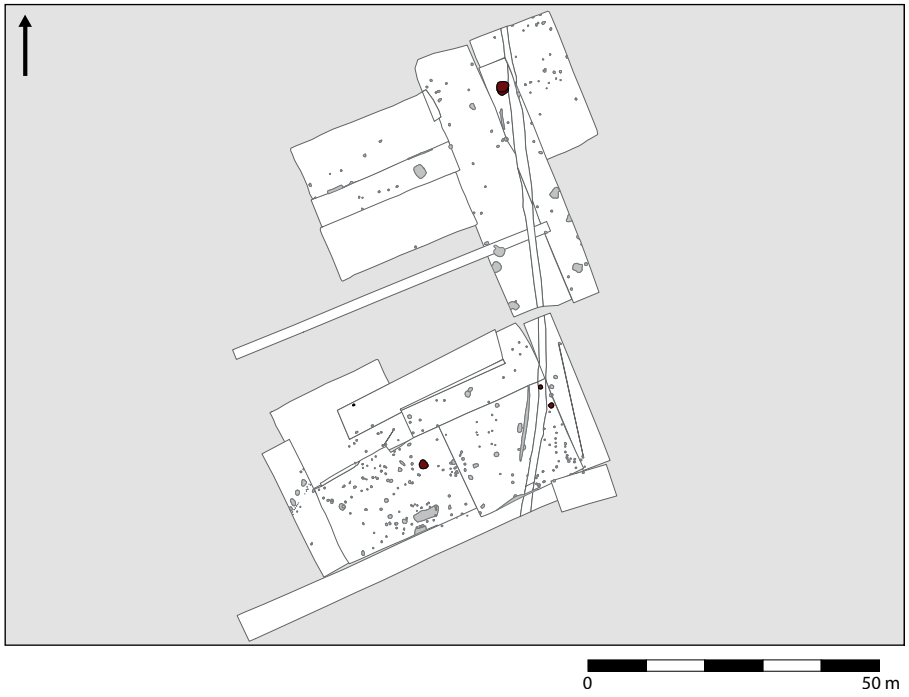


Figure 4.26: Plan of Donderen (Hielkema, 2008a), showing location of pits with finds (red).

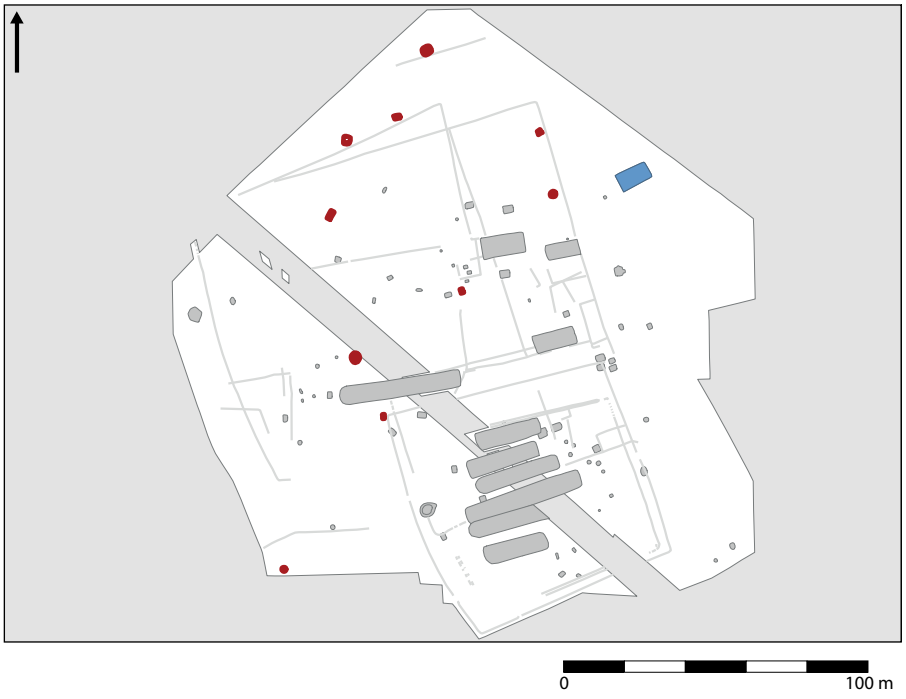
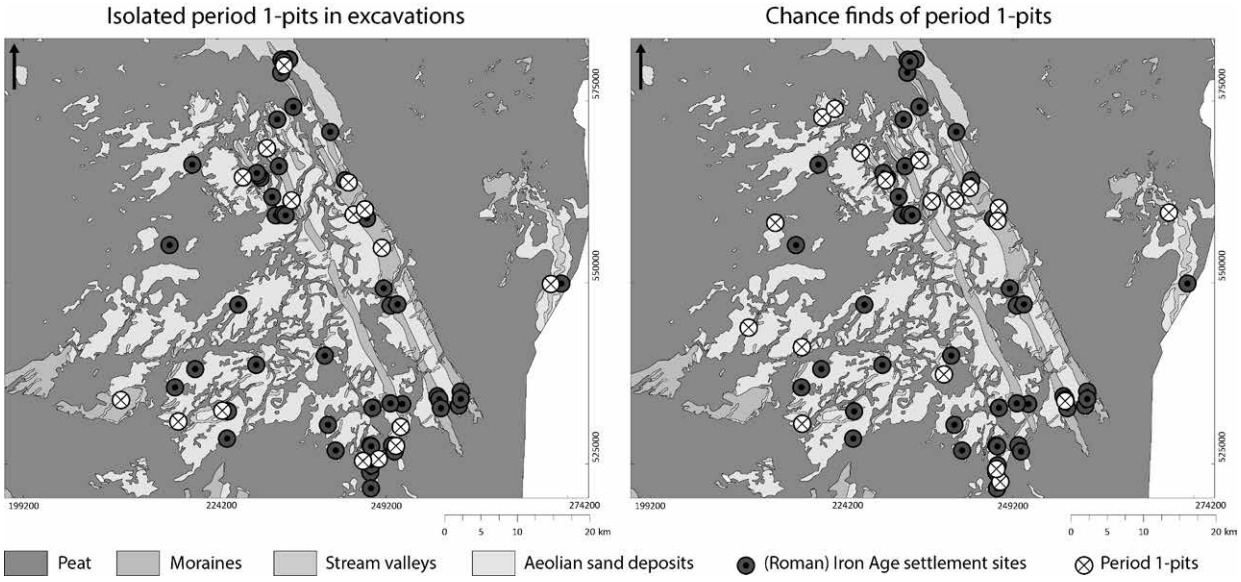


Figure 4.27: Plan of the so-called versterkte nederzetting at Rhee, showing pits with period 1 finds (red), the period 1 house plan (blue), and the Roman period demarcated settlement (dark grey). Image based on Van Giffen (1940, fig. 10 & fig. 11). Information on dates of pits based on catalogue entries of the Drents museum in the Nieuwe Drentse Volksalmanak of 1937-1940 (1935/V 1-49; 1936/I 50-72; 1937/IV 74-103; 1938/III 104-121) and Taayke (1995).

For an overview of these pits, see figure 4.28 (right).[105] Even if settlement traces were missed at these sites, because only the pit was recovered, the consistency of a period 1 date is salient. Isolated pits from other periods are much more scarce, although an example of a period 2 or period 3 pit was found at Westeinde-Noormansveld (Arnoldussen and De Vries, 2017: 84-86).

Both for the isolated pits in excavations and for the chance finds, the content and treatment of the pits frequently stands out. Pits often contain large quantities of finds that show traces of deliberate fragmentation and secondary firing. These divergent treatments point towards an interpretation of special deposition instead

105 De Weper (Elzinga, 1970); Ellersinghuizen (Harsema, 1973b); Eext-Kampakkers (Harsema, 1979: 47(147)-49(149)); Roden-Vijfde Verloting (Taayke, 1993); Tynaarlo (Van der Sanden, 1994: 95(187) -96(188)); Zeijen-Es (Waterbolk, 1961).


Isolated period 1-pits in excavations
Chance finds of period 1-pits
575000
550000
525000
199200
224200
249200
274200
0 5 10 20 km
Peat
Moraines
Stream valleys
Aeolian sand deposits
(Roman) Iron Age settlement sites
Period 1-pits

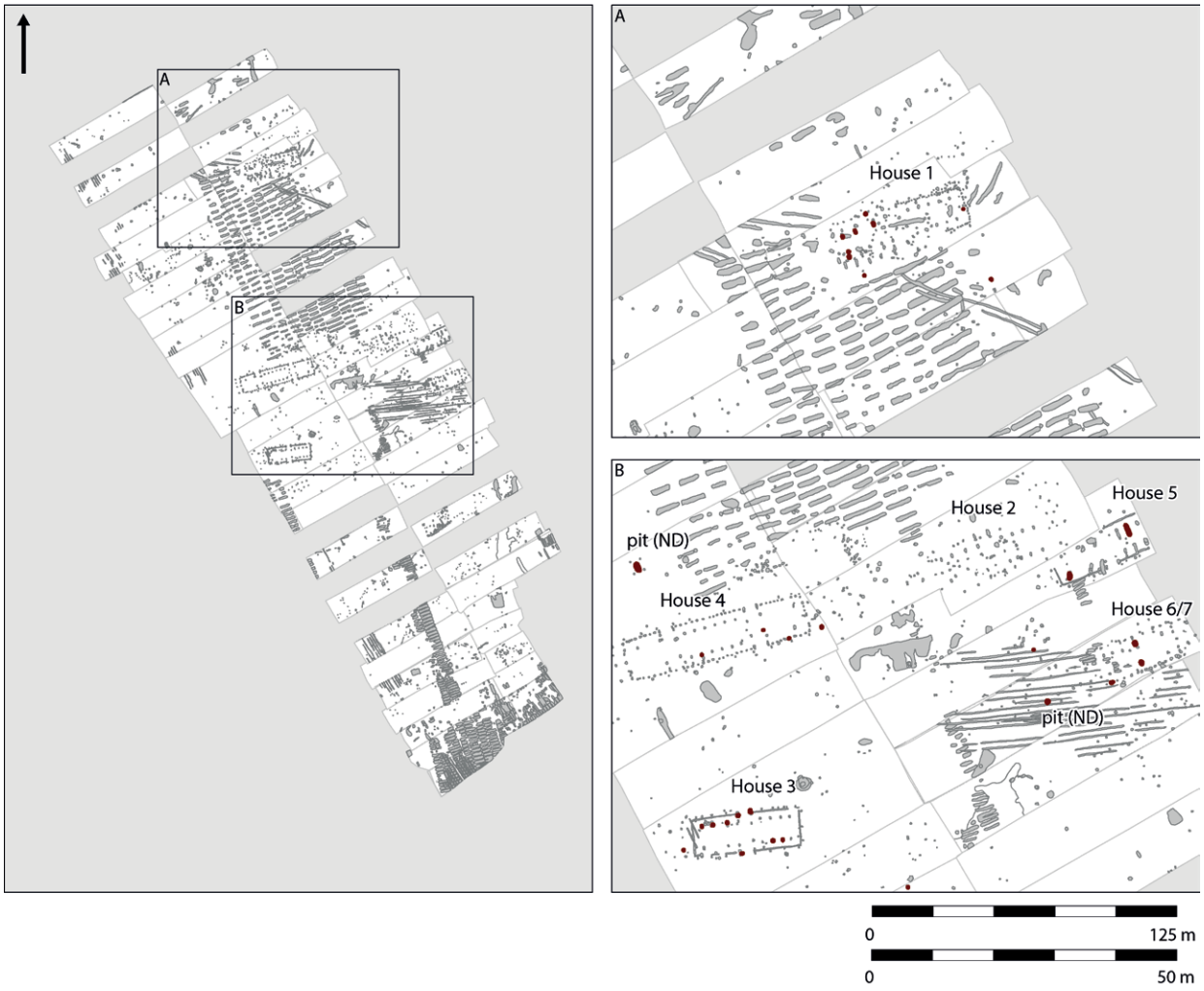

A
B
House 1
House 2
House 3
House 4
House 5
House 6/7
pit (ND)
pit (ND)
0
125 m
0
50 m

Figure 4.28 (top left): Geographic distribution of sites that contain isolated period 1 pits (left) and period 1 pits that are found by chance (right) plotted on the palaeogeographical map of 500 BC (Vos *et al.*, 2020).

Figure 4.29 (below left): Plan of the excavation at Borger-Daalkampen II 2008 (Van der Meij, 2010a), with details showing locations of the features where most of the pottery was found in red. Overview excavation to the upper scale bar, overview of features with finds to the lower scale bar.

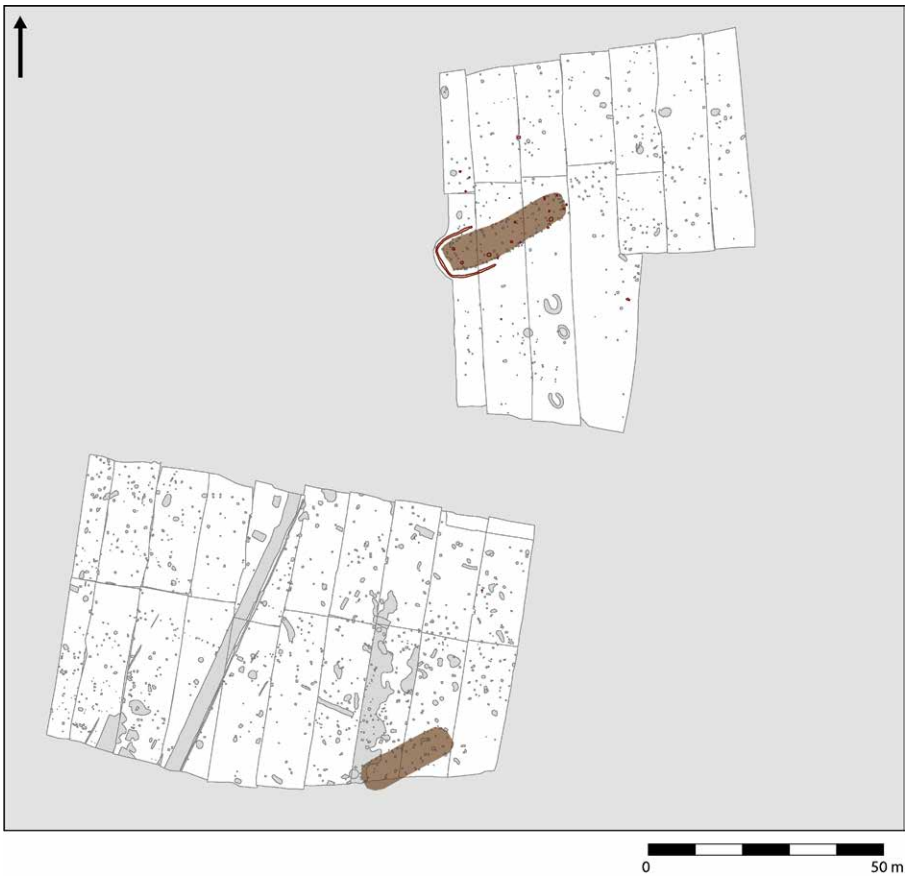


Figure 4.30: Plan of Emmen-Oude Meerdijk (De Wit, 2011), showing features with pottery finds in red and house footprints in brown.

of refuse. In chapter 5, the special treatment of pottery in these isolated pits will be discussed in more detail.

The pattern of the lack of period 2 pits that was established for Emmen-Noordbargeres is also visible at Borger-Daalkampen II 2008. The total quantity of pottery from this site is modest, when compared with the total excavated surface.[106] Most of the pottery that was found in this excavation can be dated to period 2 or period 3 (G3-type and V3-type of vessels: Drenth, 2010: 46, table 6). None of the dated pottery originates from pits. Only two pits with pottery finds, no more precisely datable than 'prehistoric', have been encountered at this excavation. The majority of pottery finds, both dated and undated, were found in postholes that are part of house plans (fig. 4.29). This means that in the surroundings of the period 2 and period 3 houses of Borger-Daalkampen II 2008, no pits were dug to be filled with pottery. If pottery became deposited, deliberately or accidentally, it became so in the features of a structure.

The settlement site of Emmen-Oude Meerdijk (De Wit, 2011) shows a comparable picture, with one undated house and one house that is dated at the transition from the Late Iron Age to the Roman period (period 2/3). In total, 216 sherds were found that could be dated to period 2, period 3 or, more generally, the prehistoric period. The majority of the finds originates from the ditch southwest of house 2+3. Even though strictly speaking the ditch is not part of the construction of the house, still the spatial association is evident. Pottery fragments were found in other features of this house as well. Remarkably, no sherds were found at all in the features of the other house, indicating that different practices of deposition can co-occur within a single settlement site. The rest of the excavation yielded no pottery from features (fig. 4.30).

Period 3 at Emmen-Noordbargeres consisted of a habitation phase showing a clearly demarcated area in which both houses and pits with pottery finds cluster. This pattern was also found at the site of Emmen-Frieslandweg, in periods 3 and 4. At the site of Emmen-Frieslandweg, a clear cluster of houses was found. The houses were mostly located within an area that was clearly demarcated by a sequence of ditches. Pits had been dug both inside and outside the demarcated area, although the pits inside the ditches show a clear clustering (fig. 4.31 left: blue features). When the map is limited to pits that contain pottery finds that can be dated to

106 This concerns 181 fragments, with a total weight of 2181 grams (total surface circa 3 ha). At the site of Borger-Daalkampen II 2007, located to the north and measuring 4 ha, 4120 fragments were found, with a total weight of 57684 grams.

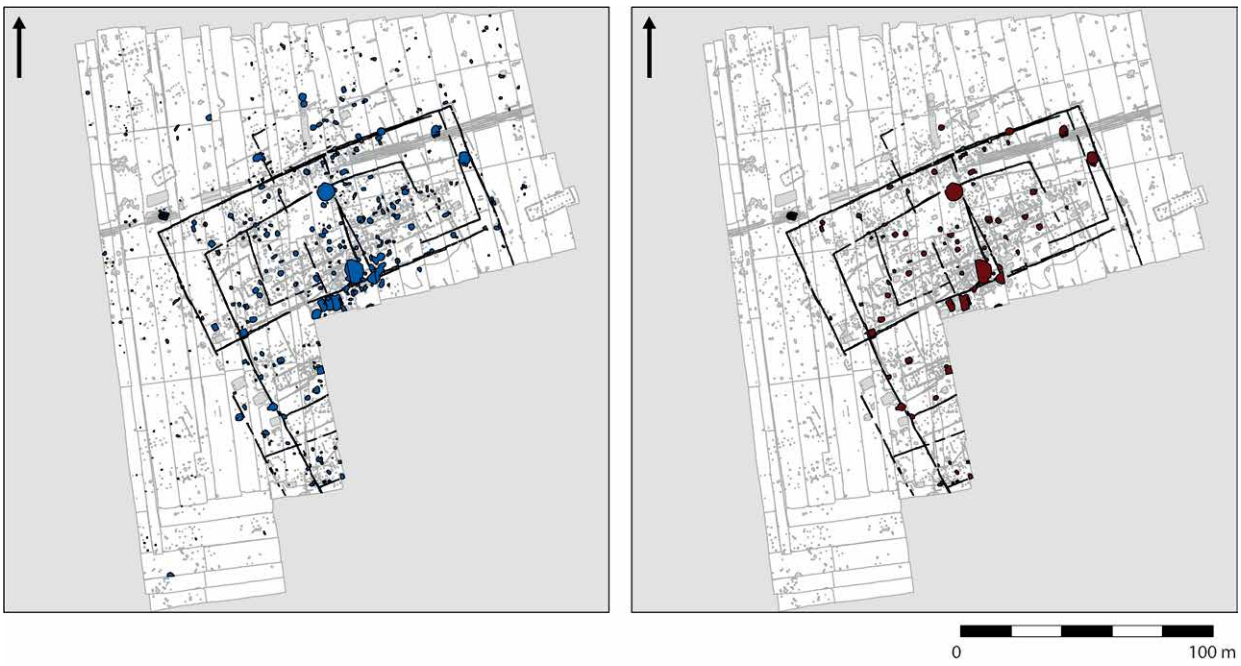


Figure 4.31: Plans of Emmen-Frieslandweg (De Wit, 2003a), showing the location of the settlement ditches (dark grey) and the location of all pits in blue (left) and of pits with finds dated to period 4 (broad dates) in red (right).

period 4 (broad dates),[107] this clustering becomes even more evident (fig. 4.31 right: red features). Almost all pits with pottery finds are located within the demarcated area. Again, a clustering is visible of pits within the settled and demarcated area. Since the majority of the finds from the excavation can be dated to periods 3 and 4, it is plausible that the majority of features should also be placed in periods 3 and 4. The empty pits thus likely to belong to the enclosed settlement. From this, it can be concluded not only that pits with finds are clustered, but also that there is a spatial divide between pits with and without finds, suggesting that there is a clear, shared idea about the spatial organisation of the settlement at Emmen-Frieslandweg.

The settlement site of Midlaren-De Bloemert is more difficult to compare with Emmen-Noordbargeres and Emmen-Frieslandweg, because of the lack of a clear spatial demarcation of the settled terrain (fig. 4.32).[108] Still, similarities with the previously discussed pattern of period 4 are visible in the distribution of pits in general and of pits with finds from period 4 (broad dates). In a similar way to the two sites from Emmen, pits cluster in the centre of the excavated area, where the majority of period 4 (broad dates) houses are located, and the pits also radiate outward. When only the pits that date to period 4 are plotted, it becomes obvious that they cluster around the house plans that are also dated to this period, showing at the very least a proximity between structure and pit, even without any demarcation. The isolated house of Gieten-OV Knooppunt (period 3 or period 4) stresses the spatial association between house, house site and pit. At this excavation, a small house plan was rebuilt on almost the same footprint. Around the house, pits with finds were found (Loopik, 2010a: 37, appendix 1).

The fact that pits were located close to houses does not mean that all pits at the farmstead should be interpreted as refuse pits. At Midlaren-De Bloemert, a number of pits stood out because of the large quantity of vessels that resembled each other, either because of stylistic influences from outside the region or because of repetition in shape or decoration. For these pits, it is proposed that all vessels were made by the same potter. The content of these pits with similar pots is interpreted as the result single deposition events, possibly as the result of the death of the potter or as the remains of a ritual meal (Nieuwhof, 2008: 298). For Emmen-Frieslandweg, a selection in the deposited vessel shapes was noticed, as well as the recurring practice of secondary firing of pottery sherds (Ufkes, 2003: 68-74). In a different way than at Midlaren-De Bloemert, the content

107 In this section, a different dataset is used compared with the earlier sections of the chapter. For the distribution of pits with finds, a list of minimum number of individuals is used (De Wit, 2003c: appendix 1). This list covers both the western and eastern part of the excavation. It could not be used for the other analyses since the total number of sherds and the total weight of the sherds is not listed in this table.

108 Ditches have been found, but not as complete as at Emmen-Frieslandweg (Nicolay, 2008a Pl. 11.7-11.10).

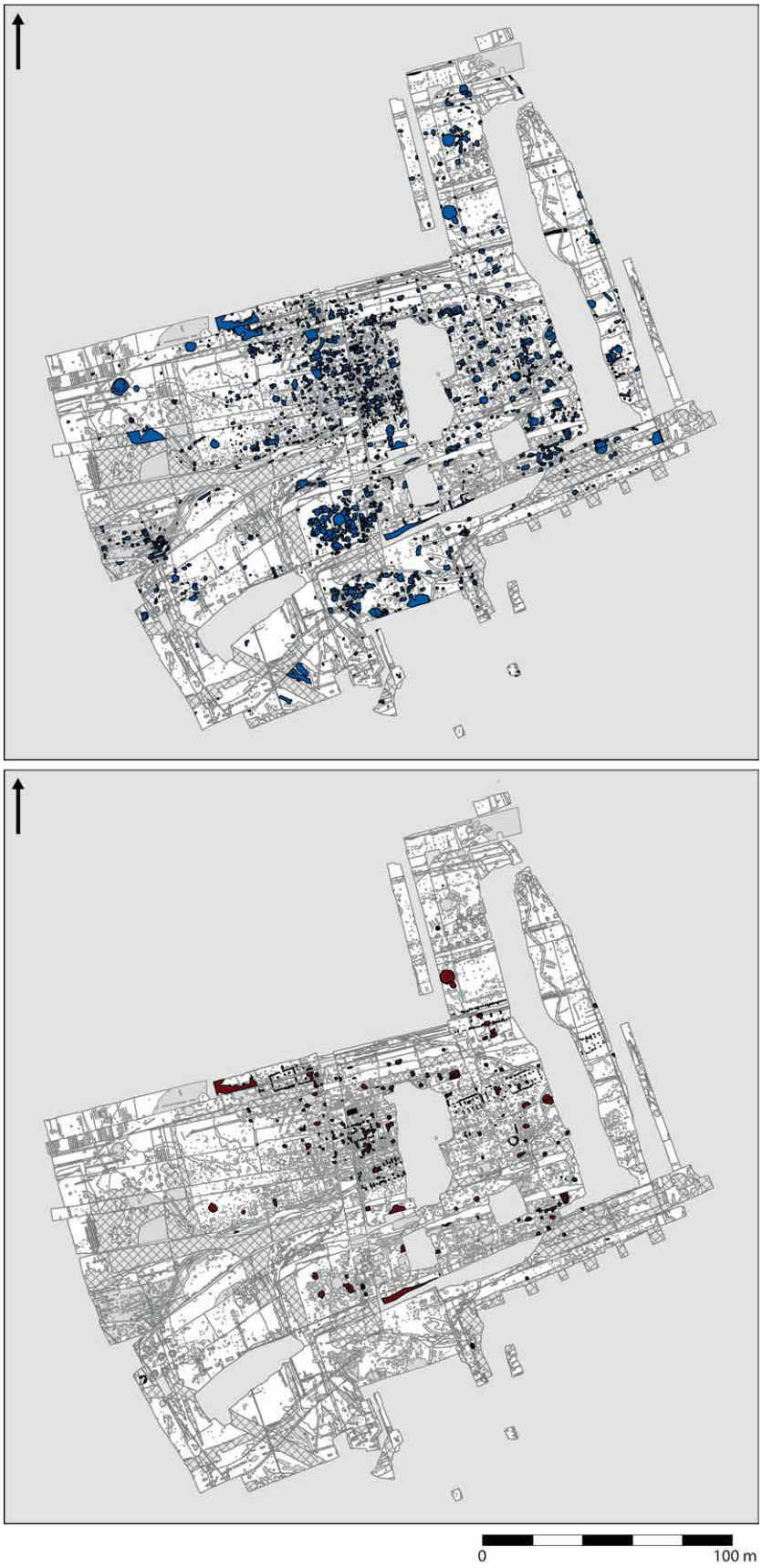


Figure 4.32: Plans of Midlaren-De Bloemert (Nicolay, 2008a), showing the location of all pits in blue (left) and of pits with pottery finds from period 4 (broad dates) in red (right), together with the houses that date to this period (black). The cross-hatching marks recent disturbance.

and treatment of the pits point towards special depositions. Even if there is a continuation of special deposition from period 1 onwards, there is a change in the spatial association of special depositions and the settled terrain.

In addition to pits, another feature was used for the deposition of pottery from period 3 onwards: the sunken hut (Dutch: *hutkom*). These structures are named for their sunken floors. Often, they are associated with (handi) crafts, and sometimes many finds are found deposited in the features. At Emmen-Frieslandweg, most of the pottery from the sunken huts can be dated to period 4.[109] The sunken huts, both with and without pottery finds, are located within the perimeter of the system of ditches. At Emmen-Noordbargeres, the sunken huts have a distribution comparable to the pits from period 3 and date to period 3/period 4. Based on the similarity in distribution, it is imaginable that sunken huts fulfilled a similar (secondary) function as pits in this period, which is to hold deposits of pottery from the settlement terrain, either as special deposition or as refuse deposition.

4.5.3 Synthesis: pit deposition practices

In the sections above, the practice of deposition in pits has been discussed. Based on the overview of the total number and total weight of pottery finds from all pits, it can be concluded that pits were not systematically used for the deposition of pottery. No convincing evidence for either a primary function or a secondary function of refuse pit could be found, because pits are not systematically encountered with a large quantity of finds. In seven out of the nine case studies, fewer than half of the pits contained pottery finds. When the content of all these pits are studied, it becomes clear that the quantities are modest, on the whole. The vast majority (80%) of pits contain fewer than 30 sherds or less than 350 grams of pottery finds. In addition to this, pits contain sherds that have a low average weight or that are highly fragmented. Based on the combination of content and treatment, most of the pits with pottery finds should be interpreted as artefact traps or as features that contained residual finds. Refuse deposition should be envisioned predominantly as surface depositions that are lost to the archaeological record.

In the event that pottery was deliberately deposited in pits, different practices are visible throughout the period under study. In period 1, when pottery is deposited deliberately in pits, the content of the pits stands out because of its relatively large quantity and total weight and because of the low fragmentation or high average sherd weight. The contexts that are used for pottery deposition vary between pits that are located tens of metres from a house to pits that seem to have been completely isolated. Based on the treatment of finds, many of these period 1 pits can be considered special depositions. In period 2, conversely, pits are rarely used for the deposition of the pottery. When compared with the previous period, the difference is a more restricted content with mostly lower numbers and lower total weight, although not necessarily more fragmented.

In periods 3 and 4, pottery depositions in pits occur much more frequently, both in absolute terms (more pits are included for periods 3 and 4) and in relative terms (more pits from fewer sites). In these two periods, many pits were dug, and those that contain finds are clearly associated with the physically or spatially demarcated settlement terrain. Pits from these two periods do not necessarily all contain many finds, as the mean of the average number and total number of sherds is modest, but many more exceptions (outliers) are seen. Pit deposition practices in periods 3 and 4 can be seen as a consequence of changes in settlement structure from an open and loosely structured settlement to a clustered and nucleated settlement with multiple phases of habitation at the same location. Still, not all pits should be seen in the light of a functional cleaning of house sites, as pits with special contents at Midlaren-De Bloemert and Emmen-Frieslandweg indicate.

4.6 Postholes and pits compared

In the sections above, the patterns of posthole and pit depositions are discussed in general and from a temporal perspective. Here, the two strands of the argument are brought together in an effort to establish whether the two types of features fulfilled different functions in the deposition of pottery finds. When the distribution of number of sherds is compared for all pits and all postholes (fig. 4.33), only a small difference becomes evident. This is most visible in the range between 40 and 140 sherds. Only 1% of the postholes contain between 40 and 140 sherds, whereas 12% of the pits contain between 40 and 140 sherds. A similar pattern is visible in the distribution of total sherd weight for postholes and pits. The most noticeable difference is visible between the 200 and the 1100 gram mark. Only 3% of postholes with pottery finds fall within this range, whereas 20% of pits with pottery finds fall within this range. With regard to sherd weight distribution, pits, on the whole, contain slightly larger pottery fragments. This is more evident in the graph that is based on average sherd weight per feature than in the graph that is based on single sherd measurements.

Notwithstanding the differences in especially the content of postholes and pits, both graphs with the number of sherds and total weight of the sherds, for the pits and postholes have a fall-off curve. This means that both groups predominantly have pottery sherds in the low ranges. In other words, both in pits and in postholes, the sherds are few in number and low in total weight. The differences that can be observed are not as explicit as might be expected for a scenario in which pits systematically

109 Based on the combination of GIS files (see De Wit, 2003a: appendix 2) and pottery analysis by Ufkes (2003).

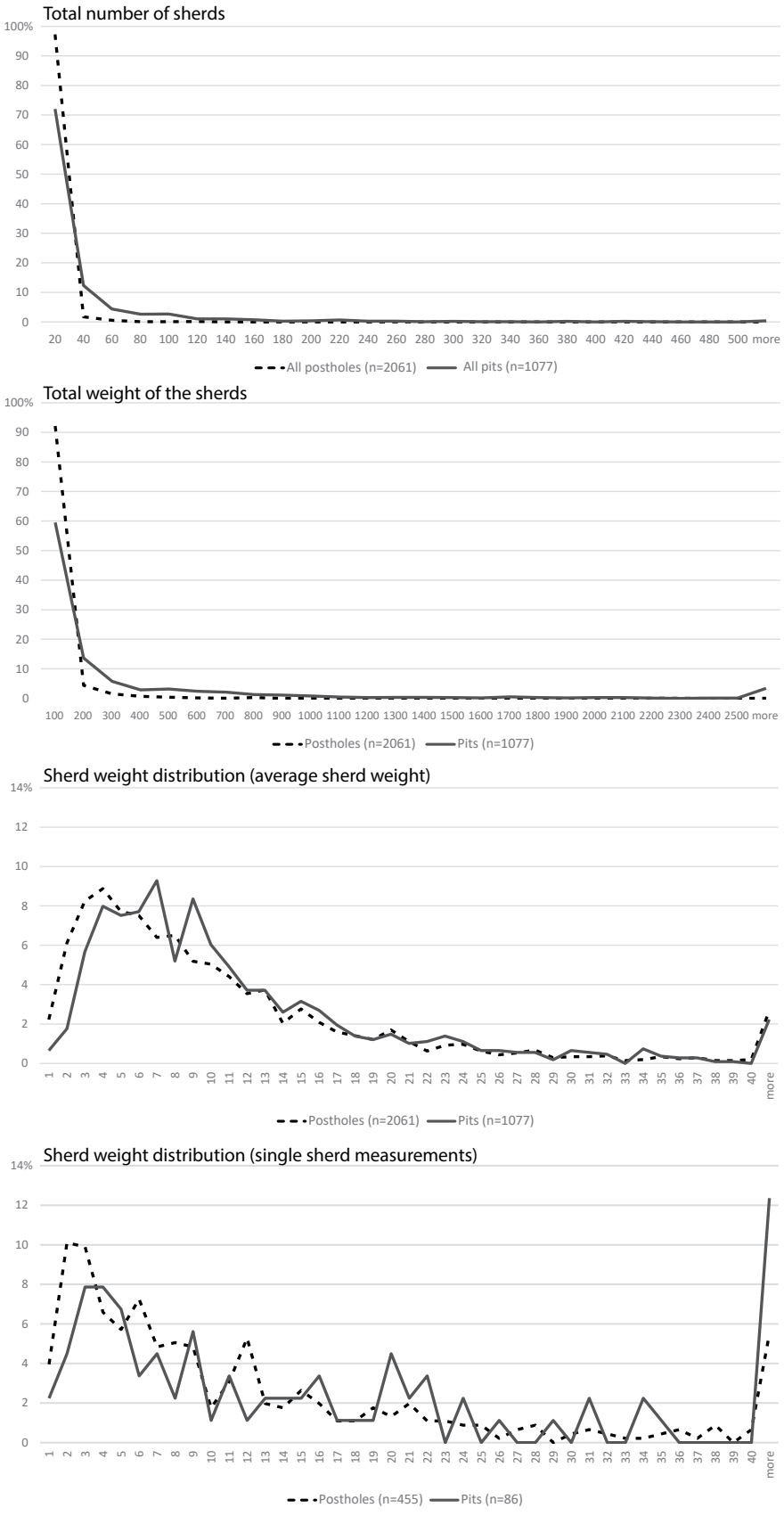


Figure 4.33: Comparisons of the distribution of the total number of sherds (top), total weight of sherds (g) (second from top), average sherd weight for all features with finds (third from top) and average sherd weight for the features with single sherds or sherds that are individually weighed (bottom). On the horizontal axis the number classes or weight classes are depicted, on the vertical axis the percentage of the total of finds the classes represent.

	N postholes	N pits	Ratio postholes:pits
Period 1 (strict)	25	41	0.6
Period 2 (strict)	26	18	1.4
Period 3 (strict)	71	74	1.0
Period 4 (strict)	91	173	0.5
Period 1 (broad)	31	48	0.7
Period 2 (broad)	56	38	1.5
Period 3 (broad)	115	119	1.0
Period 4 (broad)	143	237	0.6

Table 4.6: Overview of number of dated postholes and pits by period and their ratio, for both the strict and the broad groups.

fulfilled a different function than postholes, *e.g.* refuse pits versus postholes with residual finds or the occasional foundation offer. It is possible that similar processes preceded the deposition at later prehistoric settlement sites and that many of these processes did not relate to the deliberate deposition of pottery fragments in features.

The overall distribution of sherds and the total weight of postholes and pits indicates that there is little variation throughout the entire period of research. The likely explanation for this is our incapacity to date these small fragments to specific periods and the fact that there is a correlation to the size and weight of the sherds. These small sherds are the material noise of people who have lived in the same location for centuries. When this noise is filtered out from the dataset and only the dated finds are studied, combined with their spatial context, differences between the periods start to emerge that indicate that that, through time, the households of the Fries-Drents plateau had different ways of dealing with their pottery and used different context to deposit the fragments.

At the level of the site, it is often not possible to understand the preferred context for pottery depositions, since site-specific chronologies make it difficult to make comparisons between pits and postholes with and without finds. When a broader perspective is taken, namely, that of the nine case studies combined, it is possible to compare the frequencies in which the two contexts have been used for pottery deposition (table 4.6). For periods 1 and 2, the numbers are low, especially when compared with the number of sites that the features originate from. However, when the contexts of pottery finds are compared for these two periods, it becomes evident that pits were the preferred context in period 1, whereas postholes were the preferred context in period 2.

The preference of the granary as the locus for deposition is what stands out the most for period 1. This is seen in the strict sense, when one of the features of the granary was used. In addition to this, the granary also functioned as a more general context for deposition, in the cases that pits close to the granary were used for deposition. Possibly, their function was not always related only to agricultural activities. This is also suggested by the fact that granary-like structures are also encountered at contemporaneous funerary sites, both inside and beyond the study area (De Vries, 2012: 47-59). In addition to this, 'odd' pottery depositions are also encountered in urnfields as well, where occasionally large pottery fragments are found placed in cremation graves (Louwen, 2021: 150-152). For this period, a lack of direct association between habitation and pottery deposition is evident. The practice of (special) deposition in postholes of what are interpreted as granaries seems to have continued into period 2, because granaries are still occasionally found with many pottery sherds in one or more of the features (*e.g.* at Midlaren-De Bloemert, feature nos. 122.23 and 122.24).[110] Whether pottery in this period was also systematically deposited in funerary contexts is not clear, as the funerary record seems to be best characterised by a wide variety of practices (De Roest, *in prep.*)

For periods 3 and 4, there is an absolute and relative increase in the deposition of pottery in postholes and pits. In addition to this, there is again a change in the ratio between postholes and pits with pottery finds. In comparison to the previous periods, pits are used more often for the deposition of pottery. With regard to the content of the pottery in period 3 settlements, the postholes without a clear context stand out because of their high number and total weight of sherds. With regard to the size of the fragments, period 3 comprises the most fragmented pottery sherds, with the least variation in size, although large fragments are occasionally encountered in the features of house plans. In periods 3 and 4, the demarcated surroundings of the settlement site become the main focus for the deposition of pottery, both with regard to the context (postholes and pits, as well as sunken huts) and with regard to the different types of deposition (more functionalistic refuse depositions and the special depositions). Even so, occasionally an isolated granary with period 3 or period 4 pottery in one of the posts is found.

4.7 Conclusion

In this chapter, I raised the question whether it is possible to discern different social groups on the Fries-Drents plateau based on normativity and variation in deposition practices

110 Based on primary documentation, which is a combination of GIS files and the pottery database of Nieuwhof for the Midlaren publication (Nieuwhof, 2008). Feature no 122.23 comprised 12 sherds, with a total weight of 481 grams (average 40.1 grams). Feature no 122.24 comprised 11 sherds with a total weight of 474 grams (average 43.1 grams).

during the Iron Age and Roman Iron Age. I also raised the question whether it is possible to discern temporal, regional or local practices in the way people deposited pottery. These questions relate not only to special deposition practices, but also to the entire spectrum of activities that led to the intentional and unintentional deposition of pottery sherds in features. These two perspectives on deposition practices can make social groups visible through patterning in the pottery finds, in two ways.

The first way to discern social groups is through understanding what has been preserved in the archaeological record and what has been lost to archaeology. In the sections below, I will argue that the way people dealt with refuse was widely shared through time and across the research area, and that these sharing practices do not differ much from practices in other regions. The second way to discern social groups is through understanding how between periods the pottery is deposited differently; these temporal differences can be understood as a changed attitude towards the correct place of pottery and pottery fragments in and beyond settlement contexts.

4.7.1 Shared practices and the lack of refuse

As was discussed above, the management of refuse is an aspect of prehistoric daily life of the inhabitants of the Fries-Drents plateau that is often implied in remarks about 'refuse pits', but that has not been the topic of systematic research. In this chapter, a first attempt was made to study this aspect of daily life in a more systematic way. What has become clear based on the content of postholes (section 4.4), the content of pits (section 4.5) and a comparison between the two (section 4.6) is that there was no widely shared practice of placing refuse in features in any of the four periods used in this study. There are several observations that argue against the systematic use of features as part of refuse management.

The first observation that argues against the systematic use of postholes and pits as a locus for depositing refuse is actually the lack of features with finds. More often than not, postholes and pits were not filled with refuse when the now-empty feature was filled in after its primary use. The percentages of postholes with pottery finds are low for all nine sites (table 4.4). This cannot be explained as just the result of houses being left standing after abandonment. Even in the instances in which the removal of multiple posts indicates that the structure was likely demolished (section 4.4.1, figs 4.13-4.16), not all features of the house were used for depositing refuse. A similar picture arises when the contents of pits are studied (table 4.5). Because it is not possible to attribute empty pits to specific periods, it is difficult to state if the frequency of pits with finds changed throughout the period under study, but the overall picture is the same for the nine sites: more pits are found without than with pottery finds.

The second observation that argues against such interpretative labels as 'refuse pits' and 'refuse postholes' relates to the content of postholes and pits with finds. When pottery fragments are found in postholes (fig. 4.4) and in pits (fig. 4.18), almost always they are low in number and modest in size. This does not fit with the picture that features were systematically used to remove larger quantities refuse from the farmstead. What is the point of digging a refuse pit if it will contain only five sherds? The lack of differentiation between the content of postholes and pits (fig. 4.31) also does not support a scenario in which features, although not used regularly for this purpose, were incidentally used to discard refuse, and in these instance were filled to their full capacity. In this scenario, most pits and postholes would be empty, but these two types of features would have different contents.

In general, therefore, it seems that refuse was deposited elsewhere than in now-empty features. This is actually in agreement with the patterning of refuse that is known from other areas with better preservation circumstances. In the western parts of the Netherlands, refuse was deposited around the farm (Therkorn and Besselsen, 2008: 243-244), and this also seems to have been the practice in the *terp* area to the north of the research area (Nieuwhof, 2015: 113). In Iron Age settlements in Denmark, refuse was deposited in middens at the surface (Webley, 2008: 132-133). It is the fact that the living surface is not preserved with its surface refuse on the Fries-Drents plateau that has led to the misleading picture of the use of refuse pits (fig. 4.34-top). Since the pottery in features is all that is left archaeologically, this has been interpreted as refuse.

It is not just the systematic lack of large amounts of finds in these features that forms the argument for surface deposition, but also the overrepresentation of small finds in these features. The frequent occurrence of predominantly small finds and the lack of differentiation between the content of postholes and pits indicates that the practice of surface deposition was widespread on the Fries-Drents plateau. In this scenario, refuse was deposited at the surface and was reduced through freeze-thaw cycles and spread across the farmstead through trampling by humans and animals. The presence of small pottery finds at the surface, in combination with the continuous use of earth-fast features throughout all four periods defined in the research, has led to a relatively uniform picture of pottery finds from postholes. Pottery ended up in features not just as depositions at the moment of construction, but also as residual finds, or after posts had been removed, as part of the back fill. If pottery sherds were small enough, they could also slip into the ground when posts rotted at the surface (Reynolds, 1995: 14-15). In a similar vein, small fragments could have become incorporated in pits as well (fig. 4.34-bottom).

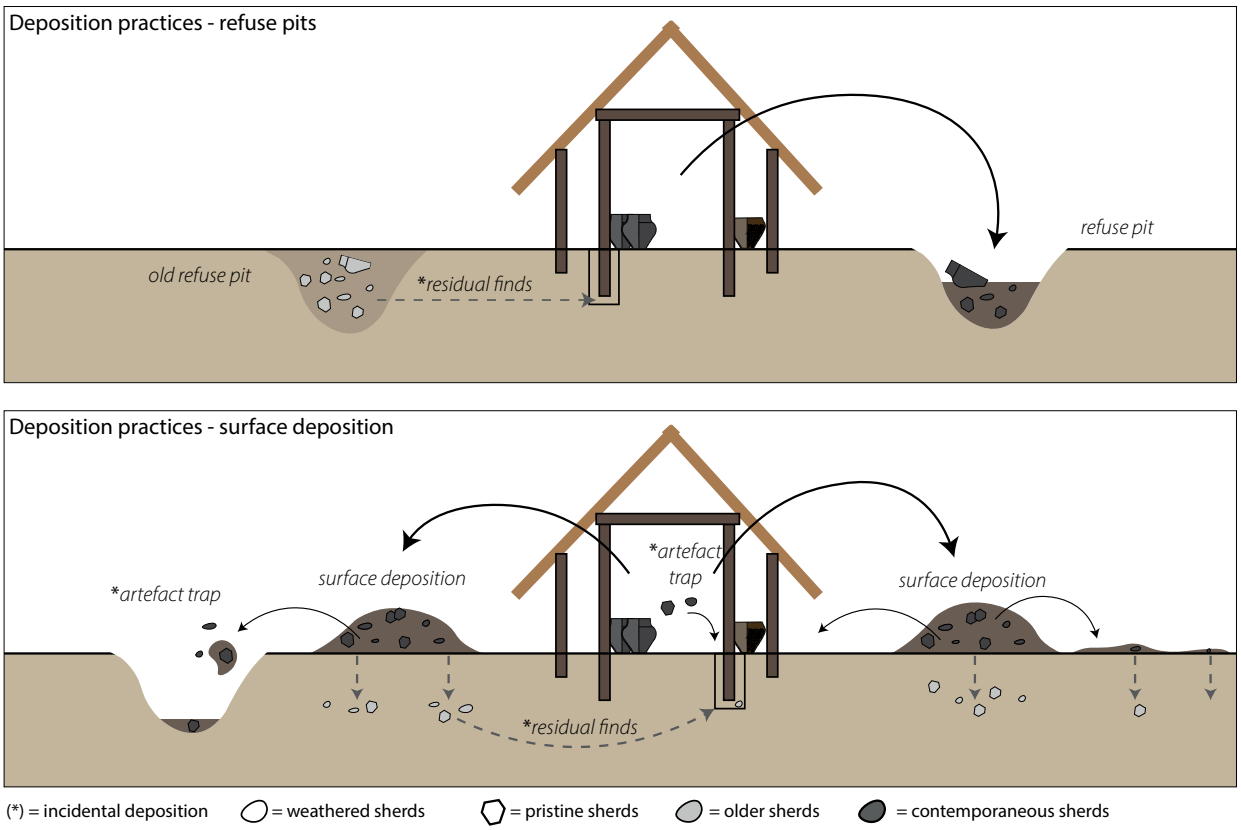


Figure 4.34: Schematic overview of deposition practices when pits are predominantly used as refuse receptacles during cleaning of the farmstead (top) and when refuse is deposited at the surface (bottom).

Still, the differences in the practice of pottery deposition are too systematic to be interpreted as being due to chance, and they indicate that a proportion, albeit only a small one, of objects was deposited intentionally within the context of the settlement. How and at what spatial and temporal scales these intentional depositions signal shared practices will be discussed in the following sections.

4.7.2 Variation in deposition practices

Even though most of the pottery finds should not be interpreted as the result of intentional deposition practices, some should, because pottery sherds were occasionally deposited in features on purpose. The consistency in the selection of location and the treatment of the pottery fragments suggest widely shared norms in deposition practices. Chronological comparisons show that these widely shared norms are evidently different between the four periods. There is clear diachronic variation – in the frequency, the use, the content and the contexts of postholes and pits – that points towards period-specific, intentional practices relating to the deposition of pottery fragments. In addition to this, variation exists within the four periods as well (fig. 4.35).

In period 1, there seems to have been differentiation in the practices of depositing pottery, because the average sherd weight of pottery from postholes (section 4.4.1, fig. 4.7), and to a lesser degree from pits (section 4.5.1, fig. 4.22), shows distinct clusters in which average sherd weight and context seem to be correlated. The group with the lowest average sherd weight fits well with the picture of accidental deposition. Especially the features with larger sherds, of 20 to 30 grams, are of interest, because the high average sherd weight suggests that fragments did not spend a long time at the surface and therefore that they must have been deposited intentionally. In the case of postholes, often granaries form the context of these less fragmented assemblages (fig. 4.10). These granaries were often located at some distance from the farmstead. Pits in period 1, also the ones with high average sherd weight, are generally located at large distances from the nearest supposedly contemporaneous house or outbuilding (section 4.5.2). This adds an extra element of purpose to these deposits, because the deliberateness is displayed not only in the short time between fragmentation and deposition, but also in the distance that these sherds must have been carried to isolated pits or granaries. A scenario of trampling, for example, does not fit with large sherds at large distances from the house.

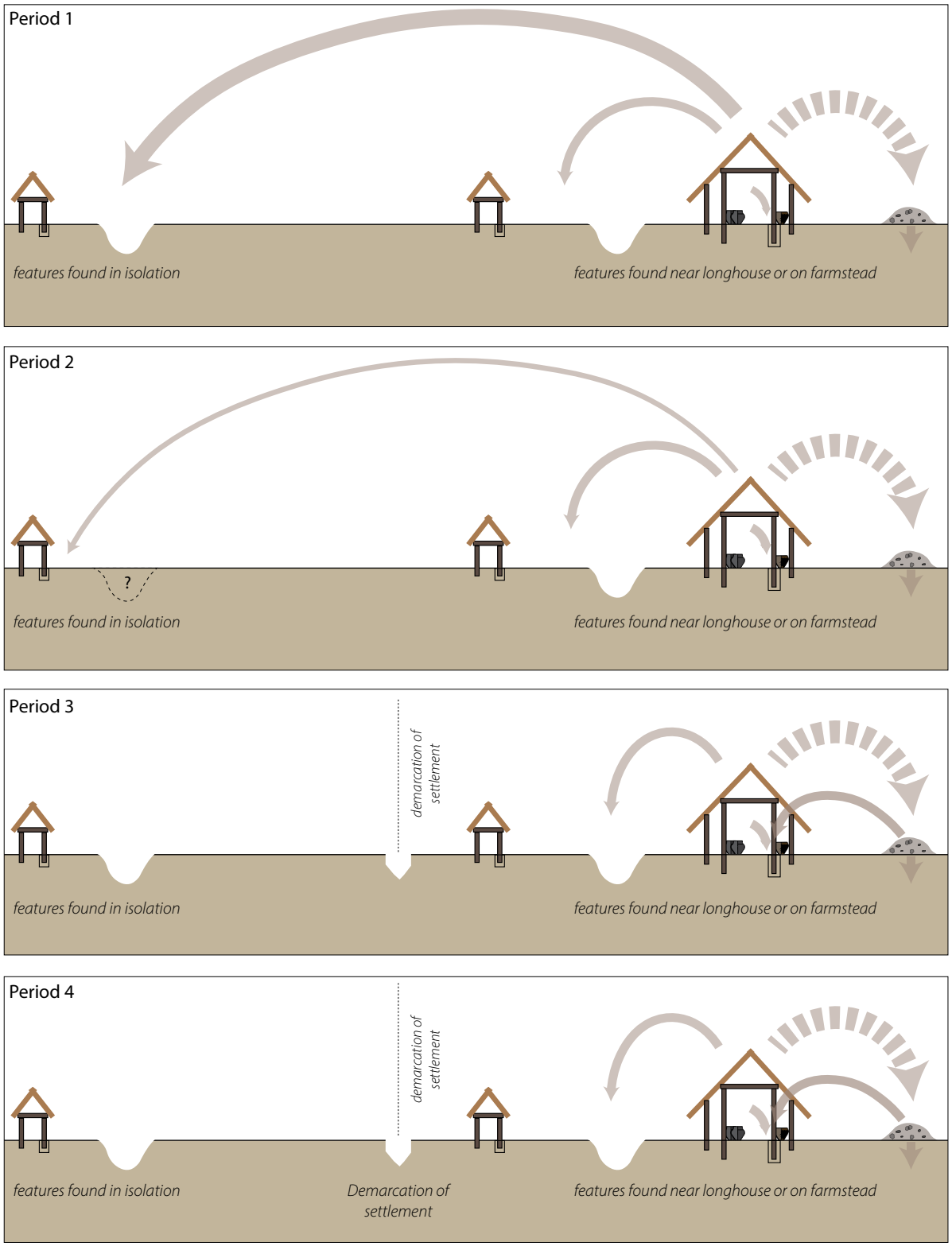


Figure 4.35: Schematic overview of deposition practices per period in different types of contexts.

The practice of depositing pottery in the features of granaries can be seen, on the one hand, as a practice that was shared across the Fries-Drents plateau and beyond. It clearly refers to shared norms of what contexts were deemed suitable for deposition or what contexts were occasionally in need of a deposition. On the other hand, the execution of the practices in the study area varies, in terms of the quantity of material used, from that of other regions, which indicates that there is a shared understanding on the level of the Fries-Drents plateau about what these pottery depositions should look like. With regard to context, variation can be found in the number of posts selected, because often only one feature received finds – although occasionally more features were used for the deposition of pottery fragments. With regard to content, some variation can still be found in the practicalities of the execution, because sherd sizes still vary, as does the quantity of sherds in the deposit. Even though granaries with pottery are found across the plateau, not every individual granary yielded pottery from its postholes. This means that, although shared norms were not always put into practice, they were shared nonetheless and existed as latent knowledge of proper conduct. The execution of this practice should be placed at the local level.

In addition to the pottery that was carried away from the farmstead, other material was deposited on the farmstead and even in the features of the house (section 4.4.2). When a house was abandoned, pottery could be deposited deliberately in the features of the house, as can be seen in Peelo-Kleuvenveld house 106 (fig. 4.13). In a similar vein to granaries, houses without any pottery finds from period 1 have also been found, which suggests that abandonment of the house site was not always accompanied by a cleaning phase in which pottery was deposited in the empty features of the house. Based on the nine sites examined here, there is no evidence for shared practices of in-house pottery deposition at the regional level.

In many aspects, period 2 shows an inversion of the practices from the previous period. This inversion is seen in the way people did not deposit pottery fragments in pits as frequently as in the previous period (table 4.6). The preferred context for deposition after deconstruction changes, from pits to empty postholes. In addition to this, there is a shift visible in the context of the postholes used for the deposition of pottery fragments, from postholes relating to outbuildings to those relating to the longhouse (fig. 4.8). Although pottery continues to be deposited in granaries, as is evident, for example, at Midlaren-De Bloemert, the granary has lost its importance as the main context for pottery deposition. The resolution of our current chronologies is unfortunately insufficient to understand how exactly this inversion took place, but it is remarkable how few large pits with period 2 pottery we have compared with period 1 pottery, even though the layout of the settlement site changed little between the two periods. The difference is even more noticeable when the clear increase in the number of known houses is added to the equation (fig. 3.1). The evident lack of pits cannot be explained by a decrease in the visibility of period 2 settlement sites. On the contrary, the increase in a shared housebuilding tradition seems to have signalled the loss of shared deposition practices in pits.

Just as is the case with period 1, deposition practices in period 2 are shared at the level of the Fries-Drents plateau, but are again executed at the local level. The decrease in the use of pits seems to be a region-wide change. It is visible not only in the decrease at the nine studied settlement sites, but also in the lack of any period 2 pits, amidst older and/or younger traces. However, occasionally period 2 pits have been found. Some continuation of this practice existed, but more as an exception than a rule. The irregularity with which these pits are found indicates that these decisions were made at the scale of the household. The same is true for the use of now-empty postholes to clean out the farmstead after the structure had been abandoned. Some houses show evidence for this; some houses do not. Both scenarios are found within the same settlement site, as the site of Emmen-Noordbargeres has shown (fig. 4.15 and 4.16). In a similar vein, one house at the settlement site of Emmen-Oude Meerdijk comprised pottery in its features, whereas the other house was devoid of finds (fig. 4.28). Again, this indicates that those choices are made at the smallest level visible here, which is that of the household.

After period 2, further changes occur in deposition practices, evidenced by a steep increase in the numbers of pits and postholes that contain finds (table 4.6), and in the number of contexts in which pottery is found. In period 3, and in period 4 as well, pottery is deposited in pits that are spatially associated with the settled terrain. This is evident at Emmen-Frieslandweg, where pits with finds are restricted to the demarcated settlement, while numerous empty pits are found outside the communal ditches (fig. 4.29). It is also seen at Midlaren-De Bloemert (fig. 4.30) and Emmen-Noordbargeres (fig. 4.22-D), where period 3 and period 4 pits with pottery finds show a more clustered distribution than do the combined total of the pits that have been found at the site.

Remarkably, the clustering of pottery finds in postholes does not suggest an extra emphasis on the longhouse, as most of pottery finds in period 3 and period 4 originate from features that cannot clearly be attributed to structures (fig. 4.8). The likely explanation for this is that there is, in fact, a continuation of the deposition of refuse on the surface of the farmstead, but that the continued habitation at the same location has resulted in more finds ending up in features accidentally. This can be seen in the fact that period 3 and period 4 pits and postholes often contain only few sherds of small sizes (fig. 4.5 and 4.6) and in the

fact that period 3 pottery is often more fragmented than period 4 pottery (fig. 4.7 and 4.21), probably because material from the earlier phases becomes more fragmented through trampling and subsoil disturbance.

The fact that many of the finds from period 3 and period 4 can be explained as the result of continuation of habitation and an increase in accidental inclusion of refuse in features does not mean that all features should be seen in the light of site maintenance practices or refuse management. Based on the exceptional content of a number of pits at Midlaren-De Bloemert and evidence for secondary firing at Emmen-Frieslandweg, some of these pits may be interpreted as special depositions. These pits with special deposition do not seem to have a different place in the settlement compared with other pits in period 3 and period 4.

Based on the discussion above, deposition practices on the Fries-Drents plateau are best understood as nested practices. To start with, the practice of depositing pottery on the ground surface of the farmstead was widespread and not even unique to the region. The way this practice was executed, however, does seem to signal practices specific to the Fries-Drents plateau. This can be seen, for example, in the modest content size of pottery depositions in granaries compared with other regions or in how practices changed subsequently throughout the Fries-Drents plateau through time. How and when this was done exactly was decided at the level of the household, not at the level of the settlement or at the level of regions within the Fries-Drents plateau. As has been argued above, especially the isolated pits in period 1 point towards deliberate and possibly special deposition practices. Study of these pits has shown a recurrence of specific treatments and selection of objects, through which these assemblages are distinct from the average practices. Even though this practice seems to lose its importance after period 1, some similar period 2 pits are known. These pits from period 1 and period 2 will be discussed in more detail in the next chapter, in order to study the question of normativity and variation in more detail for this special group.

Chapter 5

Special deposition practices

5.1 Introduction

In the previous chapter, the general patterns of pottery deposition were discussed for nine sites on the Fries-Drents plateau. Within this discussion, special attention was paid to the similarities and differences between pottery finds from pits and pottery finds from postholes. Based on the analysis of the context, content and treatment of pottery in pits and postholes of these nine sites, it has become clear that features are not systematically used in clearly defined strategies of refuse management in (Roman) Iron Age settlement sites. Pits, for example, are not systematically used as refuse pits. Moreover, the content of the pits is often not fundamentally different from the content of other contexts, such as postholes. This suggests that the majority of discarded objects are not discarded in deep features, but are dumped on the ground surface or, possibly, deposited in shallow pits.

Even though features were not the preferred context for depositing discarded objects in any of the four periods, features were occasionally used to deposit pottery fragments. When pottery is deposited, period-specific practices can be discerned with regard to the frequency, the context and the fragmentation of pottery (section 4.7). For some pits, an interpretation as occasional refuse dump cannot be dismissed. For other pits, though, another explanation may be proposed for the presence of pottery, which is that of the special deposit. Special deposits are thought to have been placed in features to mark special moments in life, for example in the intertwined biography of a house and its inhabitants, at the death of the head of the household and the subsequent abandonment of the house or to thank chthonic powers for safeguarding goods in stock (Cunliffe, 1992; Brück, 1999: 153; Gerritsen, 2003: 40, fig. 3.1).

As was discussed in the previous chapter, surface deposits, refuse deposits in features and special deposits are all the result of deliberate actions in the past. The motivations behind the actions may have been very different even though the assemblages look the same when taken at face value. In the literature, there is a consensus that both refuse deposition and special deposition are integral parts of a bigger whole of culturally specific practices that lead to the patterning of material culture (Gerritsen, 2003: 81-83; Garrow, 2012: 104-106). It may not always be possible to make clear-cut divisions, since there may be overlap between the two with regard to the objects used and the treatment the objects underwent (Hill, 1995: 99). However, such an approach makes it difficult for archaeologists to discuss their findings. Therefore, the term 'special' will be maintained in this chapter for analytical purposes, to denote that the pottery assemblages stand out from the general practices as described in the previous chapter in one or more ways with regard to their content, context or treatment (*cf.* Thilderkvist, 2013: 5). The arguments for interpreting an assemblage as special will be discussed more extensively below.

In this chapter, the emphasis is predominantly on the proposed differences in practice between the special and the general deposits, and less so on the possible meaning of special deposition practices. The questions that are asked here are as follows: Are there widely shared ways or normative practices in which the special deposition practices deviate from the general? Is it possible to discern temporal or regional patterns in these special practices

that can be used to discern social groups? This chapter will focus on special deposits found in pits from period 1 and period 2. The reason for this lies in the different contexts in which pits from these two periods are found, ranging from isolated,[111] to somewhere on the farmstead but not in the house,[112] to within the house[113]. This makes it possible to compare and contrast the relationships between context, content and treatment within and between the two periods.

5.2 Criteria for discerning special deposition practices

Special deposition practices are studied here on the one hand as part of a broader practice of depositing objects in features and on the other hand as a phenomenon in its own right. In the selection of the dataset, there is the risk of circular reasoning. The use of predefined criteria can work as a self-fulfilling prophecy in which the criterion becomes the discriminating characteristic. Conversely, it is not possible to formulate criteria before they are known. A way out of this apparent impasse is to list different criteria that have been mentioned in previous research for this and other regions (see discussion below) and acknowledge that they need not always co-occur or all be valid for the region under study. In this approach, it is at least possible to see whether some characteristics occur more frequently in time and space than other characteristics. In addition to this, the characteristics can be compared and contrasted with the different general deposition practices as discussed in the previous chapter. In order to facilitate comparison between general and special deposition practices, the characteristics are discussed according to their context, content and treatment.

5.2.1 Context

Based on the literature, the context for deposition within settlements can be roughly divided into two types. Most frequently, special deposits are found in contexts that can be considered the 'mundane' features that are found, often abundantly, on every settlement site, such as pits, postholes and ditches.[114] Occasionally, another type of context seems to be used for deposition, namely, enclosed, rectangular areas. This is a varied group of structures that are found in domestic and funerary landscapes and are interpreted as cult places (Gerritsen, 2003: 156-161; De Leeuwe and Jansen, 2018: 186-188). This category of enclosed, rectangular structures seems to have been restricted to the southern parts of the Netherlands and has yet to be found on the Fries-Drents plateau.

If most contexts used for special deposition are considered ordinary settlement site features, what aspects of the context point towards a special nature? The arguments for an interpretation as special rest on recurring patterns of selection of only one or few features, a pattern that cannot be reconciled with a cleaning phase of the house site after abandonment (Van den Broeke, 2002: 53-54; Van Hoof, 2002: 88).[115] Another argument for the special nature of a context is found when there is a repetitive pattern in the selection of specific features within a larger structure, for example along a specific side of the house (Trebsche, 2008a: 131, fig. 61, 2008b: 70-71, fig. 4). Finally, liminal places, such as entrances, are thought to be meaningful and hence a suitable location for special deposits (Gerritsen, 2003: 65; Nieuwhof, 2015: 116; Hem Eriksen, 2019: 167-170). Notwithstanding the arguments discussed in this section, it is the finds that make the feature special; not the nature of the feature itself.

The criteria mentioned above relate only to postholes, but comparable arguments are mentioned for pits as well. Again, the main argument is the fact that the presence of a pit with finds cannot be satisfactorily explained by functionalistic arguments, such as the dumping of refuse or the cleaning of the house site. For regions where preservation is good, pits, too, seem to have another function as refuse is dumped on the ground, either as a way to raise the surface (Therkorn and Besselsen, 2008: 243-244) or as middens (Webley, 2008: 132-133). When preservation circumstances do not allow for surface finds and features are therefore the only contexts in which archaeological objects are found, other arguments need to be used, such as the illogical positioning of the pit in relation to the structure it is spatially associated with. Examples are silo pits that have illogical positions inside a structure (*e.g.* at Riethoven: Gerritsen, 2003: 99, fig. 3.31) or pits that are in the same locations as the walls of the house (*e.g.* at Hijken-Hijkerveld: Arnoldussen and De Vries, 2014: 95, fig. 8). The pits cannot be used contemporaneously with the house, but their spatial association points towards an association between feature and structure. Therefore, they were likely to have been dug after abandonment of the house, at a moment in which the remains of the house were still visible.

The literature does not provide clear-cut criteria for the selection of pits. Pits selected for deposition seem to vary in size and possible primary use (Gerritsen, 2003: 98).[116] More

111 *E.g.* Pesse-Eursinge (Lanting, 1977): period 1.

112 *E.g.* Hijken-Hijkerveld (Arnoldussen and De Vries, 2014): period 1.

113 *E.g.* Fluitenberg-Zevenberg (Schrijer and De Neef, 2008): period 2; Peelo-Haverland (Kooi, 1995): period 2.

114 Van den Broeke (2002, 2015); Gerritsen (2003: 66, 85, 91, 93, 98, table 3.5, 3.8, 3.10, 3.11, 3.14); De Vries (2016: 96-99, fig. 2).

115 But see remarks by Van den Broeke (2015: 85) on structures that show convincing evidence of special deposits in multiple features, because of the treatment of the pottery fragments from these features.

116 Webley describes for Denmark how a 'cultic' function was dismissed for pits because they were too varied in their shape, dimensions and content (Webley, 2008: 135). Even though he does not discuss shape and size any further in detail, his statement does suggest that the pits that he considers to contain a structured or ritual deposition are not uniform with regard to their shape and size (Webley, 2008: 129-148).

than the actual appearance of the pit, it is the illogical spatial association with a structure that seems to be indicative. Based on the analysis of the previous chapter, however, another criterion for selection can be used, specifically for period 2. Based on the frequency of pits with finds per period (table 4.6), it has become clear that pits in period 2 are only used for pottery deposition in exceptional cases. A deviation from the general practice of not using pits as context may be taken as an indication of the special nature of period 2 pits. For period 1, a very close spatial association between pit and house may be considered as special, as pits do not seem to be a recurring element on period 1 farmsteads.

5.2.2 Content

Proceeding from the descriptions in the literature of the assemblages that have been interpreted as special deposits, it can be established that no special set of objects seems to have been used, but, rather, vessels that belong to the normal spectrum of pottery found at settlement sites.[117] The presence of food crusts on the inside of the deposited vessels is an additional argument that these vessels were not specially made, but had ordinary use lives prior to deposition (see Nieuwhof, 2015: 172-174, plus many examples in the appendices).[118]

Once again, the question can be asked: What characteristics make the content of some assemblages special if it is not the shape of the vessels itself? One argument that is frequently used is the quantity of the content (*e.g.* Van Hoof, 2002: 84-87; Gerritsen, 2003: 97). Both explicitly and implicitly, the quantity of finds from pits is often the reason researchers give for discussing specific assemblages in more detail (*e.g.* Ufkes, 2003: 68). This makes sense, as the quantity of pottery finds is one of the first aspects of an assemblage that can be observed, even at the moment of excavation and during post-excavation analysis – before context or treatment have provided any hints of special deposition practices. Finds from other features from the same structure or the total of finds from the entire settlement site are factors that are used to infer how exceptional the quantity of the assemblage is (Van den Broeke, 2002: 54, 2015: 84-85). In this sense, remarkably large assemblages can be seen as a deviation from the local general practice of not depositing objects in features (*cf.* Arnoldussen and De Vries, 2019).

In addition to quantity of the content, the selection of specific vessel shapes is seen as indicative for the special nature of deposits. The underlying assumption is that shapes should be randomly represented if the content of a pit was the result of the discarding of refuse. Examples of patterning in the deposited shapes may be found in the exclusion of specific shapes, even though these same shapes are commonly found in settlement context (*e.g.* bowls: Van den Broeke, 2015: 85-87), in the deposition of only one type of vessel (Van den Broeke, 2002: 47-48); in the linking of specific shapes to other finds as part of specific rituals (*e.g.* the difference between deposits made in spring or in fall: Abbink, 1999: 310-311; Therkorn, 2004: 37-38); or in the recurrence of specific sets of vessels found (Gerritsen, 2003: 84-85; Webley, 2008: 136). These sets of vessels are often encountered in relatively complete condition (Gerritsen, 2003: 84) and are categorised as site maintenance practices, meaning assemblages that are deposited while the house and the farmstead were inhabited (Gerritsen, 2003: 79-85).

In contrast to deposits made during habitation, variety has also been used as an argument for the special character of some pottery assemblages, especially in the context of abandonment deposits (Van Hoof, 2002: 86; Gerritsen, 2003: 97). This not only relates to a variety of pottery shapes, but also to a variety of different types of finds, such as a pottery assemblage with the addition of quern stones, loom weights or even fragments of the walls of the house itself (Gerritsen, 2003: 96-102). Often, abandonment deposits are associated with the concept of wandering farmsteads. Farms would periodically relocate, not necessarily at the moment the house became uninhabitable, but at a socially significant moment, such as the death of the head of the household (Gerritsen, 2003: 40, fig. 3.1). In their variety, the different objects in the special deposit are thought to be symbolic representations of the variety of activities that took place in the house. The deposition of such a symbolic set marks the end of the biography of the house (Van Hoof, 2002: 84-87) or the final stages of maintenance practices surrounding the house (Gerritsen, 2003: 102). Objects may have been considered an integral part of the house that could not be moved to the new location of the house (Gerritsen, 2003: 102), to be left behind to forget the old place (Gerritsen, 2008: 157-158). One might ask, however, whether such elaborate deposits would aid in commemoration and in not forgetting. Nevertheless, in this interpretative model, ideally there should be a direct spatial association between the content (the 'domestic set') and the context of the deposition (the house).

In addition to this, there are other explanations for the occurrence of pits with a variety of objects that are less

117 Meuse-Demer-Scheldt region: Gerritsen (2003: 84-86; 96-102); Eastern Netherlands: Van Beek (2009: 545-547); Limburg: Van Hoof (2002: 86-87); Denmark: Webley (2008: 130-131). Contemporaneous bog finds from Drenthe also indicate that, in addition to more precious objects, such as bronze bracelets (Kok, 1973) or a bronze necklace with an amber bead (Remouchamps, 1925), ordinary objects were deemed suitable for deposition, such as pottery (Van der Sanden and Taayke, 1995), quern stones (Van der Sanden, 1998a) or a ball of wool (Van der Sanden, 1998b). No pottery shapes seem to have been exclusively made for the purpose of deposition (but see Abbink, 1999: 309, for an assemblage thought to be made specifically for the occasion).

118 This may be partially undone by secondary firing (Van den Broeke, 2012: 190; see also discussion below) or a too thorough cleaning after excavation.

directly connected to the house proper. Different interpretations can be found: special deposits in pits as offerings to chthonic powers to thank them for guarding what was in the pit (Cunliffe, 1992: 77-79); as a means of reproducing the social order (Hill, 1995: 113-114); to mark cycles, such as the seasons (Therkorn, 2004: 29-34, 301, table 6); to mimic celestial constellations (Therkorn, 2004: 85-138); or as the ritually demolished remains of ritual feasting (Nieuwhof, 2008: 298). In these instances, the content of the pit is less directly associated with the house proper and thus not necessarily associated with a structure.

With regard to the content, quantity is not the sole criterion for determining the special nature of an assemblage. Qualitative aspects have to be considered as well. To establish whether a deposit is special in qualitative terms, it is necessary to compare the content of putative special deposits to the content of features relating to general practices. In this study, there is the option to expand our understanding of the aspect of quantity by comparing the general practices as discussed in chapter 4 with the quantities of the pits from this chapter. There is also the option to check whether the composition of the assemblage (both in the sets of pottery and in the combination of pottery and other types of finds) is indicative for the special nature of the deposit, either as a deliberate selection or as a full-spectrum representation of past activities of the house.

5.2.3 Treatment

More than content and context, it is the treatment of the objects in a special deposit that seems to be decisive. Both the degree of fragmentation (complete or deliberately fragmented) and the deliberate secondary firing of objects are used here as arguments for the special nature of assemblages (see discussion below). The reasoning behind this is that objects become deposited in a state that does not fit with the picture archaeologist have of the disposal of refuse or the occasional inclusion of residual finds. In addition to the separate occurrence of these two types of treatment as indicators for the special nature of finds, the joint occurrences of fragmentation and secondary firing provide more insight into the different steps of deposition, because the fracture margins of sherds, for example, can only show traces of secondary firing if vessels are broken prior to this firing.

With regard to the degree of fragmentation of pottery, the deposition of complete vessels is taken as a sign of special deposition, because functional objects are withdrawn from circulation and therefore cannot be refuse.[119] Based on the descriptions from other regions, complete vessels can be deposited individually, in groups of complete vessels and in combination with pottery fragments (Bos *et al.*, 2001: 215-217; Gerritsen, 2003: 85, table 3.8). For the research area, there seems to be little evidence for the deposition of complete pots, at least not during the Iron Age (*i.e.* period 1 and period 2), although near-complete vessels are found more frequently (De Vries, 2015: 44-45, table 3.6.2.2).

Often it is difficult to identify the moment of fragmentation. Vessels can be deposited in a complete state and become fragmented because of post-depositional processes, and vessels can be deposited as a collection of sherds. The presence of incomplete vessels is sometimes explained as being a function of incomplete retrieval of sherds (as has been assumed for a large V5-type vessel at Emmen-Frieslandweg: Ufkes, 2003: 70). There are indications, however, in cases where several sherds of the same vessel were found in two or more features, that the pots may have been deposited already fragmented and incomplete (*e.g.* at Sjelborg (Denmark): Webley, 2008: 141). On the Fries-Drents plateau, the evidence for find assemblages with large pottery fragments is more abundant than the evidence for find assemblages with complete or near-complete vessels (De Vries, 2015: 44-45, table 3.6.2.2).

As discussed above, the existence of sherds from different features that can be refitted aids in the identification of deliberate fragmentation. In these instances, fragmentation is a necessary step in the deposition of the object, as it cannot be dispersed among features before it is broken. The fact that refits are rarely found at settlement sites argues against an interpretation in which vessels are broken and spread over multiple features as part of a cleaning regime. Within a single find context, it is much more difficult to prove the intentionality of the fragmentation. Occasionally, however, it is possible to see traces of fragmentation on the sherds themselves. When tools are used to break vessels, points of impact can incidentally be found (for an extensive discussion and experimental data on deliberate fragmentation, see Nieuwhof, 2018).

When vessels become fragmented as result of the pressure of the surrounding soil, the sherds will show a different distribution in a feature than when the vessel has been fragmented prior to deposition. Carefully stacked sherds or sherds placed upright indicate such a deliberate placement.[120] This means that the placement of the pottery sherds and other finds can be indicative for the deliberate fragmentation of the pottery. Simulta-

119 Bloo *et al.* (2017: 23); Bos *et al.* (2001: 218); Brattinga and De Koning (2017: 43-44); Gerritsen (2003: 84); Nieuwhof (2015: 116); Trebsche (2014: 298).

120 Roessingh *et al.* (2012: 123-129); Bloo and Van Mousch (2014: 112); Stapel and Stapel (2014: 142-142, fig. 3 & fig. 4) Still, even for deposits where there is evidence for a deliberate placement of pottery sherds, a functionalistic explanation can be found, *e.g.* sherds placed as a pavement to collect flour from a quern stone. This was proposed for a Middle Iron Age pit at Herpen-Wilgendaal that was paved with sherds and contained a quern stone (Ball, 2002: 112-114).

neously, careful placements adds to the argument of deliberateness of the deposition, in contrast to a haphazard placement as the result of careless sweeping. The same can be said for large pits that contain a single layer of pottery finds (as at Hijken-Hijkerveld: Arnoldussen and De Vries, 2014: 96, fig. 9).

When vessels are deposited incomplete or as collections of sherds without any traces of deliberate shattering, low fragmentation functions as a counter-argument to them representing discarded refuse, which would be expected to be much more fragmented (Van den Broeke, 2015: 87). If the find circumstances are not known, low fragmentation can signal that an object was deposited intact and subsequently broke as part of post-depositional processes (Trebsche, 2014: 306).[121] Low fragmentation can also be the result of the practice of the deliberate fragmentation of pottery and the selection or retention of parts of the vessel. This results in the deposition not only of broken vessels, but also of partial vessels. Partial deposition comes in various degrees, from near-complete vessels to vessels represented by only a single sherd (so-called orphan sherds or fragments: Chapman, 2000: 54). This practice is widely attested in prehistoric archaeology, and it is thought to be socially significant, because in this way parts of vessels can be distributed among participants (see the seminal work of Chapman, 2000; Chapman and Gaydarska, 2007). Examples of this practices are known within the Netherlands as well (*e.g.* at the terps of Englum and Ezinge: Nieuwhof, 2015: 227).

Another significant treatment besides the deliberate fragmentation of pottery is the use of fire as part of rituals surrounding deposition.[122] Traces of fire can, of course, be expected on a vessel that has had a regular use life as cooking vessel prior to deposition, in the form of discolouration of the outer surface of the vessel (Van den Broeke, 2012: 190). In order to distinguish between deliberate secondary firing and discolouration through primary use, the function of the different types of vessels needs to be known.

As part of his typology, Taayke has also studied the traces of cooking on vessels, in the form of food crusts and stains from liquids. In his analysis, he made a distinction between G-types (closed shape, smooth rim, often with smooth surfaces), V-types (closed shape, fingertip impressions, relatively coarse wares), S-types (bowls) and K-types (small vessels). He found only a small difference between the frequency of traces of use between G-types (33.6%) and V-types (29.9%).[123] The other two types, S-type and the K-type, seldom show traces of cooking (Taayke, 1995: 50-51). This observation is in contrast to the observations made for the Oss-Ussen pottery from the south of the Netherlands. For the Oss region, Van den Broeke has concluded that well-finished (polished) pottery (comparable to the G-types) was probably used as tableware, whereas the coarse and roughened pottery (comparable to the V-types) was probably used as cooking ware (Van den Broeke, 2012: 188). However, he himself has cautioned about the effects of the finish on the pottery on the visibility of traces of fire and secondary firing (Van den Broeke, 2012: 188-189). For the present study, this means that vessel type cannot be used a priori to differentiate between traces of secondary firing due to cooking and as part of the rituals surrounding deposition. In all cases, the discolourations of the surface should be carefully examined to establish their origins.

As was discussed earlier, the best way to study the treatment of pottery is to study fragmentation and secondary firing in relation to one another. When these aspects are combined, additional arguments may be found for deliberate fragmentation and firing, in the form of colour differences between refitted sherds and discolouration on the fracture margin of the sherd. Fragmentation can help to understand secondary firing, and secondary firing can be used to indicate deliberate fragmentation. In addition to this, the location of the traces of secondary firing is relevant; since it is, for example, unlikely that cooking would result in discolouration of the inside of a vessel. Unfortunately, neither intentional fragmentation nor secondary firing are traits that were studied systematically in the nine sites discussed in the previous chapter. As a result, it is not possible to compare general patterns of secondary firing or deliberate fragmentation in settlement contexts to the secondary firing or deliberate fragmentation of the objects in the pits under study in this chapter. Still, it is possible to establish whether the two elements are always associated.

121 At Emmen-Noordbargeres, a pit with complete vessels has been interpreted as a silo (De Wit, 2015b: 30-31, fig. 3.20). On the photographs, the pots do not look complete, but near-complete. However, it is unclear how much is missing and what caused this (*e.g.* purposeful action at the moment of deposition, medieval reclamation or present-day excavation). Apparently, and maybe not surprisingly, the vessels broke during recovery, as the find number is listed as consisting of 209 sherds with a total weight of 3021 gram. Additional near-complete vessels may not have been captured here if these data are not explicitly mentioned in the report.

122 Taayke (1993: 53-54); Van den Broeke (2002: 54, 2015: 87); Gerritsen (2003: 97); Nieuwhof (2015: 137, and ample examples in the appendices).

123 Taayke uses the term *Kochspuren* (traces of cooking) for the G-type vessels and V-type vessels and *Gebrauchsspuren* (traces of use) for the S-type vessels and the K-type vessels. For the G-type vessels and V-type vessels he states that soot is more frequently found than food crusts, but he does not specify the traces further (Taayke 1995: 50-51).

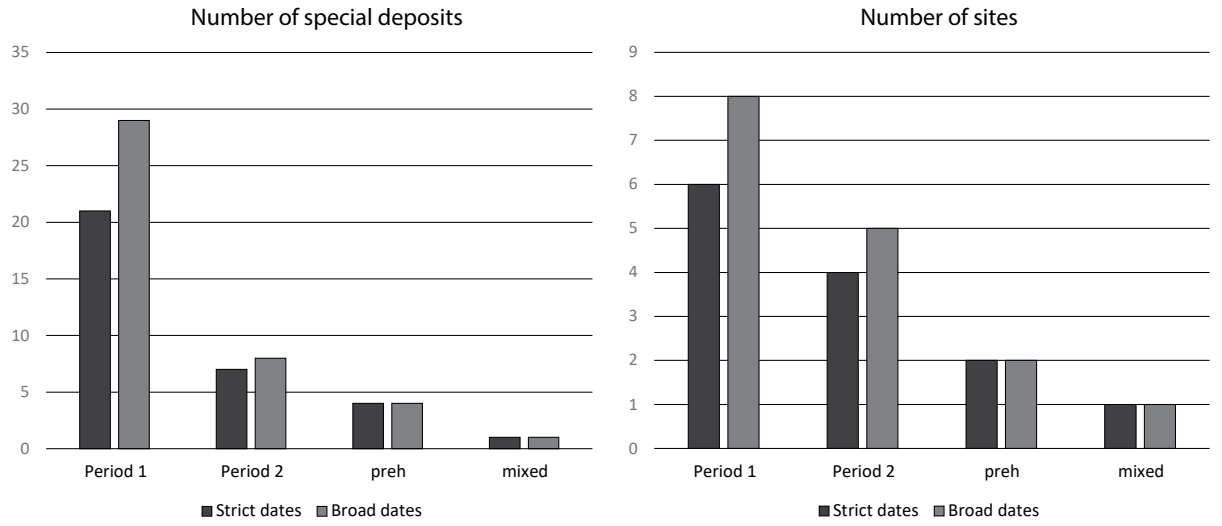


Figure 5.1: Number of special deposits included in chapter 5 (left) and the number of sites the special deposits originate from (right).

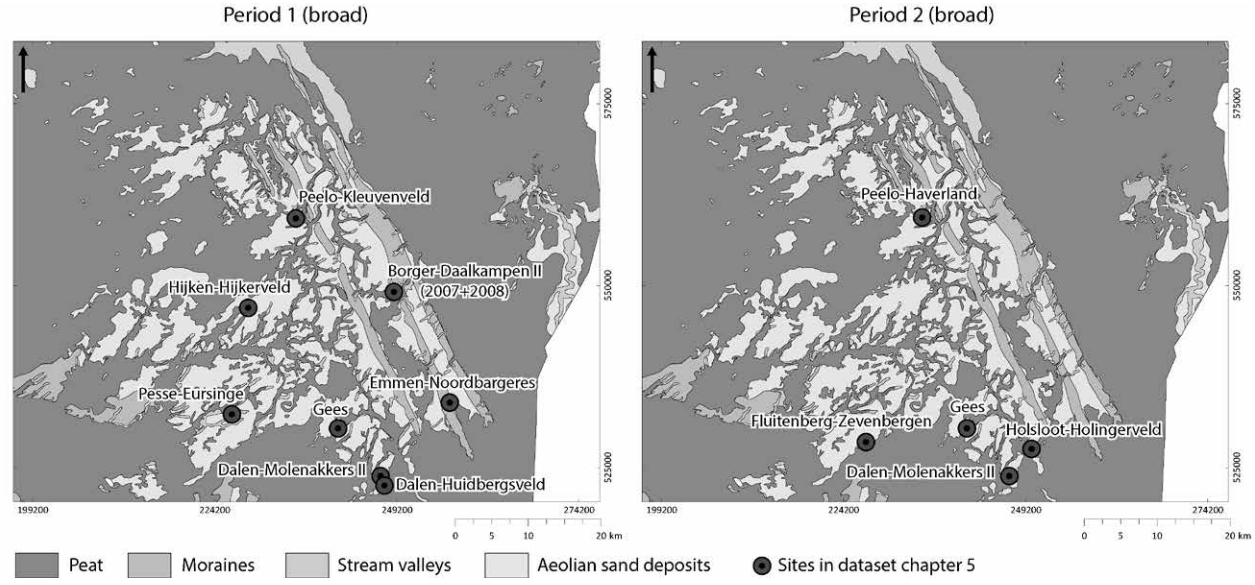


Figure 5.2: Geographic distribution of sites with special depositions per period plotted on the palaeogeographical map of 500 BC (Vos *et al.*, 2020).

5.3 Dataset and methodology

From the potential characteristics as discussed above, selection criteria and a methodology were compiled to study normativity and variation in special deposits. Based on the occurrence of one or more of the characteristics discussed above, 41 pits from 12 sites were selected for this research (table 5.1, fig. 5.1, fig. 5.2). When the pits were being selected, it was not possible to say if the deposits within them met all the criteria that are listed for special deposits. Notwithstanding this inconvenient starting point, the selected sample of pits does enable me to see whether different criteria frequently co-occur. Note that, even though similar criteria were used for periods 1 and 2, the selection of pits for the two periods is not the same. Pits from period 1 are higher in number and originate from more different sites compared with pits from period 2 (see fig. 5.1).[124] Not all pits could be dated to a specific time period: for 4 pits, the date could not be further specified

124 period 1: strict dates: 21 pits from 6 sites; broad dates: 29 pits from 8 sites; period 2: strict dates: 7 pits from 4 sites; broad dates: 8 pits from 5 sites.

Site	Pit ID	Period	Context		Content				Treatment			
			Related to other features	Isolated location	Large quantity of pottery	High MNI of vessels	Large variety in vessel shapes	Non-pottery finds	Large fragments of pottery	Complete vessels	Deliberate fragmentation of pottery	Secondary firing of pottery
Borger-Daalkampen II (2007 & 2008)	1001-pt2	1						?	■			
	1001-pt3	1	■					■				
	1001-pt4	Preh		■	■							
	1001-pt5	Preh	■		■							?
Fluitenberg-Zevenberg	1002-pt1	2			■							?
Dalen-Molenakkers II	1006-pt1	1			■		■	■				■
	1006-pt2	2										■
	1006-pt3	2						■				?
	1006-pt4	1			■			■				
Dalen-Huidbergsveld	1008-pt1	1		■			■		■			
	1008-pt2	1		■				■				
Holsloot-Holingerveld	1009-pt1	Mix?	■					■	■			■
	1009-pt2	2	■									
Emmen-Noordbargeres	1012-pt1	1			■							
	1012-pt2	1							■			
	1012-pt3	1	■		■				■			■
	1012-pt4	1					■		■			
	1012-pt5	1			■			■				
	1012-pt6	0/1					■	■				
	1012-pt7	1	■									
	1012-pt8	Preh	■					■				
	1012-pt9	Preh	■									
	1012-pt10	1					■					
	1012-pt11	1	■									
	1012-pt12	1	■									
Pesse-Eursinge	1013-pt1	1		■	■		■		■			
	1013-pt2	1		■	■		■		■			
	1013-pt3	1		■	■		■		■			
	1013-pt4	1		■	■		■		■			
Hijken-Hijkerveld	1016-pt1	1	■		■		■	■	■			■
	1016-pt4	1	■		■		■	■	■			■
Peelo-Haverland	1019-pt1	2	■								■	
	1019-pt2	2	■									
	1019-pt3	2	■								■	
Peelo-Kleuvenveld	1020-pt1	0/1		■					■			
	1020-pt2	0/1		■					■			
	1020-pt3	0/1		■				■	■			
	1020-pt4	0/1		■					■			
	1020-pt5	0/1	■									
	1020-pt6	0/1		■					■			
Gees	1042-pt1	1/2		■	■		■		■			

Table 5.1: Overview of the pits studied in chapter 5 and the reasons for their inclusion. See appendix 5 for a more detailed description of the content of the pits. MNI = minimum number of individuals; Preh = prehistoric.

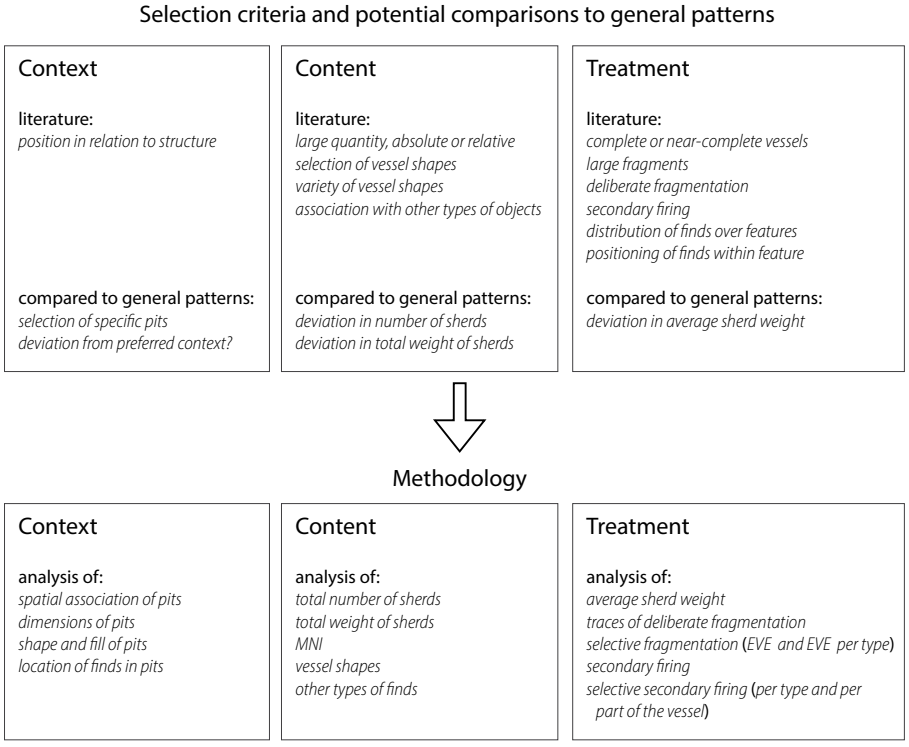


Figure 5.3: overview of selection criteria based on literature and subsequent methodology to investigate these elements in the 48 pits.

than prehistoric, and for one pit the content was possibly deposited over a longer period of time.

In the following sections, the process of special deposition practices will be discussed in terms of the different elements of practice, which are (1) the context of the special deposit (section 5.4); (2) the selection of the assemblage for the special deposit (section 5.5); and (3) the different treatments the selected assemblage underwent prior to the actual placement of the objects underground (section 5.6). The listed characteristics are first discussed separately for each of these three steps in the process. After each step, a summary is provided of that particular step of the process of depositing objects. After the separate discussion of each of the three steps, the characteristics are discussed in relation to each other (section 5.7). The criteria as discussed in section 5.2 were translated into characteristics that could be studied (fig. 5.3).

Since the data necessary for this analysis were too detailed to be extracted from excavation reports alone, all assemblages were studied in detail by the author, using the pit as the analytical unit. First, all pottery finds from the pit were counted and weighed.[125] Other types of finds were listed as well and studied for traces of secondary firing and deliberate fragmentation. When an assemblage consisted of multiple find numbers, pottery fragments from the different find numbers were compared for refits and recent fractures. The typology published by Taayke (1995) was used to describe to pottery. Special attention was paid to the identification of individual vessels. As much as possible, individual entries were made for individual pots. In the case of Pesse-Eursinge (1013-pt1 to pt4) and Peelo-Haverland (1019-pt1 to pt3), attention was paid to possible refits between adjacent pits.

Rim fragments were used to infer the minimum number of individuals (MNI). If body sherds could be refitted to the rim fragments, they were attributed to that specific 'individual' as well. When similarities in fabric and finishing of the inner and outer surface were evident, body sherds were attributed to individual vessels as well. Often, it was not possible to attribute all body sherds to specific vessels, as either the fabric was too generic or the body sherds were too damaged to compare them with the rim fragments. These body sherds were counted and weighed as a group. For the base fragments, an MNI was inferred as well. In a similar vein, if body sherds could be refitted to the base or were evidently from the same vessel, they were attributed to the base and added to the entry for that individual.

In order to understand vessel selection (section 5.5.3), a classification has to be made of vessels that are encountered in the assemblages. As a first step in the analysis, the pottery was described following the typology of Taayke (1996a). His classification was not directly applicable for the current analysis, and a slightly different approach was needed, for two reasons. The first reason is that body diameter is used in the Taayke typology to differentiate vessel sizes (Taayke, 1995: 15-16), but this aspect is nearly impossible to observe

125 Sherds smaller than 1.5 cm were considered crumbs from other fragments in the assemblage. They were not counted as individual sherds, but their weight was added to the total.

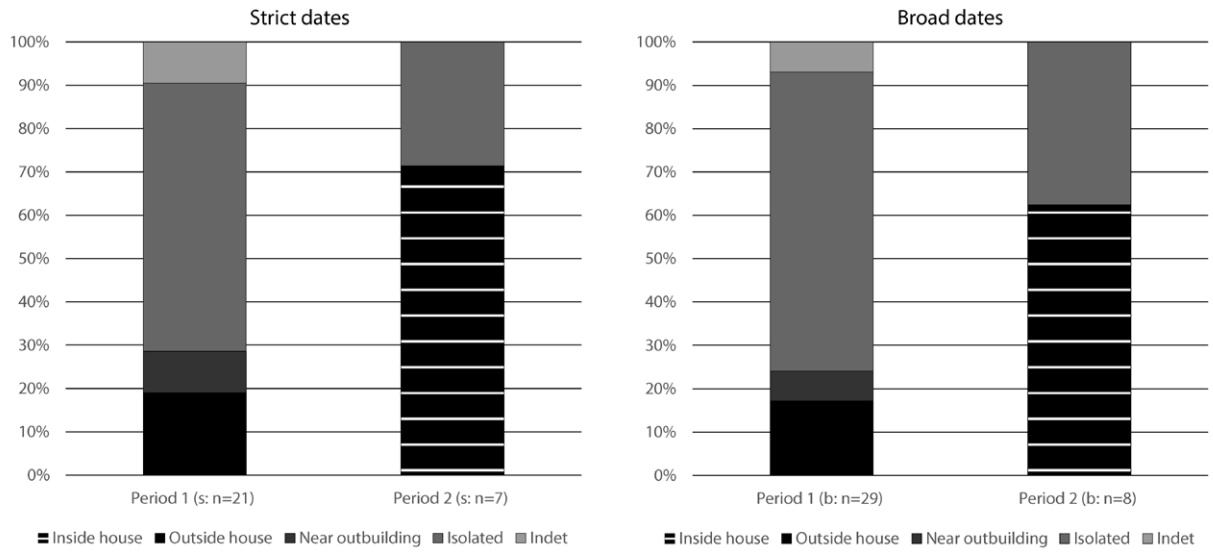


Figure 5.4: Spatial contexts of pits with special deposits, period 1 and period 2. Indet = indeterminate.

or reconstruct for the vessels of the assemblages because all of the pots are fragmented. Rim fragments are easier to reconstruct, but the ratio between rim diameter and body diameter is variable within types and between types, which means that converting between rim and body diameter is a hazardous exercise. The second reason is the lack of differentiation between large and small vessels (G/V-types versus K-types in Taayke's typology) for the Early to Late Iron Age (here: period 1 and period 2), because of a lack of morphological difference (Taayke, 1995: 15-16). Therefore, a slightly different method was necessary, which involved a division that is based on the rim diameter instead of the body diameter (see section 5.5.3).

Fragmentation was studied in several ways. First, average sherd weight was calculated to infer the state of the assemblage as a whole and to compare the average sherd weights with the general deposition practices as discussed in the previous chapter 4. In addition, an estimated vessel equivalent (EVE) was calculated based on rim percentages and presence/absence of base fragments. Estimated vessel equivalences are used to quantify to what degree pots are represented in assemblages, based on easily recognisable elements, such as handles, rim fragments or base fragments (Orton and Hughes, 2013: 210). For the EVE (rim), the total percentage of rims was divided by the MNI (rims). For the EVE (bases), the MNI (bases) was divided by the MNI (rims).

The EVEs based on rim fragments and those based on base fragments differ in the way they are calculated. Because of this, their values stand for slightly different things. The EVEs based on rim percentages are an indicator of the completeness of the vessel, *e.g.* half a vessel is present. The EVEs that were calculated from the number of present bases indicate to what degree the pot as an entire unit is represented in the assemblage. The MNI based on rim fragments can be matched with the same number of base fragments. From this, it can be established whether retention of specific parts of pots has taken place prior to deposition.

To establish whether vessels were affected by secondary firing, attention was paid to discolouration of the sherds, especially at the fracture margins of the sherds. This was, of course, only possible for pots that had not been restored. In addition to this, attention was paid to traces of fire on the inside of the vessel. To assess the degree of secondary firing of pottery sherds, presence or absence of traces of fire were established for every individual sherd. To gain more insight into the way vessels were fired secondarily, attention was paid to the direction of secondary firing patterns on vessels (*e.g.* horizontal or vertical).

5.4 Context of special deposits

As has been discussed above, pits may not necessarily have been dug as part of the special deposition. Still, it is possible that the particular shape of pits, or of pits in particular contexts, was deemed suitable for special deposition, while other shapes and contexts were not. In the sections below, context is discussed in two different ways. The first way in which context is discussed is the spatial context of the pit within the settlement site; the second, is a description of the pit itself, being the context in which the assemblage is placed.

5.4.1 Spatial context of pits with special deposits

For the spatial analysis of pits, different categories were discerned: pits that are spatially related to the house (inside or outside), spatially related to outbuildings (mostly granaries), isolated, or 'Indet'. The only way of positively establishing an association between pit and house or pit and granary is through refits of sherds from features of the structure and

Figure 5.5: Granaries with pits between the four posts of the structure at Emmen-Noordbargeres (De Wit, 2015a). House 8 cannot be dated based on associated finds; based on its characteristics, it fits best in period 2 or period 3 (see chapter 3). Overview of excavation to upper scale bar, overview of granaries to lower scale bar.

from the pit. This was possible in only one instance, with a pit from the site of Hijken-Hijkerveld.[126] Here, a large sherd from a cup originating from one of the postholes of the house could be refitted with the other fragments of the cup from a large pit near the house. In all other cases, a proxy was needed, in this case distance. Pits located within a radius of 10 m from a presumably contemporaneous structure have been deemed to have been associated with the structure. Pits found within the confines of a presumably contemporaneous structure have also been attributed to the structure. The data are plotted by period (broad dates only) in figure 5.4.

When the contexts of the deposits are compared, what stands out is that the two periods are almost each other's opposite. The vast majority of the pits in period 1 were found in isolation. The number of pits that can be associated with a structure, either a house or an outbuilding, is much lower than in period 2. When period 1 pits are associated with structures, they are located near outbuildings or outside houses. In period 2, conversely, the house is the focus of the pits, which is emphasised by the fact that pits are all found inside the house.

Unquestionably, there is the possibility that the association between house and pit is obscured when part of the farmstead is located outside the excavated terrain. In the case of Emmen-Noordbargeres, a number of pits from period 1 were indeed located at the edge of the excavated area (see appendix 6). Still, during that same excavation, houses from period 1 were excavated that do not have a pit in their vicinity. In addition to this, some pits were registered in the central parts of the excavation, without any contemporaneous structures nearby. This means that in period 1, the pits with special deposits predominantly show a similar distribution as the general distribution of pits, namely, not directly associated with a structure.

126 Find and feature no. 1973/VI.20.

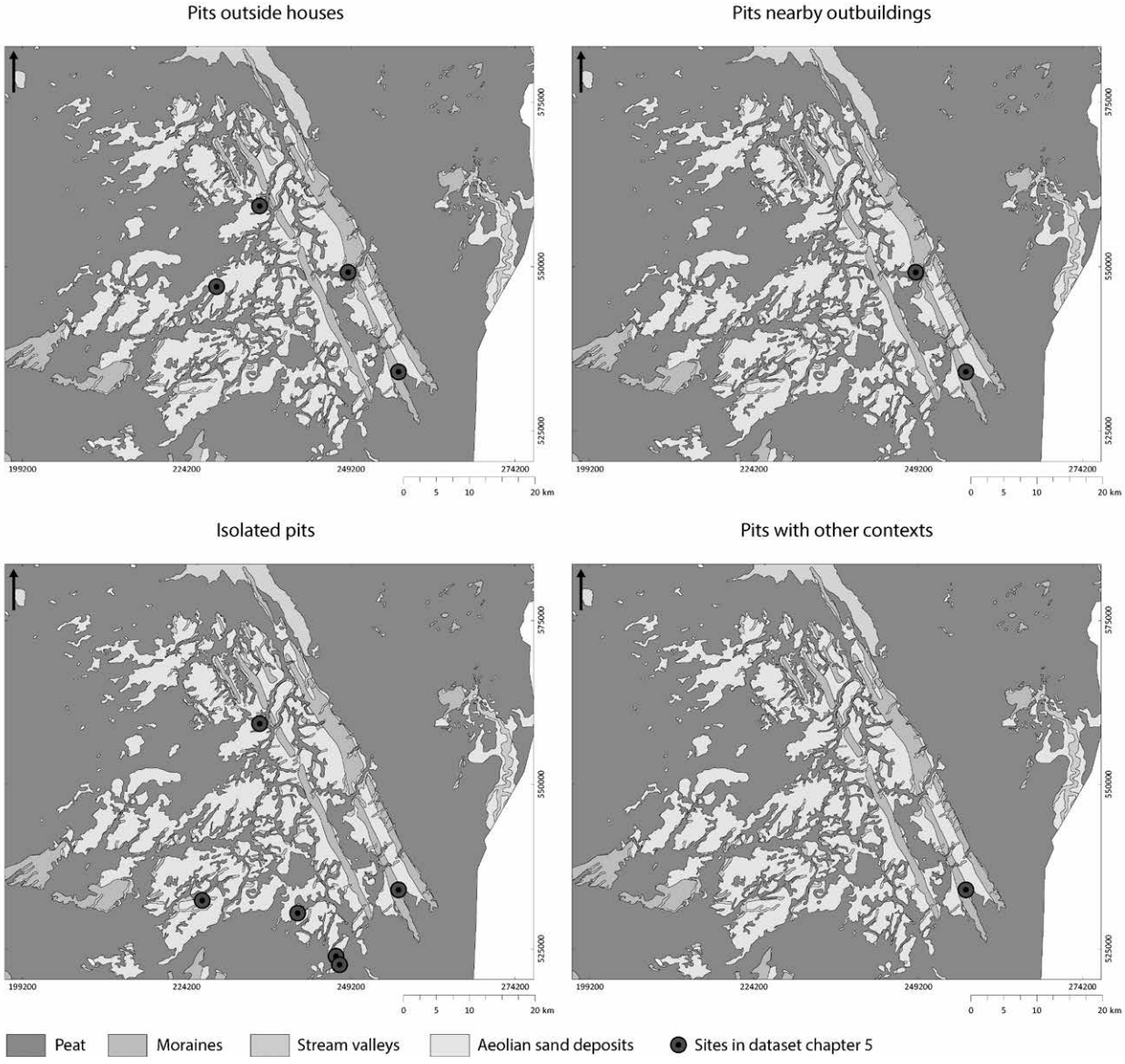


Figure 5.6: Geographic distribution of sites with pits from period 1 (broad dates) according to their context plotted on the palaeogeographical map of 500 BC (Vos *et al.*, 2020).

Based on the context of the pits dated to period 1, the norm seems to have been to deposit special assemblages in pits, whether dug or already existing, that have an isolated position and are not associated with any structures. This patterning is visible in excavations where presumably contemporaneous settlement features have been located, such as the excavation of Emmen-Noord bargeres (fig. 4.24). An isolated location can sometimes mean that no other presumably contemporaneous settlement traces were found, as is the case at Pesse-Eursinge (appendix 6). Here, pits from period 1 were found amidst a medieval farmstead without any other contemporaneous features except for possibly a few granaries, which are undated.

For period 1, in addition to the isolated pits and pits found near houses, there is a third group of pits. This is a small group of pits that is found in association with granaries. In figure 5.4, only the dated pits were listed, but more pits between granaries have been studied here. From Emmen-Noordbargeres, two adjacent granaries have pits located in the middle of the four posts (see fig. 5.5). The eastern pit[127] can be dated to period 1 based on the presence of large fragments of a G0-type vessel, including a near-complete base fragment. The western pit[128] did not yield any diagnostic pottery fragments, but it did yield fragments of

127 Feature no. 79.103; find no. 796.

128 Feature no. 79.8; find nos. 788, 790. In the excavation report, find no. 788 is dated to the period between the Late Iron Age and the Middle Roman period and find no. 790 is dated to the period between the Middle Iron Age and the Early Roman period (De Wit, 2015b: appendix 9). Because no diagnostic features were present in the find numbers and the sherds were heavily burnt, no date was attributed to these numbers in the current study.

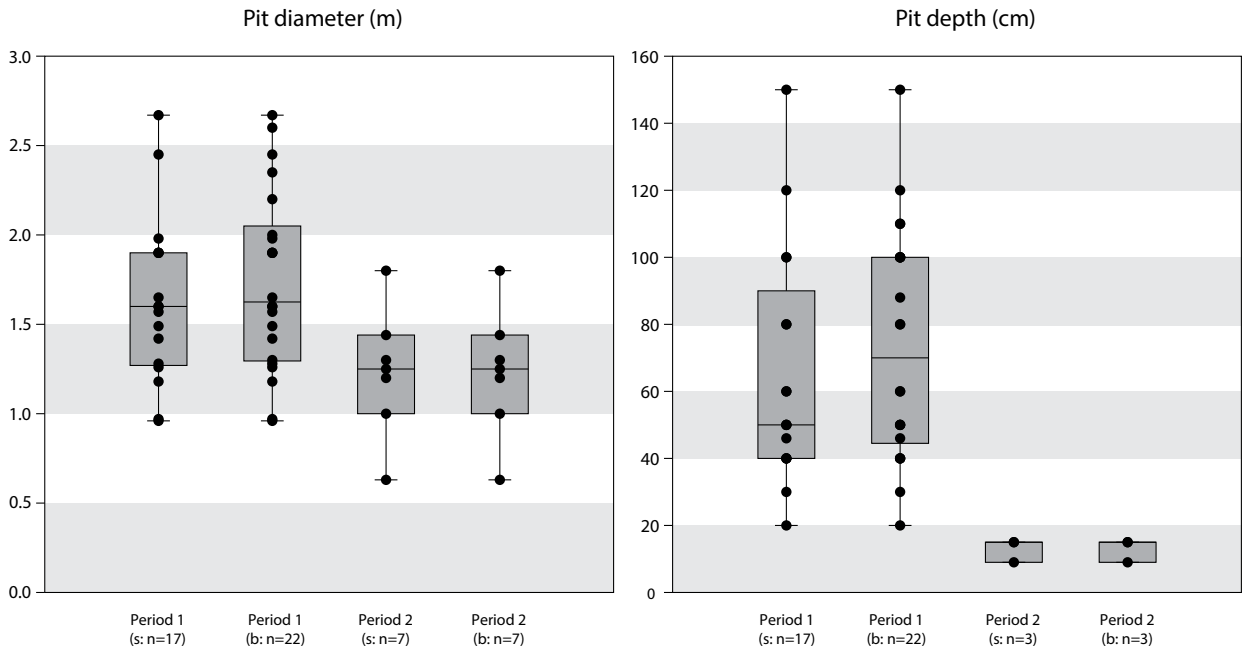


Figure 5.7: Distribution of the diameter (m) of the pits and the depth (cm) of the pits for period 1 and period 2. s: strict dates; b: broad dates.

what seem to be loom weights. Other examples from the literature strengthen the idea that this is a phenomenon mostly attested for period 1, such as Eelde-Paalakkers (pit next to a six-post granary: Harsema, 1974: 66(200)-70(204)) and Hijken-Hijkerveld (pit next to two granaries, find and feature no. 130/136 and 148: Arnoldussen and De Vries, 2014: 93, 95-99, fig. 7.C). Both pits contain large fragments of different types of vessels that can be dated to period 1, as well as other objects, such as stone tools.

Based on the spatial distribution of the different types of context (fig. 5.6), all types of context are found across the Fries-Drents plateau. This indicates that the notion of what the proper place was for special deposition was not specific to one household or settlement, but was shared at the level of the plateau. In the case of pits near houses, for example, the settlement of Hijken-Hijkerveld shows the most abundant examples, but the practice is not restricted to this site, as pits near houses are also found at Emmen-Noordbargeres.[129] Even though all contexts are found in more than one settlement site, the practice of deposition in isolated pits is the most widespread. It seems likely that this practice was even more widespread, because many more isolated pits are known from this period, from within the context of an excavation and possibly also encountered as chance finds (fig. 4.28).

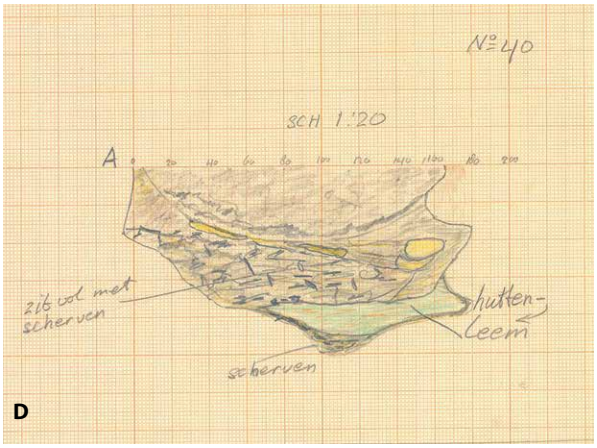
5.4.2 Pits as context for special deposits

In the above section, it has become clear that pits with special deposits are found in different contexts and that the preferred contexts for such deposits differed between period 1 and period 2. Following from this, it seems plausible that the type of pits that were dug or selected may also have differed between contexts and between periods. For example, there is obviously an upper limit to the size of a pit that is located within the confines of a house – a restriction isolated pits do not have. Since there is a clear difference in spatial association of pits from period 1 and period 2, it can be expected that this difference should also be visible in the dimensions of the pits. There may be a limit to the size of pits that were selected for period 2, when most pits were found inside the house. When the diameter of pits is plotted for period 1 and period 2 (strict and broad dates), this difference becomes evident (fig. 5.7). The pits in period 2 are predominantly between 1 and 1.5 metres. Similar-sized pits are used in period 1, but much larger pits seem to have been chosen as the context for special deposits.

With regard to the depth of the pits, the variation in period 1 stands out. The depth ranges widely, between 20 cm and 150 cm. The few pits from period 2 for which the depth is known are all relatively shallow; none is deeper than 20 cm. The lack of depth can be explained by the fact that pits in period 2 are smaller, which makes it difficult to dig deep. Still, the preference for very large pits may have been specific to period 1, as the isolated pits

129 Feature no. 75.25; find nos. 755, 757.

A



D

B

E

C

F

Figure 5.8: Varied appearances of pits with special deposits from period 1. A: pit with feature no. 36 at Emmen-Noordbargeres (ARC bv/MUG); B: pit with feature no. 49 at Borger-Daalkampen II 2008 (ADC ArcheoProjecten); C: pit with feature no. 8 and trench no. 79 at Emmen-Noordbargeres between the four posts of a granary (ARC bv/MUG); D: pit no. 1973-VI.40 at Hijken-Hijkerveld. ("Zit vol met scherven": Is packed with sherds; Scherven: sherds; huttenleem: burnt loam; drawing located at the depot at Nuis); E: pit no. 1983-IX.1036 at Peelo-Kleuvenveld (© University of Groningen, Groningen Institute of Archaeology); F: pit feature no. 30 at Dalen-Molenakkers II (MUG).

from period 2 are also all small and shallow. The difference in the sizes of the pits that were either dug or selected do not just relate to the appearance of the pits; they may also affect the rituals surrounding the deposition of the objects. The depths that are discussed here are measurement from the excavated surface, which means that for a reconstruction of the actual depth, 30 to 40 cm should be added. For some of the pits in period 1, this means that a person could stand in the pit without their head sticking out. As a consequence, these pits cannot be filled easily in any other way than shoving or throwing objects in the pit. In order to carefully stack the objects or place them in layers (see below), one or more persons needed to have been standing in the pit. This would not be required for the pits in period 2.

When the shape and fill of the individual pits are compared, the variation between the pits stands out as well. This adds to the argument that in some cases the pits that were selected for special deposition had already fulfilled another, primary function. Still, some characteristics are recurring, suggesting that the selection of pits was not completely random, as was already indicated above in terms of the preference for large to very large pits during period 1. Generally, the pits have vertical or near-vertical sides, which suggests the presence of a construction of some sort to keep the pit open. Generally, they have a conical shape, but they can have a flat base or a slightly sloping base as well (fig. 5.8).

The fills of the pits often show complex sequences of filling and recutting, consisting of several layers of different colours. Often, it is not evident which phases are associated with the deposition phase and which phases precede or follow the deposition. Unfortunately, detailed descriptions are often lacking, which makes a step-by-step reconstruction of these sequences impossible, especially when the location of the finds is not indicated on the section drawings. Some of the similarity in the filling phases of the pits may be obscured by different circumstances, for example, the permeability of the soil. Especially the presence or absence of oxygen affects the degradation of organic material (Weiner, 2012: 57-59). An organic-rich fill can turn dark in anaerobic conditions and can fully lose its colour in aerobic conditions (see *e.g.* degradation of sods of a well in Noordwijk: Van Zijverden and De Moor, 2014: 91-91, esp. fig. 4.32). A dark fill therefore does not necessarily indicate that the pit contained large quantities of charcoal, as an unburnt organic fill can turn dark in colour under anaerobic conditions (*e.g.* in the case of dung from herbivores: Brönnimann *et al.*, 2017: 60). Some pits show light fills (*e.g.* fig. 5.8e) that may be the result of the deposition of light, aeolian sands in the pits. To complicate matters, it may also be the result of bleaching of the soil in anaerobic conditions (see discussion: Spek *et al.*, 1997: 124-127), but it may also be the result of leaching or bleaching of the soil as a result of deposition of wood ash (in LBK contexts: Huisman *et al.*, 2012: 999-1003, esp. fig 4.). To understand these processes, the pit has to be sampled, which was not an option for the current study.

Still, some information can be retrieved from the field documentation. If the colours of the fill differ little from those of the surrounding matrix, we may not be able to tell whether any organic material was deposited. But a darker colour than the matrix signifies the presence of additional material of an organic nature. At least nine pits from period 1 have darker fills than the matrix and must have contained organic material. Other pits have traces of white around the edges of the pits, which may have been caused by bleaching of the soil because of the deposition of wood or by the presence of wood ash in the pit.

When finds are indicated on the section drawing of the pits, it is remarkable how 'empty' the pits are. In these instances, the quantity of finds is nowhere near the quantity that would have been needed to completely fill the pit. A second observation that can be made in cases where finds are indicated on the section drawings, is that pits often have layers or fills without any finds, often above the finds and occasionally below them as well. The pottery finds are often placed in a single layer at the base or in the lower part of the pit or placed against the sides of the pit (*e.g.* De Wit, 2016a: 13). At the very least, the placement of sherds in a single layer seems to have been a widely shared practice, as is indicated by the occasional mention of period 1 pits with a clearly defined, single layer of pottery finds (*e.g.* the isolated pit no. 845 at Wijster-Looveen that was "paved with sherds": Van Es, 1967: 354).

5.4.3 Normativity and variation in the context of special deposits

Based on the discussion above, the following observations can be made on the context of special deposits. For period 1, there are clearly shared norms with regard to the proper context for special deposits. What stands out most is the selection of places in the settled landscape that are not directly associated with the longhouse proper. Especially pits in an isolated position confirm this practice. Variation in the preference for an isolated location exists, namely, in the selection of outbuildings as contexts for deposition. Within the dataset, the house rarely functions as the context of deposition. In contrast to the context of the special deposition within the settlement, there is much more variation in the shape and dimensions of the pits that are specially dug or are selected. Still, the choice is not completely random, as the preference for specific dimensions in period 1 shows. The pits that are selected or dug in period 1 are large and deep. Occasionally, very large and deep pits are selected or purpose-dug that bear no proportion to the assemblage placed in them.

When compared with period 1, period 2 shows an inversion in what contexts are deemed suitable. For this period, there is a norm to select contexts that are clearly associated with the house. This change is evident not just in the ratios between the different types of context (fig. 5.4), but also in the way pits are (spatially) associated with the longhouse. In period 1, all pits that are associated with houses are located outside the structure, whereas in period 2, they are all located inside the house. In addition to this, or possibly as a consequence, the dimensions of the pits that were dug or that were selected are smaller than in period 1. For period 2, pits with special deposits and with an isolated position are still found, but what was first the standard practice has now become a variation on a changed norm.

However, more than signalling a change in norms, the difference between period 1 and period 2 signals the loss of a practice of depositing objects in pits after they had undergone special treatment. The number of houses from period 2 is much higher than the number for the previous period, which means that the decrease in deposits cannot be explained by a general decrease in the number of settlement sites or by a decrease in visibility of the settlement sites. From this, it follows that the norms with regard to special deposition practices changed not just with regard to where the deposition had to be made, but also with regard to whether a deposition in a pit had to be made in the first place. Period 2 pits with special deposits can be seen as a humble continuation of an old tradition that used to be widespread, but involving adaptations to this tradition in terms of the contexts that were deemed suitable.

5.5 Content of special deposits

As was discussed above, the content of special deposits may be considered 'special' because of the exceptional quantity of finds. Quantity may be expressed in the number of sherds or the total weight, but also in the number of relatively complete vessels. Yet another way to study if the content of a pit is special is through the composition of the assemblage, for example through the selection of specific shapes or set of shapes or, conversely, through the inclusion of many different types of objects, both pottery and other, non-pottery finds. For all of these characteristics, the questions relate to how much, if any, importance was accorded to each.

5.5.1 Number and weight of pottery finds

One of the criteria that has been mentioned earlier is a quantity of pottery finds that is larger than that of pits in general. When the selection of which pits to study was being made, these data were not available for all assemblages.[130] This means that sometimes the textual descriptions were used, such as 'many sherds', and sometimes the visual representation of pottery from a particular feature was used. In figure 5.9 and figure 5.10, the total number and total weight of the pottery sherds are displayed in relation to the general deposition practices of period 1 and period 2 as was discussed in the previous chapter.

When the content of the special deposits are compared, it is evident that the selected pits from period 1 (both strictly and broadly dated), on the whole, contain more pottery fragments than the pits from period 2. Both period 1 and period 2 have pits with not that many sherds (< 50), but period 1 has more pits with large quantities, here defined as circa 100 sherds or more. When the number of sherds of the special deposits are compared with the overall contents of pits with pottery finds, there is no absolute difference between the two distributions. For period 1, both in the general practices and in the special practices, there is a division into at least two groups (see section 4.5.1). The first group consists of pits with few sherds (< 50), and the second group consists of pits with between 75 and 150 sherds and occasionally even more sherds. The two pits from Hijken-Hijkerveld stand out from the general practices, but also from the other special deposits, because of the large number of sherds that were found: 2235 and 1843 sherds. For period 2, the content of the pits selected for this chapter is more modest. None of the pits contain more than 200 sherds. Just as with the pits from period 1, pits from period 2 do not form a completely different group compared with the general patterning of pits. The difference, however, is that special deposition pits in period 2 are more similar to the general practices with regard to number of sherds than are the pits from period 1.

The difference in total weight of the pottery sherds from the selected pits between period 1 and period 2 is even greater than the difference in total number of sherds. As is the case with the total number of sherds, the weights for period 1 can be divided into two groups: one group with relatively low weight (< 2000 grams) and a varied group with a much higher weight (> 3000 grams). Again, the pits from Hijken-Hijkerveld form clear outliers, since their total weight is at least 25 times higher than that of the other special deposits. In general, the total number and total weight for the Fries-Drents plateau are much lower than for the Meuse-Demer-Scheldt region (Gerritsen, 2003: 98, table 3.14).[131]

For period 1, the difference between the general practices and the special deposits is more evident in the total weight than in the total number of sherds. The pits

130 The pits at Peelo-Haverland, Peelo-Kleuvenveld and Pesse-Eursinge have been published, but without quantitative data on the pottery finds. The site of Gees has not been published in detail.

131 It is hard to quantify the differences between the MDS region and the study area, because the content is not always quantified but only described ('many kilos', 'hundreds'). Still, these descriptions indicate quantities that are not found on the Fries-Drents plateau except for the site of Hijken-Hijkerveld.

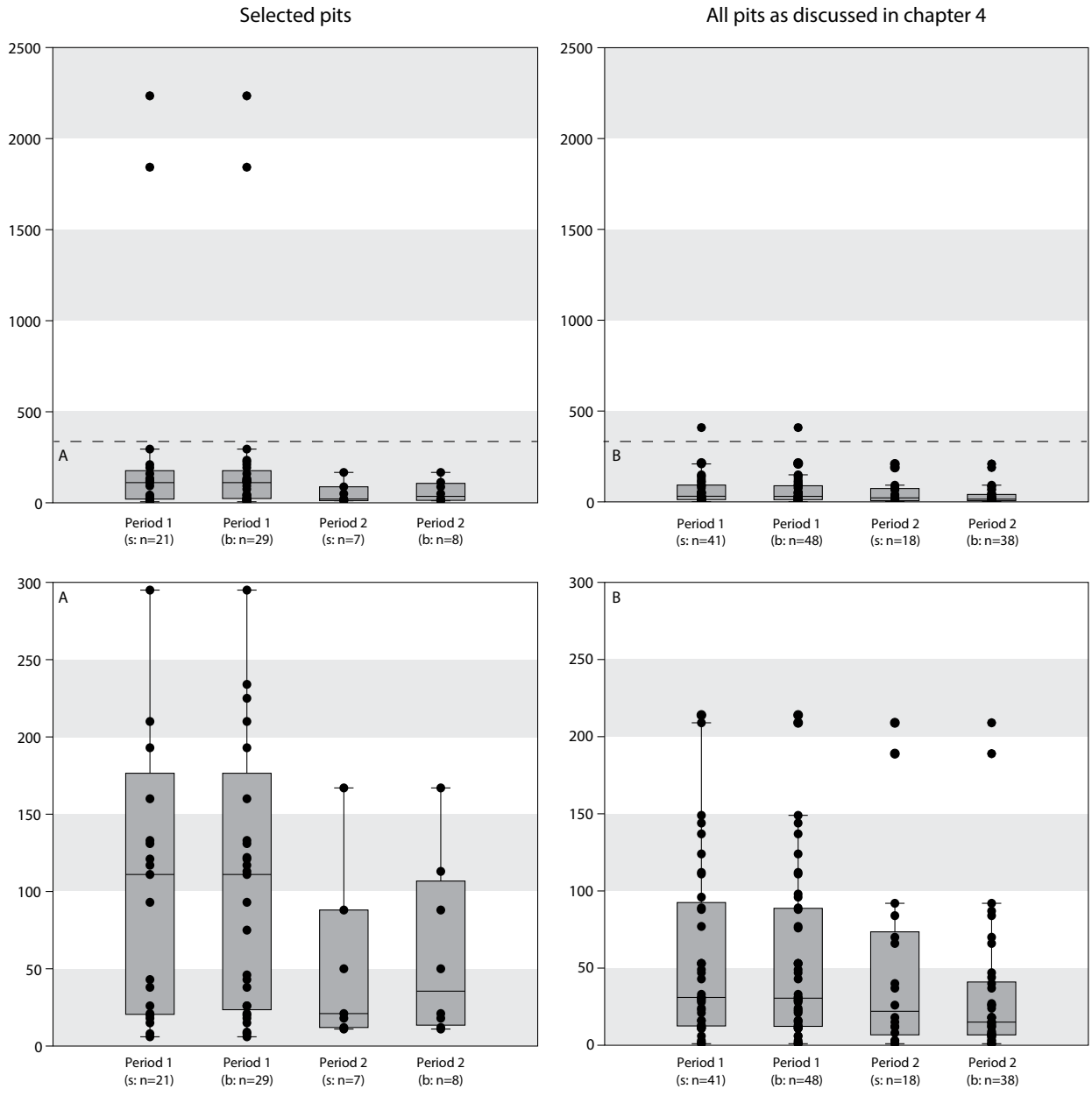


Figure 5.9: Distribution of the total number of sherds from the selected pits (left), compared with the general deposition practices as discussed in chapter 4 (right), for period 1 (strict and broad dates) and period 2 (strict and broad dates), showing entire distribution (top) and a detail with the interquartile range (bottom).

have a much wider interquartile range than the group of pits that has been discussed in the previous chapter. In a similar vein to the number of sherds, there is some overlap, but not in the same way. For the number of sherds, the overlap between the general and the special was mainly visible in the fourth quartile of the general practices, whereas for the weight, the special pits overlap with the outliers of the general practices. The difference between the special deposits of period 1 and period 2 is clearer with regard to weight than to total number. The difference between the special deposits of period 2 and the general deposition practices of period 2, conversely, is clearer with regard to the total number of sherds than to the weight.

Both in the total number of sherds and in the total weight of the sherds, a divide is visible. For the number of sherds, the divide lies at the 100 sherds mark and for the total weight it lies at 2000 grams mark. When the two groups of pits are plotted on the map (fig. 5.11), there seems some difference in the distribution: pits with a

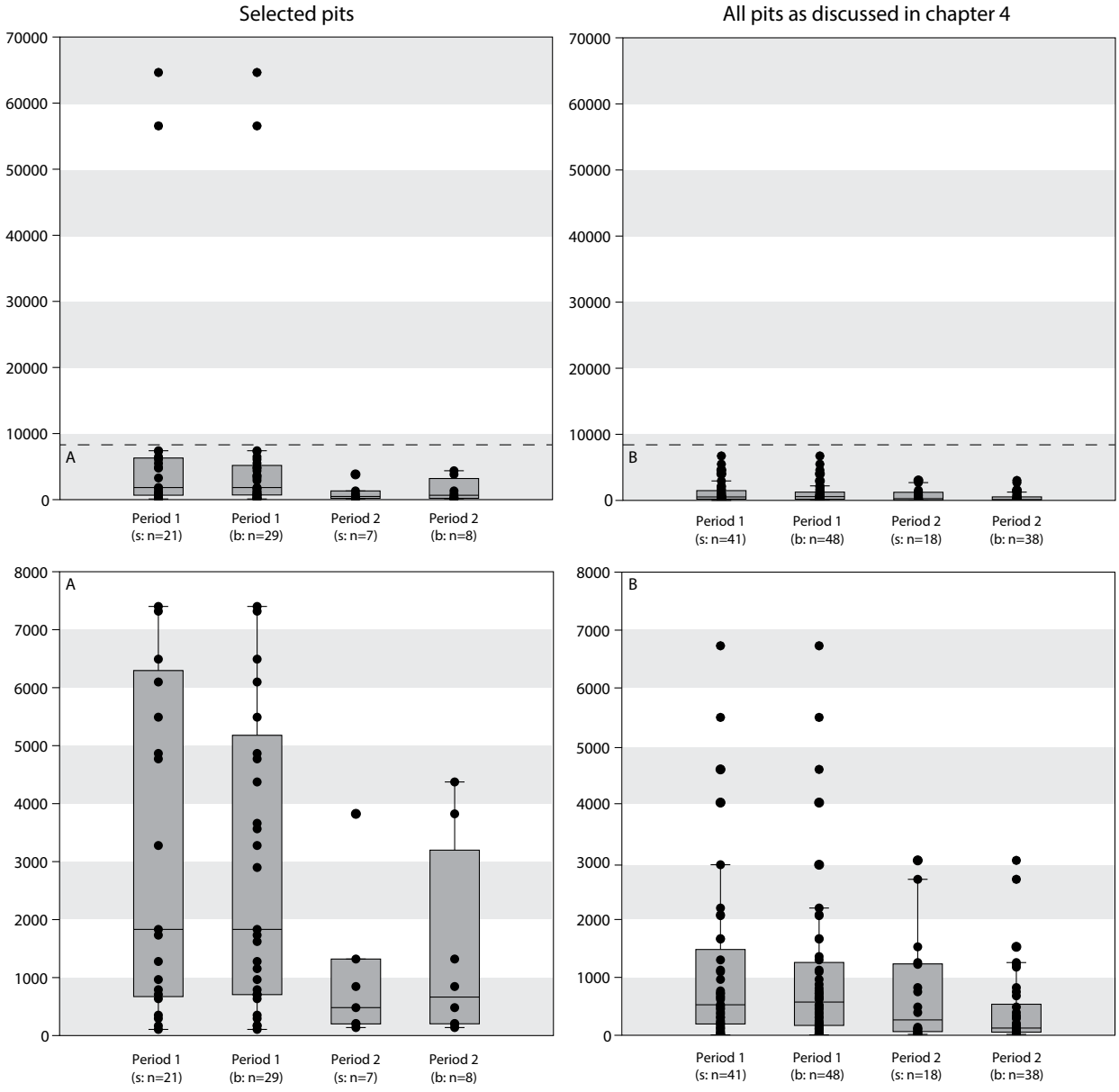


Figure 5.10: Distribution of the total weight (g) of sherds from the selected pits (left), compared with the general deposition practices as discussed in chapter 4 (right), for period 1 (strict and broad dates) and period 2 (strict and broad dates), showing entire distribution (top) and a detail with the interquartile range (bottom).

high number or weight contents are found throughout the research area, and pits with a low number or weight are only found on the eastern part of the plateau. The distribution of the high-content pits with a higher content is a true representation of the widespread nature of these pits. However, the spatial restriction of the pits with a lower content may be the result of a bias in the selection. As was said earlier, the absence of pits with a high content on a site has led to a selection of pits with a lower content from that site (*e.g.* in Borger-Daalkampen II), but when pits with a higher content were found at a site, pits with lower content may not have been included. This is the case, for example, for the site of Hijken-Hijkerveld, where pits with a low content were also found (pit no. 84: Arnoldussen and De Vries, 2014: 97, table 2). Posing a similar problem, not all pits from Pesse-Eursinge have been studied in detail, leaving the possibility that pits with a lower content were present at the site that do meet other criteria. Still, the widespread distribution of pits with a higher content suggests that differences in content cannot be explained by local preferences, except perhaps for the extreme examples from the site of Hijken-Hijkerveld.

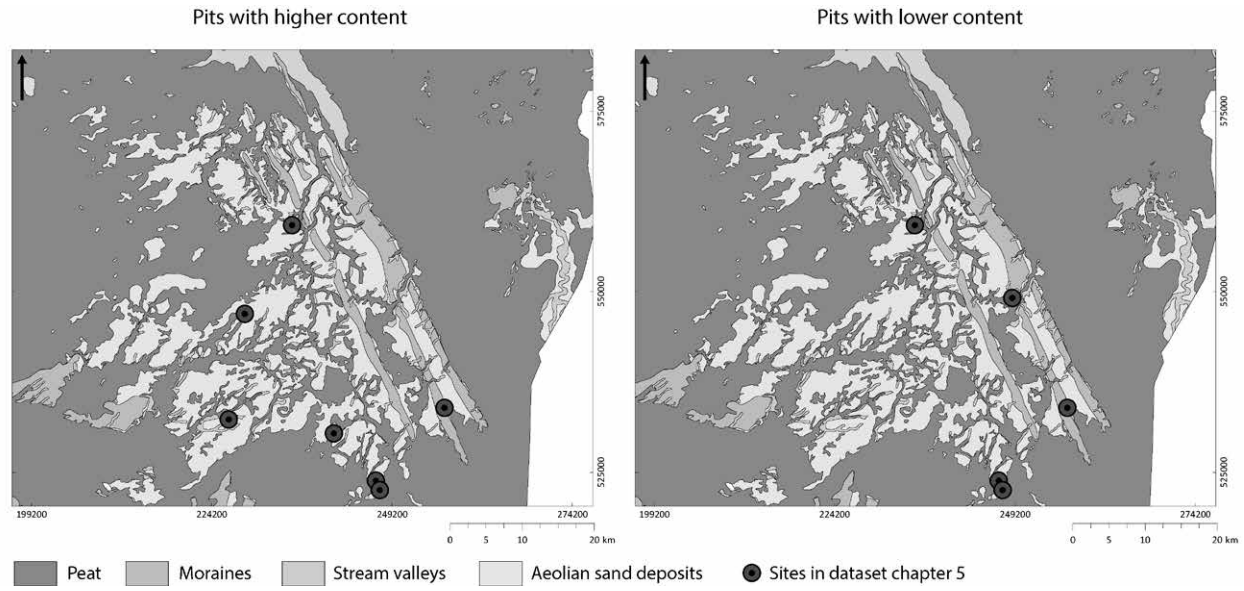


Figure 5.11: Geographical distribution of period 1 pits (broad dates) with a high ceramic content (left: n > 100 or g > 2000) and a low ceramic content (right: n < 100 or g < 2000) plotted on the palaeogeographical map of 500 BC (Vos *et al.*, 2020).

5.5.2 Number of vessels

The total number and weight of sherds is one way to describe the quantity of special deposits. This aspect of the quantity is the first aspect that sets them apart from the general pottery finds. It is something that is already noticeable during the excavation and during the first stages of the post-excavation data processing. However, counts and weight are only factual information, and they tell us little about the other aspects of the pottery, for example, how many or how few vessels are represented in the assemblage. In this section, the content of the pits is discussed according to another parameter, which is the minimum number of individuals – in this case referring to individual vessels. The MNIs are inferred on the rim fragments and on the base fragments (fig 5.12).

For period 1, the content of the pits is varied, ranging from one or a few individuals up to more than 60 individuals. For period 1, most of the pits have a content that ranges between 2 and about 20 different vessels per pit. Bases are less often deposited, and the MNI (bases) ranges between 1 and 10. Only occasionally do pits contain many more individuals (both in rims and in bases), specifically in the case of Hijken-Hijkerveld. Here, one pit[132] contained at least 39 rim-individuals and 32 base-individuals, and the other pit[133] contained at least 62 rim-individual and 33 base-individuals. These high numbers are a clear exception to the more common practices of a deposit comprising limited numbers of vessels. Even though the two pits from Hijken-Hijkerveld form an exception within the current dataset, they are not unique to that site. Two other pits contain more than 30 individuals, and one pit contains more than 20 individuals (Arnoldussen and De Vries, 2014: 97, table 2).

Overall, there seems to have been a shared practice across the research area in which pits contain no more than roughly 25 different vessels, and often even fewer. The level at which choices were made on how many vessels should be included in the assemblage differs. At some sites, the practices seem to have been recurring. At Borger-Daalkampen II 2007 & 2008, no pits were found with large quantities, even though a large area was excavated. This suggests that a practice existed at that site of very small deposits, with only few individual vessels. However, there is also evidence that practices may not always have been site-specific, as the content of pits tends to vary at the level of the settlement site. This is seen at other sites in this research for which several pits have been studied here, such as Peelo-Kleuvenveld and Emmen-Noordbargeres. These two sites comprise pits that contain few vessels (fewer than 5) and pits that contain 10 or more vessels.

The pits from period 2 contain fewer individuals per pit, both rim-individuals and base-individuals. Most of the pits have fewer than a dozen rim-individuals and fewer than five base-individuals. Apparently, there was a continuation of practice. But it was specifically the practice of depositing only small numbers of vessels, whereas the practice of depositing larger numbers was abandoned at the transition of period 1 to period 2. This means that fewer deposits were made than in the previous period. And when deposits were made,

132 Find and feature no. 1973-VI.20.
133 Find and feature no. 1973-VI.40.

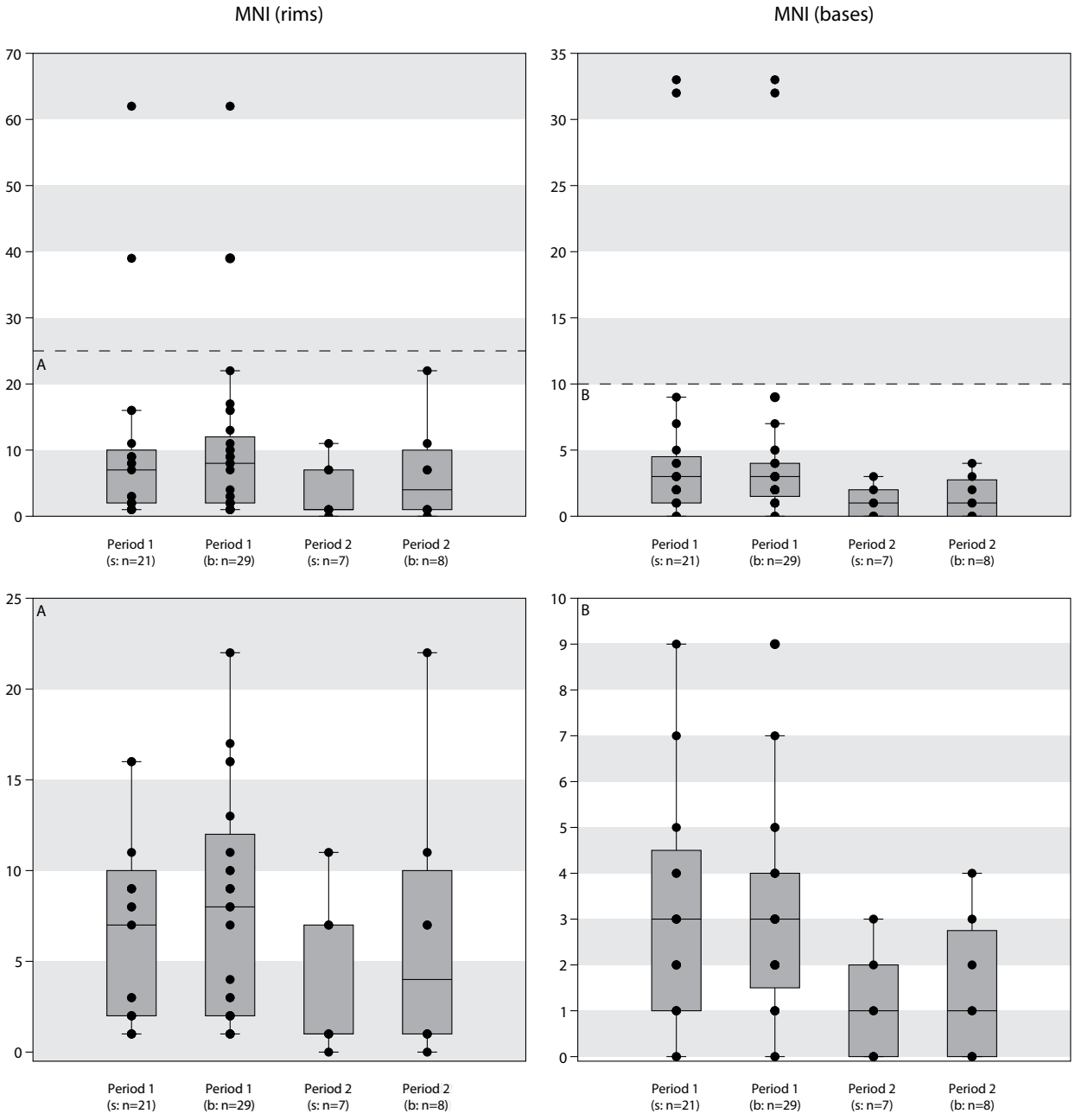


Figure 5.12: Distribution of MNI based on rim fragments (left) and on base fragments (right) from pits from period 1 and period 2, showing the entire range (top) and a detail with the interquartile range (bottom). s: strict dates; b: broad dates.

their contents was also smaller in terms of counts and weights than in the previous period.

When the total number of sherds and the total weight of the sherds is combined with the MNI based on rim fragments (fig. 5.13), it is possible to indicate how many vessels approximately are represented (but see discussion on so-called orphan sherds below) and thus provide another way to visualise how pits differ in content between period 1 and period 2. Period 1 is much more varied than period 2, for both the strict and the broad dates, and with regard to both the general number of sherds per individual and the average weight per individual. When period 1 and period 2 are compared, the restriction of period 2 stands out. On the whole, vessels are represented by more sherds in period 1 than in period 2, but occasionally by fewer sherds. With regard to the total weight, the distribution of period 2 is more restricted than that of period 1. The graphs also show less overlap between the two periods, emphasising by how little weight vessels are represented in period 2 compared with period 1.

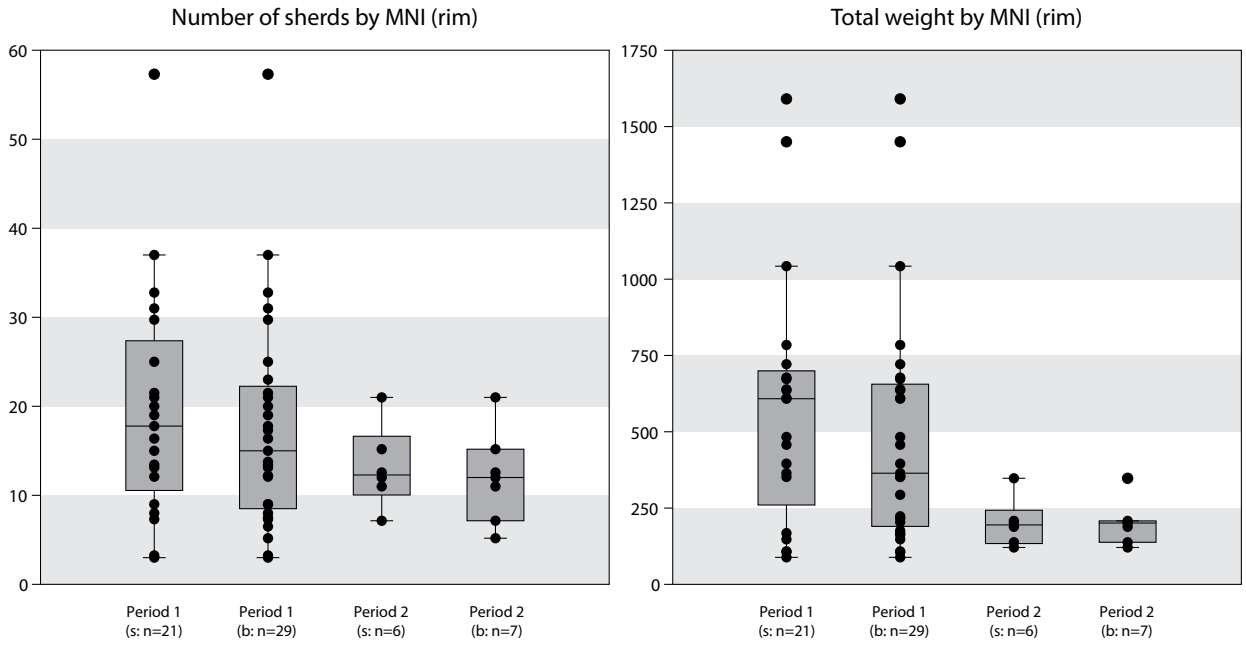


Figure 5.13: Distribution of average number of sherds (left) and average weight per individual based on MNI (right), for period 1 and period 2. s: strict dates; b: broad dates.

5.5.3 Vessel shapes

When content is expressed as quantity, there are evident differences between period 1 and period 2, in the total number of sherds, the total weight of the sherds and the number of represented vessels. Still, difference in quantity does not necessarily mean that different types of vessels or different sets of vessels were deposited. In this section, the aspect of selection of vessel shapes is discussed in detail. The selection of vessels can help us to understand what content was deemed proper for deposition. This can tell us whether concepts relating to vessel selection are very strict or, conversely, open to local or personal preferences.

As was discussed above, it was not possible to directly follow Taayke's distinction between large and small vessels, because often body diameter could not be reconstructed. In order to study vessel selection, the vessels were divided into three groups that still follow Taayke's typology: closed shapes with smooth rims that often have well-finished outer surfaces (G-type vessels); closed shapes with decorated rims (predominantly fingertip impressions) that have a coarser fabric, often with roughened with additional material (V-type vessels); and, finally, open shapes with predominantly smooth rims (S-type vessels). Of the 318 rims that were registered, 215 could be measured. As a next step, the rim diameters that were measured for this study were plotted in a histogram as percentages of the total for this group. These data are presented in figure 5.14. Based on the observed variation in rim diameters, the following seven categories have been distinguished for the analysis of vessel shape.

Closed shapes with smooth rims have been subdivided in three groups:

- Closed cups: rim diameter 8-10 cm
- Regular vessels: rim diameter > 10 and < 34 cm
- Large vessels: rim diameter > 34 cm

Closed shapes with decorated rims have been subdivided in two groups:

- Small vessels: rim diameter 14-16 cm
- Regular vessels: rim diameter > 16 cm

Open shapes have been subdivided in two groups:

- Open cups: rim diameter 12-14 cm
- Bowls: rim diameter > 16 cm

Based on the categories discussed above, a schematic overview was made for the content of the 29 pits from period 1 and the 8 pits from period 2 (fig. 5.15 and fig. 5.16). Especially the regular-shaped vessels with smooth rims dominate the assemblages (darkest grey in the figures). Not only are they found in most of the assemblages (period 1, broad dates: 27 out of 29, or 93%; period 2, broad dates: 7 out of 8, or 88%), this type of vessel constitutes the largest segment of vessels within the assemblages. The second most frequent type of vessel for period 1 (broad dates) is the regular-shaped vessel with decorated rim (medium grey in the figures; 14 out 29, or 48%). For period 2, there is more variation in the addition of other types of vessels.

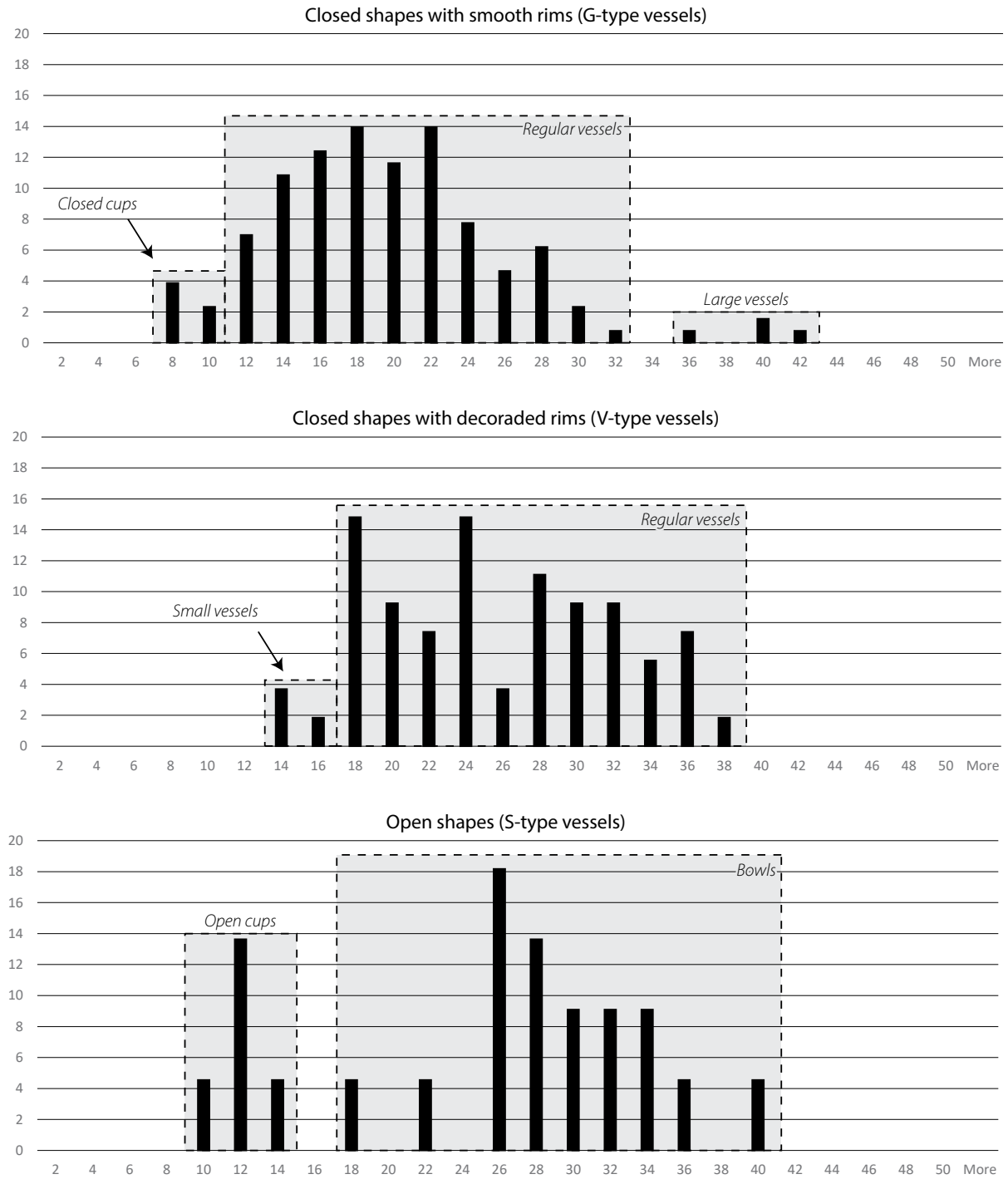


Figure 5.14: Distribution of vessel size, expressed in rim diameter, for G-type, V-type and S-type vessels, expressed as percentage of the total of the respective type. Vessels are divided into two groups based on morphological traits (open versus closed; decorated versus undecorated) and subdivided based on clusters in their metric traits (dashed lines).

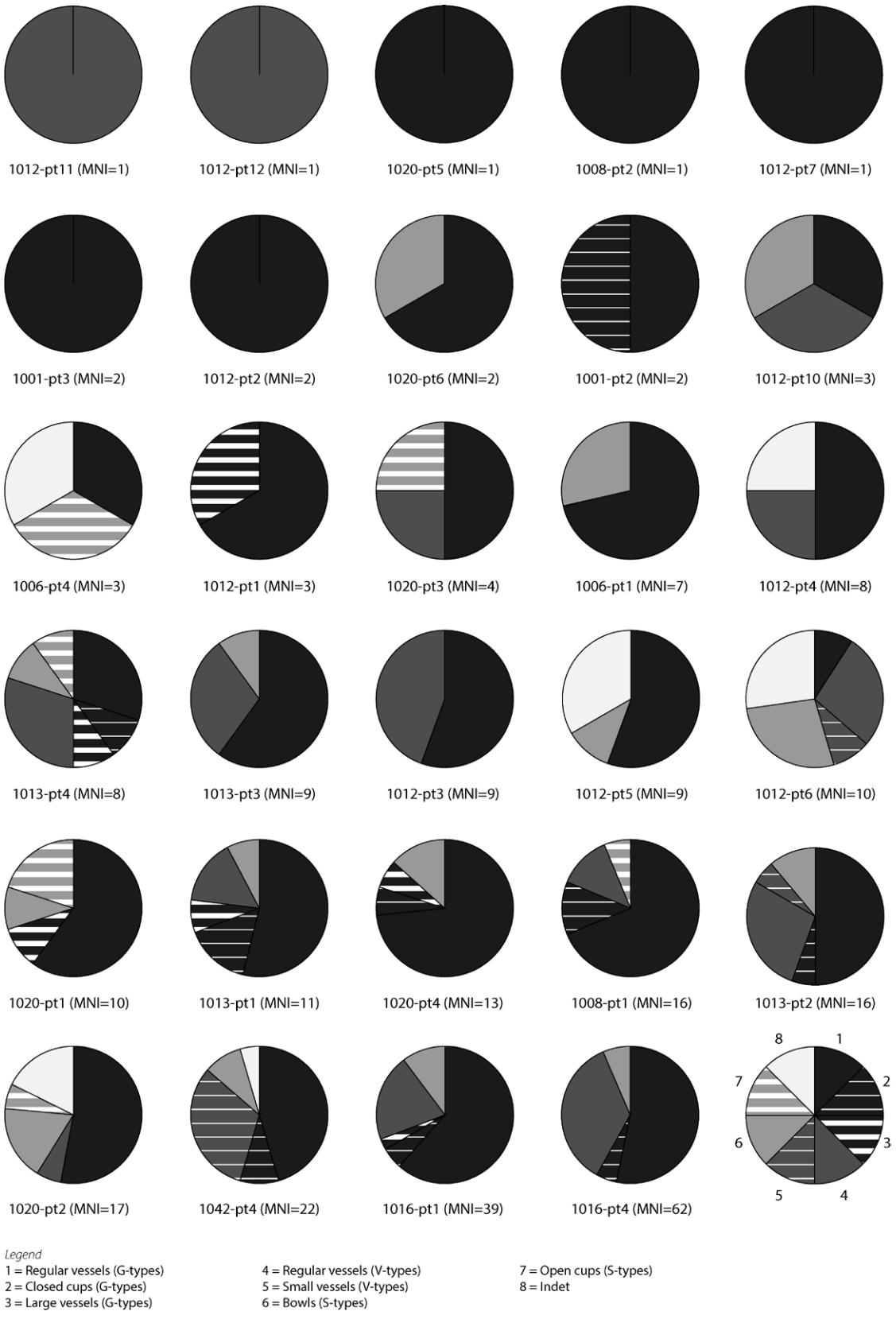


Figure 5.15: Overview of the vessel type composition of the 29 pits from period 1, ordered by MNI, broad dates.

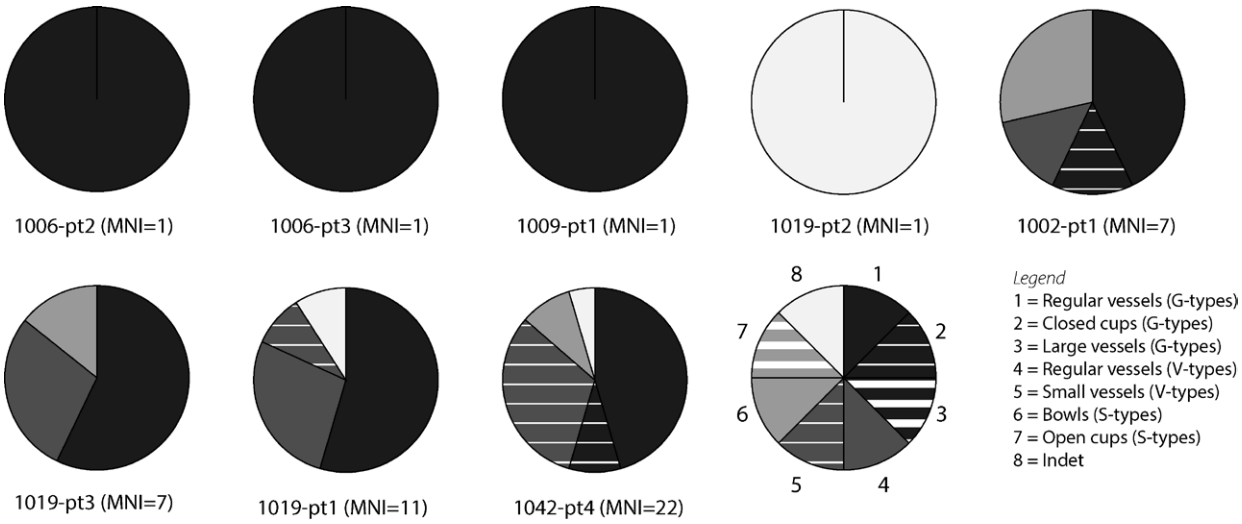


Figure 5.16: Overview of the vessel type composition of the 8 pits from period 2, ordered by MNI, broad dates.

Based on the above, the closed-shaped and smooth-rimmed pots seem to have been the standard element to which other vessels could be added. In period 1, this is most often the closed-shaped vessels with decorated rims. In period 2, this is more variable. Within this categorisation, there are no strictly defined sets of vessels; however, pits with a varied content (*i.e.* four or more different types) are frequently encountered. These varied assemblages make up 10 out of the 29 pits (34%) from period 1 (broad dates) and 2 out of the 8 pits (25%) from period 2 (broad dates). As the comparison of MNI and different types of vessels indicates (note that the pits in fig. 5.15 and fig. 5.16 are ordered by MNI), variation in vessel shapes is only explained by MNI to some degree, because there are example of varied pits with only 8 vessels and of uniform pits with 9 vessels. The very large pits from Hijken-Hijkerveld (1016-pt1 & 1016-pt4) are no more varied than the pits from Pesse-Eursinge.

A comparison of the quantity, artefactual composition and spatial distribution of the pits again indicates that choices in the content of the pits were directed by widely shared practices and local preferences alike (fig. 5.17). Recurring practices at the local level in composition can be seen, for example, in the pits from Hijken-Hijkerveld, Gees and Peelo-Kleuvenveld. In addition to the pits with a high and varied content, some sites show pits that are more modest in terms of quantity of pottery and restricted in the number of different vessel shapes per pit, for example at Peelo-Kleuvenveld and Dalen-Molenakkers II. Still, other choices could be made, as is indicated by the sites of Borger-Daalkampen II and Emmen-Noordbargeres, where large areas have been excavated and only pits that are modest in terms of quantity and composition of pots have been found.

The decrease in quantity and in diversity of the pit assemblages in period 2 becomes even more evident when the pits are plotted on the map and we compare the maps of period 1 and period 2. Especially the cups (both open and closed shapes) seem to disappear after period 1 from the set of the deposited vessels. The change in practices is remarkably consistent throughout the Fries-Drents plateau, as is visible in the overall decrease, although different trajectories co-exist. In the Peelo area, there is a continuation of deposits in pits, but these are less frequent, smaller in number and weight and less varied. At the settlement site of Borger-Daalkampen II, the already modest deposition practices seem to come to a halt, which also seems to have been the case at Emmen-Noordbargeres. At Dalen-Molenakkers II, pits from period 2 have been found, but they are again much smaller in quantity and diversity than the pits from the previous period.

5.5.4 Association of pottery sherds with other types of finds

The presence of other types of functional objects, such as stone tools or spindle whorls, is used as an additional argument for the special nature of the deposit. The significance of other types of finds or non-pottery finds is mentioned especially in the context of abandonment deposits, because they supposedly represent the entire spectrum of domestic activities (Van Hoof, 2002: 84-87). This means that non-pottery finds need not be part of every special deposit, because of the premise that they are part of or represent domestic assemblages that are deposited. This seems to be the case, for example, at Hijken-Hijkerveld. It is not clear if they are also part of assemblages that are deposited in isolation and have a less direct link to domestic structures or activities.

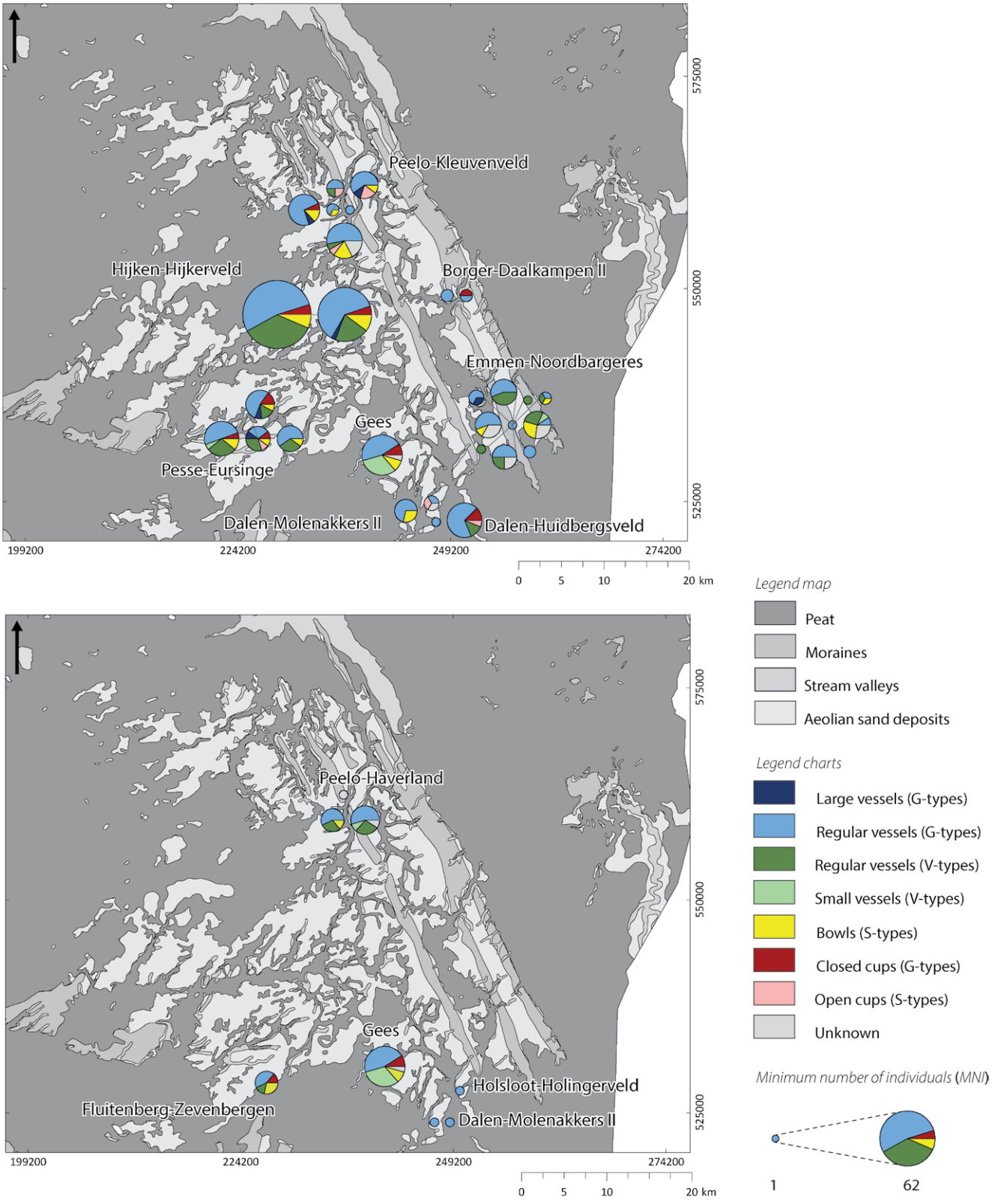


Figure 5.17: Geographic distribution and composition of pits according to the vessel shapes from period 1 (top) and period 2 (bottom), broad dates plotted on the palaeogeographical map of 500 BC (Vos et al., 2020). The size of the pie charts is scaled to the vessel MNI, as depicted in figure 5.15 and figure 5.16.

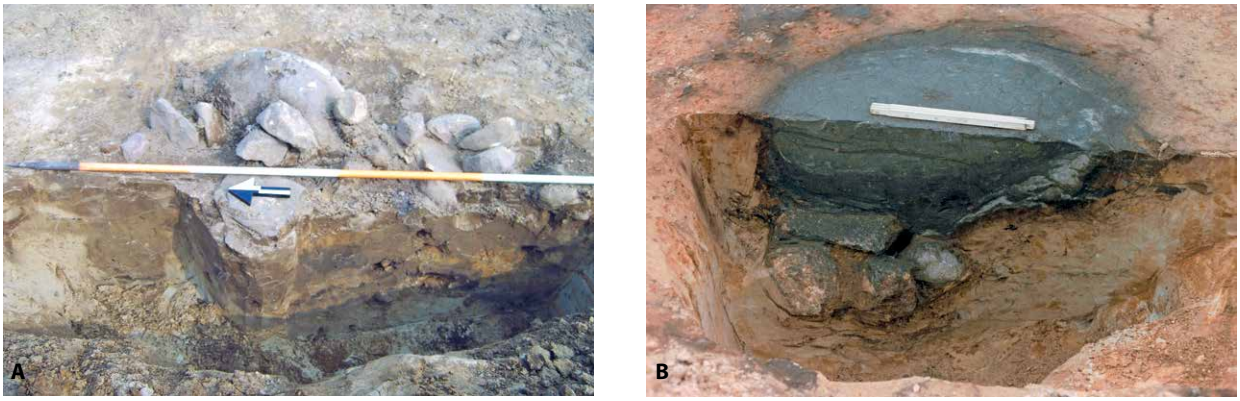


Figure 5.18: Pits with deposits of stone tools and stones. A: pit no. 61.26 at Borger-Daalkampen (Period 1; ARC bv); B: pit no. 1059 at Peelo-Kleuvenveld (Period 0/1; © University of Groningen, Groningen Institute of Archaeology).

Here, the following types of finds have been distinguished within the generic category of 'other finds' or 'non-pottery finds': stone tools or worked stone; ceramic artefacts; stones; burnt clay; charred seeds or remains of cereals; charred bone, charcoal and flint. Before the association between pottery and other types of finds can be discussed, it is necessary to discuss the chances of their recovery. Stones, for example, are part of the subsoil of the Fries-Drents plateau, and their presence is often taken for granted, which is also true for flint. Another complicating factor for understanding patterns in the presence of non-pottery finds is the fact that items may not always be collected by archaeologists, either intentionally or unintentionally. Stones can be heavy and burdensome objects that are not always collected during excavations, and charred cereals and burnt bones are small and easily missed if they appear in only small quantities or the soil is not sieved (see *e.g.* Waterbolk, 1989: 315). As a result, it is likely that the following section provides only a partial picture of the importance of non-pottery finds in special deposits. It is therefore all the more remarkable that non-pottery finds are nevertheless present in the inventories of many of the pits.

Nearly all of the pits from period 1 contain at least one other type of find (strict dates: 21 out of 21; broad dates: 28 out of 29). For period 2, a similar picture arises, in which pottery is often associated with other types of finds (strict dates: 5 out of 7; broad dates: 6 out of 7). As noted above, in the case of unburnt flint or small stones, unintentional deposition cannot be excluded. However, the deposits of stones often seem intentional. Just as pottery often shows traces of secondary firing (see discussion below), stone often shows traces of heating.[134] Occasionally, stones even seem to have been fragmented on purpose.[135] This indicates that the non-pottery objects were as much part of the assemblages – and thus needed to undergo the same treatment – as pottery selected for deposition. In addition to this, the sheer quantity of stones argues against accidental inclusion (fig. 5.18), especially when stones are found in one particular layer and are mixed with stone tools, as was the case at Peelo-Kleuvenveld[136] and Borger-Daalkampen II 2007.[137]

As figure 5.19 clearly indicates, all types listed above are found in period 1 pits, although in different frequencies. Stone and flint are found in most of the pits; charred seeds and burnt bones are the least ubiquitous. Ceramic artefacts other than pots are only found in period 1; they are spindle whorls, which are frequently found in settlement contexts, and the more rare *briquetage* pottery.[138] Other examples of ceramic artefacts exist in the form of loom weights, but they were found without any datable finds and are hence not depicted here. For period 2, there seems to have

134 *E.g.* pit 33.49 at Borger-Daalkampen II 2008 and pit 9.30 at Dalen-Molenakkers II.

135 *E.g.* pit 1973-VIII.2 at Pesse-Eursinge.

136 Find and feature no. 1983-IX.1059.

137 Feature no. 61.26; find no. 250.

138 Hijken-Hijkerveld, find and feature no. 1973-VI.40. *Briquetage* pottery is found along the coast in the western parts of the Netherlands, which is probably the origin of production, as well as in the eastern parts of the central rivers area (Van den Broeke, 2005b: 513, fig. M1). Local production seems to have taken place in the northern parts of the Netherlands as well, for example at Groningen-Kielerbocht, in the transitional zone between peat and salt marsh (Helfrich and Kuiper, 2011; Wieringa, 2011). The shape and fabric of the pottery do not appear to be local (Ernst Taayke, pers. comm. 31 January 2020). The large size and cylindrical shape are comparable to Van den Broeke's K-7b (Van den Broeke, 2012: 167), as found, for example, at Assendelft (Van Heeringen, 1989: 130(214), place XCIX no. 77-78). Salt helps to preserve food and to extend its storage life. The effects of the consumption of salt on the health of the prehistoric inhabitants of the Fries-Drents plateau is unknown, but recent studies indicate that restriction in consumption may be beneficial under certain circumstances (*e.g.* in kidney transplant recipients; De Vries *et al.*, 2016).

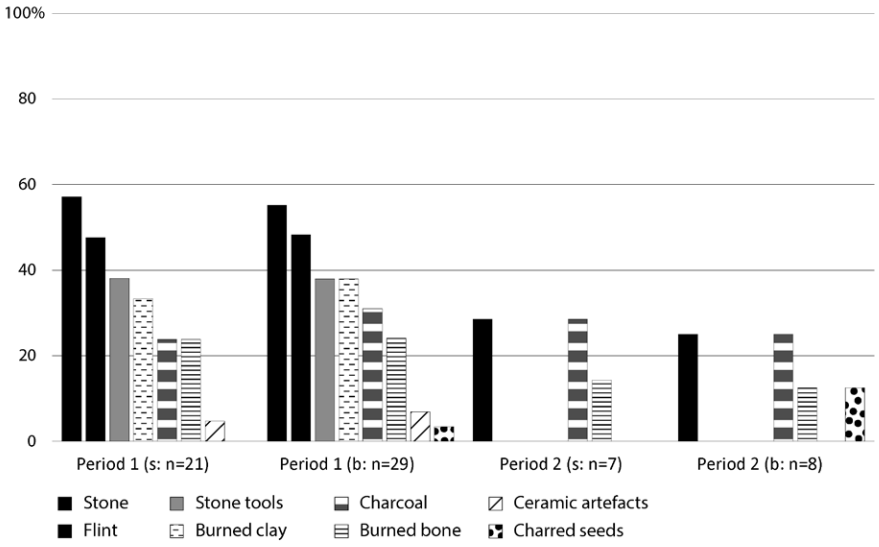


Figure 5.19: Percentage of pits with different types of non-pottery finds for period 1 and period 2. s: strict dates; b: broad dates.

been more restriction in what types of objects were deposited. Only stones, charcoal, burnt bone and charred seeds are found. Remarkably, no burnt clay, which can be interpreted as the remains of wattle-and-daub walls or hearths (Arnoldussen and De Vries, 2014: 95), was found, even though the association with houses is more evident because of these pits' location inside the house.

Here, the distribution and composition of non-pottery finds in the special deposits for period 1 and period 2 (broad dates only) is discussed, in a comparable way to how the distribution and composition of vessel types was discussed above (fig. 5.20). To understand whether the overall size of the special deposit (expressed as MNI) is related to the variation of non-pottery finds, the pie charts are scaled to the MNI in figure 5.20. When the two aspects are compared, it becomes clear that the total number of vessels does not always predict diversity in non-pottery finds. The pits at the site of Pesse-Eursinge, for example, show only limited variation in non-pottery finds even though they are relatively large and varied with regard to the content of the pottery. The pits at Peelo-Kleuvenveld have a lower minimum number of individuals than those at Pesse-Eursinge, but more variation in the non-pottery finds. At Dalen-Huidbergsveld, hardly any other finds than ceramic vessels were encountered, even though the pottery assemblage was large and varied. At the site of Hijken-Hijkerveld, large quantities of pottery finds go hand in hand with a wide variety of non-pottery finds. From this, it follows that non-pottery finds are considered a standard element of the assemblage, very clearly so in period 1 and slightly less clearly so in period 2. However, the choices about what other objects, how many and in what composition were part of the assemblage seem to have been a local affair that differed from site to site.

The choice to incorporate non-pottery objects in the special deposition appears to have been made at the level of the settlement site. The studied pits of Hijken-Hijkerveld are varied and show almost all types of non-pottery finds. This is also true for the other pits of the same settlement site that are not included here (Arnoldussen and De Vries, 2014: 97, table 1). In a similar vein, the pits from Peelo-Kleuvenveld also contain multiple non-pottery finds – stone tools and ceramic artefacts, as well as unworked stones and flint. The assemblages from Emmen-Noordbargeres, conversely, have fewer different categories and fewer human-made objects. In the same way, the pits at Pesse-Eursinge do not contain many types of non-pottery finds. Still, this does not appear to signal true regional practices, as the site of Dalen-Huidbergsveld also contains non-pottery finds.

For period 2, the decrease in variety and quantity that is seen in vessels in special deposits is paralleled in the non-pottery types of objects. None of the pits from this period contain more than two different other types of finds. Again, there is no relationship between the number of vessels and the variety of non-pottery finds. The large pit from Peelo-Haverland, for example, contained only one type of object. Even though the choice to include other, non-pottery objects, seems to have been decided at a local level in period 1, the choice not to include these objects in period 2 seems to have been driven by changes in the practice at a much higher level, that of the Fries-Drents plateau as a whole (or even beyond the Fries-Drents plateau).

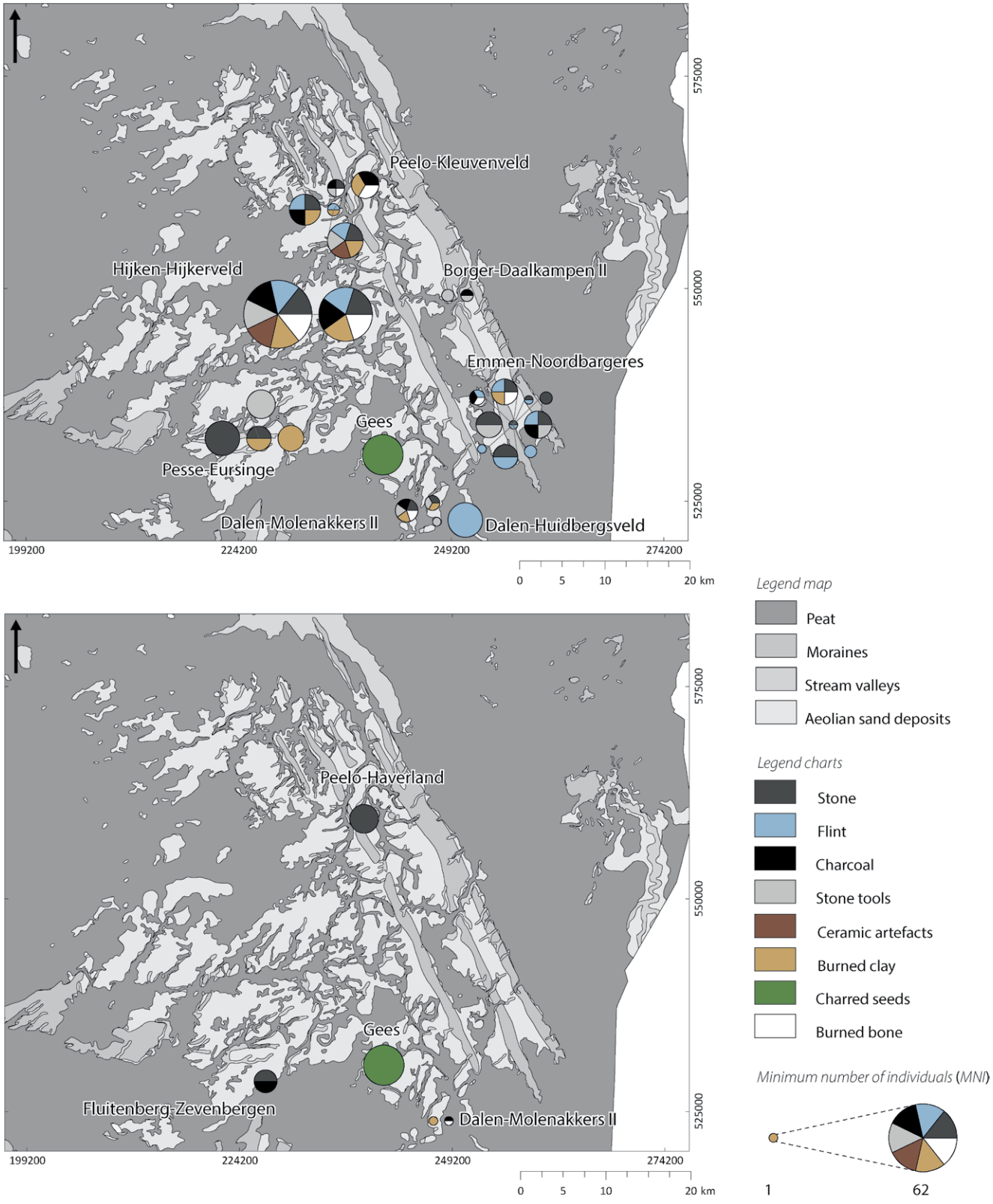


Figure 5.20: Geographic distribution and composition of pits according to the non-pottery finds from period 1 (top) and period 2 (bottom), broad dates plotted on the palaeogeographical map of 500 BC (Vos *et al.*, 2020). The size of the pie charts is scaled to the vessel MNI, as depicted in figure 5.15 and 5.16.

5.5.5 Normativity and variation in the content of special deposits

Based on the detailed description of the content of the pits from period 1 and period 2, it appears that some practices were persistent across the research area, throughout period 1 and period 2. The dominant presence of the closed-shaped and smooth-rimmed vessels is an example of this, as is the omnipresence of non-pottery objects in the assemblages. The variation in number of sherds, the total weight of the sherds, the minimum number of individuals, and vessel shapes is greater in period 1 than in period 2, sometimes much greater. In comparison with the general practices, the special deposition practices in period 1 seem to stand out more from the general practices in weight and number than those in period 2, when the number of sherds and total weight are more comparable to the general practice, either because pit deposits are already an oddity in period 2 or because there is less differentiation in the general and special practices in this period.

In an ideal situation, in order to understand what the content represents and what choices have been made, we would want to know the original assemblage from which a selection was being made. Here, there is a challenge in understanding the relation between the total and the selection for the special deposit because of the lack of complete Iron Age house inventories. This is in contrast to Iron Age houses from Denmark (*e.g.* Hatt, 1957) or to the houses at the remarkable English Bronze Age site of Must Farm (Knight *et al.*, 2019). Even the next best thing that can function as a proxy of the inventory, which is information on the patterning of finds from refuse pits, is missing because refuse pits are not a standard element of Iron Age farmsteads, as was argued in the previous chapter. Because of this gap, we cannot know whether the difference in quantity between period 1 and period 2 reflects a difference in selection or a difference in the original size of the assemblage or both. In addition, it is difficult to interpret rare finds, such as oven grates or *briquetage* pottery, because we do not know whether this type of ceramic artefact was rare in settlement sites on the Fries-Drents plateau or, instead, was rarely chosen to be part of deposition assemblages on the Fries-Drents plateau.

Even though evidence is lacking on the household inventories from which a selection was made for the deposition assemblage, there is no reason to assume that the household inventories were significantly larger in period 1 than in period 2. On the contrary: if the number of houses is an indicator of the quantity of vessels that were produced, the hypothetical total of objects from period 2 is considerably larger (compare numbers in fig. 3.1). From this, it follows that the lack of special deposits from period 2 reflects a change in practice rather than a change in the quantity of objects that were available for deposition.[139] From this, it follows that we can question whether the third aspect under discussion here, the treatment of the objects, changed as well. This will be discussed in the next sections.

5.6 Treatment of pottery from special deposits

The treatment of objects is what makes some finds assemblages stand out from the total. It is an aspect that is often implicitly remarked upon, something that is noticed as 'odd'. However, it is also an aspect that has received little systematic attention. This has led, for example, to the occasional registration of wasters, whereas these sherds may actually be indicative of a more widely shared practice of severe secondary firing. The general treatment of the objects prior to deposition, either in features of the house or on different parts of farmstead, is still unknown, which makes it difficult to compare the general and the special practices in this section. Nevertheless, the 29 pits from period 1 (broad dates) and 8 pits from period 2 (broad dates) make it possible to understand what the shared practices or norms were with regard to the treatment of the pottery and to what degree adaptations were made to these norms.

5.6.1 Average sherd weight

A first step in understanding the way in which special deposition practices potentially differ in treatment is to calculate the sherd size or average sherd weight. In contrast to other aspects of the treatment, this is something that can easily be derived from all of the pottery data. Here, average sherd weight is used to understand how normative this aspect was for the two periods, but also to compare with the general practices as discussed in the previous chapter. The data on average sherd weight per period and for the special and general practices are depicted in figure 5.21.

As can be seen in figure 5.21, pits from period 1 show a great variety in average sherd weight, ranging from less than 10 grams per sherd to more than 55 grams per sherd. Several pits from period 1 cluster around the average sherd weight, between 20 and 30 grams (8 out of 21 pits; 10 out of 29 pits). When period 1 pits are compared with the average sherd weight as discussed in the previous chapter, the average sherd weight of the deposits is much higher, with the sherds from special deposits being on average almost twice as heavy. As was said in the previous chapter (section 4.5.1), the average sherd weight for all the pits in period 1 can be divided into two groups. From the total group of pits, the ones with the larger average sherd weight (fig. 5.21-right, averages between 18 and 29 grams) roughly coincides with the majority of the pits discussed in the current chapter.

139 The difference in special deposition practices also influences our understanding of the pottery traditions from both periods (Taayke, 2019: 165, n. 7).

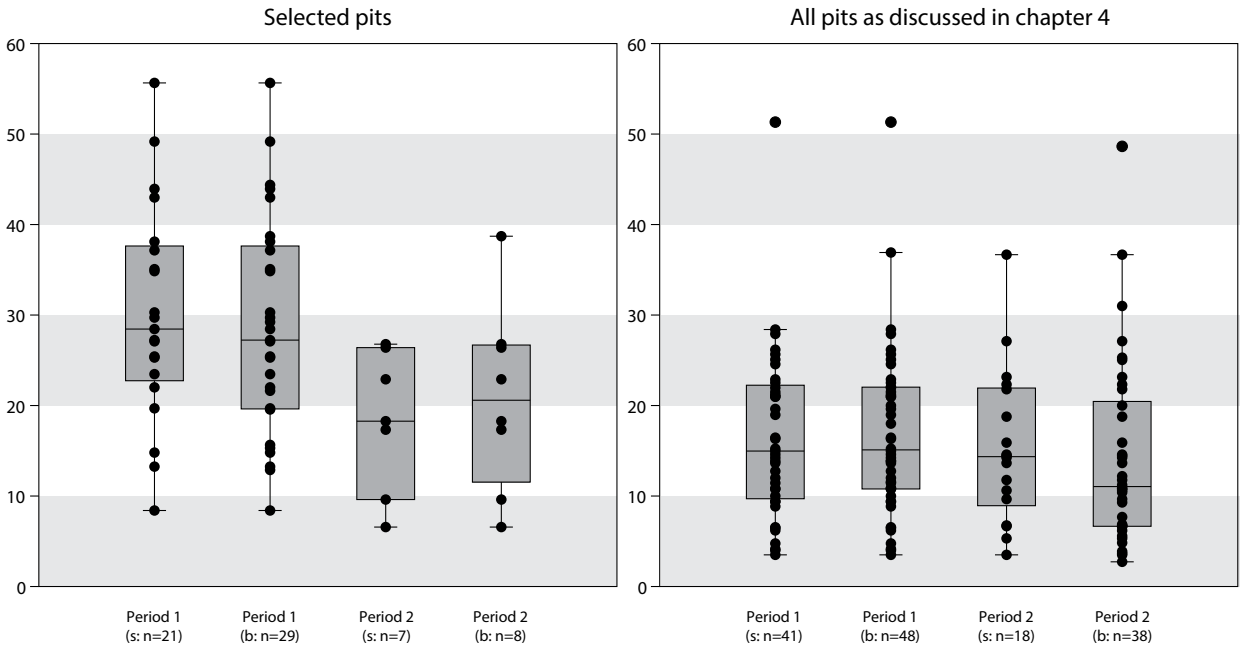


Figure 5.21: Distribution of average sherd weight (g) per period for the pits selected for this chapter (left) and all pits as discussed in chapter 4 (right), for period 1 and period 2. s: strict dates; b: broad dates.

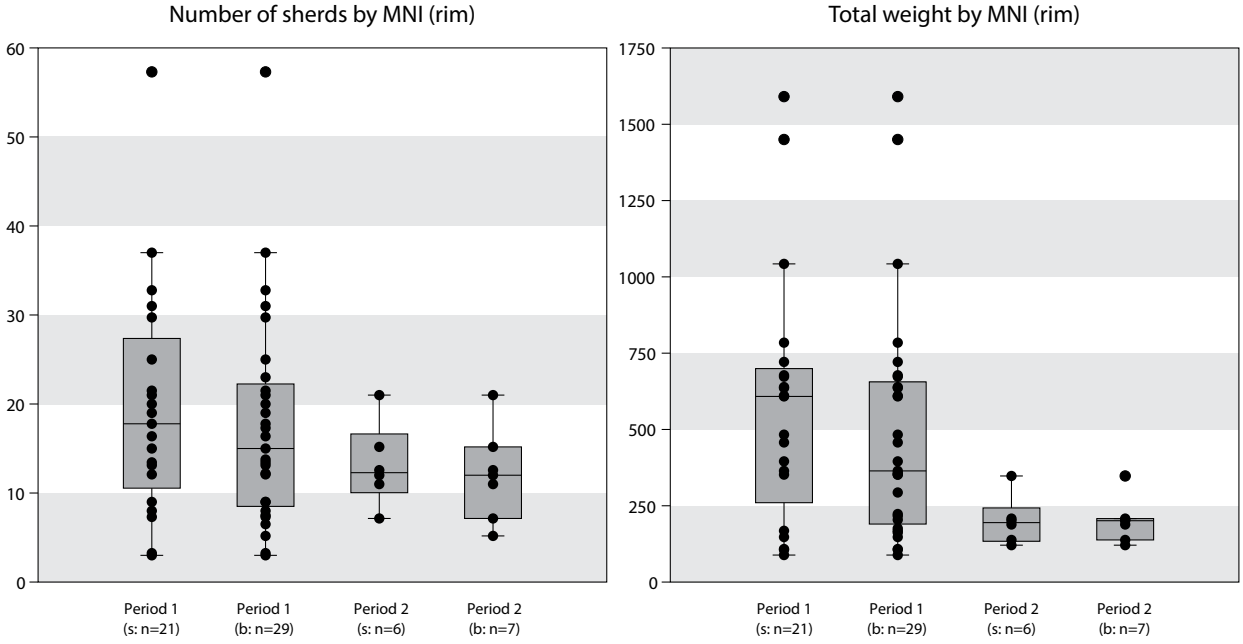


Figure 5.22: Distribution of average number of sherds (left) and average weight (right) per individual, based on MNI, for period 1 and period 2. s: strict dates; b: broad dates.

In this study, average sherd weight was used as a proxy for fragmentation. Of course, it is unlikely that the inhabitants of the Fries-Drents plateau in the first half of the Iron Age actively aimed for averages between 20 and 30 grams; there must have been an underlying shared practice or normative way of treatment that resulted in these averages (see also discussion below on the treatment of different vessel types, section 5.6.5.1). These average and thus these practices are widely shared throughout the Fries-Drents plateau and therefore are a useful criterion for selecting potential special deposits (*cf.* Arnoldussen and De Vries, 2019: 201-204). The fact that there are apparent norms of how to treat the pottery does not mean there is no variation, because both higher average weights

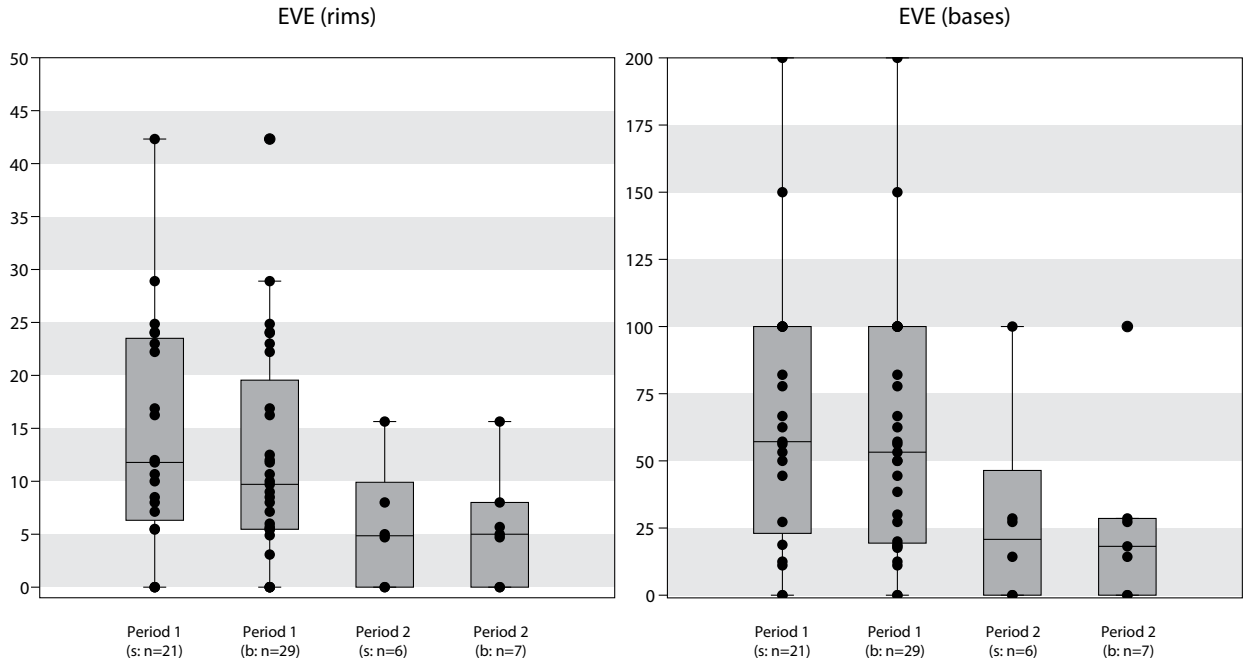


Figure 5.23: Distribution of EVE (%) based on rim percentages (left) and base fragments (right), for period 1 and period 2. s: strict dates; b: broad dates.

(less fragmentation) and lower average weights (more fragmentation) are known.

For period 2, the picture is slightly different. The interquartile range indicates that, on the whole, average sherd weight in special deposits is lower than in the previous period. Especially the higher sherd average is missing in the graph. From this, it follows that in the few instances where special deposits were made in pits, the pottery underwent a different treatment. What is more, there is markedly less differentiation between the special deposits and the average practice. There are two possible explanations for this. The first explanation is that most or all pit deposits in period 2 should be considered special and that the eight pits can be seen as a representative sample of this group. The second explanation is that special deposition practices did not require a different treatment in the aspect that is discussed here (fragmentation), but do differ for example in the shapes selected or the use of fire prior to deposition. Either way, this change in perception of the proper treatment occurred at the level of the Fries-Drents plateau.

5.6.2 Completeness of the vessels

As was discussed above, the distributions of the average sherd weight of period 1 and period 2 point towards a differentiated treatment of the pottery between the two periods, but also to a difference in the way the special deposits fit within the general practices from the two periods. Earlier in this chapter, the number of sherds per individual vessel and the total weight per individual vessel were used to infer how much of the vessel was deposited and to make a statement about the content of the pits (fig. 5.13). However, the same graph can be used to discuss treatment. To aid the reader, the same graph is repeated here (see fig. 5.22).

Of the two distributions, only the total weight per MNI (fig. 5.22-right) is of relevance here because it is impossible to say how many sherds go into a complete vessel. It is possible, however, to compare average weight to the known weight of complete vessels, which is roughly 1.5 to 3.5 kilograms.[140] For period 1, the total weights per MNI are much higher than for period 2, which indicates different norms to what degree the sherds of a vessel should be placed in a pit and should be retained. In period 1, there is a clear norm that a large part of vessels or of the sherds of a vessel should be deposited, sometimes almost in their entirety, whereas in period 2 there is a preference to not deposit most of the vessel. Period 1, again, shows much more variation in this, since some pits are actually comparable to pits from period 2. Apparently, there were more

140 In the current dataset (n=318 vessels), almost no intact vessels were found, only near-complete vessels that have been restored with plaster, which may result in a weight that is too low compared with the original weight. These two vessels weigh 3595 grams (V1-type vessel from Hijken-Hijkerveld pit no. 20) and 2461 grams (G1-type vessel from Hijken-Hijkerveld pit no. 40). At the archaeological depot in Nuis, two other vessels were weighed: one complete V1-type vessel (find no. 1962-II.226) with a weight of 3194 grams and one near-complete, small specimen of a G1-type vessel (find no. 1973-I.20) with a total weight of 1462 grams. Of course, there is as much variation in weight as there is in diameter, but these measurements indicate that intact vessels weigh several kilograms, not several hundreds of grams.

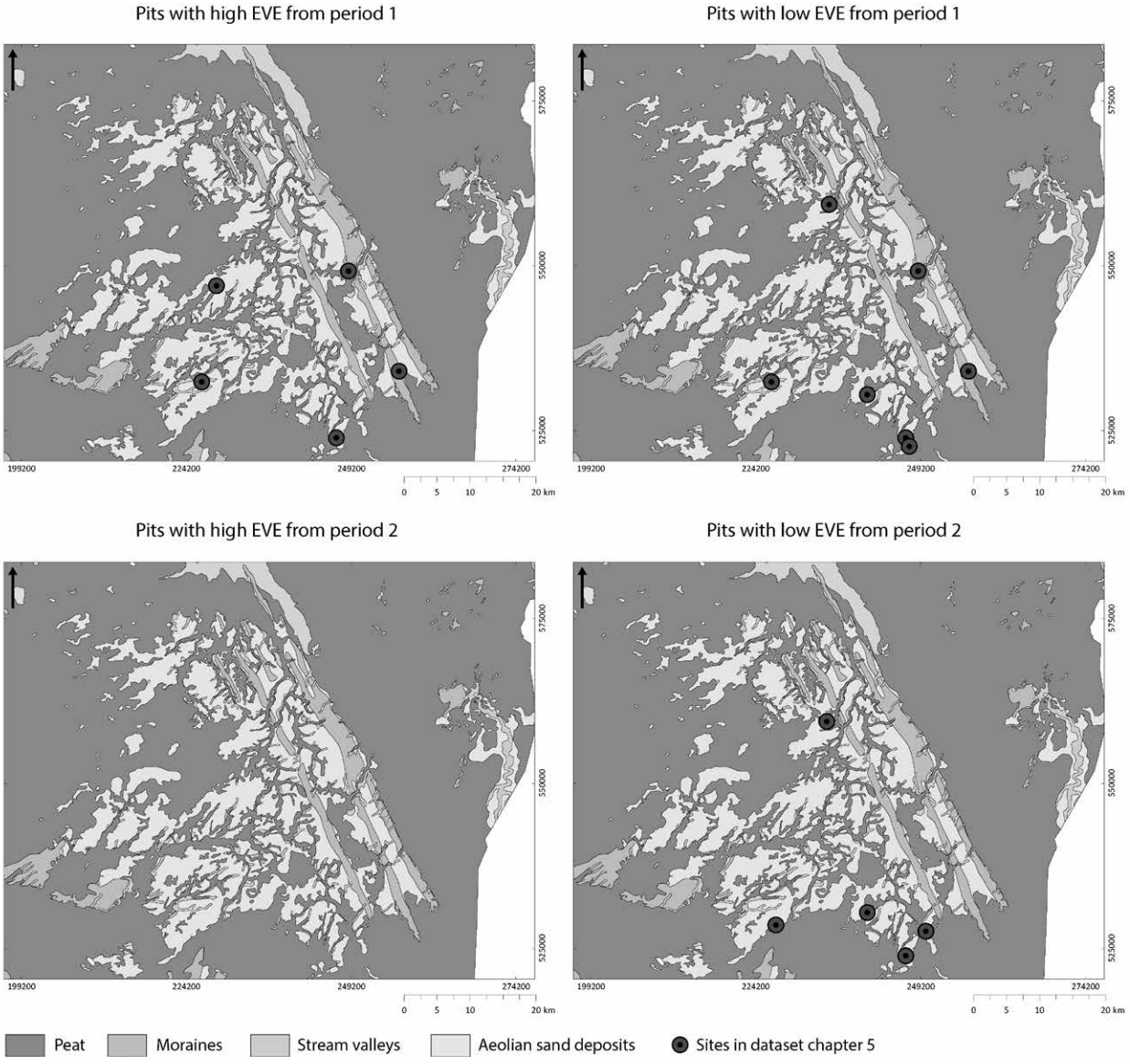


Figure 5.24: Geographic distribution of sites with pits with high (> 17%) and low (<17%) EVE, broad dates, for period 1 and period 2 plotted on the palaeogeographical map of 500 BC (Vos *et al.*, 2020).

options for adapting to event-specific needs or small-scale preferences in period 1 than in period 2.

Another way to infer completeness is to study the estimated vessel equivalent per pit (fig. 5.23). For period 1, the EVEs range between 0 (only rims too small to measure) and 42, but most pits fall in the range between 5 and 12 (strict dates) or in the range between 3 and 13 (broad dates). A second cluster is visible between 22 and 25. For period 2, the range of the EVEs is more restricted, between 0 and 16. A similar picture arises from this analysis as for the analysis of total weight per MNI. On the whole, larger parts of the vessels are deposited in period 1 than in period 2, but there is ample variation within period 1. This, again, indicates that in period 1 there was the option to adapt the practice to event-specific needs or small-scale preferences, whereas in period 2 either there was no such option or, alternatively, adaptation was not felt to be necessary. Even though the difference is evident between the two periods, with regard to the percentage of rims present, there is also a clearly shared principle: overall, only less than half of the vessel was supposed to be deposited. The difference between period 1 and period 2 indicates that there were different norms for how complete a vessel should be at the moment of deposition. Or, viewed from a different perspective, it indicates that in period 2 a larger part of the vessel was retained and kept out of the pit.

For period 1, different practices seem to have existed, reflected in the pits with high EVEs (>17%) and the pits with

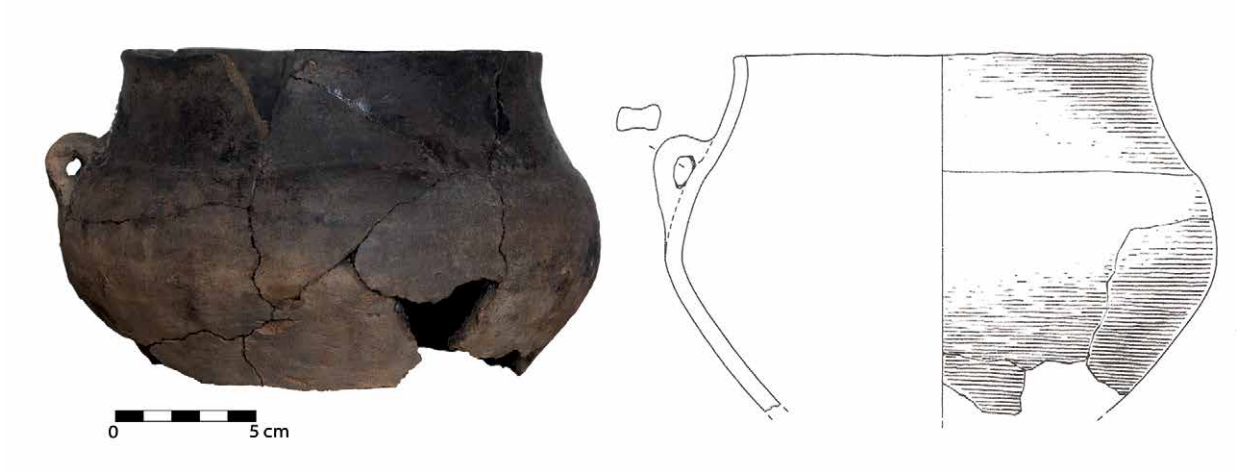


Figure 5.25: Vessel deposited in a near-complete state but without a base (Pesse-Eursinge: 1973-VIII.2; drawing by J.M. Smit, adapted from Lanting, 1977: 46(218), fig. 3).

low EVEs (<17%). When the distribution of the two types of pits is studied, it becomes evident that their distribution is not markedly different (fig. 5.24). Both types of pits are found throughout the research area. In a similar vein to other characteristics, the completeness of the rims is not a reflection of local practices, as both types of pits can occur within the same site. Between period 1 (broad dates) and period 2 (broad dates), the main difference is the lack of pits with high EVEs. Just like this practice was widespread in period 1, its loss was widespread in period 2.

As part of the rituals surrounding the special deposition, the participants apparently selected and retained parts of the vessel. Not just rim fragments were selected and retained, but also the bases and body fragments. In a similar vein to the rim fragments, the EVEs of base fragments for period 1 are much more varied than those for period 2. The majority of the pits (strict: 15 out of 21; broad: 21 out of 29) have a (base) EVE below 100. In other words, in the majority of period 1 pits, bases are underrepresented or kept out of the pits. Only in 4 (strict dates) or 6 (broad dates) pits does the number of different bases match the number of different rims.

The fact that the number of individual bases occasionally matches the number of individual rims does not necessarily mean that vessels were deposited intact in those pits with an EVE of 100 percent. Vessels are deposited with and without bases and bases with and without the upper parts of the body. An example of deposition practices involving incomplete pots can be found at Pesse-Eursinge,[141] where a vessel with a near-complete rim was deposited, but without its base (see fig. 5.25). A pit from Peelo-Kleuvenveld[142] provides another example of the partial deposition of vessels. A base fragment was deposited showing both rounded edges, indicating old breaks, and fractures that had occurred shortly prior to deposition, suggesting that the base had not broken from the upper part of the vessel shortly prior to deposition, but had, instead, been used for some time on its own, possibly as a bowl. The base was further fragmented shortly before becoming part of the assemblage.

From an archaeological-methodological point of view, rim fragments often form the starting point of pottery analysis, since they enable the archaeologist to discriminate between small and large vessels; between open and closed shapes; and, in the case of Drenthe, also between G-types and V-types.[143] As was discussed above, rim fragments are often used for establishing the minimum number of individuals. However, in light of the current discussion, the question can be raised whether the upper parts of the body were perceived as more important than other parts of the vessel and whether the primacy of rim fragments is not mostly a reflection of our own perception of what is important. There is no reason why the upper part should be the most important and why other parts of the vessel should not have played an important role in the special deposition practices as well. Different parts of the vessel can be selected or retained from the special deposition in their own right. Viewed from this perspective, bases may have been at least as important as the upper parts. This is emphasised by the EVE (bases), which indicates that bases were actually often retained, but occasionally could outnumber the EVE (rims).

In period 1, there is yet another indicator that parts other than rim parts were selected for special deposition on

141 Find and feature no. 1973-VIII.2.

142 Find and feature no. 1983-IX.1059.

143 This is not explicitly mentioned in the typology published by Taayke, but many of the characteristics mentioned relate to characteristics of the rims of the vessel. Taayke mentions explicitly that all rim fragments can be attributed to one of his main types (Taayke, 1990: 122-123).

purpose, which is the occurrence of so-called orphan sherds, referring to sherds that do not belong to any rim or base fragments (*cf.* Chapman, 2000: 54). Probably these fragments are often obscured in pits with many sherds, as the lack of decoration on the body of the pottery in the region and period under study hampers the recognition of these sherds. Occasionally, however, decorated body sherds occur in special deposits. Decorated body sherds have been found in pits at Dalen-Molenakkers II, Pesse-Eursinge, Peelo-Kleuvenveld, Hijken-Hijkerveld and Emmen-Noordbargeres, although only in period 1 pits (broad dates).[144] In the case of the pits from Peelo-Kleuvenveld, some decorated sherds could be attributed to larger rim fragments. Still, three highly decorated sherds from at least two different *Lappenschalen*[145] found in the same pit[146] could not be fitted to any rim fragments. The highly decorated nature of this type of pottery argues for an interpretation as orphan fragments, because other parts are not likely to be missed. In these instances, a single sherd may have been deemed significant enough to represent the vessel in the deposits, or conversely, the vessel may have been so significant that it could not be allowed to be deposited in a more complete state.[147]

In addition to the mismatch of base fragments and the occurrence of orphan sherds, there is a third factor that strengthens the observation that a fragmented state was favoured for the deposition of pottery. This is the observation that also very small vessels or small cups are deposited in a fragmented and incomplete state. Since the curvature of the vessels is clearly different from larger vessels, they stand out in the assemblage, provided that smaller fragments are also studied in detail. In addition to this, during the examination of the pottery, it became evident that these vessels often have thick walls and are quite sturdy. Because of these characteristics, they are not likely to be missed. Again because of their sturdy nature, it seems unlikely that many of these small cups were broken by accident, especially when we take into account that most surfaces on which the objects may have been dropped were quite soft (*e.g.* within the house or on the farmstead).

The discussion above relates to finds in period 1, but the partial deposition of pottery also occurs in period 2. Even more than in period 1, vessels are deposited in an incomplete state in period 2, both with regard to the percentage of rims present and with regard to the ratio between base-individuals and rim-individuals. In contrast to period 1, however, base-individuals never outnumber rim-individuals in special deposits in period 2, and they are rare in comparison to the previous period.

5.6.2.1 Norm and variation in rim percentages in period 1

When the estimated vessel equivalents per pit for period 1 are studied in detail (fig. 5.23), the considerable variation in the degree of completeness of the deposited vessels stands out. The percentages range between 0 and 28 percent. Since period 1 is presented by a larger number of pits and by a wider spatial distribution, it is interesting to see how variation in the degree of completeness varies by site and by region. For this analysis, all individual rim percentages have been plotted per assemblage (with the individuals that could not be measured listed as 0 percent; fig. 5.26). The distribution of the rim percentages within the pit has been ordered by site and then by MNI.

Two observations can be made based on the graphs. The first is that the pits show considerable variation, both between individual pits and within individual pits, and that each pit has its own unique distribution. Some pits show an even distribution of rim percentages within the minimum and maximum,[148] whereas some pits have recurring rim percentages.[149] Recurring patterns in the form of a collection of only complete vessels does not seem to exist. Much of the variation cannot be explained as the result of local traditions, as all types of distributions are found between different sites. The only example seems to be the site of Hijken-Hijkerveld, where relatively many complete (> 40% of the rim) vessels have been found.

From the observation on the relatively complete vessels follows a second observation, which is that complete vessels seem to be almost completely lacking from the assemblage. The 29 pits comprised a combined MNI of 291 vessels, of which only one vessel had a rim percentage of 100 percent.[150] Three of the vessels have a near-complete rim (95% complete),[151] for which it could be argued that the last rim fragments were lost during the excavation. Still, the vast majority of vessels has rims that are far from complete: 270 out of the 291 vessels (93%) are represented by less than 50

144 Dalen-Molenakkers II: feature no. 9.30, find nos. 121 and 122; Pesse-Eursinge: find and feature no. 1973-VIII.7; Peelo-Kleuvenveld: find and feature nos. 1983-IX.1047, 1983-IX.1036, 1983-IX.1059, 1983-IX.1060; Hijken-Hijkerveld: find and feature nos. 1973-VI.20, 1973-VI.40; Emmen-Noordbargeres: feature no. 22.2, find no. 224, 235, 237.

145 From the German *Lappenschale*, a bowl with at least four lobes (Van den Broeke, 2012: 44-47)

146 Find and feature no. 1983-IX.1036.

147 *E.g.* in the case where vessels can be part of deliberate fragmentation as part of enchainment (Chapman, 2000: 5), as is also assumed for the terp region (*e.g.* Englum and Ezinge; Nieuwhof, 2015: 152, 227).

148 *E.g.* 1012-pt5 from Emmen-Noordbargeres, feature no. 86.21, find nos. 894, 895.

149 *E.g.* 1013-pt3 from Pesse-Eursinge, find and feature no. 1973-VIII.9.

150 A G0-type vessel from Hijken-Hijkerveld, 1016-pt4, find and feature no. 1973-VI.40.

151 1013-pt1 from Pesse-Eursinge, find and feature no. 1973-VIII.2; 1006-pt1 from Dalen-Molenakkers, feature no. 9.30, find nos. 121, 122; 1016-pt4 from Hijken-Hijkerveld, find and feature no. 1973-VI.40.

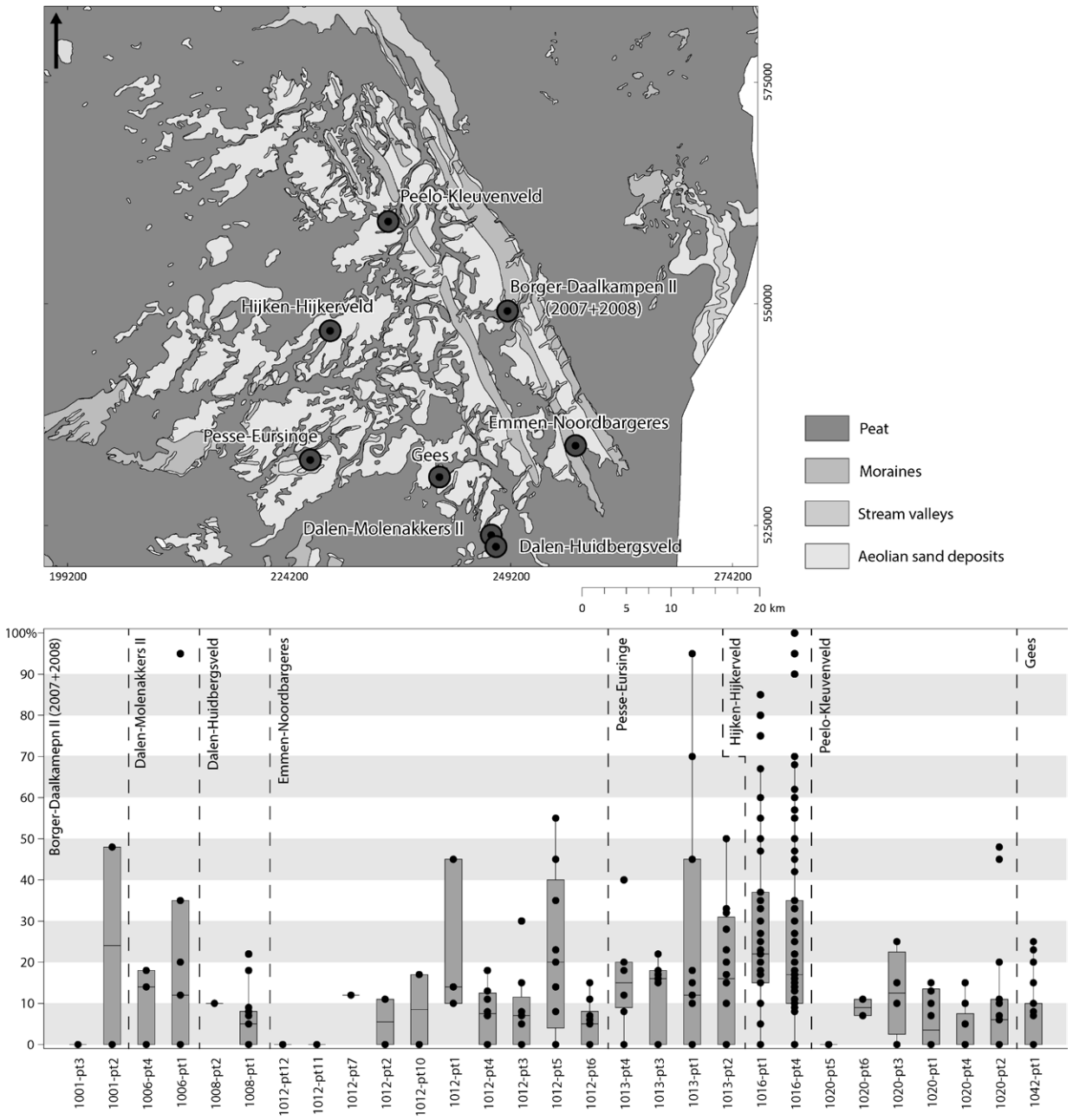


Figure 5.26: Geographic distribution of sites from period 1 (broad dates) plotted on the palaeogeographical map of 500 BC (Vos et al., 2020) (top) and the distribution of the rim percentages per pit per site. The number on the horizontal axis refers to the code of the pits.

percent of the rim. This abundance of incomplete vessels in special deposits once again emphasises the importance of fragmentation and retention. When the variation in the rim percentages is compared with the MNI of the pits, there is no clear evidence that the quantity of finds explains the absence or presence of more complete vessels from a pit (fig. 5.27).

Differences can be observed between the sites. In many of the aspects already discussed, the site of Hijken-Hijkerveld stands out in terms of number of individuals. But it also stands out in terms of the deposits of relatively complete pots. In addition to this, the pits from this settlement are relatively similar. Other sites also show examples of recurring practices. At Peelo-Kleuvenveld, only pits with relatively small rim percentages are found. Other sites, such as Emmen-Noordbargeres and Pesse-Eursinge, show more variation between the individual

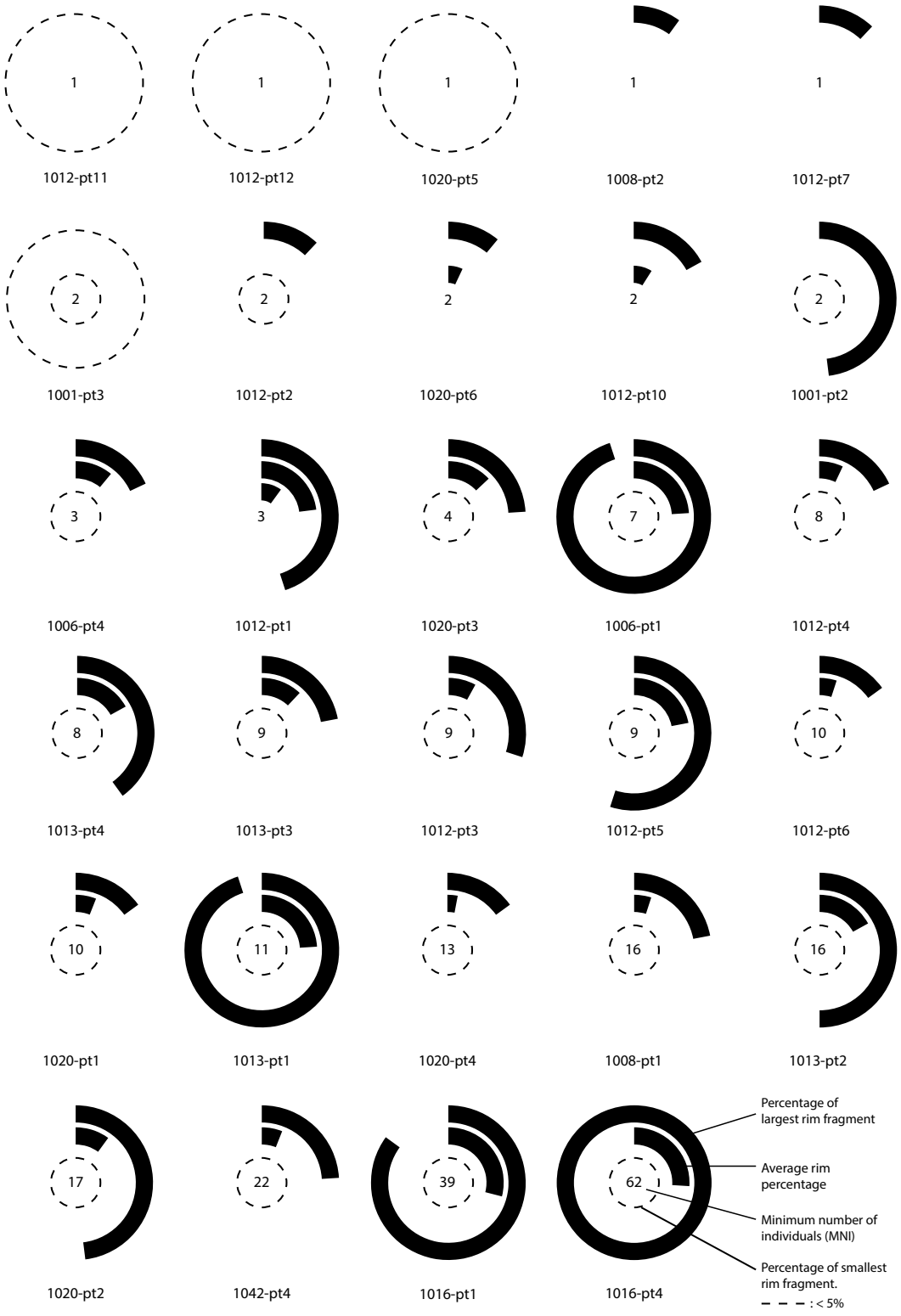


Figure 5.27: Schematic overview of the relationship between the MNI (central number) and vessel completeness. The centre circle of each chart displays the lowest value for completeness (%; with the value indicated with a dashed line when < 5%). The middle thick circle displays the mean completeness of all vessels (%); and the outer thick circle displays the highest value for completeness (%). The assemblage with the lowest MNI is at top left; the assemblage with the highest MNI is bottom right. The average is shown only for those pits with an MNI ≥ greater than 3.

pits. No regional practices can be discerned. Because no recurring patterns in the distribution have been found and no two pits are the same, it seems that such concepts as fragmentation and retention are normative aspects that needed to be followed, but that the practical implementation was partially determined by site-specific practices and partially by the unique circumstances of the event.

5.6.3 Evidence for intentional fragmentation

Based on the discussion above, it can be concluded that vessels are almost never deposited in their entirety. Incomplete deposition, however, only proves the selection of fragments, not intentional fragmentation. In order to establish if fragmentation occurred on purpose as an integral part of the rituals surrounding the deposition, the vessels themselves need to provide evidence of deliberate fragmentation in the form of points of impact or secondary firing of the fracture surfaces of the sherds as circumstantial evidence (Nieuwhof, 2018). Both types of evidence for deliberate fragmentation have been attested in the current dataset, but in different frequencies. Secondarily fired sherds are abundant. Evidence for fragmentation prior to secondary firing, in the form of the fired fragments of the sherd, is found in at least 9 of the 29 pits from period 1 (broad dates) and in 3 of the 8 pits from period 2 (broad dates). Visible points of impact are rare within the dataset. Only six individual vessels show traces on the sherds that point towards the deliberate fragmentation of the vessels. In all six cases, vessels are part of assemblages that can be dated to period 1 (broad) dates. Three examples originate from different pits found at Peelo-Kleuvenveld.[152] Two examples originate from the same pit at Emmen-Noordbargeres.[153] One example was found in a pit at Pesse-Eursinge.[154]

At the site of Peelo-Kleuvenveld, traces of deliberate fragmentation have been found on a vessel from the assemblage of find no. 1059. In this assemblage, a body sherd shows traces of deliberate fragmentation, probably initiated from the inside. At the outside of the sherd, this is visible as a round indent at one of the corners; on the inside, a conical fracture is visible that does not look recent because it looks similar to other fractures on the sherds of the assemblage.[155] A similar fracture can be seen on a biconical vessel with handle from pit no. 1060. Here, a round fracture can be seen just above the body offset (see figure 5.28). A comparable point of impact was found at the site of Pesse-Eursinge, where a large body sherd of a closed cup showed similar marks as the vessel from find no. 1059.

The sherds with fractures discussed above cannot be refitted to any adjacent sherds. Another example from Peelo-Kleuvenveld provides a more complete picture of what a point of impact or deliberate perforation looks like (fig. 5.29). From pit 1036 at this site comes a pre-G1-type vessel decorated with two rows of nail imprints at the body offset and shoulder. The vessel has two holes in the body that were made before primary firing. These holes were mistaken in the original publication as the places where the handle was attached to the body (Kooi, 1996a: 454, fig. 30-upper left vessel). At the place of the two holes, the vessel showed traces of secondary firing. It seems that the vessel had been burnt deliberately on this side of the vessel only, because the other side of body does not show traces of secondary firing.

Careful refitting of the sherds for the current study has led to the conclusion that there are only two and not three vessels with the double rows of nail imprints at the body offset and shoulder, as the vessel with the two holes could be refitted to one of the bases (Kooi, 1996a: 545, fig. 30-top row, refit between left and right vessel). This vessel shows yet another remarkable characteristic, as it has been pierced or perforated after the initial firing of the vessel. At the base of the vessel, a round hole is visible, with a weak conical shape. At the inside, only a round hole is visible. Whether the aim was to reshape the vessel to make it suitable for libation-like offerings or whether the aim was the break it, is not clear. In any case, the secondary firing and piercing point towards a special use of an ordinary vessel.

The example from Emmen-Noordbargeres (find no. 81, pit no. 2.26) consists of half of the upper part of a large G0-type vessel (rim percentage 45%) and the base or lower part of what is probably the same vessel (fig. 5.30). The two pieces could not be refitted, since the linking body fragments are missing. The vessel stands out because of the thickness of the walls and base and the dimensions of the vessel (estimated rim diameter: 40 cm). In addition to this vessel, the pit contained a small vessel (rim diameter: 12 cm, 14% complete) and the rim fragment of probably a biconical vessel (rim diameter: 18 cm, 10% complete). Finally, another base fragment and some body sherds are also part of the assemblage. The assemblage of a large vessel of which only the upper and lower part were deposited in association with fragmentary smaller vessels is reminiscent of the complex found at Roden-Vijfde Verloting, where a base and a, possibly associated, upper half of a large vessel were deposited together with smaller fragments of other vessels. This assemblages has been interpreted as a special deposit or offering, based in part on the small size of the pit in which it was found (Taayke, 1993: 53).

The traces of deliberate fragmentation are most visible at the lower part of the large G0-type vessel (fig. 5.30). At regular intervals around the lower part of the vessel, points of impact are visible. Similar traces are visible at the base,

152 Vessels from find and feature nos. 198-IX.1036, 1983-IX.1059, 1983-IX.1060.

153 Both vessels from the same assemblage: feature no. 2.26; find no. 81.

154 Find and feature no 1973-VIII.2.

155 Experimental data shows that these type of traces can be caused by deliberate fragmentation by rotating a pointing object on the sherds surface (Nieuwhof, 2018: 65, fig. 16 & fig. 17).

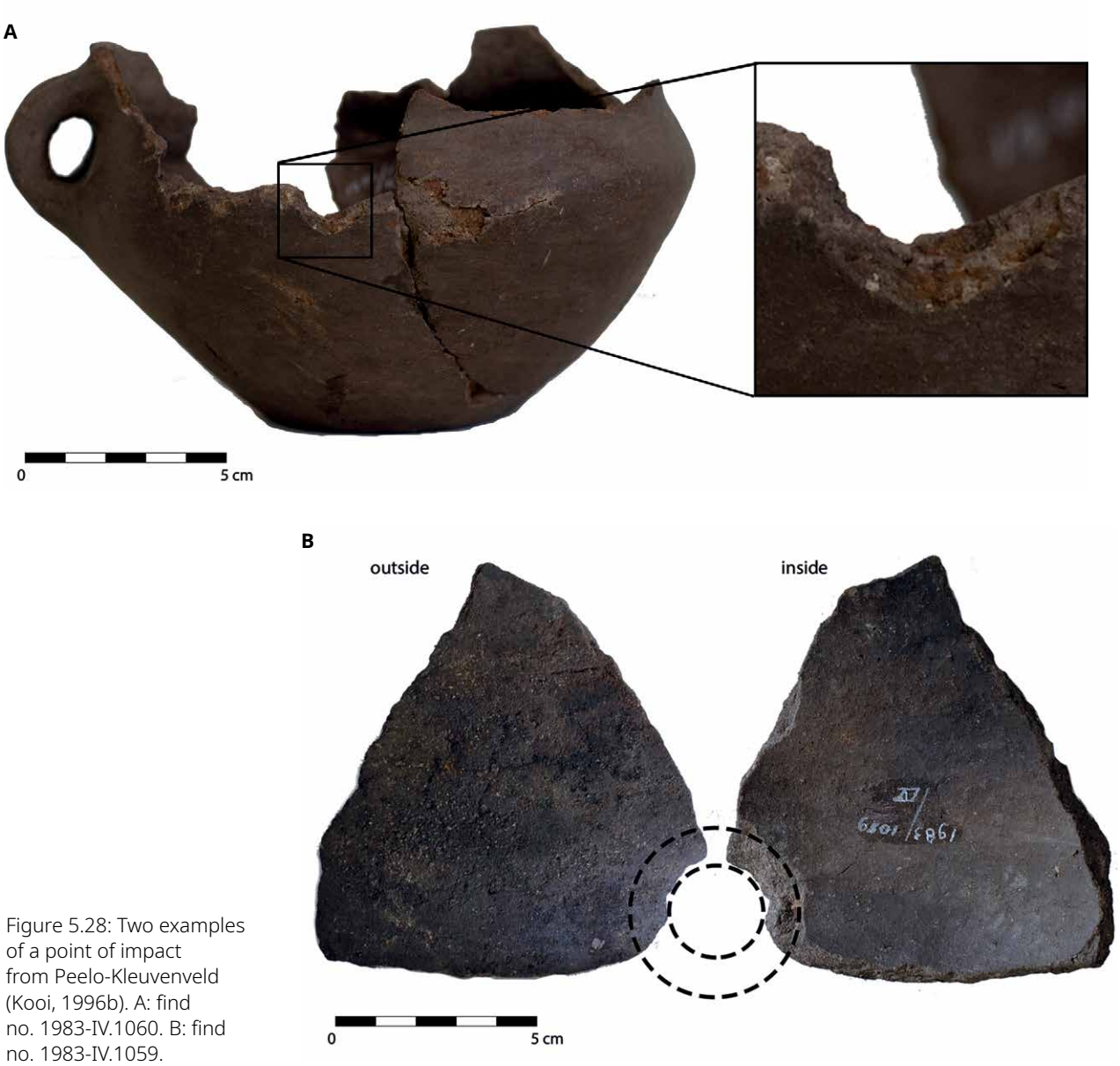


Figure 5.28: Two examples of a point of impact from Peelo-Kleuvenveld (Kooi, 1996b). A: find no. 1983-IV.1060. B: find no. 1983-IV.1059.

which seems to have been divided in two unequal parts by at least two blows. The erratically shaped fractures of the sherds of the lower part of the vessel are different from the generally straighter fractures of the rest of the vessels. The other base fragment shows possible traces of a point of impact, but less clearly than the base of the large vessel. Possibly this large pot needed to be deposited in a fractured state, but was too well made to be broken easily by hand. As a result, a tool had to be used that caused these traces of deliberate fragmentation.

Yet another example of deliberate fragmentation of pottery as part of the special deposition can be found at the site of Hijken-Hijkerveld. Pit number 1973-VI.20 was found less than 1 metre north of house 16. Within the assemblage, parts of a closed cup were found. A large fragment of the same closed cup originated from feature no. 1973-VI.21, which is part of the internal roof-load support structure. Only one other feature from house 16 also contained a find; feature no 1973-VI.22 yielded a spindle whorl. In the case of the refitted sherds of the closed cup, it can be said that fragmentation was a necessary, and therefore a purposeful, step in the distribution of the assemblage. A similar sequence of fragmentation, secondary firing and distribution of a closed cup was attested for the finds from a granary north of house 16.[156] If we assume that the spindle whorl from the feature

156 In a similar vein, a closed cup was fragmented and secondarily fired, after which the different sherds were distributed among the features of a granary (Arnoldussen and De Vries, 2014: 93, 99, fig. 7 (right-hand orange granary)).

Figure 5.29: Pierced or fragmented base from pit no. 1983-IV.1036 at Peelo-Kleuvenveld (Kooi, 1996b).

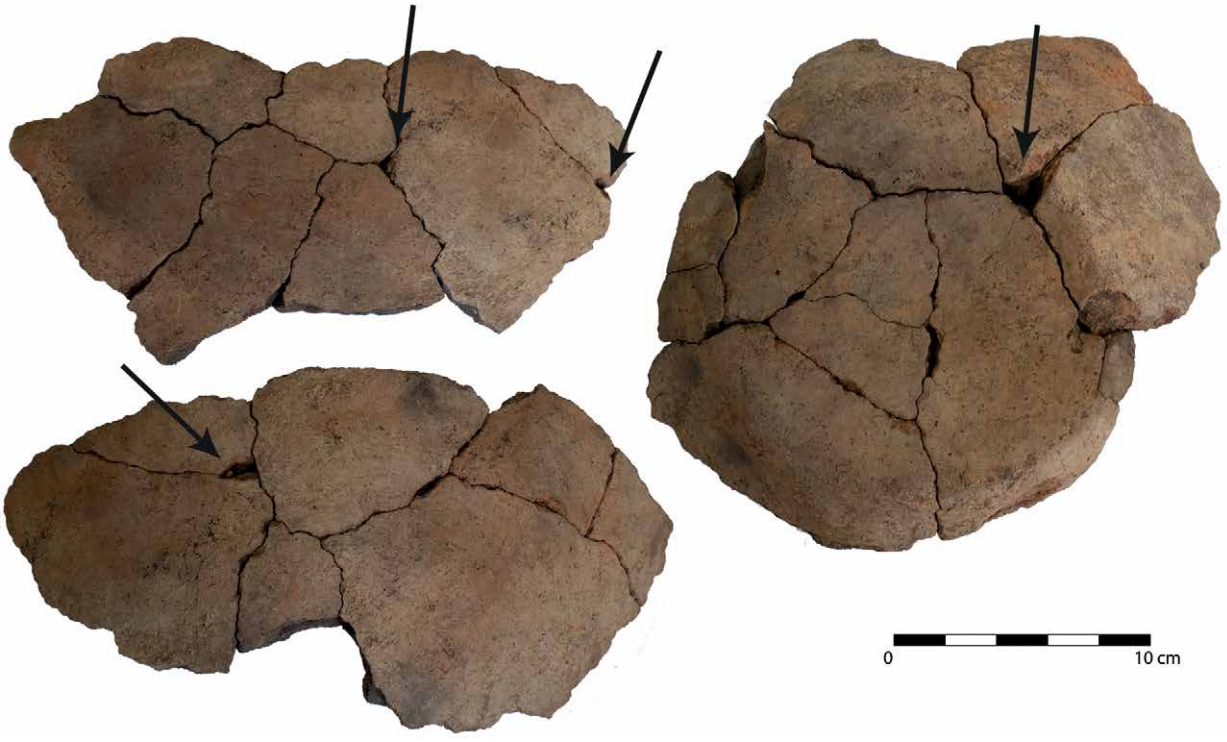


Figure 5.30: Evidence for deliberate fragmentation of a large pot from Emmen-Noordbargeres (De Wit, 2015a). Impact traces (indicated with arrows) were found around the lower part of the vessel. The base also shows traces of fragmentation. A large part of the rim was also found, but it could not be fitted to the lower half. Note the erratic pattern of the fragments. Find no. 81 (pit 2.26).

in house 16 was also considered part of the assemblage, as other spindle whorls are, for example in pit no 1973-VI.40 and in other pits from the same site,[157] then fragmentation is attested here not in the form of the fracturing of individual vessels, but in the breaking up of the assemblage as a whole and its deposition in different features that are in close proximity to one another.

As was discussed above, fragmentation is often difficult to determine. Therefore, it seems likely that the seven vessels represent the absolute minimum of vessels that were deliberately broken. It is likely that deliberate fragmentation would not have been registered if traces had been less visible or not visible at all. Absence of evidence is in this case certainly not evidence of absence. Still, these seven examples provide information on the practice of deliberate fragmentation. The conical holes points toward a rotating motion, possibly the drilling of holes, whereas the triangular holes with outward-radiating, erratic fractures point towards a blow. It seems plausible that different techniques were employed with different purposes in mind. In addition to this, different parts of the vessel seem to have been the target: the base, the lower part of the body and the middle part of the body.

From the descriptions of deliberate fragmentation during period 1, we can deduce different practices of fragmentation: piercing and smashing, as well as fragmenting in a more symbolic way by breaking up assemblages. In some cases, practices co-exist within one site, and in some cases, practices also seem to recur within sites. The piercing of pottery through rotating a pointed object seems to be a practice that occurred repeatedly at the site of Peelo-Kleuvenveld, whereas fragmentation and distribution occurred at least twice at Hijken-Hijkerveld. The seven examples of vessels that show traces of deliberate fragmentations are found at four different sites across the Fries-Drents plateau, which means that this practice is widespread, especially considering how difficult it is to find these traces.

For the assemblages of period 2, no traces of blows or coring have been found that help to identify deliberate fragmentation. However, the site of Peelo-Haverland yielded examples in which fragmentation seems to have been a necessary step in the deposition of the pottery. Within the perimeters of one of the excavated houses, a cluster of three pits was found. Unfortunately, no sherds could be refitted between the pits and the features of the house, but the pits were attributed to the house because of their positioning within the boundaries of the house. In these pits, a considerable quantity of sherds was found when compared with the general practices as discussed in the previous chapter. Pit 1677 yielded 167 sherds, with a total weight of 3824 grams (average sherd weight: 22.9 grams); pit 1678 yielded 18 sherds, with a total weight of 482 grams (average 26.8); and pit 1679 yielded 50 sherds, with a total weight of 1320 (average 26.4).

For at least three vessels, it has been established that the sherds were divided between pit no. 1677 and pit no. 1679 (fig. 5.31).[158] The sherds are part of two different G3-type vessels and one V2-type vessel. The two G3-type vessels show traces of secondary firing, but not differently between the pits. Secondary firing therefore must have taken place before rather than after fragmentation and deposition, as in the latter case different sherds would have different degrees of secondary firing. In addition to this, some sherds show traces of secondary firing at the fracture margins of the sherds, which leads to the opposite conclusion, namely that secondary firing took place after fragmentation. Pit 1678 does not contain any rim fragments, but the body sherds are not markedly different from the vessels and the body fragments from the two other pits. This even leaves the option open that the absence or presence of rim fragments is deliberate and that the sherds of some vessels are divided between three pits or between different sets of two pits, depending on the part of the vessel. In addition to being distributed over at least two features, some of the sherds, in fact a considerable number of them, must have been retained or deposited elsewhere, because none of the vessels are complete.

The example of Peelo-Haverland provides a glimpse into a complex sequence of breaking and secondary firing, selection and retention, followed by distribution in deposition as part of the special deposition practices. The pits of Peelo-Haverland suggest that at least two practices existed side by side, one in which fragmentation was followed by secondary firing and one in which secondary firing was followed by fragmentation. In this example, fragmentation was not attested by the physical traces it leaves on the pots itself, but by the fact that fragmentation was a necessary step in the practice in order for the practice to result in three pits with assemblages that share sherds from the same vessel, but that also show different degrees of secondary firing.

5.6.4 Evidence for secondary firing

The use of fire in special deposits is attested for both periods – for nearly all pits in period 1 (strict: 20 out of 21; broad: 28 out of 29) and all pits in period 2. The use of fire as part of the rituals surrounding deposition seems to have been a norm that was almost never deviated from. However, the omnipresence of traces of fire tells us little

157 Pit nos. 1971-X.84, 1971-X.85, 1971-X.154 from the same site also contain spindle whorls (Arnoldussen and De Vries, 2014: 97, table 2).

158 The sherds were refitted during post-excavation analysis in the late 1980s, but luckily the individual sherds had been numbered and refits could be located simply by checking the find numbers on the individual sherds.

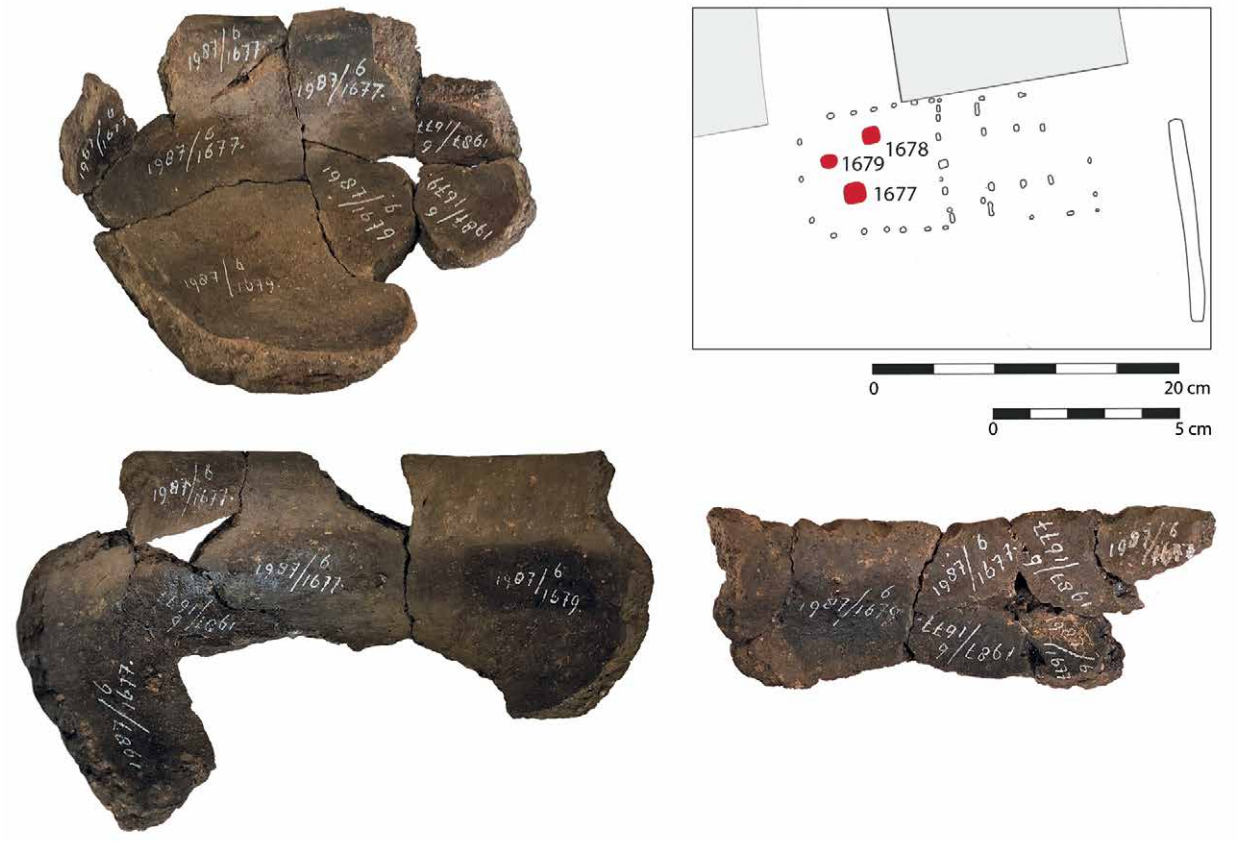


Figure 5.31: Refitted sherds from pits 1677 and 1679, located inside a house at Peelo-Haverland (Kooi, 1995). House plan to the upper scale bar, pottery to the lower scale bar.

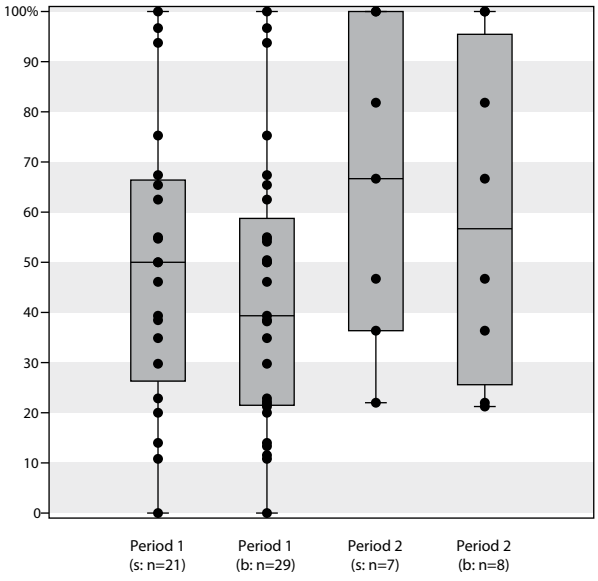


Figure 5.32: Distribution of percentage of secondarily fired sherds per pit per period, for period 1 and period 2. s: strict dates; b: broad dates.

about the uniformity or variation. When the percentage of burnt sherds is plotted per pit for period 1 and period 2, it becomes evident how much variation is being hidden when we use absence/presence (fig. 5.32).

Pits from period 2 show higher percentages of secondarily fired sherds than the pits from period 1. The pit with the least secondarily fired sherds still comprises 20 percent burnt sherds. The pit with the most secondarily fired sherds contained only secondarily fired sherds. Period 1 shows more variety in the percentages, ranging from no secondarily fired sherds to all secondarily fired sherds, with an interquartile range between circa 25 and 65 percent for the strictly dated pits and circa 20 and 60 percent for the broadly dated pits. Based on the occurrence of pits with more than 50 percent secondarily fired sherds and less than 50 percent secondarily fired sherds, no regional practices can be observed (fig. 5.33).

The difference in the distribution of this characteristic of special deposits between period 1 and period 2 is a notable deviation from the patterns observed in other aspects of the special deposition practices as discussed in previous sections. In general, pits from period 1 show abundant variation in the occurrence of the specific

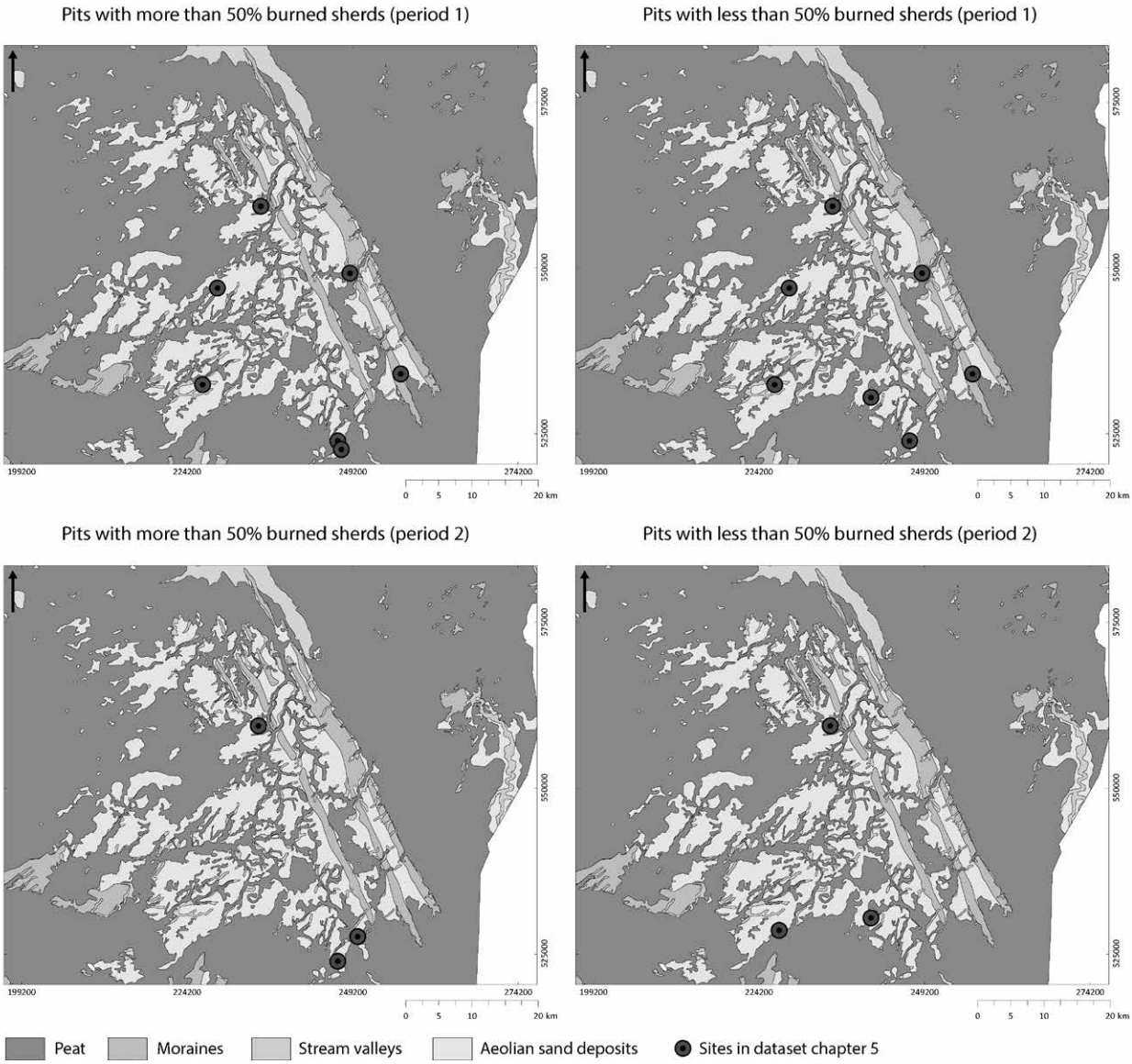


Figure 5.33: Geographic distribution of sites with pits with more than 50 percent and less than 50 percent secondarily fired sherds, broad dates, for period 1 (top) and period 2 (bottom) projected on the palaeogeographical map of 500 BC (Vos *et al.*, 2020).

characteristics, much more so than period 2 pits. The more restricted practices of period 2 in general overlap with the lower regions of the graph for period 1. In case of secondary firing, period 2 pits overlap with the higher regions of the graph for period 1. Even if period 2 pits may not always convincingly meet the other criteria that are listed as indicators for special deposition practices, the practice of secondary firing of pottery seems to justify placing these pits in the group of special deposits. This difference, however, relates to the number of sherds that show traces of secondary firing, not the degree to which they are secondarily fired, because period 1 pits recurrently contain individual sherds that have been heavily fired, to the point where they have become completely bloated and porous (Dutch: *gepoft*). This degree of secondarily firing was not attested in the period 2 pits.

The variety of secondary firing in period 1 is also of interest in comparison to the occurrence of the other criteria. In the previous sections, period 1 pits often show an asymmetric distribution, towards the higher two quartiles. This means that pits from period 1 often show abundant evidence for the selected criteria. For example, one of the criteria for special deposition practices is low fragmentation. This means that people handle their pottery in such a way that the vessels end up less broken than they generally would. This is seen in higher values in the average sherd weight. When people deviate from this, they do so in the positive extreme: fragments are on average larger, but occasionally

the fragments are extremely large. In other example, people deposit larger quantities than on average in period 1, but occasionally the quantities are very much larger than the average. For fire, this patterning is different. Even though there is almost always evidence for the presence of fire, the actual traces vary between modest and abundant. Within a single assemblage, some sherds can be pristine and some sherds can be completely bloated and porous.

This difference in the patterning suggests a difference in the role of fire compared with the role of fragmentation and retention. All individual vessels within the pits show evidence for fragmentation and retention, as is seen in the lack of vessels that were complete or that were deposited as complete assemblages of sherds. This means that all vessels underwent that specific element of the treatment. However, it was not problematic if not all vessels were touched by fire before they were deposited. What is more, vessels sometimes show traces that suggest that they were placed sideways in the fire, only secondarily firing part of the vessel.[159] Apparently, the aim was not to secondary fire every individual vessel, but that the assemblage as a whole underwent this treatment. What is more, open fires, especially for the secondary firing of objects, may be more difficult to control than the fragmentation of individual vessels. This may also explain the variability that is visible, not just between pits from different sites but also between pits from the same site.

5.6.5 Treatment by vessel type

In the previous sections, the pit has formed the starting point for discussing the content, context and treatment of the pottery. The underlying assumption in this approach has been that the moment of deposition drove choices relating to treatment, regardless of the pottery selected to be part of the special deposition practices. As has become clear as well, all pottery was fragmented and almost all vessels were deposited in an incomplete state. This suggests that the vessels were not selected to function as containers for any liquids or foodstuffs (*cf.* Nieuwhof, 2015: 176). From this observation follows the notion that maybe not the content of the vessels, but, rather, the vessels themselves were of importance in the deposition. Therefore, it would be interesting to repeat the questions relating to treatment here, but then with the different types of pottery within the assemblages as the starting point. The question that is asked here is: Was there was a shared notion of how different pottery shapes should be treated as part of the deposition practices?

To answer this question, all the pottery that has been studied from the pits is used as the dataset. In total, 318 vessels were listed, of which 215 had rims that were large enough to measure (*i.e.* a rim percentage of more than 5%). As has already become evident from the composition of the assemblages (section 5.5.3), the different types of vessels are not represented equally in the assemblages. Most of the vessels belong to the group of vessels with closed shapes and smooth rims, the G-type vessels (all: n=197; measured: n=131). The next-largest group comprises vessels with closed shapes and decorated rims (all: n=78; measured: n=58). The smallest group comprises the open shapes or bowls (all: n=30; measured: n=24). The further divisions are presented in figure 5.34.

5.6.5.1 Fragmentation per vessel type

When the distribution of average sherd weight is plotted per type (fig. 5.35), it becomes clear that differences exist among the types within each period and between the two periods. For the G-types from period 1, pre-G1 and G2 show little variation and have relatively small fragments when compared with G0 and G1. Both the G0-types and the G1-types vary in the average sherd weight and are in general less fragmented. Still, these two types are also not completely similar. The mean of the G0-type is lower, but the distribution shows more variation towards the higher ends of the distribution, whereas the G1-type has a higher mean but more variation towards the lower ends of the distribution. The V1-type vessels in this study are encountered as large fragments, with a mean sherd weight of circa 50 grams. The distribution in average sherd weight of this type can almost be described as a normal distribution with few outliers. On the whole, S1-type vessels show a limited degree of variation, but occasionally the bowls can be deposited as very large fragments.

For period 2, the vessels with smooth rims (G3-type) show a restricted distribution, which means that fragments of this type of vessel are comparable between most of the assemblages. Only one fragment of a Gw4-type vessel was included. From this, it follows that there is little to say about shared practices regarding the way vessels of this type are fragmented. On the whole, the closed shapes with decorated rims (V2-type vessels) are deposited in larger fragments than the G3-type vessels. In addition to this, there is more variety in the average sherd weight of the V2-type vessels when compared with the contemporaneous G3-type vessels.

Some difference within the periods may be the result of subtle difference in the fabric of the different types. It is imaginable, for example, that the V1-types, with their relatively coarse fabric, their thick walls, and added material

159 *E.g.* in Peelo-Kleuvenveld, a vessel with two holes at its side, was placed in a fire with the holes facing downwards. This part of the vessel was so heavily burnt that it had become completely brittle, whereas the opposite side almost showed no traces. Similar evidence for a sideways placement can be found at Pesse-Eursinge. This practice does not seem to be restricted to the Fries-Drents plateau, because it was observed in Wetteringen-Blick in Germany as well (Stapel and Stapel, 2014: 142: "Brandspuren reichen einseitig bis zum Rand" (straces of [secondary] firing reach at one side up to the rim)).

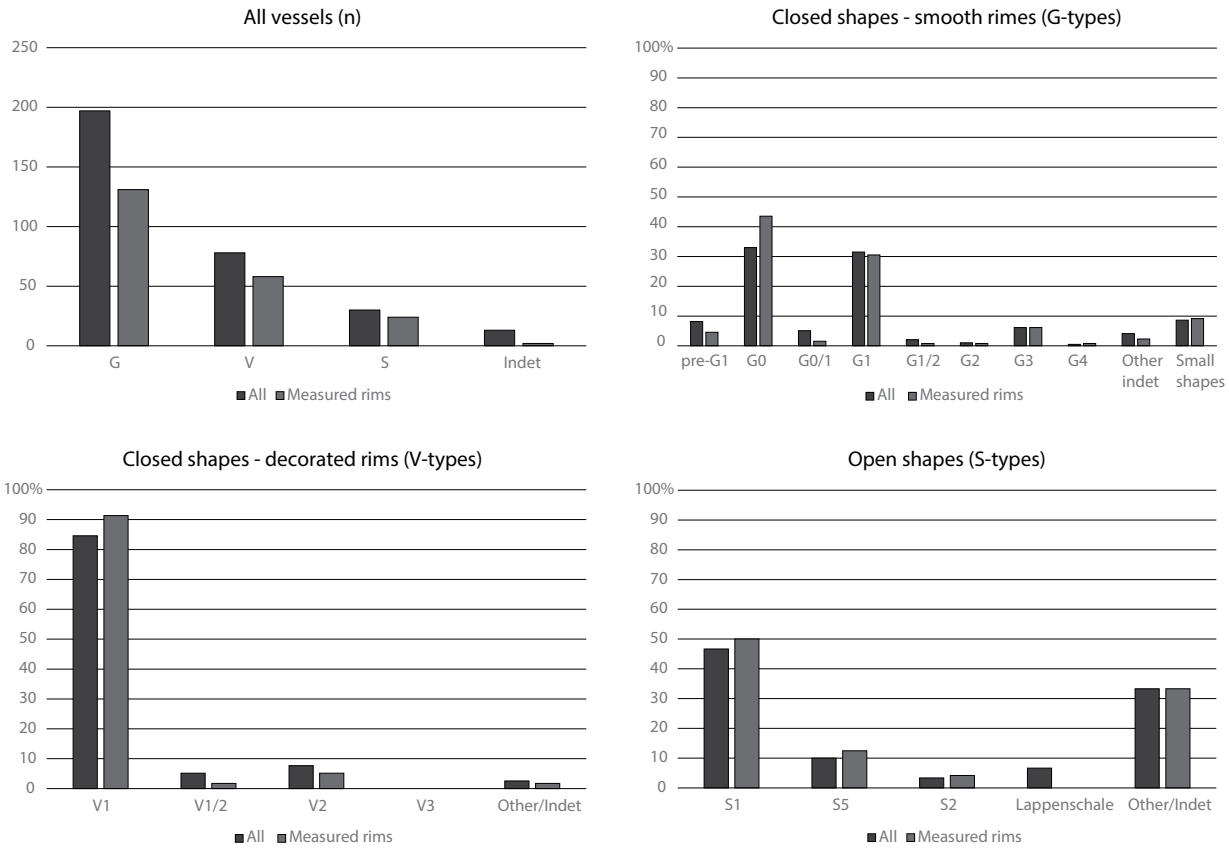


Figure 5.34: Upper left: overview of all vessels in the dataset (n); Upper right: distribution per type for the G-types (% of all G-type vessels); Lower left: distribution per type for the V-types (% of all V-type vessels); Lower right: distribution per type for the S-types (% of all S-type vessels).

on the outer surface (Taayke, 1995: 30), broke up into heavier fragments than the pre-G1-type vessels, with their thinner walls. However, subtle differences in the fabric do not necessarily explain why specific types only occur in small fragments and other types occur in a wide variety of fragment sizes, including occasionally very large ones.

From a diachronic perspective, the fragmentation of V-types, expressed as average sherd weight, seems unchanged. The variation in which V2-type sherds are found is comparable to the variation of the V1-type sherds. The difference between the G0- and G1-types, on the one hand, and the G3-type, on the other hand, suggest that a change in treatment occurred between period 1 and period 2. Even though the distribution of the G3-type would fit with part of the G1-type vessels, especially the extremely large fragments seem to be missing in all the period 2 assemblages.

5.6.5.2 Completeness per vessel type

The process of fragmentation may affect what size the individual fragments of a vessel have, but fragmentation does not determine how intact a vessel is deposited. In order to reconstruct how intact vessels were deposited, rim fragments were measured after they had been refitted. This means that the rim percentages represents the entire vessel and not the size of the individual sherds. So, even if people fragmented their pottery prior to deposition, they still had the choice to make all sherds part of the assemblage or to select only part of the sherds. Since it has not been possible to attribute all individual body sherds to specific rims, the figure mainly displays the differences in completeness of the rims and the upper part of the vessel.

As is evident in figure 5.36, there are clear differences in the completeness of vessels between the types, both within the periods and between the two periods. For period 1, the patterning of rim percentages for the vessels with closed shapes and smooth rims is the most striking, because clear differentiation is visible. The pre-G1-type vessels are always present in small percentages, and only once was the rim percentage of a vessel more than 15 percent. The G0-type vessels show much variation, ranging from less than 5 percent (registered as 0) up to 70 percent and occasionally even more complete. The only vessel out of the total of 318 that was deposited with a complete, although fragmented, rim was a G0-type vessel. The rim percentages of the G1-type vessel show yet another distri-

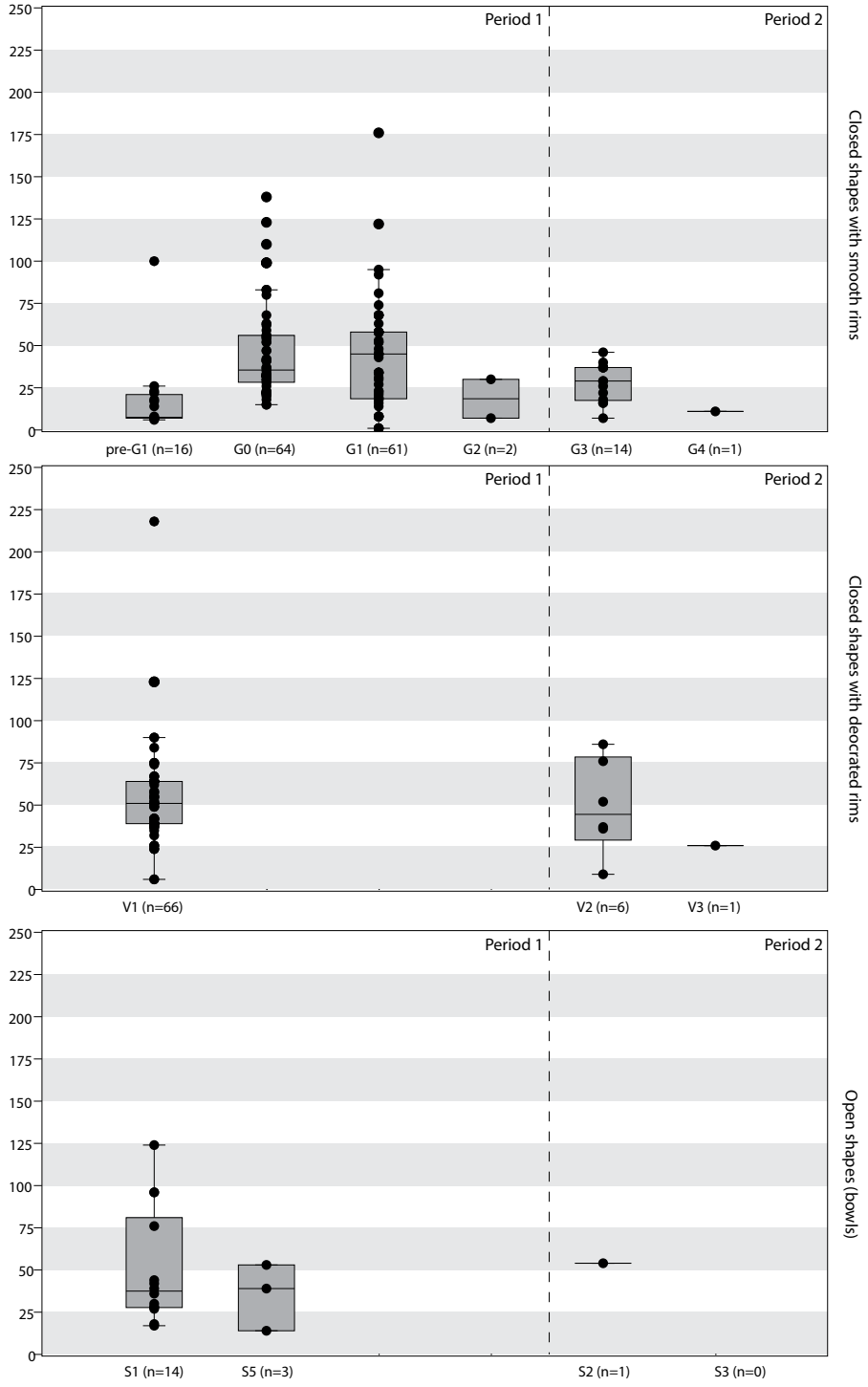


Figure 5.35: Distribution of average sherd weight (g) per vessel type for the closed shapes with smooth rims (G-types), closed shapes with decorated rims (V-types), and open shapes (S-types), for period 1 and period 2.

bution. As the interquartile range indicates, most vessels have a rim percentage between less than 5 percent and just below 20 percent. Still, examples of more complete rims are regularly found. The V1-type vessels are predominantly represented by 5 to 22 percent of the rim, but rims up to 40 percent complete are frequently encountered. Open-shaped vessels are represented by just less than 10 percent of the rim and by 25 percent. Only occasionally was more than half of the bowl added to the deposit.

The patterning in rim percentage between the different period 1 types becomes even more salient when the average sherd weight is added to the comparison. The differences in average sherd weight are far less pronounced than the differences in rim percentages, which suggests

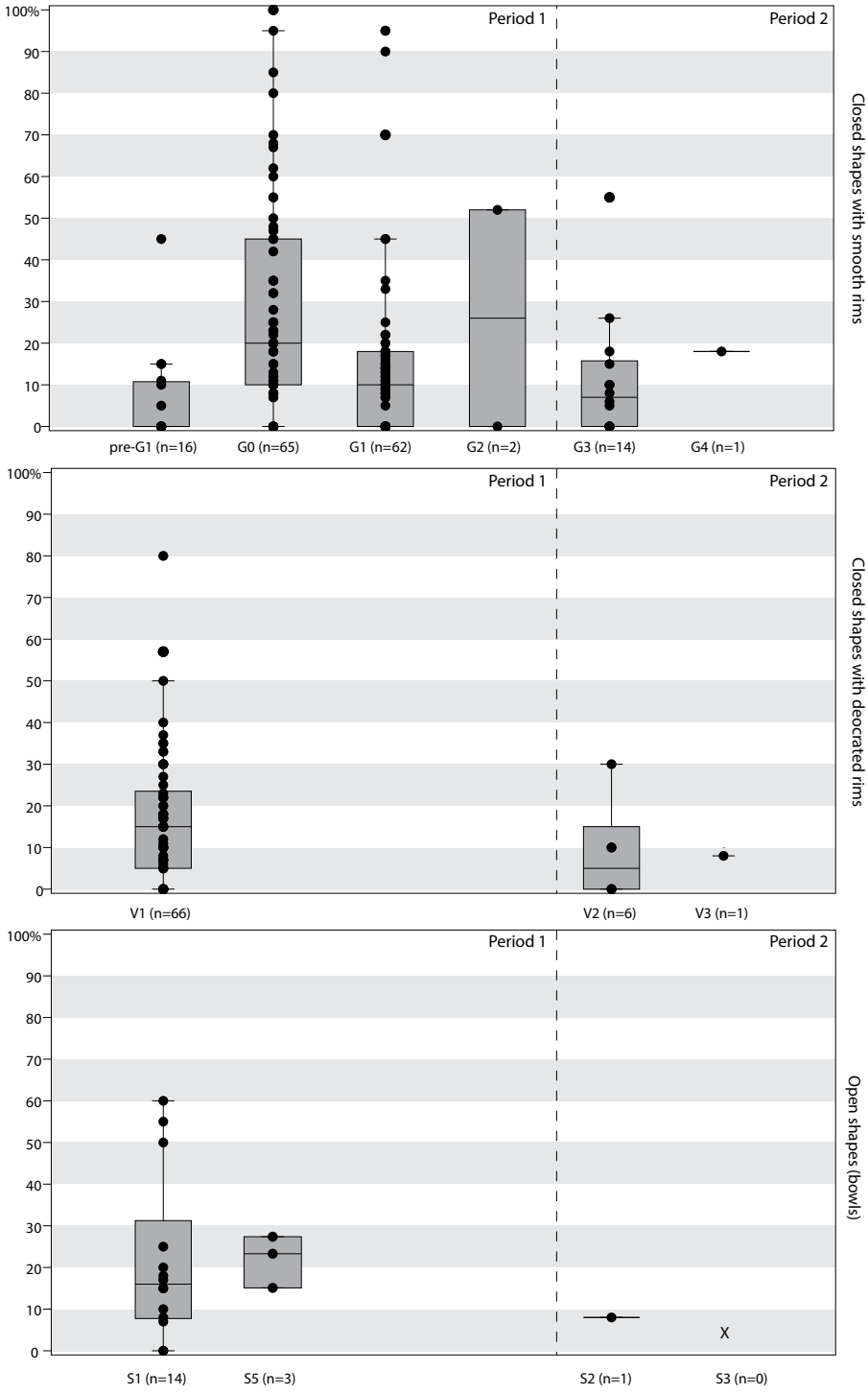


Figure 5.36: Distribution of rim percentage present per vessel type for the closed shapes with smooth rims (G-types), closed shapes with decorated rims (V-types), and open shapes (S-types), for period 1 and period 2.

that the method of fragmentation was less differentiated than the selection of rims. In the case of the G0-type and G1-type vessels, this is even more pronounced, since G0-type vessels are generally fragmented into smaller sherds (lower mean) than the G1-type vessels, but are represented by larger parts of the rim and hence by more fragments. The same is true for the V1-type vessels, albeit in a less extreme way. The difference between the G1-type vessels and V1-type vessels is more pronounced with regard to rim percentage than with regard to average sherd weight.

For period 2, the rim percentages of the G3-type vessels range between less than 5 percent and 15 percent. Higher percentages of the rim are only occasionally present in

the assemblage. The limited number of V2-type vessels do not contradict the picture of a deposition practice of only small parts of the vessel. The same is true for the only S2-type vessel that was encountered. In comparison to the previous period, the vessel from period 2 seem to have been deposited in a much more incomplete state. In addition to this, the differentiation per vessel that is visible in period 2 seems to have evened out.

In a sense, this finding is unexpected and suggests that not all pottery types had the same role in the special deposits, but also that this perception of the proper role or proper function of pottery in the special deposits was shared across the Fries-Drents plateau. What is more, this differentiation also confirms that for the current analysis, the traditional typology actually functioned well, in the sense that the elements that were used to discriminate between modern or constructed types where also the characteristics that affected the degree to which the vessels ended up in the assemblages. The difference between the G0- and the G1-types may, for example, signal two opposite things: either the G0-type was considered more important and was hence deposited in a more complete state or, conversely, the G1-type was considered more important and therefore more of it was withheld from the deposition. In both instances, the G0- and the G1-types were considered differently.

5.6.5.3 Secondary firing per vessel type

The analysis of rim percentage per vessel type has suggested that for different vessels, different degrees of completeness were considered proper for deposition, regardless of the way they were fragmented. In a similar vein, the question can be asked if different sorts of vessels required different ways of secondary firing. To answer this question, the percentage of secondary burnt sherds was calculated per vessel type and plotted in the same way as average sherd weight and rim percentage were plotted (fig. 5.37). Since it was not possible to attribute all individual sherds to specific rims, the figure again mainly displays the differences in secondary firing of the upper parts of vessels from specific types.

When the distributions of percentages of secondary firing are compared for period 1, the similarities in the vessels with closed shapes and smooth rims stand out. The pre-G1-, G0- and G1-types all show an interquartile range between 0 and 50 percent, although percentages are frequently higher, indicating that all three types of vessels could be burnt completely. The two examples of G2-type vessels are both almost completely affected by fire. The percentage of secondarily burnt sherds for V-type vessels is higher than for G-type vessels, but the majority of the vessels show a distribution that is also visible for the G0-type vessels, that is, between 10 and 40 percent. The bowls show the most variation in the percentage showing traces of secondary firing. For period 2, the differences in practices are varied, more so than in the previous period. The differences also seem to be more extreme. Vessels show few traces of secondary firing or they are completely fired. This is visible both in the G-types and the V-types. Too few bowls have been found to make inferences about their treatment in special deposits.

When the secondary firing is compared with the completeness of the vessels and the size of the fragments, secondary firing shows a much more uniform patterning, with little differentiation between the G-types and V-types, but also with little differentiation within the G-types. This lack of differentiation may be explained by the different role secondary firing seems to have had (see discussion above), in which the presence of fire was a necessity, but not the secondary firing of all objects. Still, it tells us that even though fragments of different types were treated differently, no such distinction was made at the moment when fire was part of the rituals. This can, for example, be seen at the site of Pesse-Eursinge, where four pits were encountered that had similar assemblages (see fig. 5.17), but that had quite different percentages of secondarily fired sherds (23, 30, 65 and 95%).

5.6.6 Normativity and variation in the treatment of objects in special deposits

Based on the discussion above, I conclude that there must have existed clear, shared concepts of what treatment objects should undergo prior to deposition. Even though the pits were not selected based on the occurrence of both treatments, almost all show both evidence for fragmentation and secondary firing. Since no assemblages were selected for this study based on the presence of complete vessels or fully reconstructed vessels, it was already evident that fragmentation played an important role, but the same appears to be true for secondary firing as well. Only 9 of the 42 assemblages were selected because of possible evidence for secondary firing (see table 5.1), but in the end 40 out of the 42 assemblages comprised traces of secondary firing. Fragmentation, in all likelihood, was done on purpose, not just to destroy the pots before they entered the ground, but also to facilitate the selection of parts of the vessels and of the non-pottery finds as well.

In period 1, the norms with regard to treatment were clear and widely shared. Almost all assemblages show evidence for both fragmentation and secondary firing. An important aspect that all pits share is the incomplete state in which vessels were deposited. This means that selection and retention were also considered important steps in the practice. The same holds true for the presence of fire in the rituals surrounding special deposits. Only in one instance were no traces of secondary firing found.[160]

160 1001-pt3 from Borger-Daalkampen II 2007.

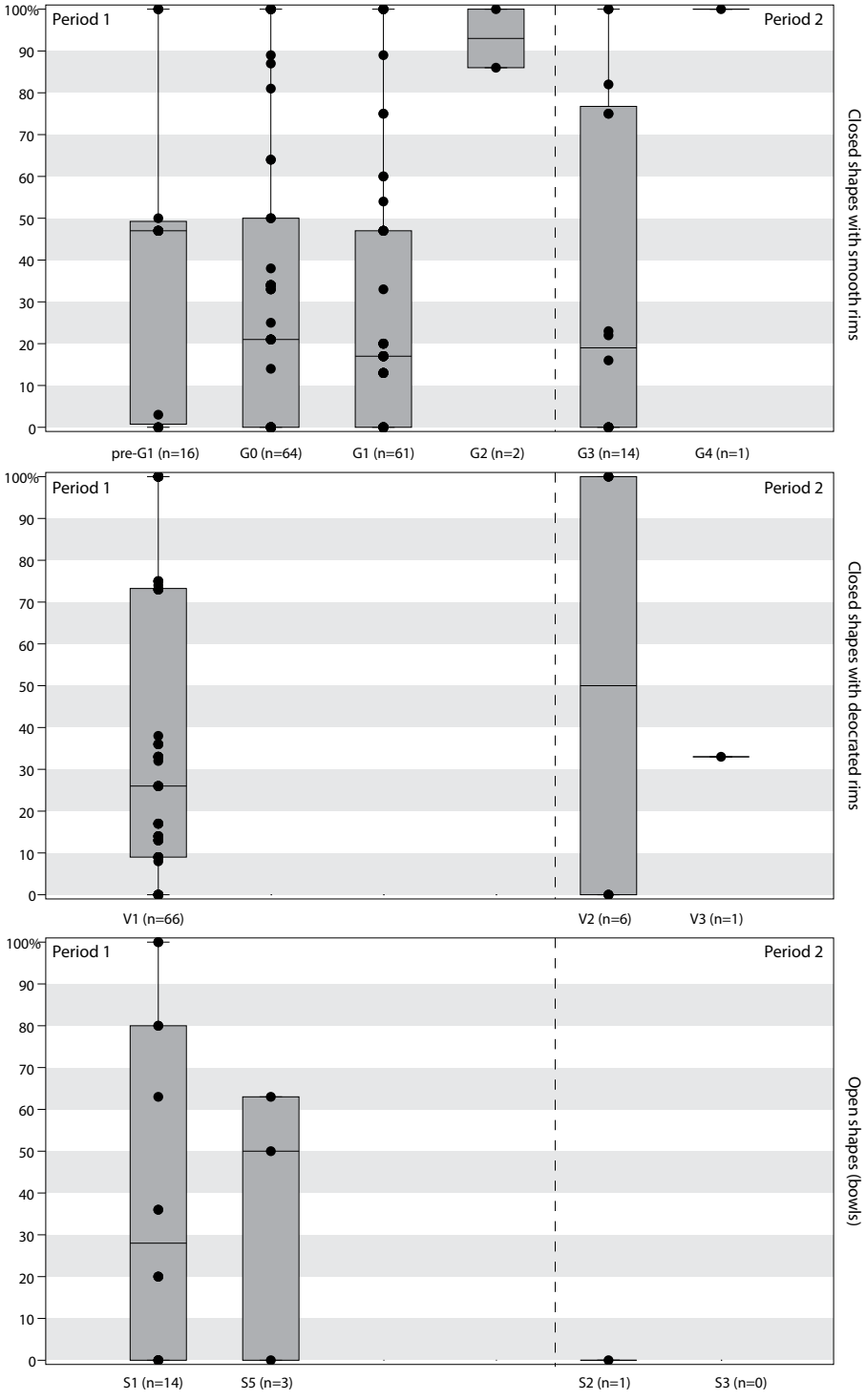


Figure 5.37: Distribution of secondarily fired sherds per vessel type for the closed shapes with smooth rims (G-types), closed shapes with decorated rims (V-types), and open shapes (S-types), for period 1 and period 2.

However, another significant aspect of period 1 practices seems to be the variation in the ways in which these norms are put into practice. This is evident for the individual characteristics that are studied under the common denominator of treatment: average sherd weight (section 5.6.1), estimated vessel equivalence and variation in rim percentages (section 5.6.2), and secondary firing (section 5.6.4). On the level of the individual vessel, a similar pattern arises, where there is clear difference in treatment between the types of vessels but apparently also room for variation within each of these different practices. Variation in practices may not always result in recognisable patterning in the archaeological data, as was also the case for house-building traditions (fig. 3.32). In this instance, however,

Content		Treatment	
Characteristic	**Definition**	**Characteristic**	**Definition**
Large quantity of pottery	> 100 sherds or > 2000 grams	Large fragments of pottery	High average sherd weight (> 22.0 grams)
High MNI of vessels	≥ 7 individual vessels	Complete vessels	Yes/No
Large variety in vessel shapes	≥ 4 different vessel shapes	Deliberate fragmentation of pottery	Yes/No
Non-pottery finds	Yes/No	Secondary firing of pottery	Yes/No

Table 5.2: Summary of the special deposit characteristics discussed in chapter 5.

variation seems to aid recognition because it occasionally provides extreme differences between the general and the special deposition practices, as can be seen in average sherd weight, for example.

In period 2, there seems to be a continuation of the same norms with regard to treatment, as fragmentation and secondary firing still co-occurred. In contrast to the continuation of what can be called the core concept of special deposition practices, there is change in the way these shared norms were put into practice. In many of the aspects that are discussed in this chapter, the assemblage of period 2 pits is more comparable than that of the period 1 pits. This is seen at the level of individual characteristics, but also at the level of the treatment of individual vessels. Counterintuitively, compared with the previous period, this decrease in variation did not necessarily aid in the recognition of the assemblages from period 2 because they do not immediately stand out from the general practices.

5.7 Characteristics combined

In the previous sections, special deposition characteristics were discussed separately for the pits of period 1 and period 2, from a temporal and a spatial perspective. In this section, the separate characteristics are studied again, but in comparison. As was the case with housebuilding traditions (section 3.3.7), caution must be exercised when describing causality between the co-occurrences of individual characteristics. As has been noted above, it well may be that charred seeds are underreported because the fills of the pits were not sieved. Stones may have been encountered, but they may not all have been registered or collected. Because of this, here all the possible co-occurrences between two characteristics for the 29 pits of period 1 (broad dates) and the 8 pits of period 2 (broad dates) have been counted and then visualised with the use of Gephi 0.9.1. This section provides an overview of the frequency in which the characteristics are observed.

As was mentioned earlier, the excavation reports and literature did not always provide details on all of the possible characteristics of special deposition practices as specified at the start of this study. Therefore, the sample selection for this study was based on the presence of at least one of the characteristics. Because all assemblages have subsequently been studied in detail for this chapter, a more complete picture now exists of the occurrences of the separate characteristics. To facilitate the comparison between selection criteria and observed traits, in table 5.2, a summary is provided of the characteristics that describe the content and treatment as discussed above, as well as their definitions, where applicable. In table 5.3, the frequency in which a characteristic was used for selection is compared with the frequency in which the characteristics were actually observed during re-examination.

As is indicated in table 5.3, during re-examination of the pit assemblages from period 1, many of the characteristics were observed more frequently than had been expected based on the tallies from the excavation reports. Especially the observed frequency of other types of finds and the observed frequency of the presence of secondary firing are much higher. That these two characteristic in particular were underrepresented in the tallies based on the excavation reports is mainly the result of the customary way of presenting finds in excavation reports, which is by the separate find categories rather than as the assemblage of different types of finds per feature. It is therefore not always immediately clear that different types of finds originate from the same assemblage of finds. The underreporting of secondary firing can be explained by the strong focus on the chronological value of pottery and the less systematic focus on the treatment of the pottery prior to deposition. The lower observed frequency of variation in vessel shapes, in contrast, is the result of the choice made in this study to place the cut-off point at four different types of vessels.

For period 2, most of the characteristics were observed more frequently as well. Again we see the difference in the number of assemblages with other types of finds and the number of assemblages that show traces of secondary firing. And again, this is the result of the way in which assemblages of mixed finds are discussed (or not) in excavation reports and the limited attention to the treatment undergone by the pottery finds. For the assemblages that could not be dated, there is less difference between tallies based on the excavation reports and the observed characteristics of the assemblages. In the re-examination, none of the assemblages showed a large quantity of finds, which is

		Period 1 (broad dates) N = 29		Period 2 (broad dates) N = 8		Prehistoric N = 4	
		Noted in excavation report	Observed during re-examination	Noted in excavation report	Observed during re-examination	Noted in excavation report	Observed during re-examination
Context	Related to other features (see table 5.1)	7 (24%)	7 (24%)	5 (63%)	5 (63%)	3 (75%)	3 (75%)
	Isolated location	11 (38%)	20 (69%)	1 (13%)	3 (38%)	1 (25%)	1 (25%)
Content	Large quantity of pottery	12 (41%)	15 (51%)	1 (13%)	2 (25%)	2 (50%)	0 (0%)
	High MNI of vessels	2 (7%)	16 (55%)	0 (0%)	4 (50%)	0 (0%)	0 (0%)
	Large variety in vessel shapes	12 (41%)	11 (38%)	2 (25%)	2 (25%)	0 (0%)	0 (0%)
	Non-pottery finds	11 (38%)	28 (97%)	1 (13%)	6 (75%)	1 (25%)	1 (25%)
	Large fragments of pottery	17 (59%)	20 (69%)	1 (13%)	4 (50%)	0 (0%)	1 (25%)
Treatment	Complete vessels	0 (0%)	1 (3%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
	Deliberate fragmentation of pottery	0 (0%)	5 (17%)/14(48%)	2 (25%)	0 (0%)/3 (38%)	0 (0%)	0 (0%)
	Secondary firing of pottery	4 (13%)	28 (97%)	1 (13%)	8 (100%)	1 (25%)	2 (50%)

Table 5.3: Overview of the number of pits matching the individual characteristics of special depositions defined at the start of this study, based on the excavation reports and based on re-examination, for pits of period 1 and period 2, broad dates, and for pits that cannot be dated. When the frequency observed during re-examination is the same as the frequency tallied based on the excavation reports, the cell is light grey; when it is higher, the cell is dark grey; and when it is lower, the cell is outlined in red. For the deliberate fragmentation two values are listed, the number based on direct evidence (point of impact) and the number based on direct and indirect evidence (point of impact and secondarily fired fractures).

remarkable, as a large quantity was explicitly mentioned for two assemblages in the excavation reports.[161] It is possible that the pottery was observed in the field but could not be collected due to poor preservation circumstances

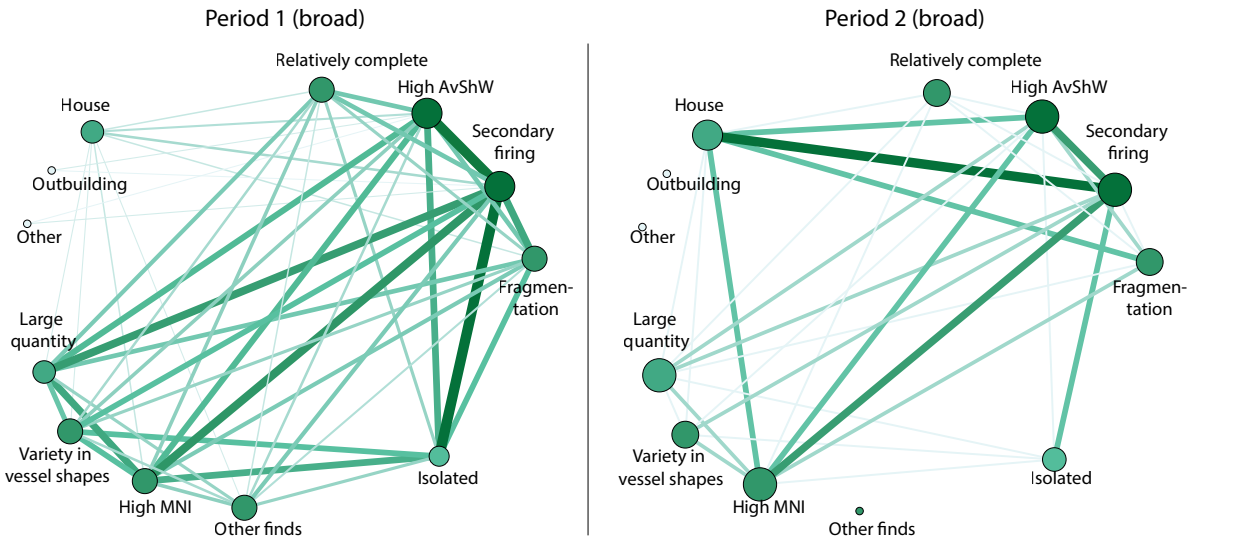
In order to gain more insight into the deposition practices, the occurrence of non-pottery finds has also been scored according to the variety in non-pottery types (> 4 different types is defined as varied). Since only one pit contained a complete vessel, this characteristic was changed to high estimated vessel equivalent (> 16 EVE is defined as high). Almost all characteristics that have been discussed in this chapter are observed in both period 1 and period 2 assemblages. The only exceptions are the context of outbuildings, other contexts and variety in vessel shapes that were all three only observed in period 1 assemblages and can be considered period-specific for period 1. All other characteristics are not typical for one of the two periods. However, differences in the frequency in which they are observed indicate that practices did differ between the two periods (fig. 5.38).

In period 1, many of the characteristics frequently co-occur.[162] This is represented by the many nodes that are connected and by the thickness of the edges between the nodes. From this, it follows that many of the special deposits show multiple characteristics that confirm the special nature of the assemblage. Because so many of the pits are found in isolation, this context is also strongly connected to multiple characteristics that relate to the content and treatment of pottery finds. From this, it follows that the norm in special deposition practices in period 1 can be characterised by isolated pits that have large fragments (*i.e.* high average sherd weight) and that show traces of secondary firing. Often, these pits also contain many individual vessels in different shapes, accompanied by a range of non-pottery finds. Variations on this norm can be found in different context in which deposits are made, as the thinner lines between 'house', 'outbuilding' and 'other' indicate. The variation in context does not influence the actual content and treatment of the assemblages much. Just as you can eat cake at a funeral and at a wedding, the content and treatment of special depositions does not seem to be context-related on the Fries-Drents plateau. From this, it follows that the essence of special deposition practices was widely shared across the Fries-Drents plateau and beyond, but also between the different contexts and hence between the different occasions that asked for a special deposition.

For period 2, the same characteristics are found except for the contexts of outbuildings and other contexts. Similar characteristics for the content and treatment have been registered, but the related characteristics are found less frequently and less frequently in association with each other. For settlement sites that have been studied in detail here, such as Borger-Daalkampen II and Emmen-Noordbargeres, a decrease in special deposition in pits is visible

161 Both pits are from Borger-Daalkampen II 2008 (1001-pt4 & 1001-pt5).

162 See appendix 5 for characteristics per pit.



Isolated:	pit found in an isolated location
House:	pit near a house; pit inside a house
Outbuilding:	pit near an outbuilding
Other:	other context
Large quantity:	>100 sherds/>2000 grams
High MNI:	≥ 7 individual vessels
Variety in vessel shapes:	≥ 4 different vessel shapes
Other finds:	non-pottery finds

Relatively complete:	vessels with rim percentage >40
High Av(erage) Sh(erd) W(eight):	> 22.0 gram
Secondary firing:	yes / no
Fragmentation:	evidence for deliberate fragmentation either in the shape of point of impact or traces of secondarily firing of the fracture margin

Figure 5.38: Clustering of characteristics as discussed in chapter 5, for periods 1 and 2, broad dates. The weight of edge (thickness of the connecting lines) is scaled to the percentage of shared occurrence. AvShW = average sherd weight.

compared with sites from period 1. In addition to this, the fact that special assemblages from period 2 do not show an abundance of characteristics makes them harder to recognise. On the one hand, it follows that norms were less strict in period 2 with regard to special deposition practices and that there was more variation possible in what contents were selected or the way in which treatments were applied. On the other hand, the execution is more restricted with regard to content, especially in the total number and weight of the pottery. With regard to this aspect, there appears that less variation was allowed than before. However, with regard to the associations among content, treatment and context, the same observations made for period 1 are valid for period 2 as well. The sets of characteristics that are found in pits in isolation and pits inside the house are not markedly different (see appendix 7).

5.8 Conclusion

In this chapter, the question was raised whether it is possible to discern widely shared ways in which the special deposition practices deviate from the general. In addition to this, the question was raised whether it is possible to discern temporal and regional or local patterns in the special deposition practices that point towards different social groups. From the perspective of the practice, *i.e.* the steps that were undertaken before a specific set of objects could undergo a specific treatment and be deposited in a pit in a specific context, there are two ways in which social groups can become visible in the patterning in material culture.

In the first way, the discussion relates to the essence of special deposition practices. In the sections below, I will argue that this essence was widely shared within and likely beyond the Fries-Drents plateau, and that it did not change much at the transition of period 1 to period 2. The second way to discern social groups is more detailed and relates to how this widely shared practice was adapted to household and local preferences, but also underwent change through time. This will also be discussed further below.

5.8.1 The core concepts of special deposition practices in the Iron Age

As was discussed earlier, it is often the treatment of the finds that is decisive in the interpretation of an atypical assemblage of finds as the remains of a special deposit. More than content and context, it is the similarities in treatment among the 42 assemblages that stands out. This is remarkable, because they were also selected based on other characteristics, such as the quantity of pottery or the association with other finds. The treatment of the 42 deposits suggests they are linked, in three ways: in the recurrence

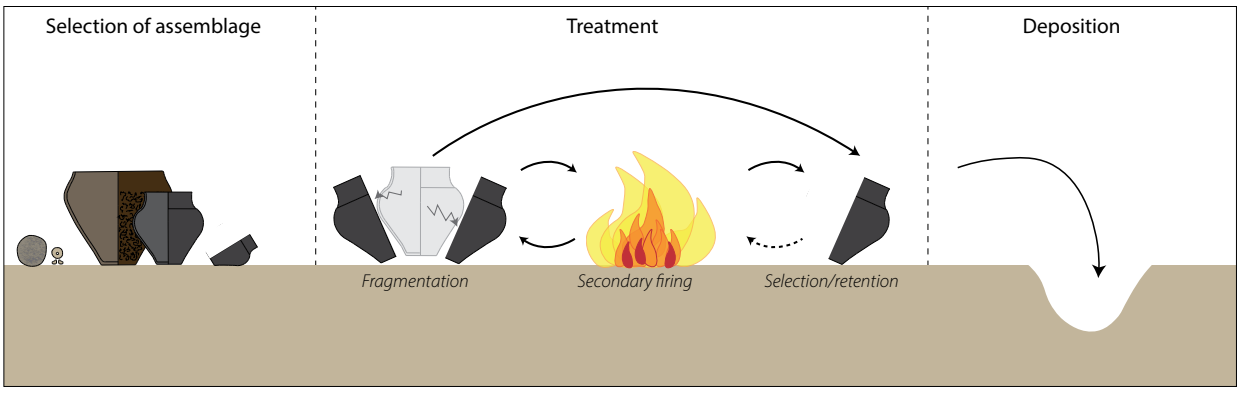


Figure 5.39: Core concepts of special deposition practices relating to pottery, for period 1 and period 2.

of deliberate fragmentation, the retention of parts of the fragmented objects, and traces of secondary firing – the latter being evidence for the presence of fire during the rituals surrounding the deposition of the objects. These can be considered the core concepts of special deposition practices and they are in essence shared among all pits within period 1 and period 2 and between the pits of both periods. The shared norms in deposition practices are visualised in figure 5.39, as the different steps of the deposition practices.

The shared norms in special deposition practices in period 1 and period 2 can be described as follows: After the initial selection of a set of pottery vessels accompanied by other types of objects, the vessels were fragmented, and frequently the other finds in the assemblage were too. This fragmentation appears to have been deliberate, which is evidenced by the few examples that show actual traces of deliberate fragmentation (section 5.6.2), but also by the ubiquitous presence of fragmented vessels and the lack of completely reconstructable vessels in the special deposits (fig. 5.26 and fig. 5.27). In addition to the omnipresence of fragmentation in the special deposits, there is near-ubiquitous evidence for the presence of fire (section 5.6.4). In general, fragmentation seems to have preceded the secondary firing, as is indicated by the frequent occurrence of sherds with burnt fracture margins (section 5.6.4, overview in table 5.2 and 5.3). However, occasionally there is evidence that the application of fire preceded fragmentation, when vessels show clear discolourations on the inner or outer surface, but not on the fracture margins of the sherds. Since there is a clear lack of vessels that can be reconstructed in their entirety, the selection for and retention from deposition must have been an important step.

In the practice of deposition, fragmentation and secondary firing seem to have had slightly different roles. In the case of fragmentation, it is a treatment that all or nearly all objects were deemed to have to undergo regardless of whether the objects were vessels or stones, stone tools or loom weights. Objects needed to be in a fragmented state before they could be deposited. Indeed, fragmentation was a prerequisite in the process of the special deposition, since vessels had to be broken to facilitate selection and retention of different parts of individual vessels and their distribution among more than one feature. In contrast to this, the application of fire to the assemblage seems to have been very variable, except for the fact that there are almost always traces of some presence of fire. It seems to have been more important that fires were lit and that some objects were secondarily fired than that all objects that were part of the assemblage were fired through-and-through. This is seen in the fact that percentages of secondarily fired sherds are variable between the pits and that variations can be seen at different scales. Pits can differ in content and treatment within one settlement site as much as they can differ between settlement sites.

The presence of the characteristics that have been discussed here – fragmentation, secondary firing and selection/retention – might on the face of it suggest that Iron Age deposition practices were uniform and unchangeable through time and across the region. This is far from the case, however, as the different elements of the process, the selection of the assemblage, the degree to which the assemblage was fragmented, the context of the deposition, and the retention of parts of the vessel were all elements that could be altered and manipulated. How and at what spatial and temporal scales these variations on the norm become apparent will be discussed in the following section.

5.8.2 Normativity and variation in Iron Age deposition practices.

Even though the core concepts are widely shared, at every step of the deposition practices, choices are made that are steered by shared practices on different scales (fig. 5.40). Some patterning in the dataset, for example, is best understood as widespread change from period 1 to period 2,

whereas other patterning is best understood at the level of the settlement or even as the result of ad hoc choices made at the individual events. In this section, I will discuss the choices made by the participants in the rituals surrounding the special deposition practices as being the result of shared practices on different levels. I will start with the largest scale, that of region-wide practices. After that I, will zoom in to the level of the settlement and the individual household.

The practices that are shared at the level of the Fries-Drents plateau become evident in the choice of context (section 5.4.1). In period 1, there is a clear preference for deposition made in isolation, while other contexts, such as the house and the outbuildings, are less often the context of a special deposit. This observation is in line with the general patterning of pits in period 1, which are generally located at some distance from the house (section 4.5.2). The examples of isolated pits studied here are found throughout the research area, and probably additional examples exist, as is suggested in chapter 4 (fig. 4.26). With regard to the content, the pits from period 1 have in common that G-type vessels are almost always accompanied by V-type vessels. In addition to this, non-pottery objects are found in almost all of the pit assemblages (section 5.5.4). Often other vessels in different shapes are added to the assemblage, such as larger G-type vessels and smaller V-type vessels, in addition to bowls and small cups in different shapes (section 5.5.3). Together, these different elements give period 1 pits the varied content and appearance that makes them so easy to recognise in the literature.

Other elements that are recurrently found in combination in period 1 pits and that point towards a widely shared notion of what special deposits should look like, the presence of large fragments (thus low fragmentation, section 5.6.1) and the lack of complete vessels or the lack of vessels that can be fully reconstructed (section 5.6.2). In the literature, completeness of vessels is seen as an important argument for the special nature of a deposit (Bos *et al.*, 2001: 218; Gerritsen, 2003: 84; Trebsche, 2014: 298; Nieuwhof, 2015: 116; Bloo *et al.*, 2017: 23; Brattinga and De Koning, 2017: 43-44). On this basis, almost all of the pits would be poor candidates for special deposition and good candidates for refuse pits or, at the very least, artefact traps. However, I believe that the nature of these assemblages argues against such an interpretation.

There may be two scenarios during which refuse would find its way into a feature. In the first scenario, a vessel is broken by accident and its sherds are directly removed from the surface by sweeping them in an open pit. In this scenario, sherds are expected to be large (as is the case for the pits in this study) and from all parts of the vessel, as all fragments are deposited (as is not the case for the pits in this study). In the second scenario, refuse is not deposited directly in a pit but stored temporarily somewhere on the farmstead, only to be deposited sometime later. In this scenario, broken vessels and sherds are transported across the farmstead. This means that it is likely that the sherds lost their association with one and other and that vessels may have been represented by less than 100 percent of their sherds (as is the case for the pits in this study). However, it is also likely that through transportation and temporary storage sherds become weathered and diminish in size (as is not the case for the pits in this study). In other words, because these vessels are simultaneously too incomplete and not sufficiently fragmented, they should not be interpreted as rubbish. The fact that all these assemblages show traces of secondary firing lends weight to the argument. This apparent contradiction is a typical element of period 1 pits that can be seen across the research area.

It is difficult to say what determines the exact selection of vessels – why certain deposits, for example, contain spindle whorls, while others do not. One thing is certain, however: context does not seem to have been a decisive factor (section 5.7). At the site of Hijken-Hijkerveld, there is a recurring practice of the special deposition of exceptionally large quantities of vessels and other objects. In contrast to other sites, there is also evidence for local practices that deviate from the supra-regional norms in the way the house is the preferred context for special deposition practices. At the site of Pesse-Eursinge, the four pits that have been studied are comparable in terms of the quantity and variety in vessel shapes and the lack of variation in the non-pottery finds. The site of Borger-Daalkampen II can best be characterised by the lack of large assemblages, even though period 1 and period 2 houses were found there in abundance. The site of Peelo-Kleuvenveld yielded multiple vessels with clear evidence for the deliberate fragmentation. The site of Emmen-Noordbargeres yielded relatively many special deposits, but the content of the assemblages is never very varied, in vessel shapes or in non-pottery finds. These observations lead to the conclusion that – although the specifics of the assemblage, the exact number of vessels that were selected, the exact way in which the vessels were fragmented and selected, were the result of household practices – the local or settlement level seems to have been more decisive in the translation of shared concepts into actual practices. This may also be the reason why there is often no clear spatial association between special deposits and the farmstead.

Many of the differences that have been observed between period 1 and period 2 pits can be traced across the research area, which indicates that the change was profound and widely supported. This change is seen in the general demise of the special deposition practices relating to pits, but also in those cases where the practice of special deposition did continue. Compared with the

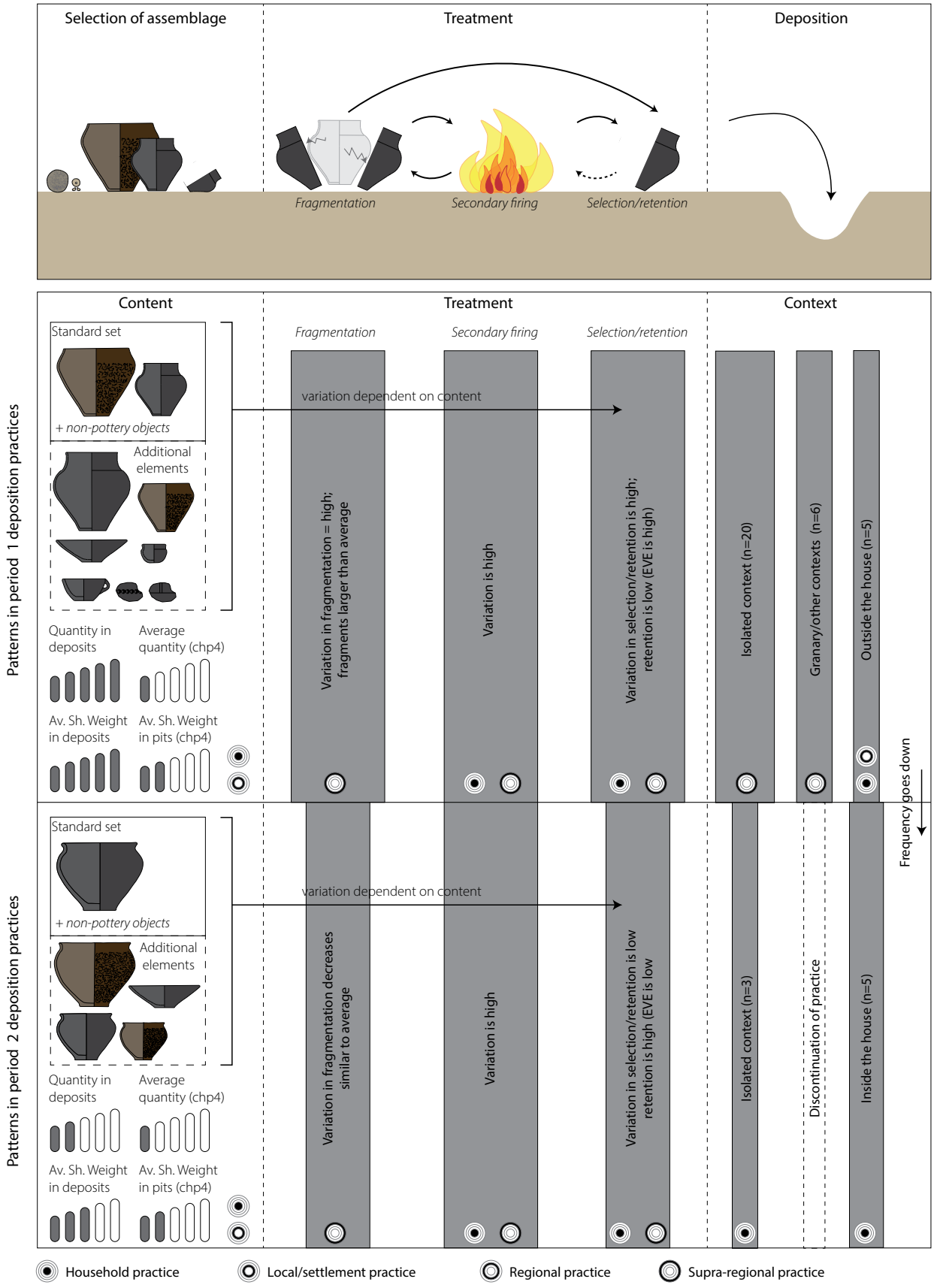


Figure 5.40: Schematic overview of normativity and variation in special deposition practices, period 1 and period 2.

assemblages from period 1, the assemblages dated in period 2 have lost variety in many of the elements and are markedly less easy to separate from the general, which makes them more difficult to recognise in the archaeological record. This loss in variety is seen not only in the quantity of period 2 pits matching the selection criteria for special deposits, which is more similar to the quantity of pits showing general practices, but also in the loss of variety in vessel shapes, in the number of different non-pottery finds, and in the loss of variety in which parts of the vessels are retained. This abandonment in period 2 of the widely shared practices of period 1 may be seen in the light of preference of other contexts for deposition. In the course of the Iron Age, special deposits seem to have been made in the features of the house, at the cost of pits (De Vries, 2015: 56-59). The period 2 pits that have been found inside the boundaries of houses can be seen both as the result of this changed emphasis on the house and as a continuation of the older practice of depositing in pits.

Based on the discussions above, it can be said that special deposition practices were practices shared predominantly at the level of the Fries-Drents plateau, which is seen in the core concept that is formulated here. This core concept indicates that there were widely shared ways in which special deposition practices differed from the general practices. Between period 1 and period 2, the translation of the core concept into actual choices in content and treatment is often very different, resulting in period 1 pits being much easier to recognise than period 2 pits. The translation of the concept to the actual deposit is best understood at the level of settlement or at the level of the household. The distribution of different characteristics shows no regional practices. The most remarkable observation is the uniformity in diversity of the special deposition practices in period 1. From this, it follows that when members of a household needed or wanted to make a special deposition, there was a widely shared understanding of what a special deposit should look like, but there was also the option to adapt it to local or settlement preferences.

Chapter 6

Conclusion

6.1 Introduction

In the introductory chapter of this thesis, I addressed the problem that, until now, too much emphasis has been placed on the region-wide, normative aspects of material culture in settlement sites of the Iron Age and Roman Iron Age on the Fries-Drents plateau. As a consequence, too little attention was paid to deviating practices, which can be found within these settlements as well. Because of this emphasis, the later prehistoric people that inhabited the sandy soils of the northern Netherlands have predominantly been presented as a single, homogeneous group, without doing justice to the intricate processes that lead to shared practices (norms) or to the social significance of practices deviating from the norm (variations). Partially, this one-sided picture is the result of one particular research interest in the long-term occupation history of the Fries-Drents plateau that has long dominated the research (see section 2.4.2). To some extent, however, it is also the result of the use of methodologies that do not allow archaeologists to register whether and how objects and practices can be simultaneously similar and different. As a result of these two observations, I posed the question: How can we interpret the normativity and variation that are evident in material culture in a more holistic way and how can we understand differences in the production, use and discard of domestic material culture (both immobile and mobile; *i.e.* houses and pottery) in the archaeological record of the (Roman) Iron Age societies on the Fries-Drents plateau in terms of social behaviour?

In chapter 2, I discussed how members of the household are embedded into larger social groups or communities, in which members can share practices. I also discussed how none of the individual participants in any practice is a true representative of the broader shared practice, and how variation thus always exists at the smallest social scale. From an archaeological point of view, this means that we have to be cautious in thinking that one settlement may be representative for all other settlements. It is better to study shared practices in the production, use and discard of objects as the total of different processes of social interaction across different spatial scales. By comparing the full spectrum of options at the household level and the shared practices that can be distilled from these household practices, it becomes possible to understand which practices are truly local and which practices are shared at broader spatial and societal scales. As a consequence, research into normativity and variation should always require an analysis across different spatial scales. Here, local practices are defined as the practices that households of one settlement share among them, whereas regional practices are the shared elements that can be distilled from the total of practices at the household level, but articulated at a larger spatial scale (fig. 6.1-left).[163]

163 More generally, local practices need not be restricted to the settlement site, because the sharing of burial grounds and arable fields can also lead to supra-household local practices (Gerritsen, 2003: 145-150, 163-167, 179-180). See section 2.3.1.

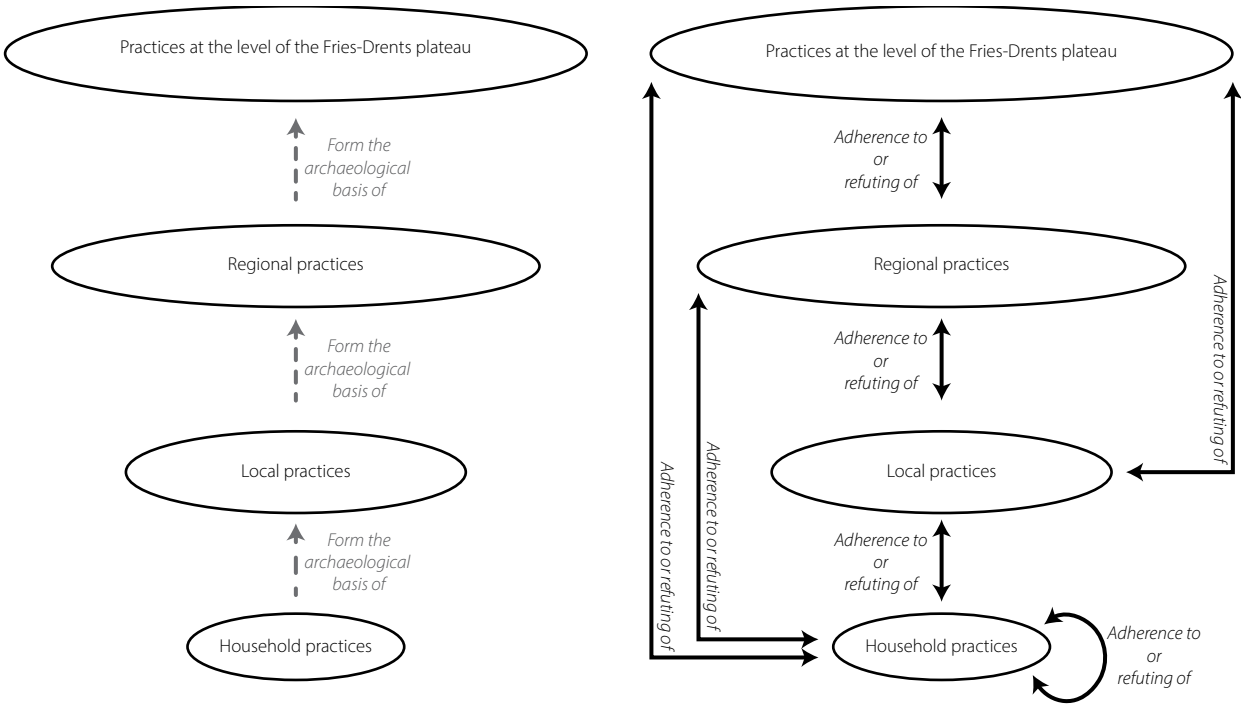


Figure 6.1: Schematic overview of the scales of the archaeological record (left) and the possible interactions between the different scales.

The way shared practices are described above and in figure 6.1 (left) is primarily a bottom-up approach to the archaeological record. However, the way choices are made, and the way we as archaeologist have to understand these choices, are dynamic processes that need to be understood bottom-up and top-down. On the one hand, the household is the place where large-scale practices are operationalised, and therefore the sum of all individual household practices is what should form the basis for our understanding of the region's practices of housebuilding, of making pottery, and of using it and discarding it again. On the other hand, the choices that households made about the production, use and discard of material culture are influenced by the household's incorporation into larger social units (section 2.3.1). Here it becomes interesting, because it cannot be said *a priori* how these interactions become visible in the archaeological record, nor does this have to be the same for all periods. For some periods or practices, households may adhere to shared norms in very similar ways, and, as a result, the local level, the regional level and the supra-regional level all show comparable practices. In other instances, the households may follow local or individual norms and deviate from practices that are seen within the wider region or at the supra-regional level. In yet other instances, a cluster of households may display varied practices that cannot be understood at the local level, but that can be explained as the different practices that are available at the regional scale. Certain practices may be considered deviations when compared with the supra-regional level but may represent the prevailing norms at a regional level (fig. 6.1-right). To summarise: understanding normativity and variation also involves understanding their interplay across different spatial scales and requires different levels of analysis.

In chapters 3, 4 and 5, I presented three case studies on normativity and variation in domestic material culture in (Roman) Iron Age settlements on the Fries-Drents plateau. In chapter 3, I engaged with one of the most discussed topics in settlement archaeology of this region and period, which is the way houses were constructed. In addition to this, I discussed the orientation of the structures in the landscape and the way their use lives were extended. In chapter 4, I provided insights into the different processes through which refuse, here represented by pottery fragments, enters the archaeological record. Finally, in chapter 5, I discussed one specific type of deposition practice discussed in chapter 4, namely, the special deposition practices of periods 1 and 2.

In the following sections, based on these three case studies, I will discuss how households are connected into larger social units, at the local level (the settlement), at the regional level and at the supra-regional level (the Fries-

Drents plateau). I will first discuss the interplay of the smallest and the largest scale, which are the individual households and the Fries-Drents plateau as a whole. As will become clear, often the total of household practices is much more varied than the shared practices at the supra-regional level. After this, I will discuss how the two intermediate levels, the local level and the regional level, potentially help to understand some of the discrepancies that can be observed in the first analysis. Finally, I will bring together the different strands and discuss the social meaning of normativity and variation in material culture. To help the reader, I will order my argument chronologically and use the four periods as used throughout this thesis.

6.2 Between the household scale and the supra-regional scale

In the sections below, I will discuss the relationships between the patterns that can be observed at the largest scale, which is the Fries-Drents plateau as a whole, and at the smallest scale, which is that of the household. As a consequence, the discussion has primarily a temporal character, about what elements change through time and what elements remain unchanged. Yet another part of the discussion is about the degree to which shared practices can be discerned at the level of the Fries-Drents plateau based on the observations made at the level of the household.

6.2.1 Period 1

Elements that characterise the house at the level of the Fries-Drents plateau in period 1 (800-400 BC) are a three-aisled construction, roof-load support posts outside of the wall, and the presence of a set of opposing entrances in the long sides of the house that divide the interior into two undifferentiated spaces. Compared with the subsequent three periods, houses from period 1 have a modest length. Within the group of houses in period 1, at the level of the household, variations on the three-aisled construction can be found as a partially or fully combined two- and three-aisled internal roof-load support structure; in the occurrence of an additional entrance in one of the short sides of the house; and, occasionally, in a differentiated, bipartite interior instead of an undifferentiated interior. Aspects such as wall construction and house width seem to have varied among houses in general.

At the level of the household, the overall picture of housebuilding traditions in period 1 is diffuse, which may be explained in different ways. First of all, houses dating to period 1 do not seem to have as many dug-down features as houses from the subsequent three periods (*e.g.* fig. 3.11), which means that potentially recurring and socially significant elements may not always be preserved in the archaeological record for period 1. However, the diffuse picture is not just the result of post-depositional processes. The totality of the choices for particular characteristics may be evident at the supra-regional level, but the chosen characteristics vary among the houses of individual households. Not every house displays the same features. Housebuilding practices were not very restrictive. In addition to this, there is the observation that housebuilding traditions do not let themselves be delimited by the archaeologists' chronological framework. Therefore, part of the diffuseness of the picture is also the result of an overlap in the occurrence of two subsequent housebuilding practices in period 1, namely the practices described above, and practices that fit better with the prevailing housebuilding practices of period 2 (see discussion below) and should be considered the oldest representatives of this practices (fig. 6.4).

In period 1, farmsteads did not have a very formalised layout (Gerritsen, 2003: 70-75), tended to be predominantly single-phased, and were relocated after the house was abandoned (Gerritsen, 2007: 158-162; Arnoldussen and Jansen, 2010: 385-386), although examples of houses rebuilt on the same footprint are known for the Fries-Drents plateau in period 1 as well (De Vries, 2019). As a result of the lack of clearly spatially structured farmsteads and of the relocation of farmsteads after a single use phase, it is difficult to attribute outbuildings to specific farmsteads. The same is true for other features, such as pits, with finds from period 1: an attribution to a specific farmstead often cannot be made. Still, general observations can be made about the way people discarded their refuse. Based on the analysis of the number, total weight and average weight of pottery sherds from period 1 features, refuse pits do not appear to have been a recurring element on any of the period 1 settlement sites. More likely, refuse was first deposited at the surface and only entered the features in the settlement unintentionally, at a later moment.[164]

In addition to these unintentional incorporations, some features contain finds that stand out because of the number, weight or average weight of the pottery sherds. These assemblages point towards the deliberate deposition of pottery fragments, either as occasional cleaning phases or as special deposition practices. At first sight, the variation among these features stands out. This can be explained by the many factors that are involved in the composition and deposition of refuse: the vessels that were at hand to be broken, the number of sherds that a vessel would break into and the chances of sherds ending up in features as refuse. However, when these assemblages are studied, similarities also become evident. Both postholes and pits were used to deposit

164 There is the additional possibility that refuse was removed from the farmstead and deposited on arable land as manure, as is suggested by finds of small pottery sherds mixed with other household debris in Celtic field contexts (Arnoldussen, 2018: 8-11, 13).

pottery fragments. Notwithstanding the difficulties of attributing features to individual farmsteads, the consistency in the selection of contexts among the analysed sites (chapter 4) points towards evidently shared and period-specific practices in period 1. Typically, features were selected at some distance from the farmstead, either pits or postholes of isolated granaries (although occasionally the byre house proper was also chosen as a suitable context; fig. 4.14). This indicates that the choices made in individual deposits were motivated by shared notions of the proper way of dealing with objects out of use. Deposition practices are thus also shared among the inhabitants of the Fries-Drents plateau and should be considered socially significant (fig. 6.5).

For period 1, I also studied one particular group of pottery deposits more extensively, which are the special deposits. Concerning the context of the pits used for these deposits, practices are in line with the general deposition practices: there is a clear preference for the selection or digging of pits in an isolated location, although pits are also dug in the vicinity of isolated outbuildings. Only occasionally is the house selected as the context for a special deposit. Because most pits cannot be associated with specific farmsteads, let alone specific houses, it is difficult to analyse them in light of the practices of individual households. Because these pits with finds are predominantly found in isolated contexts, we should exercise restraint in interpreting them as house abandonment practices and keep other interpretative options open as well (*cf.* Van den Broeke, 2015: 90).

When these pits with special content are studied at the level of the Fries-Drents plateau, they evidence the recurring preference of the inhabitants of the Fries-Drents plateau to select an isolated location for special deposition practices instead of a location close to the farmstead. To some degree, it can be said that every special deposit is unique in the sense that no two assemblages are composed of the exact same number of sherds or the exact same types of vessels. However, when the assemblage are studied in detail, shared traits become evident: it is not just the contexts that show consistency, but also their contents and the treatment of finds therein. Pottery and non-pottery finds are consistently found in association. With regard to treatment, deliberate fragmentation and secondary firing seem to have been non-negotiable elements in this practice. These recurring elements can only be the result of a practice that was shared at the level of the Fries-Drents plateau. It is remarkable how detailed these shared norms of the practice where, because these shared norms of proper treatment seem to have had very specific sets of rule, to the extent that it was known how different vessel shapes needed to be treated (fig. 5.34).

6.2.2 Period 2

Housebuilding practices at the scale of the Fries-Drents plateau in period 2 (400-0 BC) are both a continuation and a further development of practices from the previous period. Just as in period 1, houses are predominately three-aisled constructions with part of the roof-load supported by posts outside the walls. Just as in period 1, houses exist that are not fully three-aisled but have a partial combined construction. In contrast to the preceding period, in period 2, the interior of the house (still divided into two spaces by a set of opposing side entrances) almost always has different constellations of posts, indicative of a bipartite interior division. Also, in period 2, house plans consist of more features (*e.g.* post-built walls and more elaborately constructed entrances) and sets of features are found in association more frequently than before (*e.g.* interior posts and the Zwinderen-set; fig. 3.26). On the whole, the dimensions of the houses are also different from the preceding period. Houses, on the whole, are longer, and the nave and the entrances are wider than in period 1. The average house width is not much different compared with the average width of the previous period, but it is less varied. The combination of these recurring sets of features and the reduced variation in the dimensions suggests that clear supra-regional norms on how houses should be built were shared and adhered to. From a methodological point of view, period 2 houses are therefore much easier to recognise in the archaeological record. Additionally, a few houses display a construction in which the walls have replaced the external posts in the function of supporting part of the roof-load.

Even though a widely shared standardisation in the characteristics mentioned above is evident in period 2, variation is still visible at the level of the individual household. A small proportion (circa 10% in the broadly dated group) of the houses are built with an alternative roof-load support structure, *i.e.* a two-aisled construction instead of the dominant three-aisled construction. These two-aisled houses also show variation in the roof-load support structure. In addition to this, there is variation in the occurrence of elements that do not belong to the roof-load support structure: one third of the houses has a more elaborate construction for the entrance, and more than a third of the houses has a Zwinderen-set, which is frequently accompanied by interior posts. Only occasionally do houses display alternative constructional elements on the outside of the house, namely in the form of an overhang (fig. 6.4). Still, greater standardisation should not be confused with complete standardisation. Variation does not disappear from the archaeological record altogether. Even at the level of the household, there is a continuous process of adapting houses to specific needs. This becomes apparent in the rare instances where evidence can be found for the rebuilding of a house but where adaptations are made to the original layout of the house (fig. 6.2).

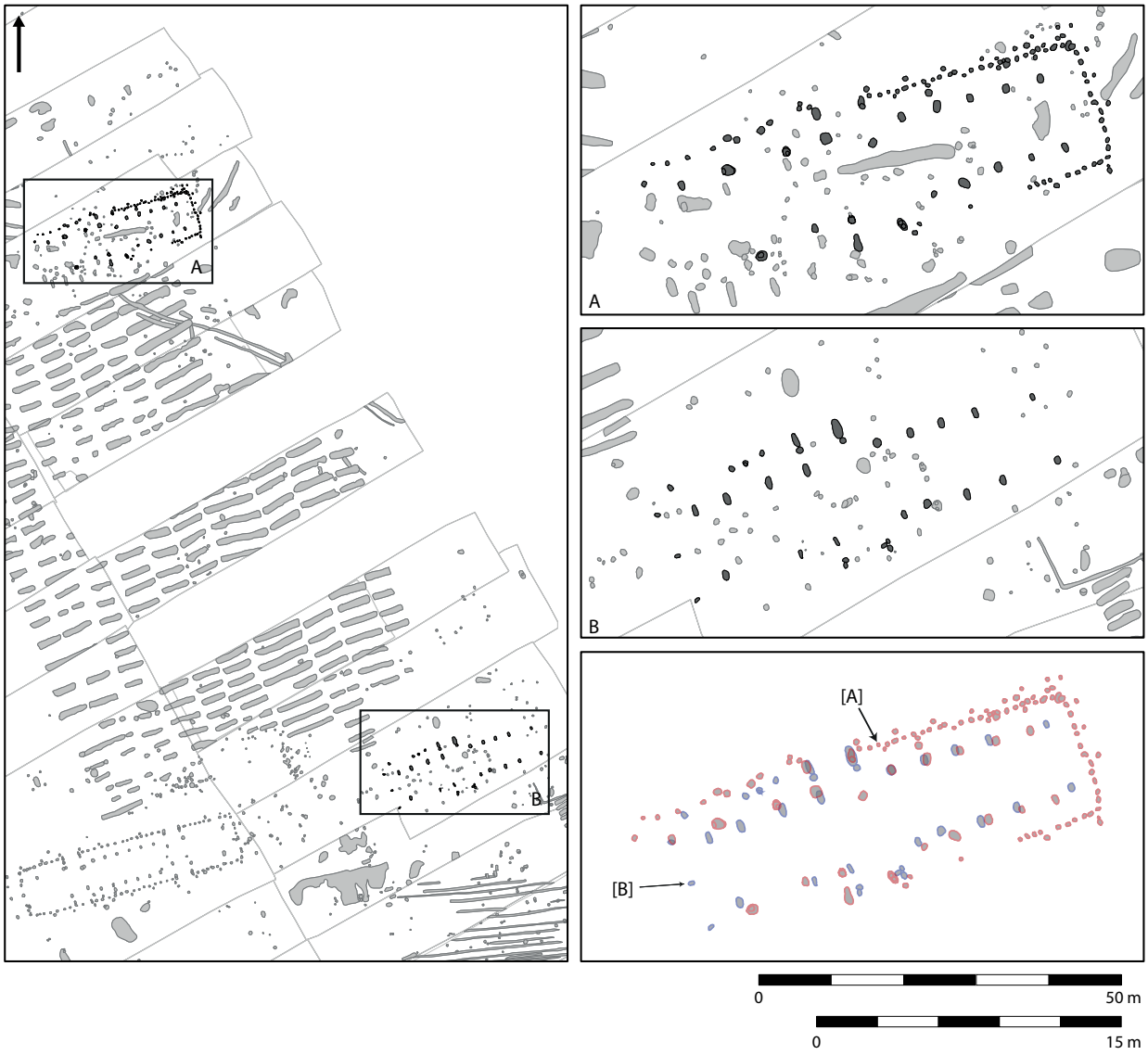


Figure 6.2: Example from Borger-Daalkampen II (2008) of rebuilding of a house, possibly through reuse of part of the construction (Van der Meij, 2010a). Notwithstanding the similarities between the house plans, differences are found in the exact dimensions of the house and the spacing of the last two sets of post on the east side. Overview of the excavation to the upper scale bar, house plans to the lower scale bar.

With regard to the general deposition practices, the deposition of refuse on the surface most likely continues, because features predominantly contain only small fragments of pottery, of limited weight, and there is a systematic lack of pits with large quantities of finds. In addition to the practice of surface deposition, other practices from period 1 continue as well, such as the deposition of pottery in the postholes of granaries. In contrast to period 1, pottery is more frequently found in the features of the house dating to period 2. Partially, this may be explained by the fact that period 2 houses have more features and therefore the chances of accidental inclusion are higher. But the house plans studied in chapter 4 also indicate that pottery was often deliberately placed in features when they were open. The deconstruction of the house and the removal of the posts seems to be the moment at which pottery enters the features, but the houses studied in chapter 4 indicate that the specifics of this practice vary among households, ranging from houses with no features with finds at all to houses with many features that also contain multiple large fragments (fig. 6.5).

Not all depositional practices from period 1 can be found in period 2. The most notable change observed is

the overall lack of pits with many finds, either near the house or in an isolated location. When compared with the previous period, it is striking that so few pits with pottery dating to period 2 are found. Even though the underlying cause of the abandonment of pit depositions is difficult to point out, the pervasiveness of this change can only mean that widely shared norms regarding the deposition of pottery changed at the level of the Fries-Drents plateau or beyond. What is more, at the level of the household, this change must have been widely accepted and directly accepted as well, because period 2 yielded many more houses than period 1 but barely any pits with substantial finds. The fact that pottery deposition in pits disappeared in period 2, however, does not necessarily mean that deposition practices were no longer socially significant; it may mean that the contexts now selected are less archaeologically visible (fig. 6.5).

There is a similarity in the observed changes between the general and special deposition practices. Markedly fewer pits with special deposits can be observed for period 2 than before. In this sense, the shared practice in period 2 is not to use pits as the context for special depositions; the few pits studied here form variations on this norm at the level of the household. Just as general deposition practices can be linked more directly to the house, in period 2, pits with special deposits are more evidently associated with houses. Isolated pits used as the context for special deposits also still occur, for example at Dalen-Molenakkers II, but in much lower frequency. With regard to the content of the depositions, practices both continue and change. On the one hand, assemblages in period 2 remain unique sets of finds and vary in the number of sherds and the exact shapes selected for deposition. On the other hand, the assemblages are still generally a combination of pottery and non-pottery finds, but variation decreases in both quantity of sherds and variation in vessel shapes in comparison with the preceding period. With regard to the treatment of the objects, the presence of fire at some moment in the process continues to be important, and fragmentation and selection remain important as well (fig. 6.5).

6.2.3 Period 3

The totality of houses that can be dated to period 3 (0-100 AD) more likely consists of two groups of houses that are part of two consecutive, but overlapping traditions. One group of houses can be dated to period 3 but shares almost all characteristics of most of the houses of period 2. These houses display a three-aisled construction with part of the roof-load supported outside of the wall and an interior space divided by two opposing long-side entrances. Different constellations of posts are found in either interior space, suggesting a differentiated or bipartite interior. Variations found in houses from period 2, such as the combined construction, the Zwinderen-set and the interior posts, also continue into period 3. As I discussed in chapter 3, the wall construction of houses with external roof-load support posts seems to have been sturdier than the wall construction from the preceding periods. Compared with the houses of period 2, their dimensions are also slightly different. Overall, the nave is wider, both in absolute terms and relative to the total width, thus creating a more open space within the house. In addition, the entrances are overall wider than in the previous period.

The developments between period 2 and period 3 in the housebuilding tradition discussed above are thus twofold. On the one hand, some developments can be considered to be a prelude to the housebuilding tradition that is also seen in period 3 and that was to become the norm in period 4 (see discussion below). The strengthening of the walls, for example, can be explained in this light. Other developments that are materialised in period 3 houses are better understood as the epilogue of earlier developments, for example, the widening of the nave and the entrances. These elements seem to have changed completely in the subsequent, period 4, housebuilding tradition. These subtle processes of continuity and discontinuity within a single building tradition could have never been understood if only type labels had been used. The current approach does allow for a more nuanced picture, in which people could be part of a centuries-old tradition, but still change and adapt their house within the boundaries set by the tradition and, occasionally, shift those boundaries.

In addition to the period 3 houses that are rooted in period 2 practices, there is a second group of houses that are not (fig. 6.4). These houses remain part of the three-aisled tradition, with occasionally combined constructions, but these houses also clearly differ from the first group of houses in the way the roof-load is supported by the walls proper and no longer by posts placed on the outside of the walls. At the level of the household, variations can be observed in different aspects. A proportion of the houses still show the bipartite interior, but more frequently than before the interior is tripartite as is indicated by an extra set of opposing long-side entrances. At the level of the household, variation can also be observed in the number of entrances, because the houses in this group also occasionally have an additional entrance in one of the short sides of the house. In other aspects, this group of houses is also more varied than those of the preceding period, because of two co-existing solutions to create roof-load supporting walls. Walls constructed in trenches as well as closely spaced wall posts are found in this group. Other elements are also evidently different from the previous period, but with only one option available for their execution. One of the best examples of sudden and direct change can be found in the decrease in the width of the entrances. At the same time that the entrances of the 'old' tradition become wider, the

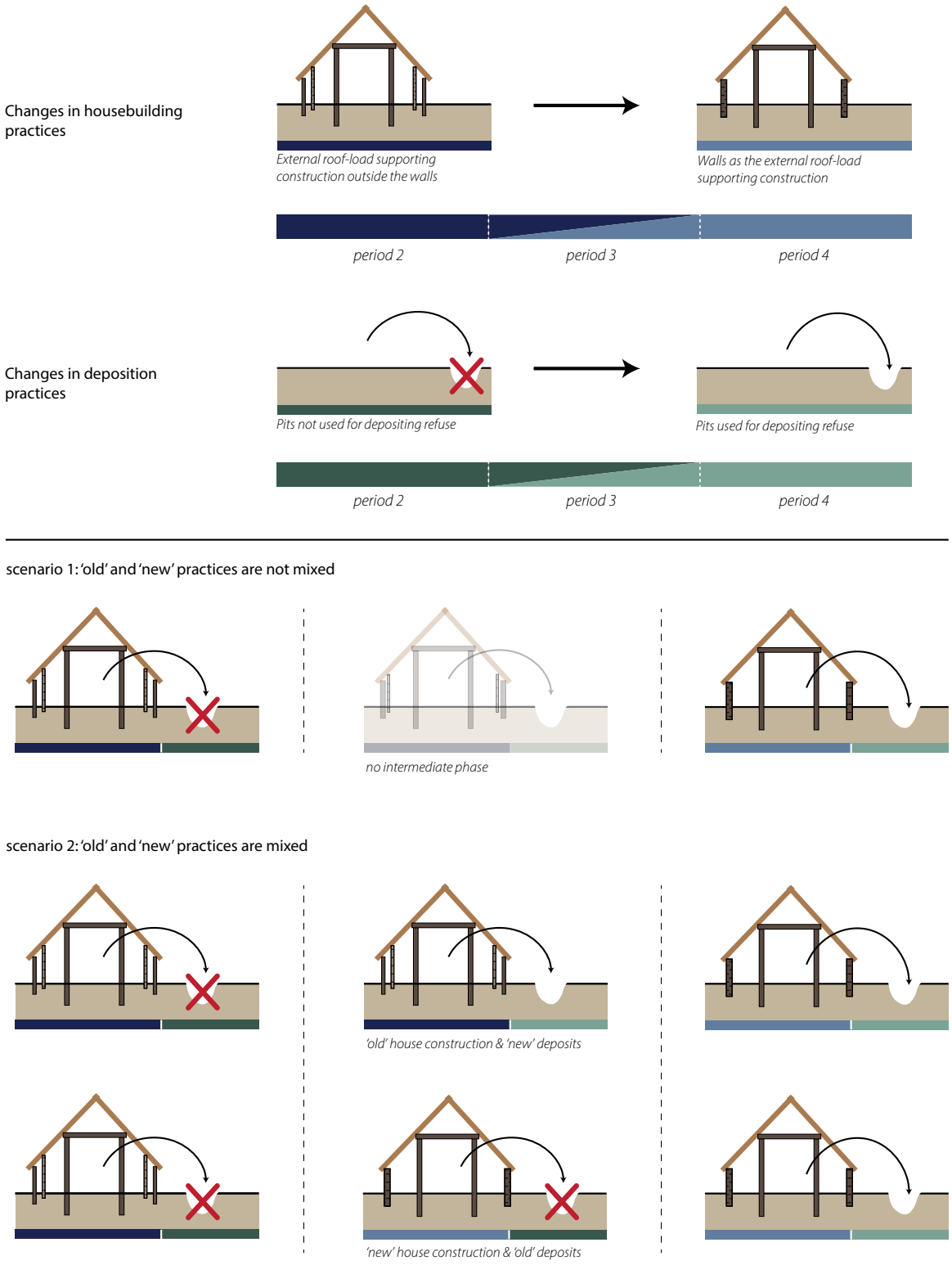


Figure 6.3: Top: changes in housebuilding and general deposition practices between periods 2 and 4. Period 3 is transitional because both the 'old' and the 'new' practices of constructing houses and depositing refuse are found in this period. Bottom: different scenarios in which the changes in housebuilding and deposition practices can be parallel processes (scenario 1) and in which change is not synchronous and old and new traditions are mixed. There is the additional option that both scenarios occurred. Based on the dataset, however, the first scenario prevailed.

'new' construction only shows narrow entrances. No intermediate option seems to have existed (fig. 3.19).

At first sight, the general deposition practices do not display the same transitional and continuous nature as the housebuilding practices of this period. First and foremost, most features contain few pottery sherds of modest weight, which points towards a continued practice of not using features systematically for cleaning of the farmstead. However, compared with period 2, more features have finds that cannot be explained as occasional depositions because of the large total number of sherds, total weight or average sherd weight. Both pits and postholes are selected, and, in both cases, there is an evident spatial association with the farm and the farmstead. Because of the number of features with finds, at first sight, it appears that the practice of not using pits is completely abandoned again in favour of more frequent use of pits. However, this is only true for the houses that belong to the second group (*i.e.* those with roof-load support walls). Period 3 houses that belong to the 'old' tradition continue to be used without digging any pits in their direct surroundings. This indicates not only that period 3 is transitional in housebuilding as well as in general deposition practice, but also that these two changes coincided (fig. 6.5).

This parallelism suggests that housebuilding and deposition practices were elements of an overarching concept of how settlement sites should function. This overarching concept changed in the course of period 3, and the separate elements changed accordingly. What this also signifies is that the way people dealt with their domestic objects is not just period-specific (period 2 being different from period 1), but also dependant on the type of settlement. Period 3 indicates that deposition practices differ between closely knit and demarcated settlement or part of a more openly structured settlement. The evidence from period 3 shows that changes in the way people dealt with their refuse do occur, challenging the notion of refuse being uniform and unproblematic. What is more, the evidence from period 3 indicates that similar changes in general depositions occurred in different places, indicating that these practices are shared and that they are socially significant as well (figs 6.3-6.5).

6.2.4 Period 4

Of the four periods discussed in this thesis, period 4 (100-300 AD) is the most difficult to analyse and therefore the most difficult to understand. There are two reasons for this. The first is the nature of the settlements that most of the evidence originates from. Settlements such as Emmen-Frieslandweg (De Wit, 2003), Noordbarge-Hoge Loo (Arnoldussen and Albers, 2015) and Midlaren-De Bloemert (Nicolay, 2008) have high feature densities as a result of rebuilding and overbuilding of houses within the same demarcated space. Because of these many overlapping features, it is difficult to attribute features to specific buildings. Even elements that may seem less problematic to determine, such as length or width, cannot always be established with certainty. The second reason for our incomplete picture of period 4 is the difficulty of including house plans from two of the major sites, Peelo (Kooi, 1994, 1995) and Wijster (Van Es, 1967), because finds cannot be associated with individual house plans. These two sites have played a pivotal role in previous research for our understanding of Roman period housebuilding. However, because structures and finds are discussed separately, individual houses could often only be dated on typochronological arguments and therefore could not be included in the analyses of this thesis.

Based on the houses that could be included in this analysis, we can see a continuation of some of the practices of period 3. Houses have a three-aisled construction, with walls that partially support the roof-load. In period 4, too, we see partially and fully combined two- and three-aisled constructions as variations on the fully three-aisled construction. Variations are also evident in the way the walls are constructed: walls placed in trenches and post-built walls are both found in period 4. Similar to the second group of houses from period 3, the houses from period 4 frequently have extra entrances, either an extra set in the long sides or one extra entrance in one of the short sides of the building. When the dimensions of houses from period 4 are compared with those from the previous three periods, we see they are built with a different notion of proper dimensioning: houses are longer than before but also narrower with regard to total width, nave width and the ratio between the total width and the nave width. If we include Wijster and Peelo in period 4 as well, other elements also occur more frequently in period 4, such as byre divisions and entrance pits. These elements frequently occur in these two sites, but both sites also comprise houses without these elements (fig. 6.3).

The general deposition practices of period 3 and period 4 are very similar because the data for these two periods originate from settlement sites that are continuously inhabited in both period 3 and period 4. The practices from both sites are moreover similar, because the sites both consist of nucleated houses demarcated by ditches. This means that also in period 4, most features contain only small assemblages, consisting of few sherds, with a low total weight, as a result of accidental inclusion. Besides, some pits and postholes contain more pottery sherds, of a higher total weight. The main difference between periods 3 and period 4 seems to be the average sherd weight and the degree of pottery fragmentation for sherds found in pits and postholes. On the whole, period 3 pottery seems to have been more fragmented than period 4 pottery, which may be explained by the fact that period 3 pottery often comes from the older settlement phase and is more prone to degradation because of continuous habitation at the same location (fig. 6.4).

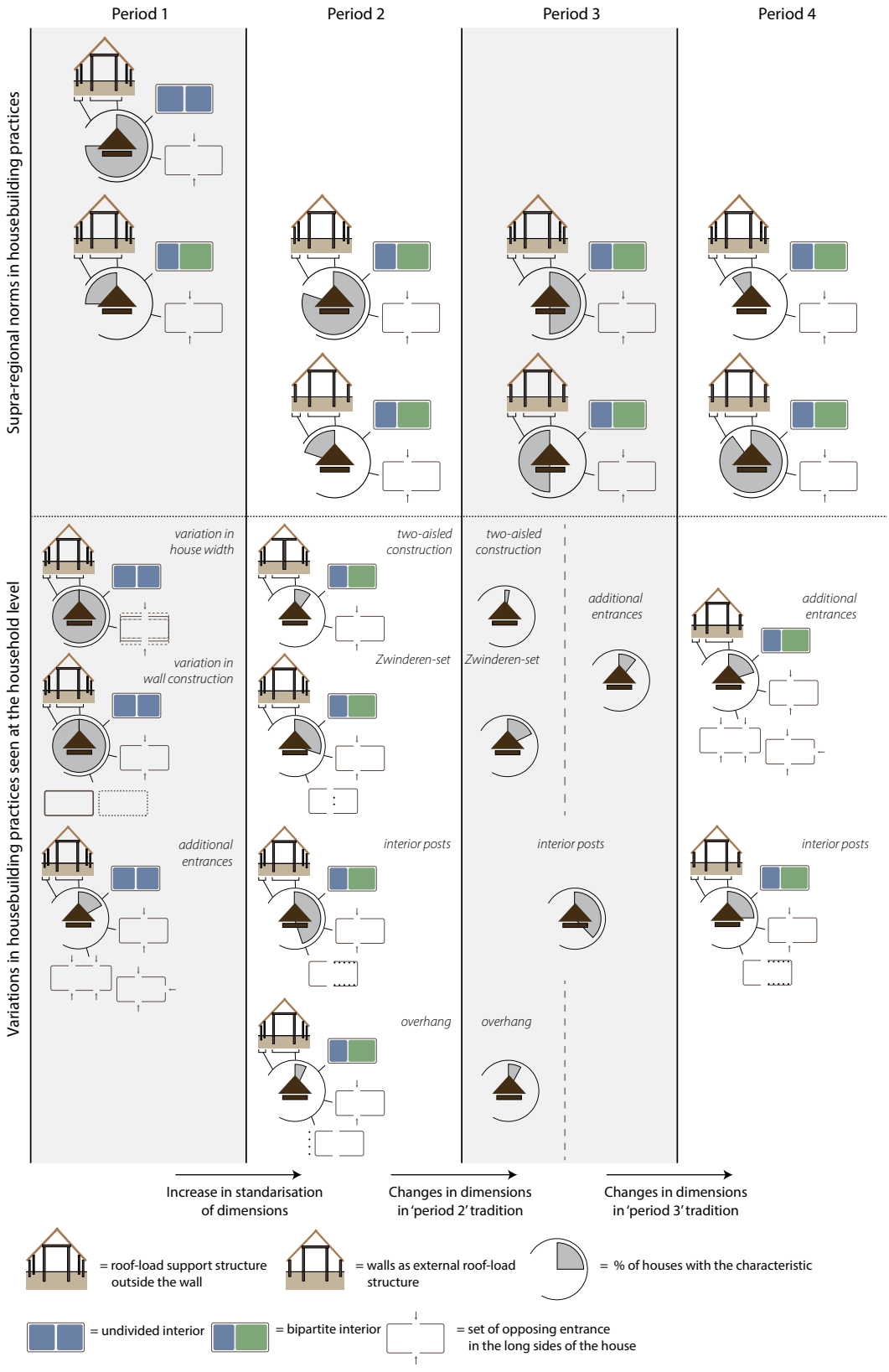
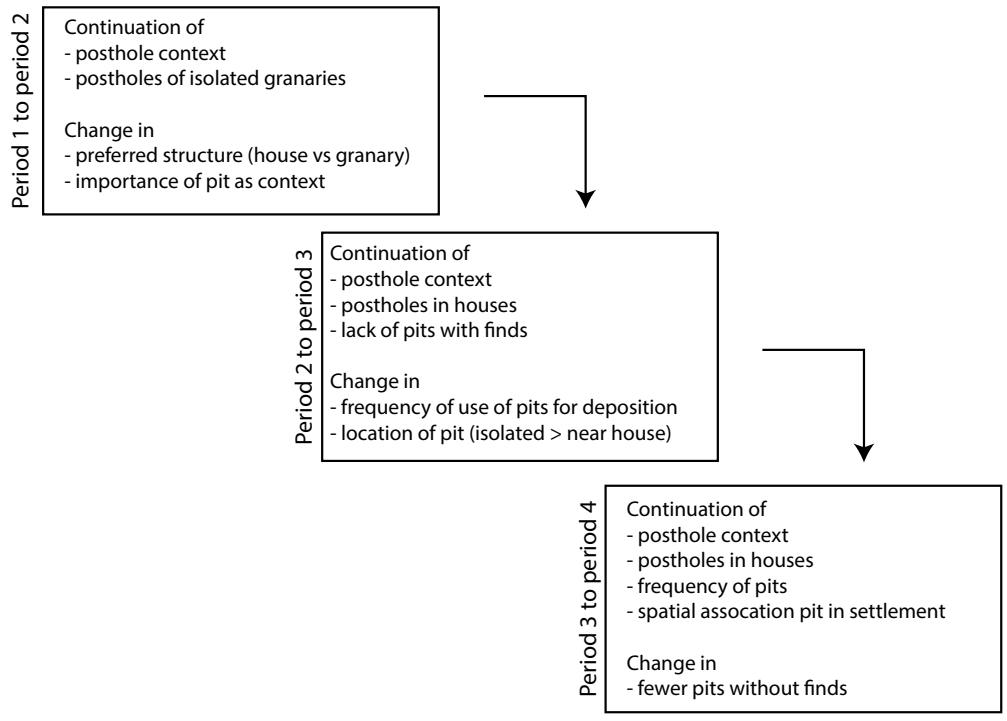


Figure 6.4: Schematic overview of continuity and change in housebuilding practices, the associated alternatives and variations per period.



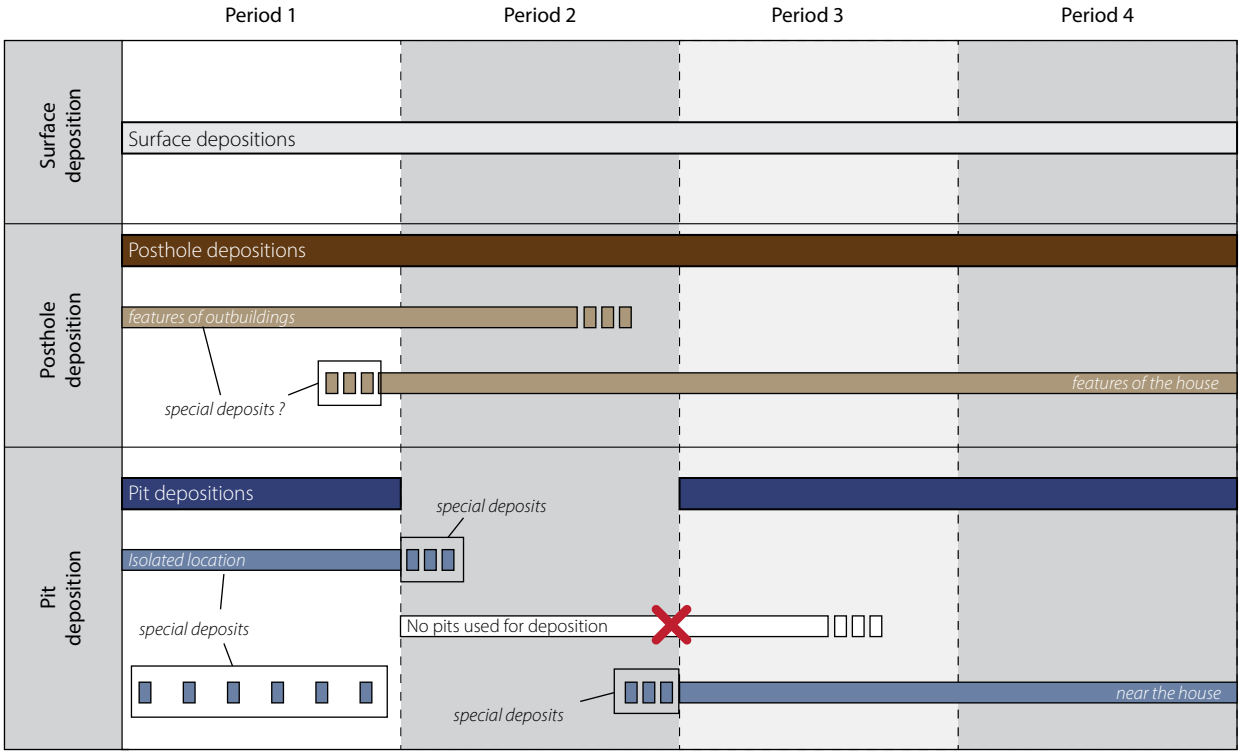


Figure 6.5: Continuity and change in the contexts of general and special deposition practices.

6.2.5 Synthesis: between the household scale and the supra-regional scale

As has become apparent from the discussion above, all four periods show clear evidence of shared practices at the level of the Fries-Drents plateau. As can be expected, all four periods display synchronous variations on the practices that are shared. In some instances, explanations for these variations can be found in methodological issues, such as the limited number of features in period 1 houses or the long use lives of settlement sites in periods 3 and 4. Still, other variations are more likely to be the result of actual differences in synchronous practices. For period 1, the discrepancy between patterns in housebuilding practices observed at the largest scale and the smallest scale seems to be the result of a practice that is not shared very strictly. For the general deposition and special deposition practices, variation at the smallest scale is more difficult to relate to the household. Notwithstanding this difficulty, the proper content and treatment of the assemblages seem to have been followed through more strictly. For period 2, differences in housebuilding practices between the supra-regional and household scales decrease (multiple characteristics are frequently found together and there is more uniformity in the measurements) and at the same time become more evident (there is evidence of another, two-aisled housebuilding practice). With regard to the general and special deposition practices, period 2 is characterised by widely shared changes in practices in comparison with the previous period. The lack of pits with period 2 finds is the prime example of these widely shared changes. Variation observed in period 3, both at the supra-regional level and at the level of the household, mostly pertains to a gradual transition between two overlapping traditions in the way houses were built, refuse was disposed of and settlements were structured; the later tradition then becomes the norm in period 4. In case of the variations observed at the level of the household, it is interesting to see whether the two intermediate scales of analysis, the settlement, or local, level and the regional level can be used to understand these variations.

6.3 Between the local scale and the regional scale

As I discussed in the introduction, the range of possibilities that can be observed at the level of the household may be the result of different processes: the degree to which variation was allowed in the interpretation of shared practices at the level of the household; whether a household held onto old traditions or was the first to implement new practices (that could be the result either of local innovations or of adoption of practices from elsewhere); and whether households follow local or regional practices instead of supra-regional practices. This latter source of variation means that the patterns discussed here comprise not just a temporal aspect, but also a spatial and a social component, which relate to the way households are embedded into larger communities. In the following sections, I will discuss how the intermediate levels of the settlement and the region can help to explain the discrepancy that is observed between shared practices at the supra-regional level and the observed variation at the level of the household.

6.3.1 Period 1

In the previous section, I argued that housebuilding practices of period 1 are diffuse. When the variations in housebuilding practices are studied at the level of the settlement or the regional level instead, overall patterns appear no less diffuse. If someone had travelled across the research area in the past, this person would have seen houses, for example, that continuously refer to shared norms, but that were varied as well. And this would have been the case no matter where on the plateau the traveller observed the houses. At many settlements, houses that can be dated to period 1 are found in association with houses that cannot be dated to this period but are built according to the same principles. When the houses from these settlements are compared, choices with regard to an extra entrance, total length and total width seem to have been made at the level of the household and were probably not even normative at the level of the household. This can be seen in the differences between houses 6 and 7 at Borger-Daalkampen N34 (fig. 6.6; Kooi and De Wit, 2003). Only occasionally is there evidence for repeated practices at the level of the household, in cases where houses were rebuilt on the same footprint.

In addition to these practices, in period 1, examples are found of a construction that would become the dominant type of construction in period 2. These early occurrences are not spread evenly across the study area but are the result of deviating practices that were shared within just one settlement site, which is the site of Hijken-Hijkerveld (Arnoldussen and De Vries, 2014). The site of Hijken-Hijkerveld not only yielded the oldest examples of the practice in the study area, but also multiple examples, indicating that it was truly a local (settlement) practice shared by the inhabitants. Even though the way the roof-load was supported and they way the interior was divided deviate, other elements of these houses do still fit within broader shared house construction practices of period 1. The houses at Hijken-Hijkerveld seem to be built according to locally preferred dimensions in terms of the narrower nave width and entrance width that are different from the widely shared measurements in period 2 and period 3 (fig. 3.31). House 3 at the site (Arnoldussen and De Vries, 2014: 94, fig. 8) is the only house with an additional entrance that is built according to period 2 principles. Again, it is evident that households may participate in long-term and large-scale traditions, but retain possibilities to change and adapt.

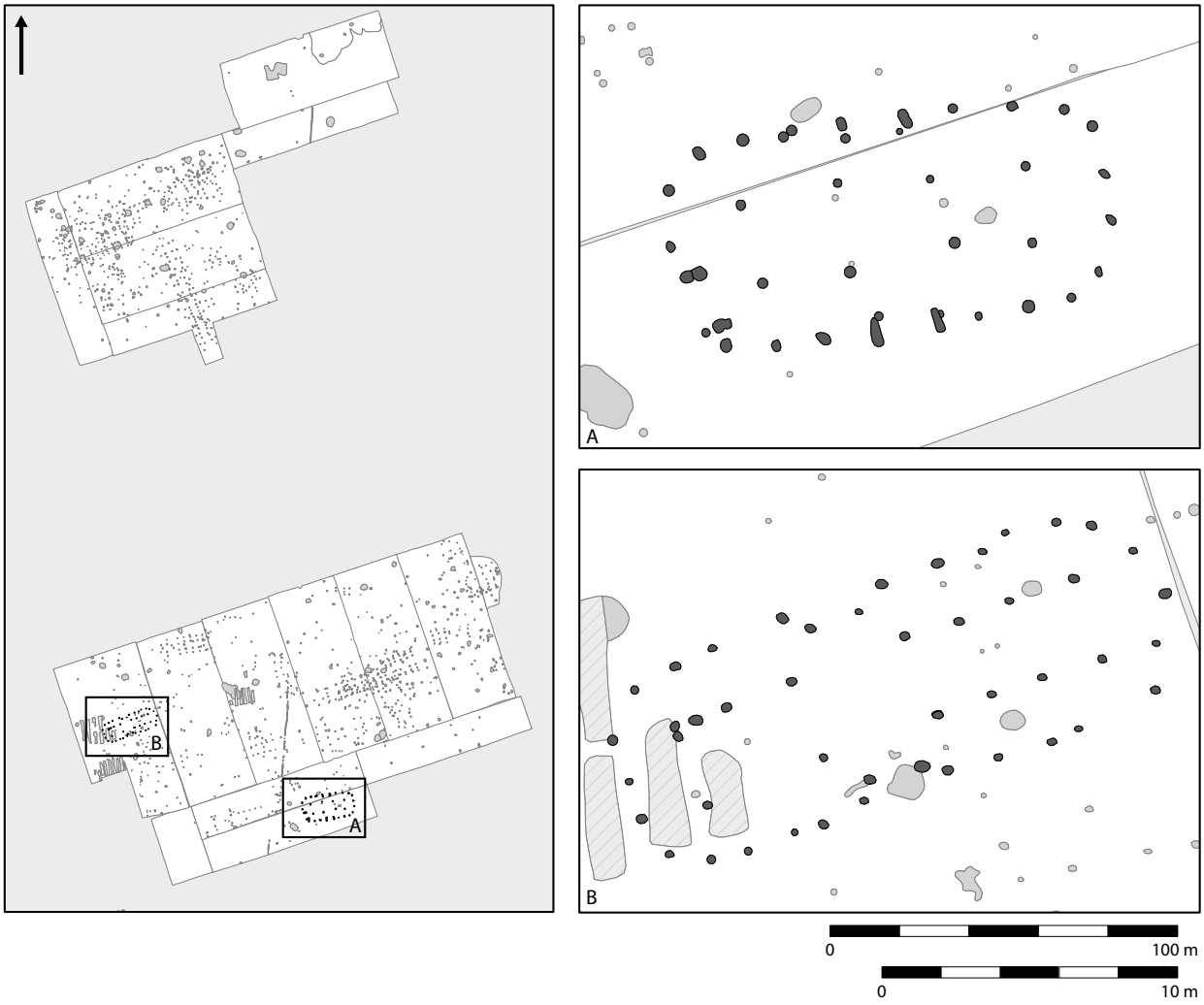


Figure 6.6: Example of variation in housebuilding practices at the site of Borger-Daalkampen N34 (Kooi and De Wit, 2003). House 7 (inset A) is dated to period 1 based on radiocarbon dates. House 6 (inset B) could not be dated based on pottery finds or radiocarbon dates. House 6 has a similar roof-load support structure as house 7, but a different internal layout and no additional entrance. Map of the excavation to the upper scalebar, house plans to the lower scalebar.

With regard to general deposition practices, the local (not the household) scale is often the smallest scale at which such practices can be understood. This is not necessarily because there is evidence for local ways of dealing with refuse, but because features with finds are difficult to associate to specific farmsteads and can therefore only be studied at an aggregated level, which is the settlement. When such local practices are compared with the practices at the regional or supra-regional level, there is no evidence that local groups had truly different practices. However, there is such a consistency in the occurrence of isolated pits or isolated granaries with finds in their features that the practice can only be understood as one that was shared by all inhabitants of the Fries-Drents plateau and that was followed consistently. In this light, the occasional nature of the deposition practices is remarkable because, even though there is a consistency in the selection of contexts, not all potential contexts (postholes of granaries or isolated pits) were always used. This means that only certain circumstances called for these depositions and that knowledge about these practices may have been present latently and shared between members without always being put into practice.

As I discussed in chapter 5, special deposits in period 1 demonstrate widely shared practices, such as secondary firing and fragmentation, but can vary in quantity and in composition of both the vessel shapes and the non-pottery finds. Again, it is difficult to directly link many of these special deposits to individual households, because they are often located in an isolated location and cannot

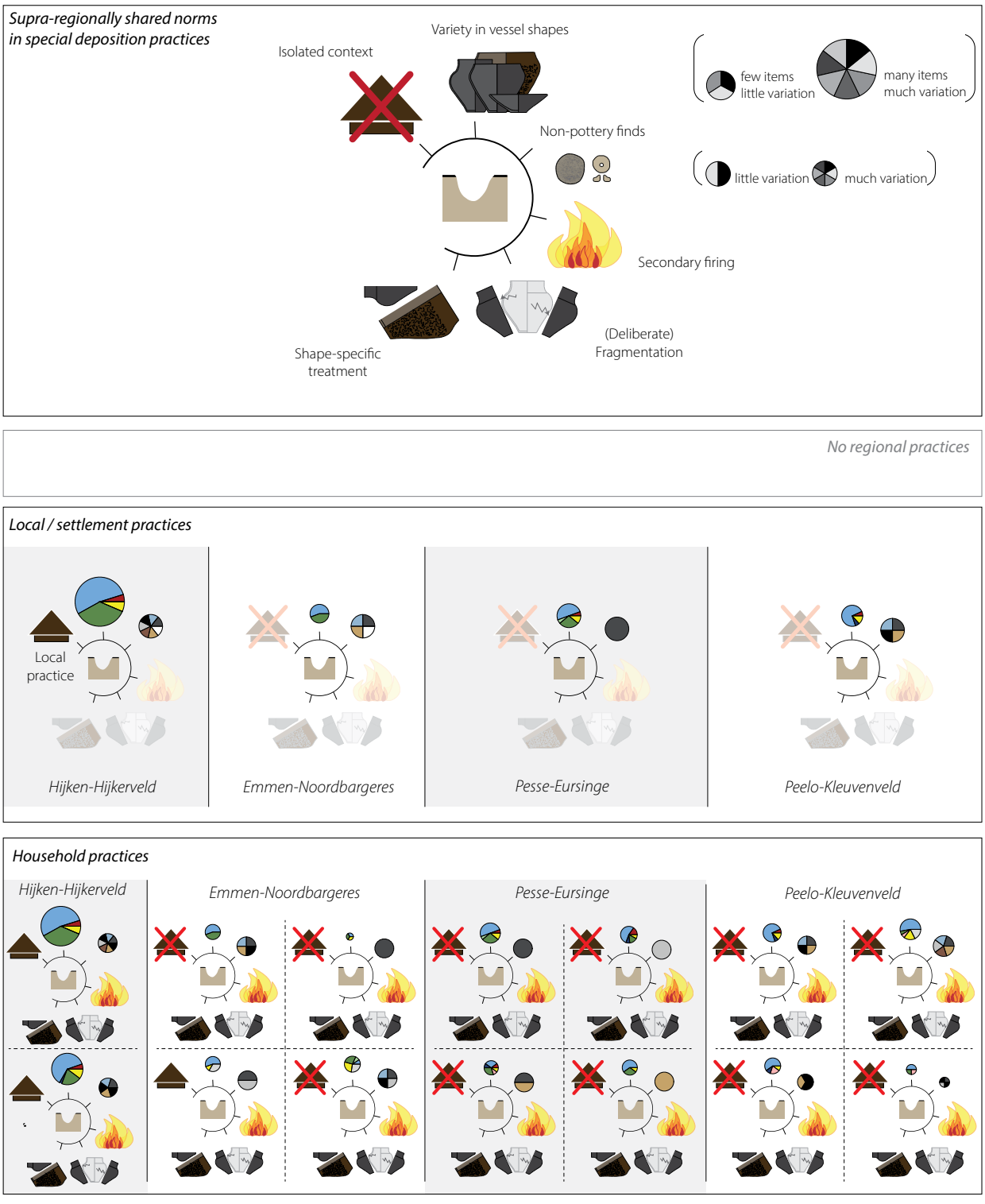


Figure 6.7: Schematic overview of which levels are the most appropriate for understanding the different characteristics of special deposition practices in period 1. The bottom row of household practices shows a schematic overview of the content, context and treatment of the special deposits at Hijken-Hijkerveld, Emmen-Noordbargeres, Pesse-Eursinge and Peelo-Kleuvenveld. At the local or settlement level, the shared practices of the sites are displayed. No regionally specific practices can be found. The top row shows a schematic overview of the context, content and treatment that dominates in special deposits on the Fries-Drents plateau.

be connected through refits. However, in those instances where multiple special deposits from one settlement site have been included, there is a consistency among the deposits with regard to both quantity and composition. If one could be a witness to a number of these depositions in period 1, it would be obvious that they all share certain aspects, such as secondary firing and fragmentation, but that there are more similarities in the special deposits within a settlement than among sites. This indicates that the articulation of widely adhered to depositional rule-sets took place at the level of the settlement, not at the level of the household (fig. 6.7).

The site of Hijken-Hijkerveld again stands out because attending the rituals surrounding a special deposition would have been a different experience here than in other parts of the plateau. At Hijken-Hijkerveld, one would find oneself near the remains of an abandoned longhouse, whereas in most of the other settlements, one would find oneself in a more distant and isolated spot as the venue for the occasion. Part of the deposition practices at Hijken-Hijkerveld can be considered translations at the local, or settlement, level, just as the depositions at other sites are local translations, in the sense that quantity of sherds and variety in pottery shapes and non-pottery finds are shared at the level of the settlement. The selection of the house as the context for deposition practices at Hijken-Hijkerveld should be seen as a deviation from the supra-regional practices, a practice repeated only at the local, or settlement, level. The fact that Hijken-Hijkerveld demonstrates a locally deviating practice in depositing objects does not mean that at this site all supra-regional rule-sets were ignored. The presence of isolated pits with special deposits at Hijken-Hijkerveld (find nos 130/136 & 148: Arnoldussen and De Vries, 2014: 93, fig. 7) indicates that deviating local practices could co-exist with practices that adhered to supra-regionally shared concepts.

The contrast between housebuilding practices and special deposition practices in period 1 is striking. The fact that these households did not follow housebuilding practices very strictly does not mean they were not social units. Rather, a different practice seems to have been the medium to express a sense of community, which was that of the special deposition. It is all the more remarkable that these shared practices were often undertaken outside of the farmstead. In the cases of Gees[165] and Peelo-Kleuvenveld (Kooi, 1996: 421, fig. 4), these isolated pits may have been part of or placed in the Celtic field. Since the content of the depositions is comparable at the local level of the settlement, they seem to have been made with the local community present, either physically or in mind. This is reminiscent of the observations made by Gerritsen on the importance of agricultural and burial practices that are placed outside the settlement in this period. He argued that group identity was predominantly the result of the shared use of Celtic fields or burial groups and not the result of close-knit associations in a settlement context (Gerritsen, 2003: 242-244). In a similar vein, ties seem to have forged in shared depositional practices above the scale of the household, not in co-residency.

6.3.2 Period 2

As I discussed in the sections above, the houses in period 2 are more similar to each other than those of the preceding period. This means that norms regarding housebuilding were more articulated than before, but also more strictly followed. In period 2, there is evidence for an alternative roof-load construction in the form of the two-aisled construction in a small proportion of the houses. Houses that show this construction are only found in the southern part of the research area, which means that this should be seen as an alternative within one specific region. Yet within this region, these houses still represent only a minority of the houses. If this construction represents a connection to the housebuilding traditions found to the south, it represents its northern fringe and certainly not the dominant tradition in the southeastern parts of the region.

As I noted above, there are variations in other elements of the house that do not belong to the roof-load support structure. The Zwinderen-set is the most interesting, as it illustrates the complexity of variations at the level of the household in period 2. In this period, a person travelling across the plateau would have recognised that houses are very similar and would have noticed specific variations only in the south, and only if he or she were invited in. In many other aspects, the houses would not appear to be much different. Some elements, such as the Zwinderen-set, could be found in both the two- and the three-aisled structures, but only in the south, and not in all of them. Both the two-aisled roof-load support structure and the Zwinderen-set thus have a restricted spatial distribution. In addition to this, within the region in which they are found, the two-aisled structure remains a minority. The Zwinderen-set is found more frequently there, but it is also not a dominant practice.

This prompts the question how these elements are distributed within the region and thus at what level choices were made in housebuilding practices. Zooming in further, to the level of the settlement site, does not provide a better understanding of these choices; rather, the pattern becomes obscured again. Both two-aisled and three-aisled constructions are found in the same settlement (fig. 6.8). This suggests that the association with the two- or three-aisled building tradition was not determined by the settlement site you were part of, but rather the household you belonged to and the larger community your household belonged to. These two

165 Publication by Waterbolk (1989: 290, fig. 2) and primary documentation held at Groningen Institute for Archaeology, University of Groningen.

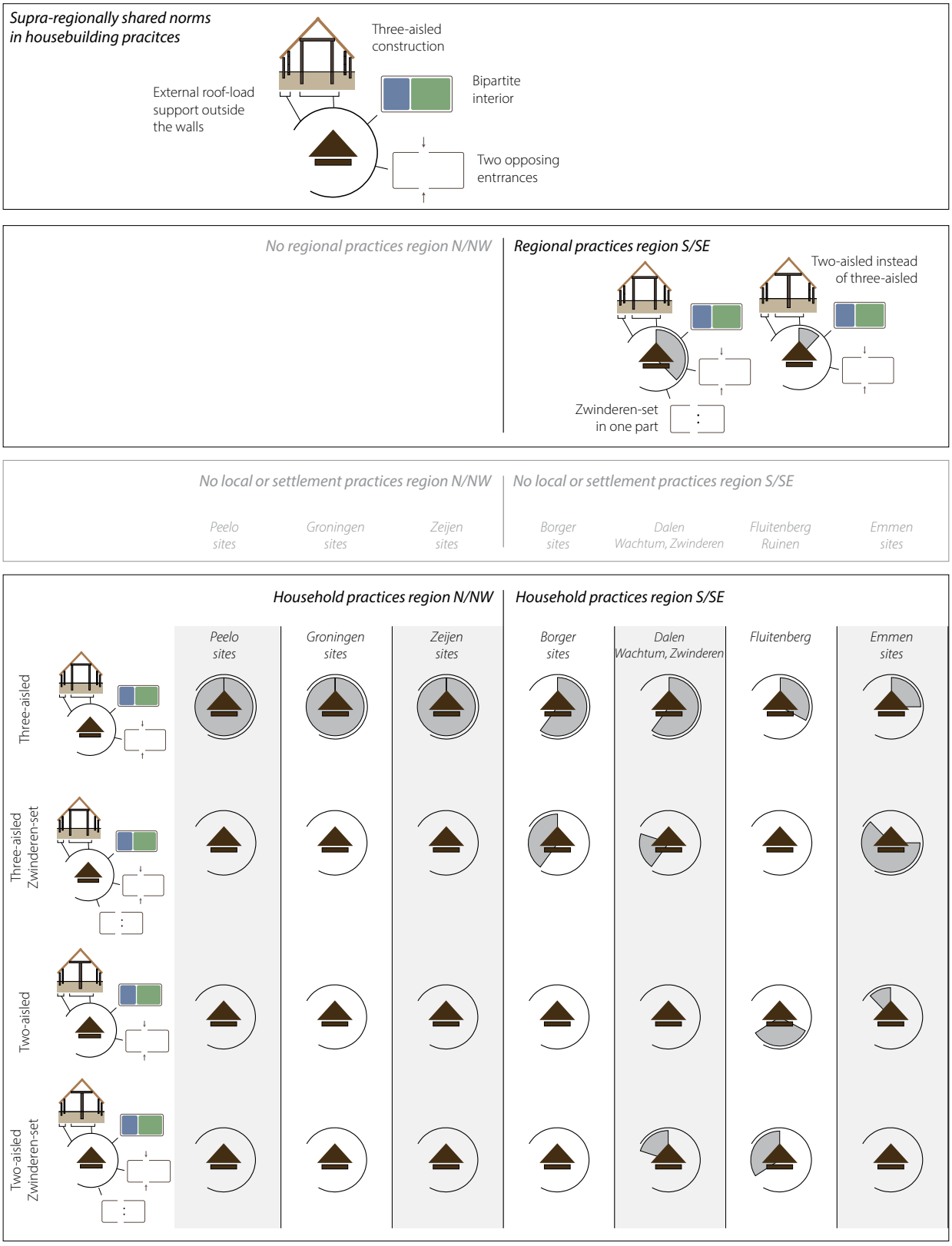


Figure 6.8: Schematic overview of housebuilding practices at the household, local/settlement, regional and supra-regional level (bottom to top), with special emphasis on the occurrence of the Zwinderen-set and the two-aisled roof-load support structure.

traditions existed side by side in the same settlements. In the northern parts of the research area, neither the two-aisled construction nor the Zwinderen-set are found. Maybe information about this element was only shared in the region where two- and three-aisled houses existed side by side and this construction can therefore not be found in the northern parts of the Fries-Drents plateau. Since many other aspects of the housebuilding tradition were shared across the Fries-Drents plateau, the lack of houses with Zwinderen-sets or of two-aisled houses may also indicate that these elements were considered typical for the 'southern' communities on the Fries-Drents plateau and were deliberately refused in 'northern' housebuilding practices.

In a similar vein to the housebuilding traditions, there are deposition practices that are shared at the supra-regional level. Because of the nature of these practices, which is the general demise of deposition in pits, it is difficult to observe any regional or local practices, as they all predominantly do not enter the archaeological record in this fashion. What can be said is that the deposition of pottery in house plans is highly variable at all levels. This means that this is still mostly a household affair. The few pits with special deposits are not representative of supra-regional practices but are better understood as deviations at the level of the household from the norm of not using pits for (special) depositions.

6.3.3 Period 3

As discussed in the previous section, period 3 is best described as the transitional phase between two consecutive housebuilding traditions that partly overlap in time. As a consequence, part of the patterning in the dataset relates to a difference of the tempo with which groups across the plateau adopted new practices; *i.e.* some households already lived in houses that were built according to the new way of building, while other households held on to the old ways. This transition is of interest because a spatial element is also relevant for its understanding. Houses with the new construction of roof-load support walls are evenly distributed across the research area. Houses with the old construction are also found across the plateau, but there is a clear cluster of these houses in the south of the region, where in the previous period two-aisled houses were also found (fig. 3.13). This means that there was a group of people spread across the Fries-Drents plateau who were willing to think of the new ways of house construction and that there was a second group, predominantly in the south, who were more reluctant to change their practices.

Aside from a difference in transition speed at the regional level, differences in the way households implemented the new way of building houses can be observed at the local level. In settlements in the northern parts of the research area, such as Midlaren-De Bloemert (Nicolay, 2008) or Groningen-Helpermaar (Huis in 't Veld *et al.*, 2010), the period 3 houses all display the new construction technique, in which the walls support part of the roof-load, but at Peelo-Es (Kooi, 1994) both the old and the new construction are found.[166] In the southern and southeastern parts of the plateau, settlements with only the new ways of constructing houses can be found (*e.g.* Emmen-Frieslandweg: De Wit, 2003), as well as settlements with both traditions (*e.g.* Emmen-Noordbargeres: de Wit, 2015).

Also, period 3 settlements are found in the south that only display the old ways of building houses, such as Dalen-Molenakkers II (De Wit, 2016) and Dalen-Thijakkers (Harsema, 1987). Part of the difference in the rate at which inhabitants adopted new practices may be the result of the lack of granularity in the dating methods, but the difference in rate also signals that the processes of change took place over an extended period. Some inhabitants of the Fries-Drents plateau were more eager to adopt a new practice than others, or some communities may have been better connected than other ones. Be that as it may, it shows that the inhabitants were not a homogeneous group, one that changed in the same way, at the same pace (fig. 6.9).

The developments in period 3 were not limited to the replacement of the way part of the roof-load was supported; the changes often appear more pervasive. Houses in period 3 that were constructed according to the principles of the previous period are never part of settlements that consist of clustered houses demarcated by ditches or fences. This is in contrast to houses with the new construction of roof-load support walls, which are often part of clustered and spatially demarcated settlement sites. Occasionally, these houses with the new construction are found in isolation as well (*e.g.* Gieten-OV Knooppunt: Loopik, 2010). Even in settlement sites where clear evidence exists for both housebuilding traditions (*e.g.* at Emmen-Noordbargeres or Noordbarge-Hoge Loo), the 'old-style' houses are never found in a clustered and demarcated space. Even though period 3 is the shortest of the four periods, it still covers a period of 100 years. This means that the old and the new tradition could have existed side by side, but there is also the option that they were consecutive. Still, the tempo of the transition was determined at the level of the region (inhabitants in the south and southeast being more reluctant), but also at the level of the settlement site (not all settlements sites are comparable in the south). The fact that houses underwent the same changes in roof-load support structure and their interior layout and that, at the same time, settlements changed into clustered farmsteads, however, signals that norms regarding housebuilding and the composition of settlements changed and that the changes were shared at the supra-regional level of the Fries-Drents plateau (fig. 6.9).

166 House 27 at Peelo-Es is attributed to period 3 (broad dates) based on new radiocarbon dates; see appendix 3.

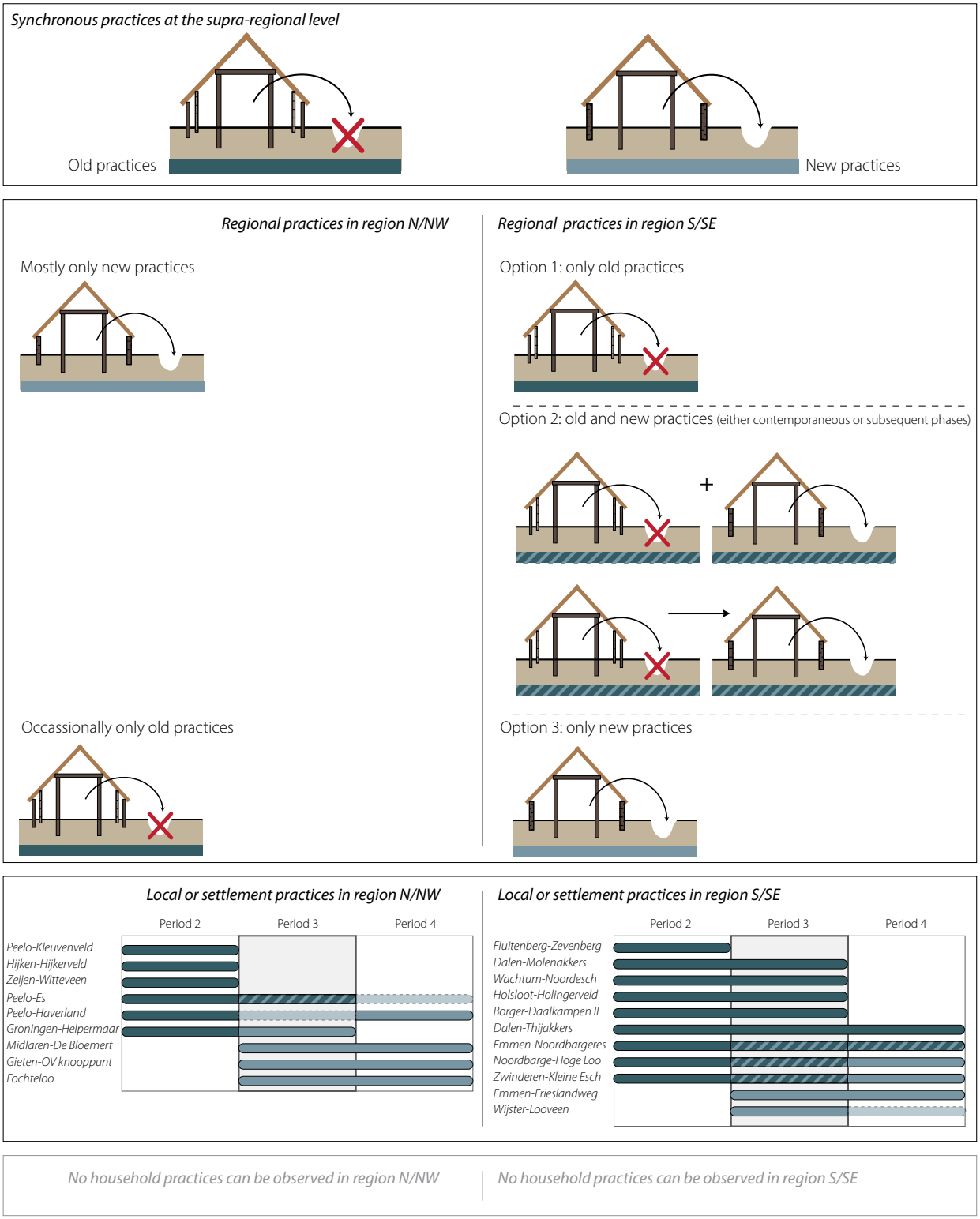


Figure 6.9: Schematic overview of the occurrence of the 'old' and 'new' practices in housebuilding and deposition of refuse in period 3.

6.3.4 Period 4

As a consequence of the limited number of settlements sites that are available for study for period 4, it is difficult to conclude whether practices at one settlement site are representative of other settlements in the same region. Even though it may not be possible to understand what shape communal practices took, the fact that the houses were repeatedly built in a communal space can be considered an expression of belonging to a social unit that surpasses the household proper. The start of this particular way of expressing social ties should be placed in the previous period, period 3. For periods 1 and 2, these clustered settlements are not known to have existed in the study area.

In period 4, there is a spatial emphasis on the communal. From this follows the question: Did the emphasis on the local community also result in evidently local housebuilding traditions that differed between settlements and lead to a diversification in the housebuilding traditions that can be observed at the supra-regional level in period 4? With regard to the housebuilding practices, there are no elements that are truly restricted to a single settlement site, but some characteristics seem to have been preferred and, at the settlement level, were repeatedly added to the construction. In the case of Wijster-Looveen, these are the frequently found entrance pits and the byre partitions (Van Es, 1967: 49-76). In the case of Midlaren-De Bloemert, houses often share a combined construction (Nicolay and Waterbolk, 2008: 96-108).[167] In the case of Noordbarge-Hoge Loo (Waterbolk, 2009: 78, 183, fig. 50, fig. 147), the most evident expression of a local notion of proper conduct is found in the construction, in which houses have similar widths and were constructed using wall trenches. In addition, at Noordbarge-Hoge Loo, the attitude regarding the proper use life of the houses is evidently shared among several households. This is evident in the way several houses were repeatedly rebuilt or extended towards the east (see fig. 3.42). At the level of the settlement, there is more adherence to the local housebuilding practices than can be seen, for example, in period 2, when both the two- and the three-aisled roof-load support structure are found within the same settlement.

As I discussed in the previous section, only two settlement sites were available to study general deposition practices for period 4. Midlaren-De Bloemert is situated at the northern edge of the Hondsrug, while Emmen-Frieslandweg is located at the southern end of the Hondsrug. Because both sites are the only sites studied in their respective regions, it is not possible to say whether practices found there are representative for the local community or the region as well. In any case, both sites show more similarities than differences, in the sense that the households within each of these settlement sites had clear ideas about the place where discarded objects needed to be deposited, which in both cases is on the farmstead. In the case of Emmen-Frieslandweg, the ditches that demarcated the settlement terrain are well preserved, and they also demarcated the area that was used to deposit refuse. In the case of Midlaren-De Bloemert, the system of ditches is less well preserved, but there is evident clustering in the features where pottery is found, suggesting that a similar inside-outside distinction was made.

6.3.5 Synthesis: between the local and the regional

Based on the discussion above, it has become evident that the two intermediate scales of analysis, the local, or settlement, scale and the regional scale, play different roles during the four periods under study. What is more, these two scales also play different roles between the different practices. For period 1, with regard to housebuilding practices, neither the local, or settlement, scale nor the regional scale seem to offer an explanation for why there is such a discrepancy between housebuilding practices observed at the supra-regional level and at the household level. For the general deposition practices, similar observations can be made. For the special deposition practices in period 1, however, the local, or settlement, scale seems to have played an important role. This social scale seems the scale at which decisions were made in the implementation of shared notions of proper conduct. The difference between period 1 and period 2 is obvious, as an inversion takes place: housebuilding practices are translated at the household level but also at the regional level. As I have noted above, the abandonment of the practice of using pits for general deposition practices is so widespread that it can only be seen as a change at the supra-regional scale or even beyond. The few instances in which special deposits are found, they also point towards the importance of the household, not of the local community or the settlement. Period 3 shows perhaps the most complex interconnectedness of scales. The transition from the old housebuilding practices to the new ones is a complex process in which the regional level, the local, settlement level and the households themselves played a role. Finally, the practices in period 4 point towards an increased focus on the local, settlement level at the cost of both the regional level and the level of the individual household.

167 Nearby, at the site of Eelde-Grote Veen, tentative plans of houses with a similar combination of a two- and three-aisled roof-load support structure are found (houses 16 and 270: Tulp, 2015: 188-189, appendix 6.1). This would suggest that it was a regional rather than a local practice.

6.4 Normativity and variation in material culture

In the first chapter of this thesis, I raised the issue that studying material culture on the Fries-Drents plateau from a long-term and large-scale perspective has led to the unwanted side effect that the prehistoric inhabitants of the Fries-Drents plateau now appear as a homogeneous social unit whose every material manifestation should fit neatly within the typologies. When studying settlement sites in more detail, it becomes evident that practices are shared, but that variations also exists and that these variations are not random. In other words, there is ample reason to question this implied homogeneity. Following from this, I asked the question how studying both normativity and variation in material culture can help us interpret the archaeological record in terms of social behaviour and how studying both aspects of material culture could provide us with better a better understanding of life on the Fries-Drents plateau during the (Roman) Iron Age. I will return to these questions here.

As a result of the multiple angles from which this question was studied, various answers can be given to the question of what normativity and variation in material culture signify. When we observe the practices at the level of the Fries-Drents plateau and during the entire research period, we see that some of the characteristics studied occur everywhere and continuously. They are the elements that remained unchanged in the 1100 years that this study covers. Examples are that all houses are longhouses with a rectangular or oblong footprint; that refuse was deposited predominantly on the surface but occasionally entered the archaeological record; and that all periods show evidence for the occasional deliberate deposition or burying of objects in addition to the accidental inclusion of pottery finds in features. These practices are the unchanged norms and form the warp of this study against which all other processes take place. If we zoom in, distinct norms and variations become evident, sometimes as the result of processes that are predominantly diachronic (*e.g.* the way house dimensions differ by period), sometimes because of differences between regions (*e.g.* in the presence or absence of two-aisled houses), and sometimes because of the social level at which choices are made (*e.g.* the local practice at Hijken-Hijkerveld to select houses as the context for special depositions). They are the weft of this study that can be used to understand patterns in material culture as being the result of social processes.

6.4.1 Temporal aspects of normativity and variation

When we study one particular period within the period of research, normativity represents the elements discussed above that remain unchanged. Variation can be understood as the elements in housebuilding and deposition practices that are changed or replaced in time. In this study, it has become clear that changes are almost always gradual, which means that many elements continue, while only a few change. This can be seen in the way housebuilding practices develop over time, replacing one option with another, but also in the fact that surface depositions remain the dominant way of depositing refuse and it is only the alternatives that differ over time.

As I mentioned above, changes within one particular practice are often gradual, meaning that the different characteristics change at different moments in time. In a similar way, changes in two different practices are not always synchronous. The predominant construction of houses in period 2 exemplifies this. Even though houses with a roof-load support structure partially outside the walls predominantly date to period 2 (based on pottery and radiocarbon dates), they are already found in period 1 (based on the association with older types of pottery and on radiocarbon dates) and continue to be built in period 3 as well (based on younger types of pottery). People continue to construct houses in roughly the same way, while they change the ways they shape their vessels. But the house itself also underwent – albeit subtle – changes to its construction and dimensions (fig. 6.10). This example illustrates that change was also gradual and phased when the house and the household items are studied as a whole, as some items referred to old practices and some were made according to new principles. It is also a caveat that the sharing of practices is much fuzzier than would be expected with a homogenous social group in mind, because different practices come in and out of use for different groups at different moments in time (see also section 6.3.3). Finally, this observation also serves as a caution that the Hijken type, as period 2 housebuilding practices are traditionally labelled, may have limited use for setting up site chronologies.

Even though most changes were slow and phased, there are examples of rapid and direct changes as well. These form exceptions to the norm of longstanding traditions and slow change. Some exceptions relate to those exception cases in which the small-scale chronologies of house constructions can be studied. As I showed in chapter 3, at the sites of Peelo-Haverland and Noordbarge-Hoge Loo, there is evidence of houses being rebuilt with the use of completely different construction techniques than were used on the original house. The reasons for these small-scale, rapid changes are difficult to identify but their occurrence suggest that change was not always just a slow process, whereby change may have been barely noticeable. The examples from Peelo and Noordbarge indicate that households could be active agents in the introduction and/or adoption of new practices.

In addition to examples of rapid change at the level of house construction, there are also examples of rapid changes at a higher level, that of the layout of the entire settlement. The transition from scattered farmsteads to

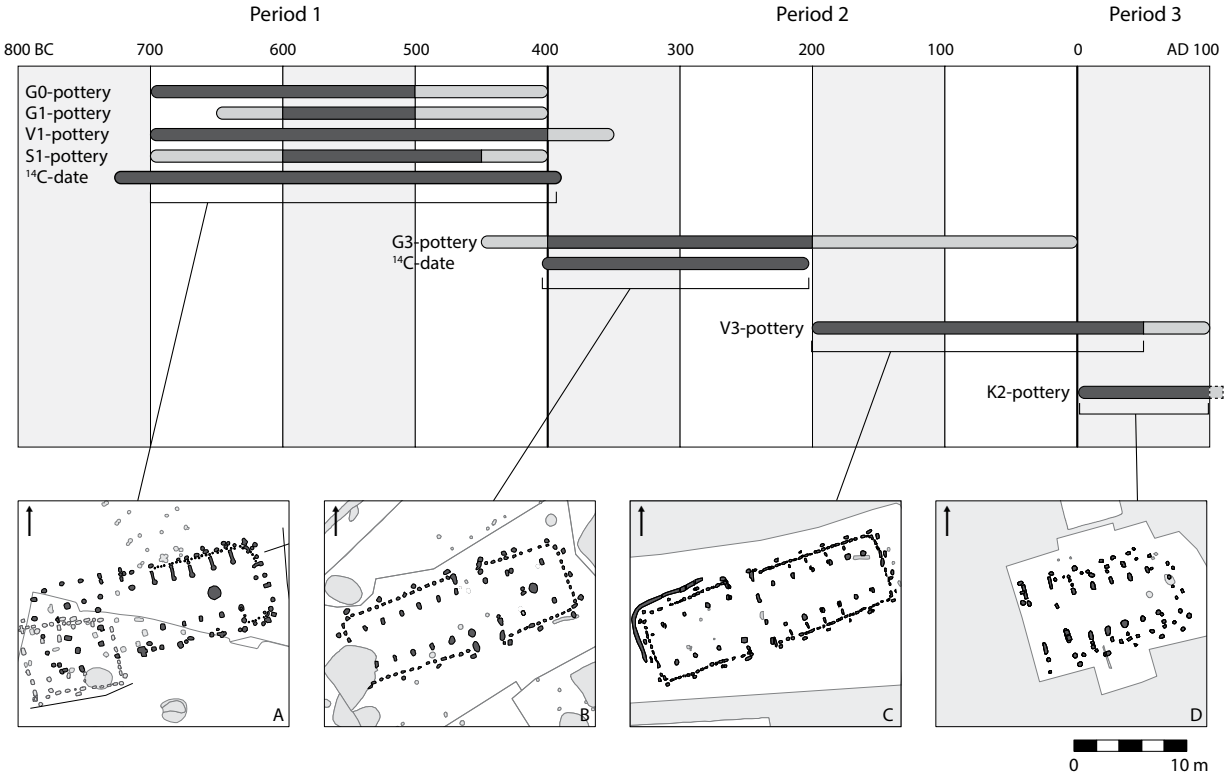


Figure 6.10: The dominant housebuilding practice from period 2 is found in periods 1 and 3 as well. The houses are associated with different types of pottery. The dates for the pottery and ^{14}C-dates of four similarly constructed houses are plotted in the graph. Dates for the pottery are according to the typology of Taayke (1996: 182, fig. 10d), with dark grey for the period of use and light grey for tentative earlier occurrences and longer periods of use. A: Hijken-Hijkerveld house 3 (Arnoldussen and De Vries, 2014); B: Ruinen-Oldhave Bos house 1 (Koopstra and Lenting, 2016); Zwinderen-Kleine Esch house 1 (Van der Velde *et al.*, 1999); Dalen-Molenakkers II-2014 house 2 (De Wit, 2016).

nucleated settlements during periods 3 and 4 forms another example of a swift change, but it signals a much more pervasive change. In this period, a change in housebuilding is seen in which multiple aspects of the house change drastically, most notably the width of the entrances (*i.e.* much smaller), the overall dimensions of the house (*i.e.* longer but less wide) and the way the internal spaces are organised (*i.e.* an increase in the number of tripartite houses). At the same time, these houses appear in settlements that have a wholly new structure, now often clustered and demarcated. This novel settlement structure also seems to have brought about changes in the general deposition practices. As I have discussed earlier, occasionally intermediate phases in this process of change can be observed (*e.g.* in wall construction), but, at the level of individual settlements, this change is often direct, without any intermediate phases. This process of change, however, was far from unilinear. Especially in the southern and southeastern regions of the plateau, different settlements showed different temporal trajectories. As a result, the process of change as a whole can be considered long-term and gradual when observed from the level of the Fries-Drents plateau.

6.4.2 Spatial aspects of normativity and variation

The period under study is only a segment of time in long-term developments. Similarly, the research area is not isolated from other areas. The practices studied here are not developments that have taken place only within the clearly defined boundaries of the Fries-Drents plateau. When we zoom out beyond the level of the Fries-Drents plateau, practices can be compared and contrasted with practices of other regions within northwestern Europe, such as the adjacent eastern sandy soils, the sandy soils of Lower Saxony across the German border (section 3.3.1.1), Denmark farther to the north, and the Meuse-Demer-Scheldt region (*i.e.* the southern sandy soils of the Netherlands and the adjacent sandy soils of Belgium).

When housebuilding practices in period 1 on the Fries-Drents plateau are compared with those of other regions it is evident that similar housebuilding practices are found in a much wider region, from Denmark (Donat, 2018: 96, fig. 26), to the Fries-Drents plateau, to the eastern sandy soils of the Dutch provinces of Overijssel and Gelderland (Van der Velde, 2014: 101), to the southern sandy soils of the

Meuse-Demer-Scheldt region (Hiddink, 2014: 177-181). In the different regions, these evidently similar housebuilding practices have been labelled differently. On the Fries-Drents plateau, in Overijssel and Gelderland, period 1 houses are described as Een-type houses when walls are post-built and as Wachtum-type houses when houses have wall trenches, following the typology of Waterbolk, from 2009 (*e.g.* Van der Velde, 2011: 196-197, 2014: 101); as 'Overgangstype Hijken' (transitional Hijken type) when following the older typology of Huijts, from 1992 (*e.g.* Van Beek, 2009: 176); or as 'Kleuven-veld/Een' when following Lanting and Van der Plicht's publication from 2003 (*e.g.* Arnoldussen, 2008: 229-230). In the Meuse-Demer-Scheldt region (*i.e.* the southern sandy soils of the Netherlands and the adjacent sandy soils of Belgium), similar structures are labelled as St.-Oedenrode or Oss-Ussen 2 (Hiddink, 2014: 177-181). Regardless of where they are found and how they are labelled, period 1 house types are considered the predecessors of the housebuilding practices in the subsequent period. This is seen in the fact that houses with the same, varied construction are described as three-aisled by Waterbolk (2009: 54), even though more varied internal roof-load constructions are found (fig. 3.4). For the eastern sandy soils, the houses are described as four-aisled (Van der Velde, 2011: 196), even though clear three-aisled examples are found. For the southern sandy soils, their variability is highlighted by describing them as two-, three- and four-aisled houses (Hiddink, 2014: 178), providing at the same time an Early Iron Age root for Middle and Late Iron Age two-aisled housebuilding practices.

From the above, it can be concluded that the housebuilding practices on the Fries-Drents plateau did not stress the importance of 'northern' community; rather, they signalled affiliation to a community dispersed over a much wider region. Even though this housebuilding practice was widespread (fig. 6.11A), it did not cover the entire northwest European plain, because different practices can be found within in the Netherlands, for example in the province of Limburg and in the coastal zones (Arnoldussen, 2008: 229-232, fig. 5.31), and in Lower Saxony. In Lower Saxony, different housebuilding practices seem to have coexisted during the first half of the Iron Age (see examples in Fries, 2010), but little evidence is found that houses of the same construction as those on the Fries-Drents plateau were built there in the first half of the Iron Age.[168]

Even though housebuilding practices can be traced over a vast area, the practices do not seem to have been strictly followed in any of the regions. For both the eastern and the southern sandy soils, other housebuilding practices existed alongside the widely shared practice. These co-existing practices are more difficult to fit into the typology of Waterbolk (Van der Velde, 2014: 101). For the southern sandy soils, practices in this period are considered to be varied in general (Hiddink, 2014: 180-181). This widespread variation is in line with the observations for the Fries-Drents plateau. It indicates that although people in period 1 may have been connected to a housebuilding community that was widely distributed, they were only loosely incorporated. At smaller scales within this extensive housebuilding community, there was ample room for adaptation and experimentation.

Special deposition practices from period 1 are also best understood as practices shared between communities over a vast area that also stretches from Scandinavia to the Meuse-Demer-Scheldt region. Even though the interpretation of these 'special' assemblages varies, similarities in composition and treatment are evident in other regions as well. For example, the frequency of depositions in period 1 compared with period 2 (*i.e.* Earlier versus Later Iron Age) and the preference for selecting pits are recurring aspects in many regions.[169] Other important aspects observed in this research, such as secondary firing of objects, seem to have been widespread (Van den Broeke, 2002, 2015; Gerritsen, 2003: 96-102, table 3.14). The selective treatment of vessels through retention or selection is less frequently discussed in site reports, which means that it is difficult to say if the shape-specific treatments on the Fries-Drents plateau (fig. 5.36) should be seen as local or widely shared practices. However, careful reading suggests that important aspects in the treatment of the deposition practices are also widespread. This is seen in the recurrence of large pottery fragments that can be refitted but often not to a complete vessel,[170]

168 A possible example with a wall trench was found at Neuenhaus Grasdorf Moss 13 (Maschmeyer, 1984), but houses comparable to those found at Borger-Daalkampen N34 (fig. 6.6), traditionally described as Een-type houses (Waterbolk, 2009: 54, 56, fig. 32), are not found in Lower Saxony. I kindly thank Dr. Jana Esther Fries and Katharina Kupke (both from the Niedersächsisches Landesamt für Denkmalpflege) for the information and the provided example.

169 For the Meuse-Demer-Scheldt region: Gerritsen (2003: 91, 92, 98, table 3.10, 3.12, 3.14 (Meuse-Demer-Scheldt region)), Van der Linde (2016: 156-162, table 4.24 (specifically the western parts of the Meuse-Demer-Scheldt region)), Dyselinck (2006: 96-100, esp. table (Goirle-Huzarenwei)), Dyselinck *et al.* (2020 (Londerzeel)), Habermehl (2014: 48-52 (Bilzen-Spelverstraat)); for Oss-Ussen, Schinkel interprets all pits with large quantities of pottery as refuse pits but also notes the frequency with which pits are used as context during the Early Iron Age compared with earlier periods (Schinkel, 1998: 68); for the eastern sandy soils, no separate overviews have been published, but see examples from Colmschate in Gerritsen (2003: 91, 92, 98, table 3.10, 3.12, 3.14), Bloo and Van Mousch (2014: 109-110 (Deventer-Brinkgreven)); for Western-Germany, see Stapel and Stapel (2014).

170 Denmark: Webley (2008: 130); eastern sandy soils: Bloo (2015: 139-141 (Deventer-Brinkgreven)), Bloo *et al.* (2007: 200-206 (Hordelman-West)), Hermsen (2001: 21 (Colmschate-De Scheg)).

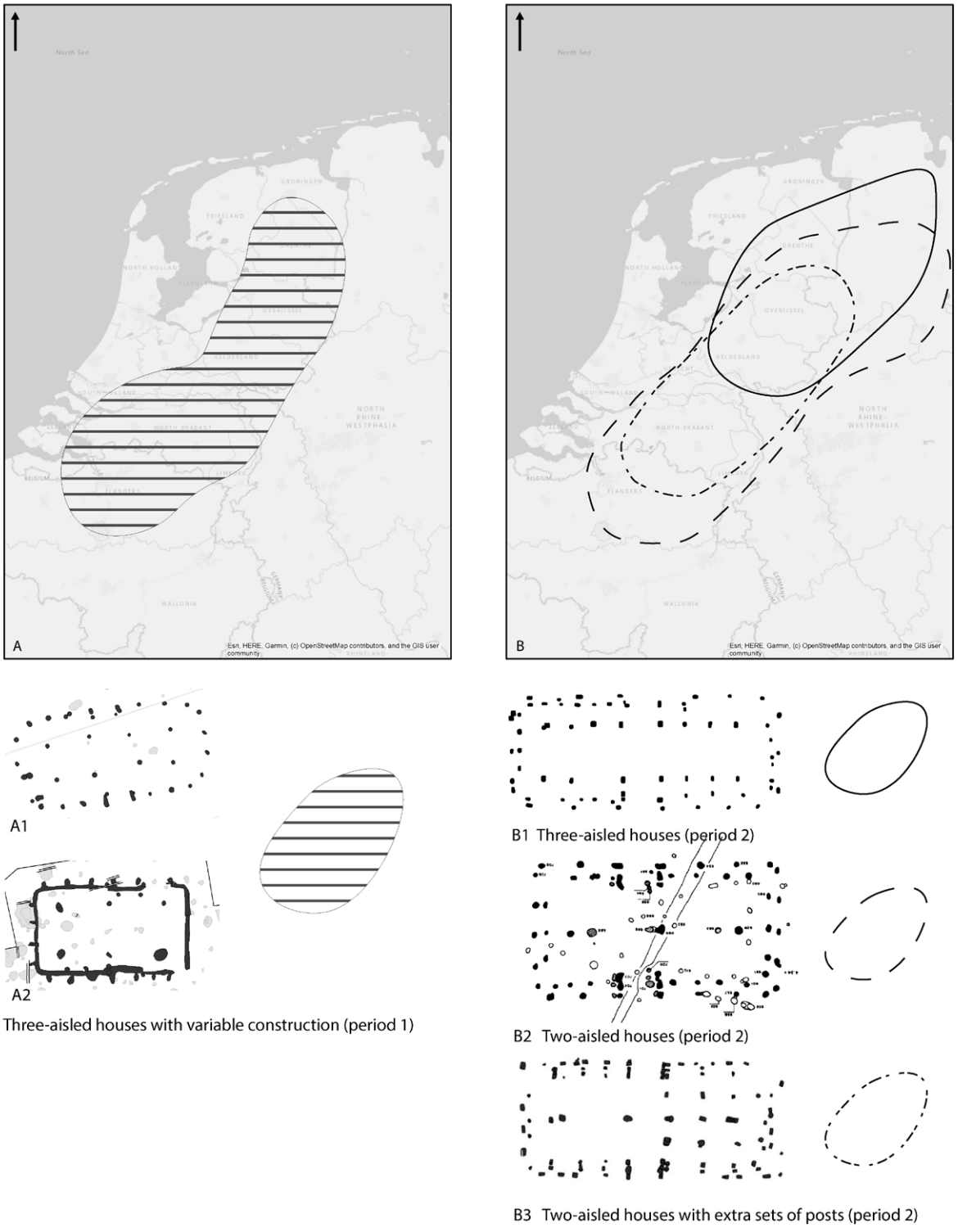


Figure 6.11: A: Overview of distribution of period 1 housebuilding practices on the sandy soils of the Netherlands. Similar houses are also found in Denmark. B: Overview of distribution of period 2 housebuilding practices on the sandy soils of the Netherlands. A1: Borger-Daalkampen N34 (house 7: Kooi and De Wit, 2003: 20, fig. 2.11); A2: Wachtum-Noordesch (EIA house: Van der Velde *et al.*, 1999: 36, fig. 6.14); B1: Peelo-Es (house 3: Kooi, 1994: 177, fig. 8); B2: Oss-Ussen (house 27: Schinkel, 1998: 213, fig. 201); B3: Oosterhout-De Contreie (STR3001: Roessingh and Blom, 2012: 111, fig. 6.7). Background: Esri, HERE, Garmin; Copyright Open StreetMap contributors, and GIS user community.

evidence for fragmentation prior to secondary firing,[171] and, occasionally, traces of secondary firing that cannot have been caused by regular use as cooking vessels.[172] As is true for the Fries-Drents plateau, these pits were long interpreted as refuse pits,[173] but these similarities are so striking that they can only be the result of widely shared and strictly followed rule-set of the proper actions when depositing objects in pits.

Another important characteristic of the special deposits on the Fries-Drents plateau is the selection of isolated pits, either specially dug for the purpose or already existing, for special deposition practices. This particular characteristic is less frequently attested in other regions and may signal a practice specific to the Fries-Drents plateau. Based on descriptions of special deposition practices in other regions, different contexts seem to have been preferred. For the Meuse-Demer-Scheldt region, evidence suggests that pits were sometimes dug inside the house, possibly at the moment of abandonment, when the house was demolished (Gerritsen, 2003: 99, fig. 3.31). The sites where this evidence originates from (Riethoven: Slofstra, 1991; St.-Oedenroden: Van Bodegraven, 1991) actually are all located in one particular region within the wider Meuse-Demer-Scheldt region. A recent synthesis of development-led archaeological research in the Meuse-Demer-Scheldt region indicates that the presence of pits inside the house was not widespread and may represent a regional or local practice (Jansen, 2018: 236-237). This suggests that variation in the selection of context for special deposition practices could vary not only between regions, but also within regions.

As is the case with housebuilding practices in period 1, special deposition practices are not similar in all regions. To the north, in the *terpen* area, for example, the excavations of the sites of Wommels-Stapert (Bos *et al.*, 2001) and Middelstum-Boerdamsterweg[174] illustrate a different variation on the practice of deliberate deposition of pottery in pits. At the site of Wommels-Stapert, on many occasions one or more vessels were deposited intact; the vessels were not fragmented prior to deposition (Bos *et al.*, 2001: 215-218). In these instances, fragmentation and selection or retention seem to have played no role in the practice, whereas this is a major aspect of special deposits on the Fries-Drents plateau. In addition to this practice of complete vessel deposition, we see depositions with fragments of incomplete pots, which are reminiscent of special deposition practices on the Fries-Drents plateau (Bos *et al.*, 2001: 219-221, table 1). This illustrates that groups could be participants in large-scale practices and at the same time follow their own, small-scale practices.

In the second half of the Iron Age (period 2), the period 1 large-scale housebuilding practices transformed into different, smaller housebuilding traditions (fig. 6.11B). These new practices all occur in regions in which they are clearly dominant, but the practices are also widespread to the extent that none of the 'new' practices are fully spatially separated. The Fries-Drents plateau can be considered the core area of the three-aisled housebuilding tradition that is also found to the east, in western Germany, and to the south, in Gelderland and Overijssel. This is based on the observations that the Fries-Drents plateau harbours the earliest examples of this tradition (see section 6.2.1) and that in the northern parts of the plateau only three-aisled houses are found. The Gelderse Vallei (province of Gelderland) seems to function as the core area of two-aisled houses with two extra rows of posts in one of the two parts, because there are ample examples. This housebuilding tradition is often labelled the Maanen type after its type site, Ede-Maanen (Taayke *et al.*, 2012: 231-232). Similar houses, however, are found as far north as Fluitenberg-Zevenberg (house 2: Schrijer and De Neef, 2008: 43, fig. 17) and as far south as the Meuse-Demer-Scheldt region. These houses were found at Oosterhout-De Contreie (house 3001: Roessingh *et al.*, 2012: 111, fig. 6.7), Breda-Bagven (houses 4 and 5: Kranendonk *et al.*, 2006: 476-482), Olen-Beilen (Janssens, 2017) and Brecht-Zoegweg (Hiddink, 2014: 185, fig. 13).[175] Remarkably, the houses found at Breda-Bagven and at Ede-Maanen are considered to be local phenomena only, characteristic for the small region in which they are frequently found (Breda: Kranendonk *et al.*, 2006: 478; Ede: Taayke *et al.*, 2012: 231). Based on their distribution, however, it is more likely that they belong to one and the same widespread housebuilding practice (De Vries and Norde, 2021). In the Meuse-Demer-Scheldt region, the two-aisled houses dominate the archaeological record (Hiddink, 2014: 182-186; Van der Linde, 2016: 146-148, 155-156 (but see remarks about Breda on p. 146); Jansen, 2018: 260-262). However, the examples from Breda-Bagven and Oosterhout-De Contreie show that also this region harbours different, co-existing housebuilding practices.

171 As evidenced by refitted fragments that show different degrees of secondary firing. For the Meuse-Demer-Scheldt region, see Ter Wal (2004: 11-12 (Tilburg-Surfplas Zuid)), Chtcheglov *et al.* (Chtcheglov *et al.*, 2014: 62 (Bilzen-Spelverstraat)). For the eastern sandy soils, see *e.g.* Bloo (2015: 139 (Deventer-Brinkgreven)).

172 Traces of secondary firing that point towards a sideways position. See, for example, Stapel and Stapel (2014: 142).

173 For similar observations in Denmark, see Webley (2008: 135). New information and new debates can also lead to new insights on old finds (Bloo and Van Mousch, 2014: 116, n. 14).

174 See remark in Bos *et al.* (2001: 215).

175 Most of these houses are dated to the Middle or Late Iron Age based on pottery finds (Roessingh and Blom, 2012: 283-286), radiocarbon dates (Breda-Bagven house 4: Kranendonk *et al.*, 2006: 479) or pottery and radiocarbon dates (Breda-Bagven house 5: Kranendonk *et al.*, 2006: 482; Olen-Beilen (Belgium): Janssens, 2017: 169, table 2). Some of the houses at Olen-Beilen are dated in the Late Iron Age or Early Roman period (*e.g.* houses 7 and 13: Janssens, 2017: 169, table 2).

What is evident from these examples is the existence of a large-scale and widely shared housebuilding practice that broke up into separate, but overlapping housebuilding practices. For the Fries-Drents plateau, I have argued that this transition from period 1 to period 2 housebuilding practices also witnessed an increase in standardisation and adherence to these practices. To me, this indicates that relatively smaller-scale affiliations were foregrounded at the cost of association with larger communities, and that they were foregrounded with more emphasis. Yet the housebuilding communities were still widespread, because the three-aisled house construction is found beyond the Fries-Drents plateau. In addition to this, although housebuilding practices may emphasise smaller communities, it is clear that these changes did not result in spatial separation of different groups. For the Fries-Drents plateau, co-existence of practices was allowed even on the smallest spatial and social scale, which is the scale of the settlement. This co-existence of different housebuilding practices is not restricted to the Fries-Drents plateau; it is seen in other regions as well. Examples of the so-called Maanen type houses are also found in close proximity to completely two-aisled houses (Oosterhout-De Contreie: Roessingh *et al.*, 2012: 108-117; Ede-Park Reehorst: Norde, 2019: 103-119). Two- and three-aisled houses are found next to each other in the province of Overijssel as well (Van der Velde, 2011: 199, fig. 6.7). Apparently, it was no problem for different groups, rooted in different practices, connected to different building communities or affiliated to different social organisations to live close to one and other. The tolerance for other practices was as widespread as the period 1 housebuilding practices had been.

Another transition that is visible between periods 1 and 2 on the Fries-Drents plateau is the abandonment of pits as the context in which to deposit pottery, whether accidentally or deliberately. It is more difficult to compare the lack of pits used to deposit large quantities of pottery with other regions than it is to compare the presence of period 1 pits with extraordinary content, because of the difficulty of finding 'negative evidence' for a practice. For example, it is not always clear whether these pits were truly absent in other regions or whether pits were not discussed in the reports. Notwithstanding this difficulty, it seems that similar observations can be made for some other regions, such as the adjacent eastern sandy soils,[176] but not for all sites within these regions. For example, at Oss-Ussen (Meuse-Demer-Scheldt region), a continuation of the use of pits can be seen into period 2.[177] In other settlement sites in this region, pits dated to the Middle or Late Iron Age (period 2 here) are lacking.[178] In Denmark, the practice of using pits to deposit large quantities of finds also continues into the Danish Early Iron Age (Webley, 2008: 132), which corresponds to the period between 500 BC and AD 175/200,[179] or periods 2 to 4 in this study. Then again, the use of pits is also not omnipresent in Denmark, because pits with large quantities of pottery are found in western Denmark, but not in northwestern Jutland (Webley, 2008: 132-133).

With regard to the special deposition practices in period 2, the house itself appears to have gained importance over locations that are at a greater distance from the farm. For the Fries-Drents plateau, I reached this conclusion based on the location of pits inside the house. A similar, narrower focus on the house can be found in other regions, in the use of features of the house itself as the context of deposition. Examples of remarkable pottery finds in features of houses are attested in the Meuse-Demer-Scheldt region,[180] in the eastern sandy soils,[181] and also to the north, in the *terp* area[182] and in Denmark, where, in addition to postholes, the hearth also was the focus for special deposition practices (Webley, 2008: 138-139, tables 7.5 and 7.6). From this, it follows that, in period 2, similar general deposition practices and special deposition

176 On the eastern sandy soils of the Netherlands, relatively few pits with concentrations of finds are known in the Middle Iron Age to Early Roman period (Ivo Hermsen, pers. comm.16 December 2020).

177 In Oss-Ussen, the practice of depositing pottery in pits continues into phase H (Schinkel, 1998: 83, table 10), which corresponds to the period between 350/325 and 275/250 BC (Van den Broeke, 2012: 36, fig. 2.9). During the Late Iron Age (period 2 in this study), differences are observed between settlements in the Oss-Ussen excavations in the number of pits with finds and the quantity of the finds (Schinkel, 1998: 151). Compared with Middle Iron Age, the number of wells and pits in the Late Iron Age decreases even though the number of houses increases. In addition to this, fewer material remains are deposited in features (Schinkel, 1998: 161-162).

178 See Jansen (2018: 263). Jansen specifically mentions that 'wells (and pits)' are lacking. Whether this means that wells and pits could not be dated to the Middle or Late Iron Age because no pottery was deposited in these pits or whether no pits at all were found is not clear.

179 See Webley (2008: 15, table 2.1).

180 *E.g.* Haps house M. For this pottery find, the interpretation of foundation was proposed, based on the presence of a complete miniature cup (Gerritsen, 2003: 64-66). However, the small vessel was accompanied by a large rim fragment and three smaller rim fragments (find no. 436: Verwers, 1972: 80, fig. 51), which makes the link between a complete vessel and a foundation offering more problematic. See also examples in Van der Linde (2016: 158, table 4.23).

181 *E.g.* Leusden-De Schammer house 9 (Hulst *et al.*, 2013: 87) and Ede-Park Reehorst houses 63, 88, 89 (Norde, 2019: 114).

182 *E.g.* in the Middle and Late Pre-Roman Iron Age in Ezinge (province of Groningen), which coincides with period 2 in this study (Nieuwhof, 2015: 13, table 1.1), more special deposits are found inside the house than outside the house (Nieuwhof, 2015: 202, fig. 11.56).

practices can be found in other regions, but these practices lack the uniformity of the general and special deposition practices from the previous period.

Developments in the layout of settlements and the houses built within that can be seen in period 3 can also be observed on a much vaster scale within and outside the Netherlands (Hiddink, 1999: 96; Van der Velde, 2011: 201). At Raalte-Telgte and Heeten (province of Overijssel), houses constructed in period 2 fashion can even be dated into the second century AD, which corresponds to period 4 in this study. At the same time other houses are also constructed in a new fashion (Van der Velde, 2011: 199-201). More general developments in the length and presence of additional entrances can be traced within different regions within the Netherlands as well. In all these regions, houses on the whole become longer, either through the addition of an extra space inside house, creating a tripartite interior, or through the elongation of the byre. These changes in the interior coincide with the more frequent occurrence of additional sets of entrances.[183]

General deposition practices are on the whole more difficult to follow in other regions. As holds for earlier research on the Fries-Drents plateau, the management of refuse is often considered unproblematic and not always worth discussing (but see Schinkel, 1998: 83, table 10; Heirbaut *et al.*, 2016: 99-103). Descriptions of Roman period settlements on the eastern sandy soil and the Meuse-Demer-Scheldt region point towards similar developments. For example, the clustering of habitation in the 2nd and 3rd century AD at Colmschate (province of Overijssel) seems to coincide with the digging (and probably filling) of pits, wells and sunken huts within a spatially demarcated area (Hermsen, 2007: 236, fig. 161). The description of the location of pits and wells in Roman period Oss (province of Brabant) indicates that both pits and wells clustered around the settlement (*e.g.* Oss-Vijver: Wesselingh, 2000: 31).

When housebuilding and deposition practices are compared in the way I compared them above, both at the level of the Netherlands and at the level of the adjacent countries, some elements are so frequently recurring that they are almost taken for granted by archaeologists working in these areas. The rectangular footprint, for example, is ever-present and indicates that the inhabitants in these areas shared practices at a very large scale. Zooming even further out, this 'given fact' of the rectangular footprint, however, is just one way in which the much broader longhouse tradition in northwestern Europe has taken shape. At the same time as rectangular houses were being built on the Fries-Drents plateau, roundhouses were constructed on the other side of the North Sea (Pope, 2003). Regardless of the way round or rectangular houses were constructed, they shared a concept of what was the proper way of living, which is in a construction of wooden posts in which people and livestock could be found under the same roof.[184] This shows again how much the scale at which a practice is studied steers its interpretation.

Zooming out helps to understand how elements that appear non-negotiable may be variable as well and how local 'northern' traditions can be understood as part of widespread practices. In a similar vein, zooming in and studying practices in more detail may help to understand how widespread and how widely shared housebuilding and deposition practices were within the research area. As I discussed above, some elements remain unchanged throughout the research area and period of research. For these elements, there is no additional benefit to zooming in. As I have argued earlier, in addition to shared practices, often variations can be observed that are not completely random (*e.g.* fig. 6.4). By studying these deviating but recurring characteristics on a smaller scale, it becomes possible to understand how widely shared concepts were put into practice differently between regions, settlements or households.

When studying these variations, it becomes evident that not all of these variations studied can be found across the Fries-Drents plateau and not all variations have similar distributions. Especially periods 2 and 3 have yielded good examples of apparent variations in material culture that can be explained by differences in the spatial distribution of elements in housebuilding. In periods 2 and 3, the southern and southeastern parts of the plateau display different patterns than the northern and northwestern parts of the plateau. As noted above, in period 2 this is mainly a difference in the presence or absence of particular house constructions and elements within the houses. For period 3, being a transitional period, the differences between these two regions predominantly relate to the speed with which people adopted new practices in the way houses were built, refuse was deposited and settlements were structured. For both period 2 and period 3, it is interesting to see that multiple options were available and that practices were not mutually exclusive. This indicates that the boundaries between practices were fuzzy, thus creating zones of mixed practices and therefore reflecting opportunities for interaction.

At the local, or settlement, level, practices in housebuilding coexisted as well. In Noordbarge-Hoge Loo, Fluitenberg-Zevenberg and probably Borger-Daalkampen II, three-aisled houses are found next to houses that refer

183 For the eastern sandy soils, see Van der Velde (2011: 201); for northwestern Germany, see *e.g.* developments in Flögeln as compared with the Fries-Drents plateau (Hiddink, 1999: 96); for the southern sandy soils, see *e.g.* the occurrence of extra sets of entrances in Roman period types (*e.g.* Oss type 7C, Oss type 9B & 9C Schinkel, 1998: 186), *e.g.* the developments in total length (Oss types 6 to 9: Schinkel, 1998: 187, fig. 163).

184 For the discussion on the function of byre dwelling proposed for roundhouses, see Pope (2003: 269-270).

to practices to the south. There are various explanations for this. One option is that the households of these settlements truly had a broader range of options to choose from. This would mean that some households could switch between the two- and three-aisled traditions. The other option is that particular households remained participants in the same building communities, but did not mind living with participants of the other community. In the latter case, that would mean that the settlements were the smallest zones of interaction and that newly acquired practices could radiate outwards from there via other communities in which people participated, such as communities that cultivated the same plots of lands or had the same family affiliations.

6.4.3 Social aspects of normativity and variation

Here, I have reached the final aspect of normativity and variation in material culture, which is how we as archaeologists can understand the social implications of normativity and variation in material culture. If a household needed to build a new house, what do choices made by the household tell us about the association with larger communities? Was it always necessary to exactly do as others nearby did, or was there the option to change and adapt? At what moments are communal aspects stressed in shared housebuilding practices and at what moments do differences become more apparent? Based on the analyses in chapters 3, 4 and 5, it has become clear that the answers to these questions differ not just between the four periods, but also between the different practices (which is already an observation worth emphasising here). One period may show much uniformity in special deposition practices, whereas other periods may show the most uniformity in housebuilding practices. In the following sections, I will present the picture of when and where the inhabitants found each other in shared practices or shared norms and at what moments deviating choices were made. Here, it is necessary to broaden the scope and incorporate other socially significant practices into the discussion. I will do this once again using the four periods I have used throughout this thesis (fig. 6.12).

As I discussed in the previous section, in period 1, the inhabitants of the Fries-Drents plateau were part of a housebuilding community that covered most of northwestern Europe. Even though the inhabitants were incorporated into this very extensive group, the connection itself cannot be considered strong. This is not just the case for the Fries-Drents plateau, where ample variation is observed, but for many other regions as well. For the Fries-Drents plateau, it has become clear that variation in housebuilding practices was the result of practices that were fleeting and that varied between households. Apparently, this loose incorporation gave the members of the households the opportunity to change and adapt, to experiment with different constructions. Some of these experiments were short-lived (*e.g.* houses 1 and 2 at Angelsloo-Emmerhout: Kooi, 2008: 335, fig. 4), whereas others can be considered the onset of practices that would become the norm in period 2 (*e.g.* the houses at Hijken-Hijkerveld: Arnoldussen and De Vries, 2014). Possibly the other housebuilding practices discussed above can be understood as other results of similar opportunities to vary, change and adapt more widely held practices.

The lack of standardisation in housebuilding practices in period 1 is not the only practice that suggests that the household was not the place whether ties were emphasised; other practices also indicate that social ties were predominantly played out at scales beyond the household (fig. 6.12). Gerritsen proposes that the urnfields, spatially segregated from individual farmsteads (Gerritsen, 2003: 145-148), played a more important role in the creation of local communities than did the settlement sites, which were short-lived and frequently dissolving (Gerritsen, 2003: 242-243). The variation in period 1 housebuilding practices observed here can be understood as a material manifestation of the short-lived and dissolving farmsteads. In addition to the burial practices, the arable lands, the Celtic fields, have a communal nature and are not related to individual farmsteads. The Celtic fields also played an important role in the construction of local communities (Gerritsen, 2003: 179-180). In a similar vein to the urnfields, the Celtic fields are places where the members of multiple households would meet and, through the communal tenure of land, create communities beyond and outside the household.

The emphasis on the social group beyond the farmstead is thus seen in different aspects of the lives of the inhabitants of the Fries-Drents plateau in period 1. It is in this light that, I propose, most of the special deposits on the Fries-Drents plateau should be seen. Special deposits on the Fries-Drents plateau are predominantly the result of communal practices that were performed at a social level beyond that of the household. In the majority of cases, they are not the result of the symbolic marking of the abandonment of individual farmsteads or the dissolving of households. For the Fries-Drents plateau, I find evidence for this in the isolated contexts of pits and in the fact that practices bear the most resemblances at the local scale. This does not mean that I am arguing that the interpretation of abandonment depositions, as has been proposed elsewhere,[185] is not applicable to the Fries-Drents plateau. Rather, I argue that abandonment deposits are found on the Fries-

185 See *e.g.* Gerritsen (1999, 2003: 96-102, 2008) or Van Hoof (2002) on pits with large quantities of 'domestic' refuse. The case is different when a direct link can be made to a structure, when special deposits are found in the features of a structure, see *e.g.* Van den Broeke (2002, 2015).

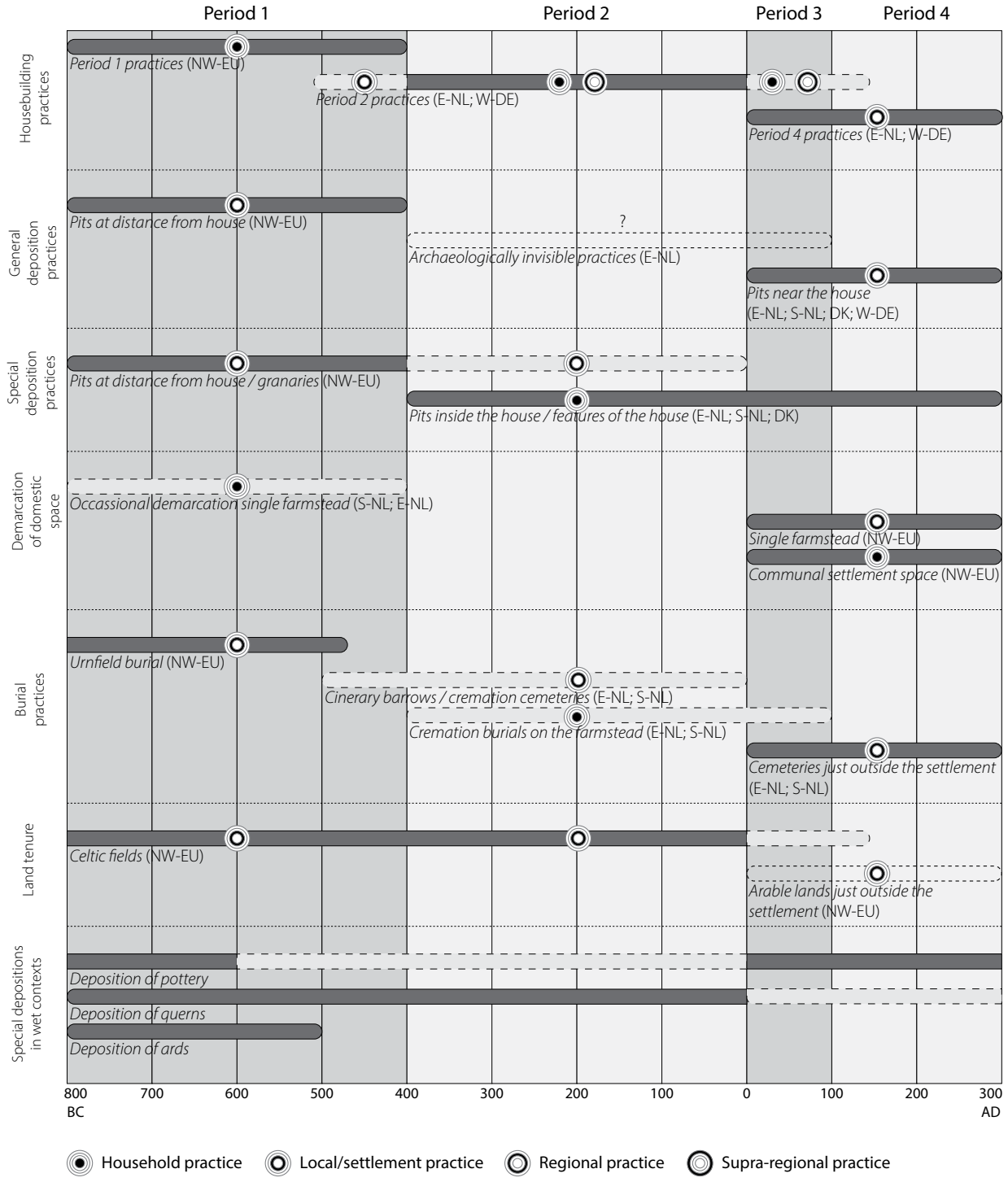


Figure 6.12: Overview of practices discussed in chapter 3, 4 and 5 and other later prehistoric practices within the research area. Dates for the use of Celtic fields based on Arnoldussen (2018); burial customs in periods 1 and 2 based on Hessing and Kooi (2005); burial customs in periods 2, 3 and 4 based on Van Beek (2009: 81) and Van der Velde (2011: 125); the location of fields in the Roman period based on Van der Velde (2011) and Hiddink (1999). DK = Denmark; E-NL = eastern Netherlands; S-NL = southern Netherlands; NW-EU = northwestern Europe; W-DE = western Germany.

Drents plateau as well, but that they represent only one specific event within a broader variety of events for which the special depositing of objects was felt necessary (*cf.* Van den Broeke, 2015: 90).[186]

Examples where the link between special deposit and house is beyond dispute, such as at Riethoven (Gerritsen, 2003: 99, fig. 3.31), are a scarcity on the Fries-Drents plateau and predominantly a deviating practice of one settlement, that of Hijken-Hijkerveld. In many instances, this link between special deposits and houses cannot be made and need not be sought when other options are available as well, such as a connection to the Celtic field or outbuildings.[187] Just as the tillage of communal fields can provide a hands-on opportunity to create community, so can special deposition practices provide a moment or context in which this community is symbolically emphasised. The presence of 'domestic' objects outside the settlement may not be as strange as it seems, if we consider that pottery was also suitable as an offering in wet contexts (see *e.g.* Van der Sanden and Taayke, 1995) and similar vessel shapes were used as cinerary urns (Kooi, 1979). Their presence may also be explained as the remnants of a feast or ritual meal that could be held in different places (*cf.* Nieuwhof, 2008: 298).

As has become evident in the previous section, in period 2, the very widespread housebuilding practices fragmented into different practices that each have a distinct core area within the Netherlands in which the practice is dominant. However, the practices also still have widespread distributions that are partially overlapping. For the Fries-Drents plateau, this breaking up of period 1 practices resulted in a housebuilding practice that was predominantly three-aisled, but not just three-aisled. In contrast to the previous period, the increased standardisation at the level of the household indicates that, more so than before, the farmstead was the place where association with larger groups was expressed. The settlement site was of lesser importance, which is seen in the fact that preferences in housebuilding practices are not expressed at the level of the settlement and that different housebuilding practices could co-exist.

It was not just the widely shared housebuilding practices of period 1 that fragmented into different, smaller-scale practices in period 2. There is other evidence that other widely shared practices fragmented into several different practices. This is seen, for example, in the way pits are used to deposit pottery. In period 1, people throughout northwestern Europe made use of pits as the context for depositions, but in period 2 different deposition practices existed. Some groups continued to dig and fill pits, whereas other groups abandoned the context of pits in favour of other contexts, such as the house itself.

Apparently, there was the need in period 2 to emphasise different social ties or ties on a different social scale than in the previous period. Some of the ties that are now stressed may have already existed in period 1, but other ties can only be explained as newly forged or newly foregrounded. As I discussed earlier, Lower Saxony was not part of the extensive building community in period 1. In period 2, however, the practices there are evidently related to practices on the Fries-Drents plateau and on the eastern sandy soils. It is difficult to pin down cause and effect, but it should be noted that changes in the distribution of housebuilding practices coincide with changes in the burial practices (Gerritsen, 2003: 244-245) as well as in the special deposition practices (chapter 5). The widespread urnfield phenomenon comes to a halt and is replaced by burial practices that are less visible, at least archaeologically. Instead of all of the dead being buried in communal cemeteries, some of the dead are buried in cinerary barrows, whereas others are buried near or on the farmstead (Hessing and Kooi, 2005: 649-652). As I argued above, special deposits on the Fries-Drents plateau in period 2 are more evidently associated with the farmstead. Changes in housebuilding practices, special deposition practices and burial practices all thus indicate that the farm and farmstead had become the place where association with larger groups was articulated at the expense of the local or settlement group.

At the same time, continuation can be observed in practices shared at a scale beyond the household, that is to say the shared use of the communal arable fields, the Celtic fields (Arnoldussen, 2018: 15-18). This means that even when the house and the household were more strongly emphasised, the members of the households on the Fries-Drents plateau remained connected to other households as well. There is evidence that the continued importance of the Celtic fields was emphasised by funerary practices from this period. In addition to the individual farmsteads that were a suitable context for burials, the importance of Celtic fields was symbolically stressed as a place to bury the dead. In extensive Celtic field systems at Hijken-Hijkerveld (Harsema, 1974a: 28(162)-31(165)), Zeijen-Noordsche Veld (Van Giffen, 1949: 119-123), Westeinde-Noormansveld (Arnoldussen, 2018: 15, 18, fig. 9) and Ballooërveld (Van Giffen, 1935), Middle to Late Iron Age cinerary barrows have been erected on top of the banks of the Celtic fields. The importance of the continued use of communal arable

186 The special deposition of pottery is also found in urnfield contexts (Van den Broeke, 2015: 92-93). These vessels are either buried separately, next to a funerary monument, *e.g.* Drouwen (1952 excavation: Kooi, 1979: 98, fig. 93), or deposited as incomplete, fragmented and secondarily fired vessels together with the cremated remains, *e.g.* Nijmegen-Lent Lentseveld (grave 11: Van den Broeke *et al.*, 2011: 34, 37, 41 fig. 4.20-4.21, 4.26).

187 *E.g.* in the cases where pits are found amidst Celtic fields, such as at Peelo-Kleuvenveld (Kooi, 1996) or close to an outbuilding without any domestic structure nearby, such as at Eelde-Paalakkers (Harsema, 1974b: 65(199)-70(204)).

fields into period 2 may also be the explanation why features of granaries in period 2 continue to be used for special deposition practices. The fact that pits are no longer used for special deposits can be understood as the result of much more profound changes, in which the function and maybe the shape of pits was changed completely. They were no longer the right context for special deposition practices.

Period 2, especially the final centuries BC, is thought to be the period in which developments in the layout of settlements become more formalised, in the shape the clustering of farmsteads and demarcation of the settled spaces (Schinkel, 1998: 177, fig. 157; Gerritsen, 2003: 247; Arnoldussen and Jansen, 2010: 388-392). On the southern and sandy soils, this is seen in an increase in the number of house plans, which now more frequently overlap, and in the occurrence of the first demarcated settlement sites.[188] These internal developments in the layout of settlements are difficult to retrace on the Fries-Drents plateau, because evidence for clustering in period 2 is not as clear as in other regions. At the site of Noordbarge-Hoge Loo (Arnoldussen and Albers, 2015), for example, some period 2 houses overlap, but not all. The houses that do overlap do so only in sets of two. This suggests a single rebuilding event in the same location, rather than the onset of a clustered settlement. Other late examples of period 2 housebuilding practices, such as house 6 at Emmen-Noordbargeres (De Wit, 2015), are found in isolation. This is all the more remarkable given that we know that both Noordbarge-Hoge Loo and Emmen-Noordbargeres display demarcated settlements in period 3. Apparently, on the Fries-Drents plateau, at least the spatial association between individual households remained loose until they were completely integrated.[189]

Thus, little evidence exists for the importance of the settlement site as a vehicle for community expression in period 2. In period 3, the inhabitants who continued to build houses according to the 'old' traditions also continued to have similar notions with regard to the position of houses in relation to other ones. In the course of period 3 and in period 4 this changed, because clustered and demarcated settlements become more frequent in the archaeological record. For the Fries-Drents plateau, this change in the layout of the settlement coincided with a newly observed adherence to local housebuilding practices and locally shared notions on the proper place for deposition. Other aspects of life also indicate that the settlement became more important (fig. 6.11). Even though it is difficult to recognise arable fields in the Roman period, when they are not surrounded by banks or ditches,[190] it is generally thought that fields were located close to individual settlements (Hiddink, 1999: 164-168).[191] Cemeteries are also thought to have been located close the settlement or sometimes within the farmstead (Van der Velde, 2011: 125).

Based on the above discussion, the question can be raised if the present different approach to material culture on Iron Age and Roman Iron Age settlement sites on the Fries-Drents plateau has shed new light on the way we should see the inhabitants as social actors. In the introductory chapter, the supposed homogeneity for this region was one of the main issues I addressed. After an extensive discussion of housebuilding practices and deposition practices on the Fries-Drents plateau, it is evident that throughout the four periods there were concepts that were clearly shared among all members of the Fries-Drents plateau. In many instances, however, these practices can be followed beyond the borders of the Fries-Drents plateau. The eastern sandy soils, which are closest, show evidence for many similar practices. If we speak about a 'northern' tradition of three-aisled houses (*cf.* Harsema, 2005: 546), there is reason to include Overijssel and Gelderland as well in all four periods. However, the concept of homogeneity only holds when it is used to refer to the way this particular region underwent changes that are seen on a much larger scale, because parallel processes can be observed farther to the south and north as well.

The detailed analysis of housebuilding and deposition practices also questions the notion of homogeneity within this region and during the period of research. In period 1, housebuilding practices are shared only loosely, and ample opportunity existed to adapt and change. Special deposits of pottery are evidently the result of a similarly widespread practice, but seem to stress a social group on a different scale. In period 2, the breaking up of large-scale traditions may have led to the crystallisation of a

188 For the Meuse-Demer-Scheldt region, demarcated sites with multiple houses are found, for example, at Oss-Horzak (Arnoldussen and Jansen, 2010: 388) and Oss-Almstein (Jansen and Fokkens, 1999: 76-78, fig. 72). At Sevenum-De Krouwel, a Middle Iron Age single farmstead was found that showed evidence for continuity and spatial demarcation (Dyselinck, 2014). For the eastern sandy soils, Late Iron Age farmstead demarcation is visible in the form of fences at the site of Ede-Park Reehorst (Norde, 2019: 121-122, fig. 7.32). In Denmark, Late Pre-Roman Iron Age (*c.* 500-50 BC) farmsteads are demarcated by ditches and can even show subdivisions of the farmstead itself. The demarcated farmstead can be part of a village that has its own boundary (Webley, 2008: 107-110).

189 This does not mean that no shared notion of the proper place for habitation existed. Farmsteads in period 2 show a communal relocation in relation to farmsteads in the previous period (Luinge, 2018: 67-71, fig. 5.3).

190 See *e.g.* examples from the eastern sandy soils, where arable lands are rarely found (Van der Velde, 2011: 85, 86, 88, 101, 103, 106, 122).

191 Evidence for demarcated fields predominantly comes from the Meuse-Demer-Scheldt region, where parcellation systems are indicative for the location of fields just outside the settlement (Wesselingh, 2000: 194-195). A fine example of demarcated fields can be found at Oss-Horzak (Berkvens, 2018: 324, fig. 7.24).

'northern' housebuilding practice that seems to have its roots in period 1 practices, but different housebuilding practices coexisted. The co-existence of two- and three-aisled housebuilding practices makes the concept of homogeneity within the Fries-Drents difficult to maintain, even more so when 'southern' housebuilding practices are found as far north as Borger. The area in which the two practices co-exists stretches much farther to the south.

In another way, it is difficult to maintain the picture of homogeneity in period 3. The difference in the rate at which housebuilding practices changed between the north and the south also makes it problematic to adhere to the notion of a single, uniform group. The inhabitants of the northern parts were leading in the application of new housebuilding practices, whereas those of the southern and southeastern parts of the Fries-Drents plateau held on to the old practices for much longer. This continuation of period 2 practices is more in line with continued construction of this type of house on the eastern sandy soils. Still, other groups in the southern and southeastern parts did construct houses according to the new principles. What is more, in periods 3 and 4, different settlement sites display different preferences for the construction of byre houses, while they also refer to widely shared practices. In this sense, zooming in further has also refuted the notion of homogeneity. Different practices could co-exist within regions and within settlements, and occasionally even at the level of the household.

6.5 Recommendations for future research into past societies

This study started with the anecdote of how the site of Hijken-Hijkerveld was discovered by chance and how, for a long time, the practices found there have been considered exemplary for all Iron Age inhabitants of the Fries-Drents plateau. However, upon re-evaluation of the results of the excavation at Hijken-Hijkerveld, I found that the local practices were not as univocal as was assumed and that they could not be fitted into the widely used typologies as well as one might expect for a type site. These observations raised the question for me to what extent the inhabitants of the Iron Age settlement of Hijken-Hijkerveld followed widely shared practices in a very strict way and to what degree there was space for local and personal choices. From this followed a more general question whether studying both normativity and variation in material culture would present a more accurate picture of societies in the past, in which people were part of larger communities and still functioned as individuals within these communities.

On the smallest scale, it is still difficult to understand why the one household at Hijken-Hijkerveld opted for one additional entrance in one of the short sides of the house, while the other household added an extra pair of entrances and yet another one did neither. However, comparing the site with other sites across space and time has helped to understand how odd the site Hijken-Hijkerveld is with regard to housebuilding practices (chapter 3) and special deposition practices (chapter 5). Because of the present analyses, it has become evident that with regard to the interior roof-load-supporting constructions, the inhabitants of Hijken-Hijkerveld felt part of a dominant, three-aisled tradition. Concerning the way in which the external part of the roof-load was supported, they were ahead of their time, while the practice of depositing large quantities of objects in pits firmly rooted them, once again, in the supra-regional practices of their contemporaries. To truly attempt to understand prehistoric societies, it is necessary that we keep on reflecting on works from the past and dare to reconsider old interpretations. New excavations can shed light on old sites, just as much as old sites can help us understand newly excavated sites. In addition to this, individual sites should be studied as part of the whole, with the acknowledgement that by adding new information, our total knowledge shifts. Often, it is thought that by now we know the stories of these old sites, but this presumes that the order in which we excavate sites is also the best order in which we learn about prehistoric societies (*cf.* Boozer, 2015: 96). In the case of Hijken-Hijkerveld, the assumption is evidently wrong. For a type site, Hijken-Hijkerveld has proven to be quite atypical. Yet, in its deviation from norms, Hijken has provided us with an example of how households could be part of social communities on different scales simultaneously.

Finally, I believe that we do no justice to prehistoric groups in the past by studying them only at an aggregated level or by only studying the intricate details of just one specific house site. I believe lies the merit of this research lies in the interrogations at various scales: by allowing norms and variation to co-exist at different scales, we allow people to be connected at different scales. For me, the key to understanding prehistoric life is the interaction at many scales of multiple groups. Only when I compared Hijken-Hijkerveld with the entirety of period 1 settlement sites and in the light of processes that took place on a larger time scale, did it become possible for me to understand the place of its inhabitants in the developments on the Fries-Drents plateau in the (Roman) Iron Age. Only by comparing over and over again, between contemporaneous houses, between subsequent phases, between regions and beyond, it is possible to understand how people can be part of larger groups but still act as individuals within them.

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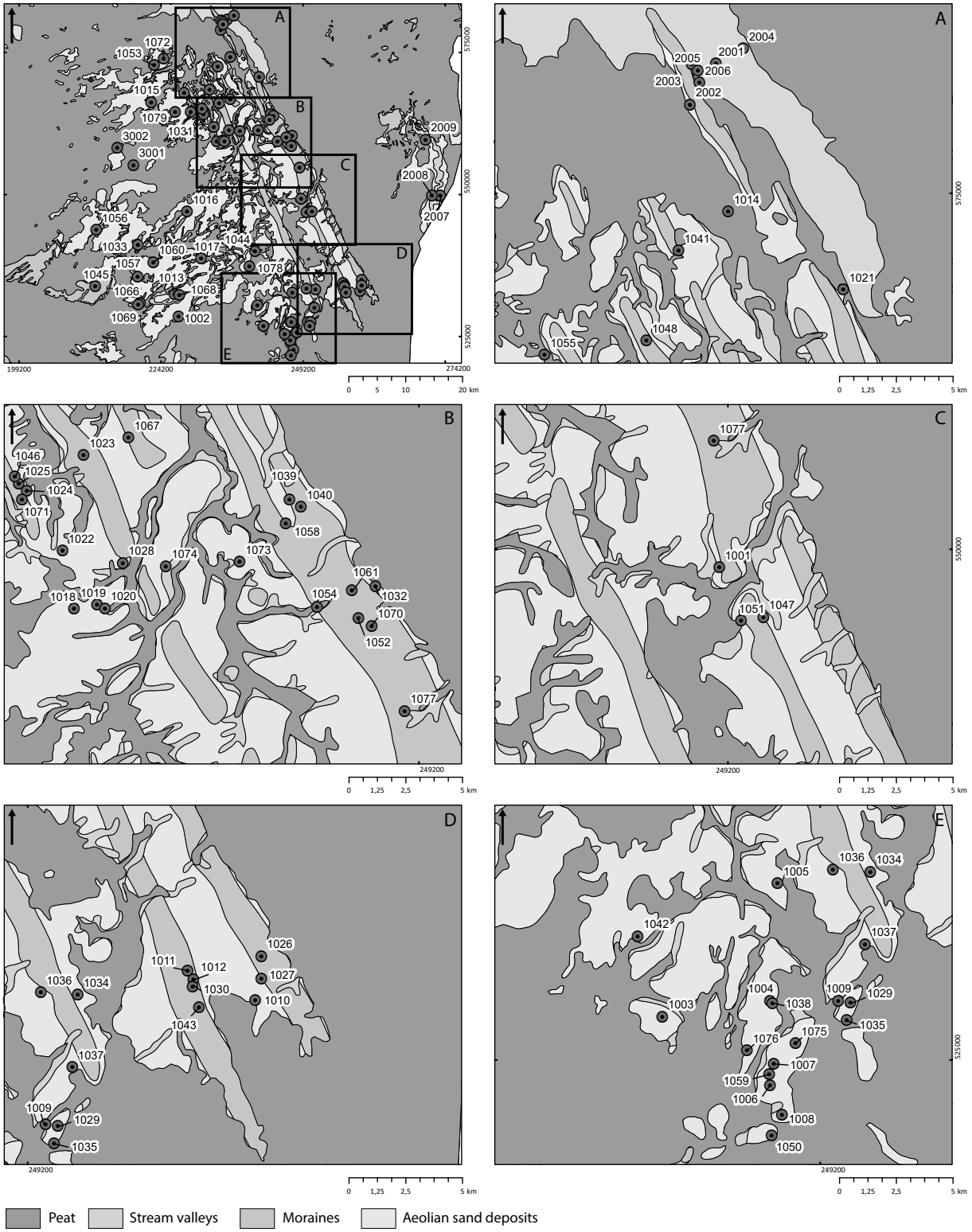
Appendix 1

Overview of (Roman) Iron Age sites on the Fries-Drents plateau



Geographic distribution of Iron Age and Roman Iron Age sites plotted on the palaeogeographic map of 500 BC (Vos *et al.*, 2020).

Province of Drenthe	
1001:	Borger-Daalkampen
	Borger-Daalkampen (Kooi, 1996b)
	Borger-N34 (Kooi and Krist, 2001; Kooi and De Wit, 2003)
	Borger-Brandweerkazerne (De Wit, 2004)
	Borger-Daalkampen II 2007 (Hielkema and De Wit, 2005; De Wit *et al.*, 2009a)
	Borger-Daalkampen II 2008 (Van der Meij, 2010a)
	Borger-Strijkijzer (Hielkema, 2016)
1002:	Fluitenberg-Zevenberg (Schrijer *et al.*, 2007; Schrijer and De Neef, 2008; Tulp, 2015a)
1003:	Zwinderen-Kleine Esch (Van der Velde *et al.*, 1999)
1004:	Wachtum-Noordesch (Van der Velde *et al.*, 1999)
1005:	Dalen-De Spil (De Wit, 2003b)
1006:	Dalen-Molenakkers
	Dalen-Molenakkers (Harsema, 1994a)
	Dalen-Molenakkers II (De Wit, 2016a, 2016b)
1007:	Dalen-Thijakkers (Harsema, 1987)
1008:	Dalen-Huidbergsveld (Kooi, 1991)
1009:	Holsloot-Holingerveld (Van der Velde *et al.*, 2003)
1010:	Emmen-Oude Meerdijk (Buitenhuis, 2010; De Wit, 2011)
1011:	Emmen-Frieslandweg (De Wit, 2002, 2003a)
1012:	Emmen-Noordbargeres (De Wit *et al.*, 1999; De Wit, 2002, 2015b, 2018a)
1013:	Pesse-Eursinge (Lanting, 1977; Reinders and Waterbolk, 2011)
1014:	Eelde-Groote Veen (Tulp, 2014)
1015:	Een-Middelboerschool (Van der Waals, 1963)
1016:	Hijken-Hijkerveld (Harsema, 1974b, 1991; Arnoldussen and De Vries, 2014)
1017:	Wijster-Looveen (Van Es, 1967)
1018:	Peelo-Es (Kooi, 1994a; Van Zeist and Palfenier-Vegter, 1994)
1019:	Peelo-Haverland (Kooi, 1995; Van Zeist and Palfenier-Vegter, 1996)
1020:	Peelo-Kleuvenveld (Kooi and De Langen, 1987; Kooi, 1996a; Van Zeist and Palfenier-Vegter, 1996)
1021:	Midlaren-De Bloemert (Nicolay, 2008a)
1022:	Rhee-Versterkte Nederzetting (Van Giffen, 1937a, 1938, 1940a; Waterbolk, 1977a)
1023:	Vries-Versterkte Nederzetting (Van Es, 1958; Waterbolk, 1977a)
1024:	Zeijen-Noordsche Veld (Zeijen I) (Van Giffen, 1936a; Waterbolk, 1977a)
1025:	Zeijen-Noordsche Veld (Zeijen II) (Van Giffen, 1949; Waterbolk, 1977a)
1026:	Emmen-Emmerhout (Kooi, 2008; Arnoldussen and Scheele, 2012)
1027:	Emmen-Angelsloo (Kooi, 2008; Arnoldussen and Scheele, 2012)
1028:	Assen-Messchenveld (Ter Wal, 2008; Schrijer, 2010)
1029:	Dalen-Aardgasleiding (Krist, 1988)
1030:	Emmen-De Holdert (De Wit, 2014)
1031:	Peest (Van Giffen, 1934)
1032:	Eext-Vijzelkampen (Van Giffen, 1937b)
1033:	Leggeloo (Van Giffen, 1935b)
1034:	Sleen-Diphoorn (Van Giffen, 1936b)
1035:	Erm-Den Hool (Van Giffen, 1939a)
1036:	Sleen-Zuidsleen (Van Giffen, 1939a)
1037:	Erm-Ermerveld (Van Giffen, 1940b)
1038:	Wachtum-Oosterbroeken (Brunsting, 1941)
1039:	Anloo (Harsema, 1979)
1040:	Annen-Holtkampen (Harsema, 1976a)
1041:	Eelde-Paalakkers (Harsema, 1974a)
1042:	Gees (Waterbolk, 1989)
1043:	Noordbarge-Hoge Loo (Harsema, 1976b, 1994b; Van Zeist, 1981; Arnoldussen and Albers, 2015)
1044:	Orvelte (Harsema, 1973a)
1045:	Uffelte-Schietbaan (Taayke *et al.*, 1978)
1046:	Zeijen-Witteveen (Waterbolk, 1977b)
1047:	Ees-N34 (De Wit and Wieringa, 2015)
1048:	Donderen (Hielkema, 2008b, 2008a)
1050:	Coevorden-S15 (Beuker, 1980)
1051:	Ees-Zuidesch (Hensen, 2012)
1052:	Gieten-OV Knooppunt (Loopik, 2010a)
1053:	Roden-Vijfde Verloting (Taayke, 1993)
1054:	Eext-Kampakkers (Harsema, 1979)
1055:	Langeloo (Van der Waals, 1966)
1056:	Doldersum (Van der Waals, 1966)
1057:	Westeinde-Noormansveld (Arnoldussen and De Vries, 2017)
1058:	Anloo-Bosweg (Groenewoudt, 2005)
1059:	Dalen-Westakkers (Kooi *et al.*, 1989; Kooi, 1994b)
1060:	Lhee-Es (Waterbolk, 1989)
1061:	Eext-Bergakkers (Harsema, 1977)
1066:	Ruinen-Mr. Harm Smeengestraat (De Roller, 2009)
1067:	Tynaarloo (Van der Sanden, 1994)
1068:	Pesse-De Marke (De Wit, 2003c)
1069:	Ruinen-Oldhave Bos (Koopstra and Lenting, 2016)
1070:	Gieten-Eexterweg (unpublished)
1071:	Zeijen-Es (Waterbolk, 1961)
1072:	Roden-Westenesch (Van Dalfsen and Schrijer, 2011)
1073:	Gasteren-Zuidesch (De Roller, 2003)
1074:	Taarlo-Dorpskern (De Roller, 2003)
1075:	Dalen-Eldijk (Van der Sanden, 1992)
1076:	Dalen-Valsteeg (van der Sanden, 1992)
1077:	Gasselte-Lutkenend (Waterbolk and Harsema, 1979)
1078:	Garminge-Es (Van der Waals, 1967)
1079:	Norg-De Vledders (Waterbolk, 1959)
Province of Groningen	
2001:	Groningen-De Linie (Daleman, 2007)
2002:	Groningen-Helpermaar (Huis in 't Veld *et al.*, 2010; Van der Velde *et al.*, 2010)
2003:	Groningen-Verlengde Lodewijkstraat (Daleman, 2010)
2004:	Groningen-Eemsport (Kortekaas, 2002)
2005:	Groningen-Helperzoom (Wieringa, 2013a)
2006:	Groningen-Helperbrink Coendershof (Wieringa, 2013b)
2007:	Sellingen-Zuidveld (Van Giffen, 1939b)
2008:	Laude-Beukhorst (Van Giffen, 1939c)
2009:	Ellersinghuizen (Harsema, 1973b)
Province of Friesland	
3001:	Fochteloo (Van Giffen, 1958; Waterbolk, 2007)
3002:	De Weper (Elzinga, 1970)

Appendix 2

Overview of house plans per period

Abbreviations:

Periods (dates as in this thesis, see chapter 1)

Period 0:	before 800 BC
Period 1:	between 800 and 400 BC
Period 2:	between 400 and 0 BC
Period 3:	between 0 and 100 AD
Period 4:	between 100 and 300 AD

Periods (dates as in Archeologisch Basisregister)

LBA:	Late Bronze Age (1100-800 BC)
EIA:	Early Iron Age (800-500 BC)
MIA:	Middle Iron Age (500-250 BC)
LIA:	Late Iron Age (250-12 BC)
ERP:	Early Roman Period (12 BC-AD 69)
MRP:	Middle Roman Period (AD 69-270)
IA:	Iron Age (800-12 BC)
RP:	Roman Period (12 BC-AD 450)

Pottery types as in typology of Taayke for North-Drenthe. For dates see Taayke (1995, 1996b: 182, fig. 10d)

G0 t/m G5:	Closed-shaped vessels with smooth rims
V1 t/m V5:	Closed-shaped vessels with decorated rims
S1 t/m S5:	Open-shaped vessels (bowls)
K1 t/m K5:	Small vessels with smooth rims

^{14}C

Radiocarbon dates as listed in appendix 3

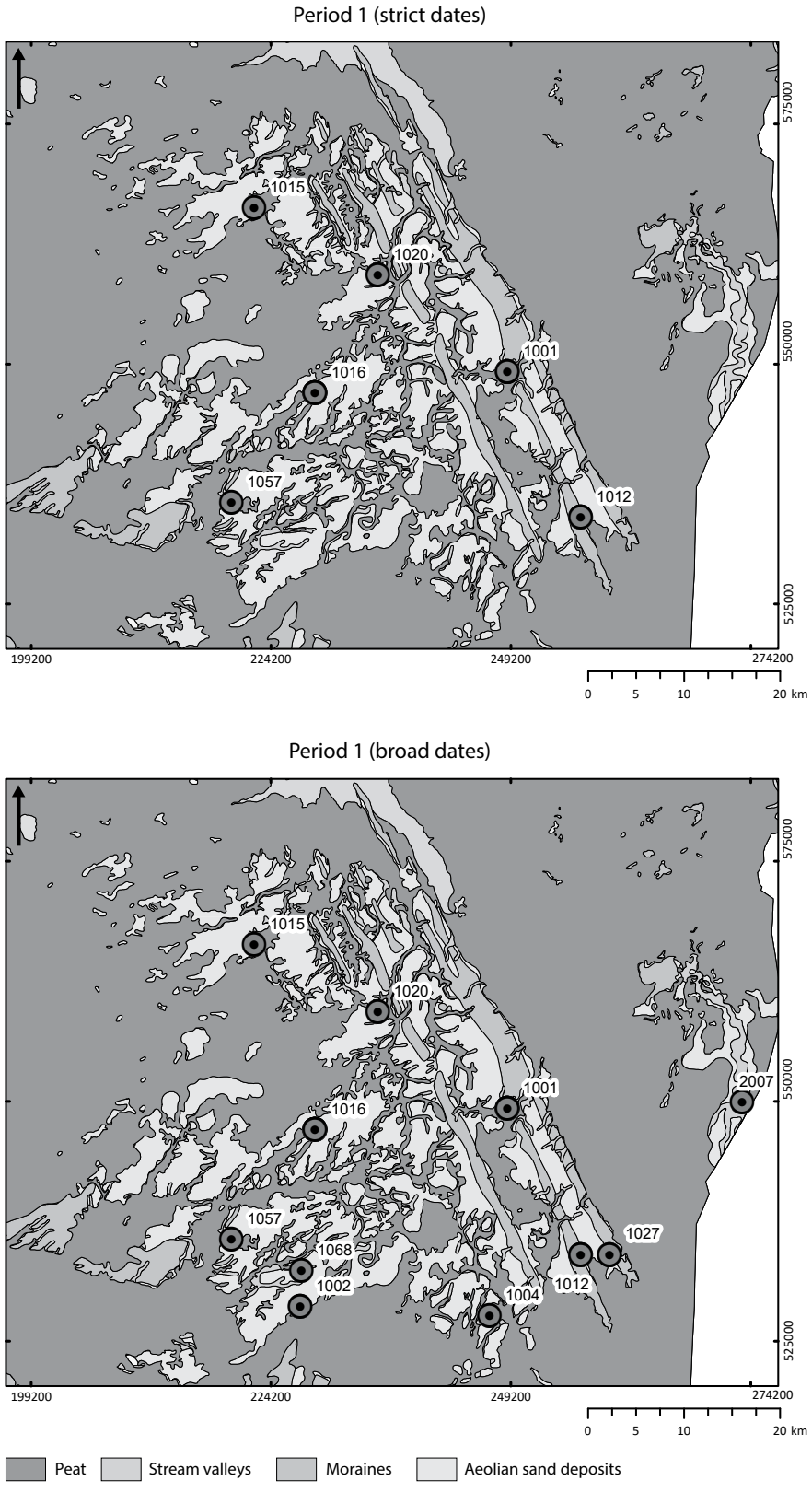


Figure 1: Geographic distribution of settlement sites with houses dated to period 1, both for the strict (above) and the broad dates (below), plotted on the palaeogeographical map of 500 BC (Vos *et al.*, 2020).

Site code	Site	House	Period 0	Period 1	Period 2	Period 3	Period 4	Basis dating	References
1001	Borger-Daalkampen	House 7 (N34)	-	X	-	-	-	^{14}C from posthole: 803-543 BC Pottery from features: LBA/EIA	Kooi and De Wit, 2003
1001	Borger-Daalkampen	House 9 (N34)	X	X	-	-	-	Pottery from features: G1	Kooi and De Wit, 2003
1001	Borger-Daalkampen	House 7 (Daalkampen II-2007)	X	X	-	-	-	Association pit inside the house: LBA/EIA	De Wit *et al.*, 2009a
1001	Borger-Daalkampen	House 30 (Daalkampen II-2007)	-	X	-	-	-	Association with pit inside house: G1	De Wit *et al.*, 2009a
1001	Borger-Daalkampen	House 32 (Daalkampen II-2007)	-	X	-	-	-	Pottery from features: EIA	De Wit *et al.*, 2009a
1002	Fluitenberg-Zevenberg	Structure 2	-	X	X	-	-	Pottery from features: IA	Schrijer *et al.*, 2007; Schrijer and De Neef, 2008
1002	Fluitenberg-Zevenberg	Structure 3	-	X	X	-	-	Pottery from features: IA	Schrijer *et al.*, 2007; Schrijer and De Neef, 2008
1004	Wachtum-Noordesch	House EIA	X	X	-	-	-	Pottery from features: LBA/EIA	Van der Velde *et al.*, 1999
1012	Emmen-Noordbargeres	House 5	-	X	-	-	-	Pottery from features: EIA	De Wit, 2015b
1012	Emmen-Noordbargeres	House 4 (parkeerplaats)	-	X	-	-	-	Pottery from features: EIA or early MIA	De Wit, 2018a
1012	Emmen-Noordbargeres	House 5 (parkeerplaats)	-	X	-	-	-	Assocation with Noordbargeres house 4	De Wit, 2018a
1015	Een-Middleboerschool	House	-	X	-	-	-	Association with pit inside house: EIA	Van der Waals, 1963
1016	Hijken-Hijkerveld	House 1	-	X	-	-	-	Association with pit next to the house ^{14}C pit: 730-391 BC Pottery from pit: G0, G1, V1	Harsema, 1973c, 1974b, 1976a; Arnoldussen and De Vries, 2014
1016	Hijken-Hijkerveld	House 3	-	X	-	-	-	^{14}C from posthole: 728-388 BC Association with pit next to the house. Pottery from pit: G0, G1, V1, S1	Harsema, 1973c, 1974b, 1976a; Arnoldussen and De Vries, 2014
1016	Hijken-Hijkerveld	House 8	-	X	X	-	-	Association with pit next to house ^{14}C from pit: 763-210 BC	Harsema, 1973c, 1974b, 1976a; Arnoldussen and De Vries, 2014
1016	Hijken-Hijkerveld	House 10	-	X	X	-	-	Pottery from features: V1 or V2	Harsema, 1973c, 1974b, 1976a; Arnoldussen and De Vries, 2014
1016	Hijken-Hijkerveld	House 12	-	X	-	-	-	Association with pit next to the house. Pottery from pit: G1, V1, S1	Harsema, 1973c, 1974b, 1976a; Arnoldussen and De Vries, 2014
1016	Hijken-Hijkerveld	House 16	-	X	-	-	-	Pottery from posthole and pit: G1, V1, S1	Harsema, 1973c, 1974b, 1976a; Arnoldussen and De Vries, 2014
1016	Hijken-Hijkerveld	House 17	-	X	-	-	-	Association with pit next to the house: G1, V1, S1	Harsema, 1973c, 1974b, 1976a; Arnoldussen and De Vries, 2014
1016	Hijken-Hijkerveld	House 22	-	X	-	-	-	Association with pit next to the house: G1, V1, S1	Harsema, 1973c, 1974b, 1976a; Arnoldussen and De Vries, 2014
1020	Peelo-Kleuvenveld	House 106	-	X	-	-	-	^{14}C from posthole: 756-408 BC	Kooi and De Langen, 1987; Kooi, 1996a
1027	Emmen-Angelsloo	House 75-phase 1	-	X	X	-	-	^{14}C from posthole: 726-376 BC	Kooi, 2008
1027	Emmen-Angelsloo	House 75-phase 2	-	X	X	-	-	Association with Angelsloo house 75	Kooi, 2008
1057	Westeinde-Noormansveld	House 1	-	X	-	-	-	^{14}C from posthole: 776-549 BC Pottery from features: LBA/EIA	Arnoldussen and De Vries, 2017
1068	Pesse-De Marke	House	-	X	X	-	-	Pottery from features: IA	De Wit, 2003c
2007	Sellingen-Zuidveld	House	X	X	-	-	-	Association with pottery: LBA/EIA	Van Giffen, 1939b

Table 1: Sites with houses dated to period 1. The houses that are strictly dated to period 1 are marked in grey.

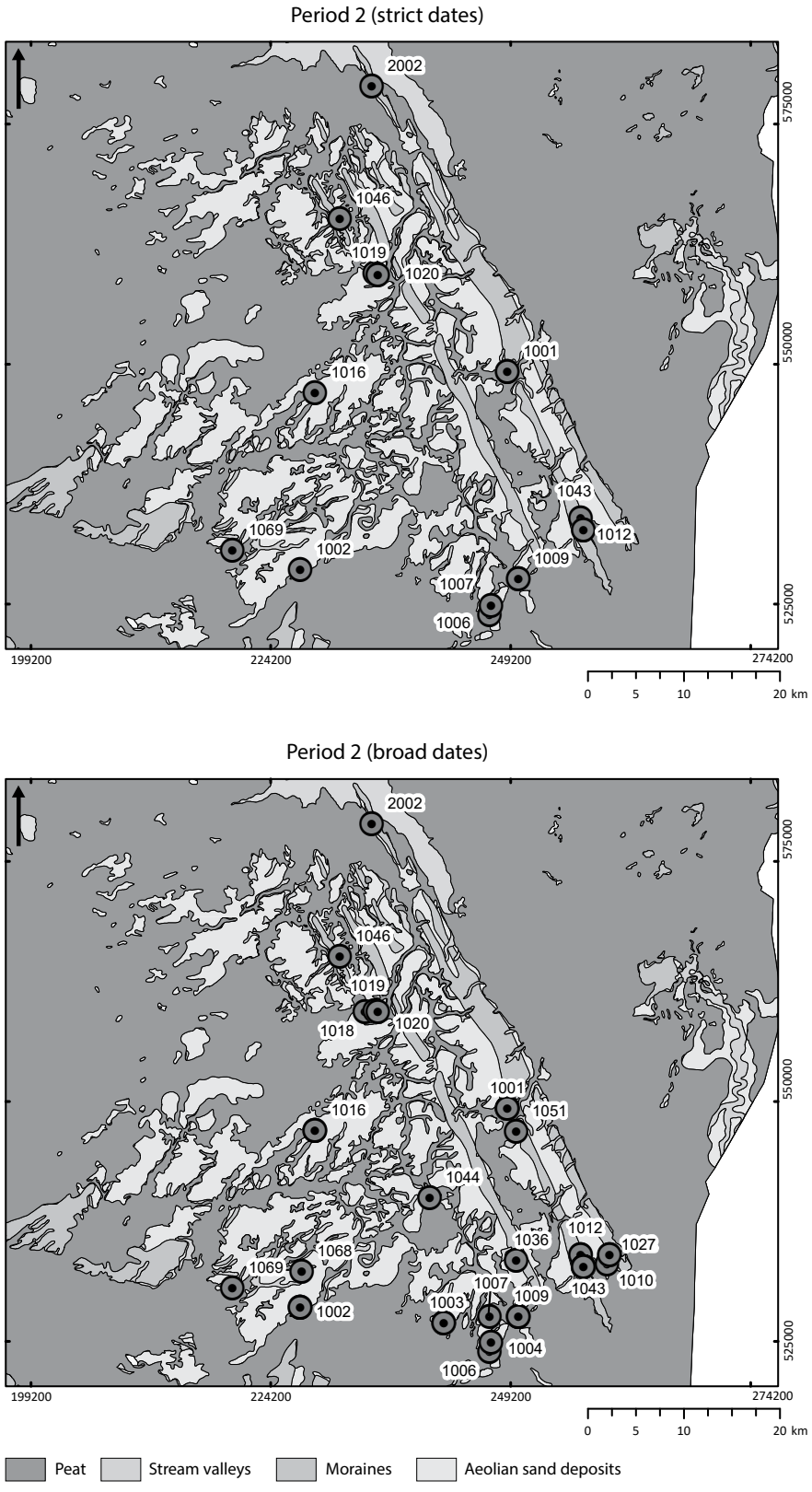


Figure 2: Geographic distribution of settlement sites with houses dated to period 2, both for the strict (above) and the broad dates (below), plotted on the palaeogeographical map of 500 BC (Vos *et al.*, 2020).

Site code	Site	House	Period 0	Period 1	Period 2	Period 3	Period 4	Basis dating	References
1001	Borger-Daalkampen	House 3 (N34)	-	-	X	-	-	^{14}C from posthole: 380-120 BC	Kooi and De Wit, 2003
1001	Borger-Daalkampen	House 1 (Daalkampen II-2008)	-	-	X	X	-	Association with pits inside the house Pottery from pits: possibly G3, V2	Van der Meij, 2010a
1001	Borger-Daalkampen	House 3 (Daalkampen II-2008)	-	-	X	-	-	Pottery from postholes: G3	Van der Meij, 2010a Personal observations author
1001	Borger-Daalkampen	House 5 (Daalkampen II-2008)	-	-	X	X	-	Pottery from postholes: LIA-ERP	Van der Meij, 2010a
1001	Borger-Daalkampen	House 6-7 (Daalkampen II-2008)	-	-	X	X	-	Pottery from postholes: LIA-ERP	Van der Meij, 2010a
1002	Fluitenberg-Zevenberg	Structure 1	-	-	X	-	-	Association with pit inside the house Pottery from pit: G3, S1 or S2, V2	Schrijer *et al.*, 2007; Schrijer and De Neef, 2008 Personal observations author
1002	Fluitenberg-Zevenberg	Structure 2	-	X	X	-	-	Pottery from features: IA	Schrijer *et al.*, 2007; Schrijer and De Neef, 2008
1002	Fluitenberg-Zevenberg	Structure 3	-	X	X	-	-	Pottery from features: IA	Schrijer *et al.*, 2007; Schrijer and De Neef, 2008
1003	Zwinderen-Kleine Esch	Farmstead 1	-	-	X	X	-	Pottery from ditch under the eaves: V3	Van der Velde *et al.*, 1999
1003	Zwinderen-Kleine Esch	Farmstead 2	-	-	X	X	-	Pottery from features: LIA-ERP	Van der Velde *et al.*, 1999
1003	Zwinderen-Kleine Esch	Farmstead 3	-	-	X	X	-	Pottery from features and pit inside the house: a.o. V3 ^{14}C from posthole: 185 BC-AD 4	Van der Velde *et al.*, 1999
1004	Wachtum-Noordesch	House LIA	-	-	X	X	-	Pottery from postholes LIA- ERP	Van der Velde *et al.*, 1999
1006	Dalen-Molenakkers	House (Molenakkers II-2015)	-	-	X	-	-	^{14}C from posthole: 350-60 BC	De Wit, 2016a
1007	Dalen-Thijakkers	House 1	-	-	X	-	-	^{14}C from posthole: 345-41 BC	Harsema, 1987
1009	Holsloot-Holingerveld	House 1	-	-	X	-	-	Association with pit next to house ^{14}C from pit: 730-391 BC	Van der Velde *et al.*, 2003
1009	Holsloot-Holingerveld	House 3	-	-	X	X	-	Pottery from features: LIA/ERP	Van der Velde *et al.*, 2003
1009	Holsloot-Holingerveld	House 4	-	-	X	-	-	^{14}C from posthole: 355 BC-AD 2	Van der Velde *et al.*, 2003
1010	Emmen-Oude Meerdijk	House 2+3	-	-	X	X	-	Pottery from features: V3, V4, Gw4 Association with pit inside the house: G4-G5	De Wit, 2011
1012	Emmen-Noordbargeres	House 6	-	-	X	X	X	Pottery from feature: V3 or V4	De Wit, 2015b personal observations author
1012	Emmen-Noordbargeres	House 2 (parkeerplaats)	-	-	X	-	-	^{14}C from posthole: 191-3 BC	De Wit, 2018a
1016	Hijken-Hijkerveld	House 8	-	X	X	-	-	Association with pit next to house ^{14}C from pit: 763-210 BC	Harsema, 1973c, 1974b, 1976a; Arnoldussen and De Vries, 2014
1016	Hijken-Hijkerveld	House 10	-	X	X	-	-	Pottery from features: V1 or V2	Harsema, 1973c, 1974b, 1976a; Arnoldussen and De Vries, 2014
1016	Hijken-Hijkerveld	House 18	-	-	X	-	-	^{14}C from postholes: 358-56 BC; 360-109 BC; 358 BC-AD 79 Pottery from posthole: G3	Harsema, 1973c, 1974b, 1976a; Arnoldussen and De Vries, 2014
1018	Peelo-Es	House 27	-	-	X	X	-	^{14}C from posthole: 52 BC-AD 59	Kooi, 1994a
1019	Peelo-Haverland	House 52	-	-	X	-	-	Association pits inside the house: G3	Kooi, 1995
1020	Peelo-Kleuvenveld	House 107	-	-	X	-	-	^{14}C from posthole: 400-210 BC	Kooi and De Langen, 1987; Kooi, 1996a
1027	Emmen-Angelsloo	House 75-ph1	-	X	X	-	-	^{14}C from posthole: 726-376 BC	Kooi, 2008
1027	Emmen-Angelsloo	House 75-ph2	-	X	X	-	-	Association with house 75-phase 1	Kooi, 2008
1036	Sleen-Zuidveld	House	-	-	X	X	-	Association with pottery:	Van Giffen, 1939a
1043	Noordbarge-Hoge Loo	House 11	-	-	X	-	-	^{14}C from postholes: 380-99 BC (charcoal); 163-44 BC (charred seeds)	Harsema, 1976b; Arnoldussen and Albers, 2015
1043	Noordbarge-Hoge Loo	House 12	-	-	X	X	-	Pottery from features: LIA-ERP	Harsema, 1976b; Arnoldussen and Albers, 2015;

Site code	Site	House	Period 0	Period 1	Period 2	Period 3	Period 4	Basis dating	References
1043	Noordbarge-Hoge Loo	House 13	-	-	X	X	-	Pottery from features: LIA-ERP	Harsema, 1976b; Arnoldussen and Albers, 2015 Database R. Rap
1043	Noordbarge-Hoge Loo	House 14	-	-	X	-	-	Pottery from features: LIA	Harsema, 1976b; Arnoldussen and Albers, 2015
1043	Noordbarge-Hoge Loo	House 33	-	-	X	X	-	^{14}C from postholes: 360-116 BC; 352-111 BC Association with pit inside the house: ERP	Harsema, 1976b; Arnoldussen and Albers, 2015
1043	Noordbarge-Hoge Loo	House 1	-	-	X	X	X	^{14}C from wall ditch: 37 BC-AD 126	Harsema, 1976b; Arnoldussen and Albers, 2015
1043	Noordbarge-Hoge Loo	House 5	-	-	X	X	-	^{14}C from posthole: 358-39 BC; 88 BC-AD 82	Harsema, 1976b; Arnoldussen and Albers, 2015
1044	Orvelte	House	-	-	X	X	-	^{14}C from posthole: 179 BC-AD 122	Harsema, 1973a
1046	Zeijen-Witteveen	House	-	-	X	-	-	Association with pit inside the house: G2; G3; V2; S1; S5	Waterbolk, 1977b
1051	Ees-Zuidesch	House	-	-	X	X	-	^{14}C from posthole: 156 BC-AD 53 Pottery from features: IA-RP ^{14}C from pit inside the house: 151 BC-AD 55	Hensen, 2012
1068	Pesse-De Marke	House	-	X	X	-	-	Pottery from features: IA	De Wit, 2003c
1069	Ruinen-Oldhave Bos	House	-	-	X	-	-	Pottery from features: G3 Association with pit inside the house ^{14}C from pit: 403-206 BC	Koopstra and Lenting, 2016
2002	Groningen-Helpermaar	House 1	-	-	X	-	-	Pottery from features: IA Association with ditch nearby the house: G3/Gw4b, Gw4c	Huis in 't Veld *et al.*, 2010

Table 2: Sites with houses dated to period 2. The houses that are strictly dated to period 1 are marked in grey.

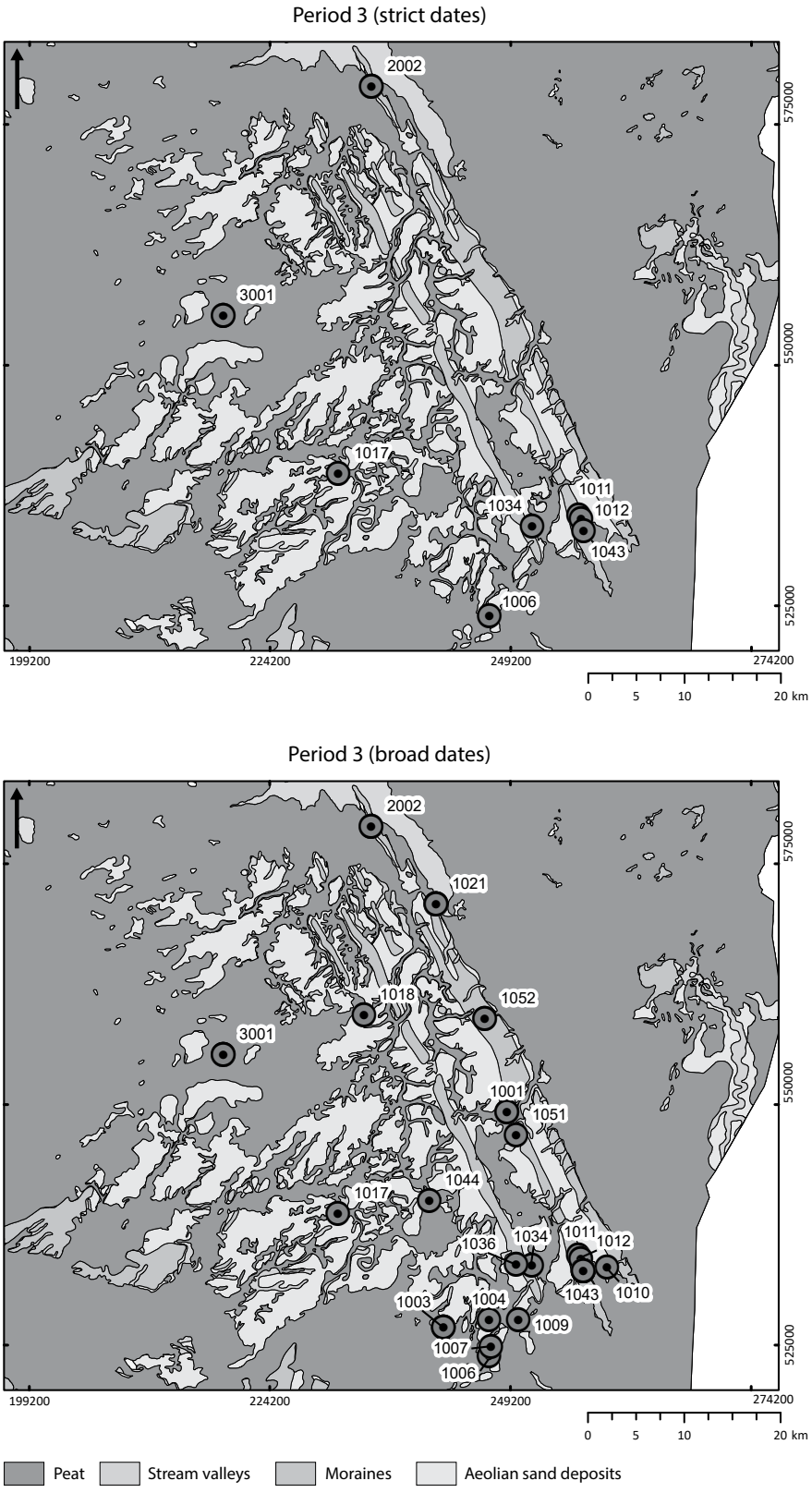


Figure 3: Geographic distribution of settlement sites with houses dated to period 3, both for the strict (above) and the broad dates (below), plotted on the palaeogeographical map of 500 BC (Vos *et al.*, 2020).

Site code	Site	House	Period 0	Period 1	Period 2	Period 3	Period 4	Basis dating	References
1001	Borger-Daalkampen	House 1 (Daalkampen II-2008)	-	-	X	X	-	Association with pits inside the house Pottery from pits: possibly G3, V2	Van der Meij, 2010a
1001	Borger-Daalkampen	House 5 (Daalkampen II-2008)	-	-	X	X	-	Pottery from postholes: LIA-ERP	Van der Meij, 2010a
1001	Borger-Daalkampen	House 6-7 (Daalkampen II-2008)	-	-	X	X	-	Pottery from postholes: LIA-ERP	Van der Meij, 2010a
1003	Zwinderen-Kleine Esch	Farmstead 1	-	-	X	X	-	Pottery from ditch under the eaves: V3	Van der Velde *et al.*, 1999
1003	Zwinderen-Kleine Esch	Farmstead 2	-	-	X	X	-	Pottery from features: LIA-ERP	Van der Velde *et al.*, 1999
1003	Zwinderen-Kleine Esch	Farmstead 3	-	-	X	X	-	Pottery from features and pit inside the house: a.o. V3 ^{14}C from posthole: 185 BC-AD 4	Van der Velde *et al.*, 1999
1004	Wachtum-Noordesch	House LIA	-	-	X	X	-	Pottery from postholes LIA- ERP	Van der Velde *et al.*, 1999
1006	Dalen-Molenakkers	House 2 (Molenakkers II-2014)	-	-	-	X	-	Pottery from features: V3; K2; *Chaukische beker*	De Wit, 2016b
1007	Dalen-Thijakkers	House 2	-	-	-	X	X	^{14}C from posthole: 60-220 AD	Harsema, 1987
1009	Holsloot-Holingerveld	House 3	-	-	X	X	-	Pottery from features: LIA/ERP	Van der Velde *et al.*, 2003
1010	Emmen-Oude Meerdijk	House 2+3	-	-	X	X	-	Pottery from features: V3, V4, Gw4 Association with pit inside the house: G4-G5	De Wit, 2011
1011	Emmen-Frieslandweg	House 3	-	-	-	X	-	Pottery from features: ERP	De Wit, 2003a
1012	Emmen-Noordbargeres	House 6	-	-	X	X	X	Pottery from feature: V3 or V4	De Wit, 2015b
1012	Emmen-Noordbargeres	House 11	-	-	-	X	-	Pottery from features: ERP	De Wit, 2015b
1017	Wijster-Looveen	House 14 (XIV)	-	-	-	X	-	Association with pit inside the house: ERP	Van Es, 1967
1018	Peelo-Es	House 27	-	-	X	X	-	^{14}C from posthole: 53 BC-AD 59	Kooi, 1994a
1021	Midlaren-De Bloemert	House 2	-	-	-	X	X	Pottery from features: Gw5c	Nicolay, 2008a
1021	Midlaren-De Bloemert	House 5	-	-	-	X	X	Pottery from features: Gw5a, K2	Nicolay, 2008a
1021	Midlaren-De Bloemert	House 7	-	-	-	X	X	Pottery from features: Gw5a, Gw6a, K2, S3	Nicolay, 2008a
1021	Midlaren-De Bloemert	House 8	-	-	-	X	X	Pottery from features: Gw5a, K2, Gw6a/b	Nicolay, 2008a
1021	Midlaren-De Bloemert	House 10	-	-	-	X	X	Pottery from features: Gw5a, Gw5c; Ge5; Gw6a, V4, K3b	Nicolay, 2008a
1034	Sleen-Diphoorn	House	-	-	-	X	-	Association with pottery: ERP	Van Giffen, 1936b
1036	Sleen-Zuidsleen	House	-	-	X	X	-	Pottery from features: V3/V4	Van Giffen, 1939a
1043	Noordbarge-Hoge Loo	House 12	-	-	X	X	-	Pottery from features: LIA-ERP	Harsema, 1976b; Arnoldussen and Albers, 2015
1043	Noordbarge-Hoge Loo	House 13	-	-	X	X	-	Pottery from features: LIA-ERP	Harsema, 1976b; Arnoldussen and Albers, 2015 Database R. Rap
1043	Noordbarge-Hoge Loo	House 33	-	-	X	X	-	^{14}C from postholes: 360-116 BC; 352-111 BC Association with pit inside the house: ERP	Harsema, 1976b; Arnoldussen and Albers, 2015
1043	Noordbarge-Hoge Loo	House 1	-	-	X	X	X	^{14}C from wall ditch: 37 BC-AD 126	Harsema, 1976b; Arnoldussen and Albers, 2015
1043	Noordbarge-Hoge Loo	House 5	-	-	X	X	-	^{14}C from posthole: 358-39 BC; 88 BC-AD 82	Harsema, 1976b; Arnoldussen and Albers, 2015
1043	Noordbarge-Hoge Loo	House 7	-	-	-	X	X	^{14}C from posthole: 27-125 AD	Harsema, 1976b; Arnoldussen and Albers, 2015
1043	Noordbarge-Hoge Loo	House 25	-	-	-	X	X	^{14}C from posthole: 54-127 AD	Harsema, 1976b; Arnoldussen and Albers, 2015
1043	Noordbarge-Hoge Loo	House 26 [20]	-	-	-	X	-	Pottery from postholes: ERP	Harsema, 1976b; Arnoldussen and Albers, 2015 Database R. Rap
1044	Orvelte	House	-	-	X	X	-	^{14}C from posthole: 179 BC-AD 122	Harsema, 1973a
1051	Ees-Zuidesch	House	-	-	X	X	-	^{14}C from posthole: 156 BC-AD 53 Pottery from features: IA-RP ^{14}C from pit inside the house: 151 BC-AD 55	Hensen, 2012

Site code	Site	House	Period 0	Period 1	Period 2	Period 3	Period 4	Basis dating	References
1052	Gieten-OV knooppunt	House-ph1	-	-	-	X	X	Pottery from features: 50-150 AD	Loopik, 2010a
1052	Gieten-OV knooppunt	House-ph2	-	-	-	X	X	Pottery from features: 50-150 AD	Loopik, 2010a
2002	Groningen-Helpermaar	House 2-ph1+2	-	-	-	X	-	Pottery from ditch around the house: LIA-ERP	Huis in 't Veld *et al.*, 2010
2002	Groningen-Helpermaar	House 3-ph3	-	-	-	X	-	Pottery from ditch around the house: LIA-ERP	Huis in 't Veld *et al.*, 2010
3001	Fochteloo	House II-1 (1935)	-	-	-	X	X	Association with pottery: 2nd/3rd century AD	Van Giffen, 1958; Taayke, 1995: 56; Waterbolk, 2007
3001	Fochteloo	House I-1 (1938)	-	-	-	X	-	Association with pottery: ERP	Van Giffen, 1958; Waterbolk, 2007
3001	Fochteloo	House I-2 (1938)	-	-	-	X	-	Association with pottery: ERP	Van Giffen, 1958; Waterbolk, 2007

Table 3: Sites with houses dated to period 3. The houses that are strictly dated to period 1 are marked in grey.

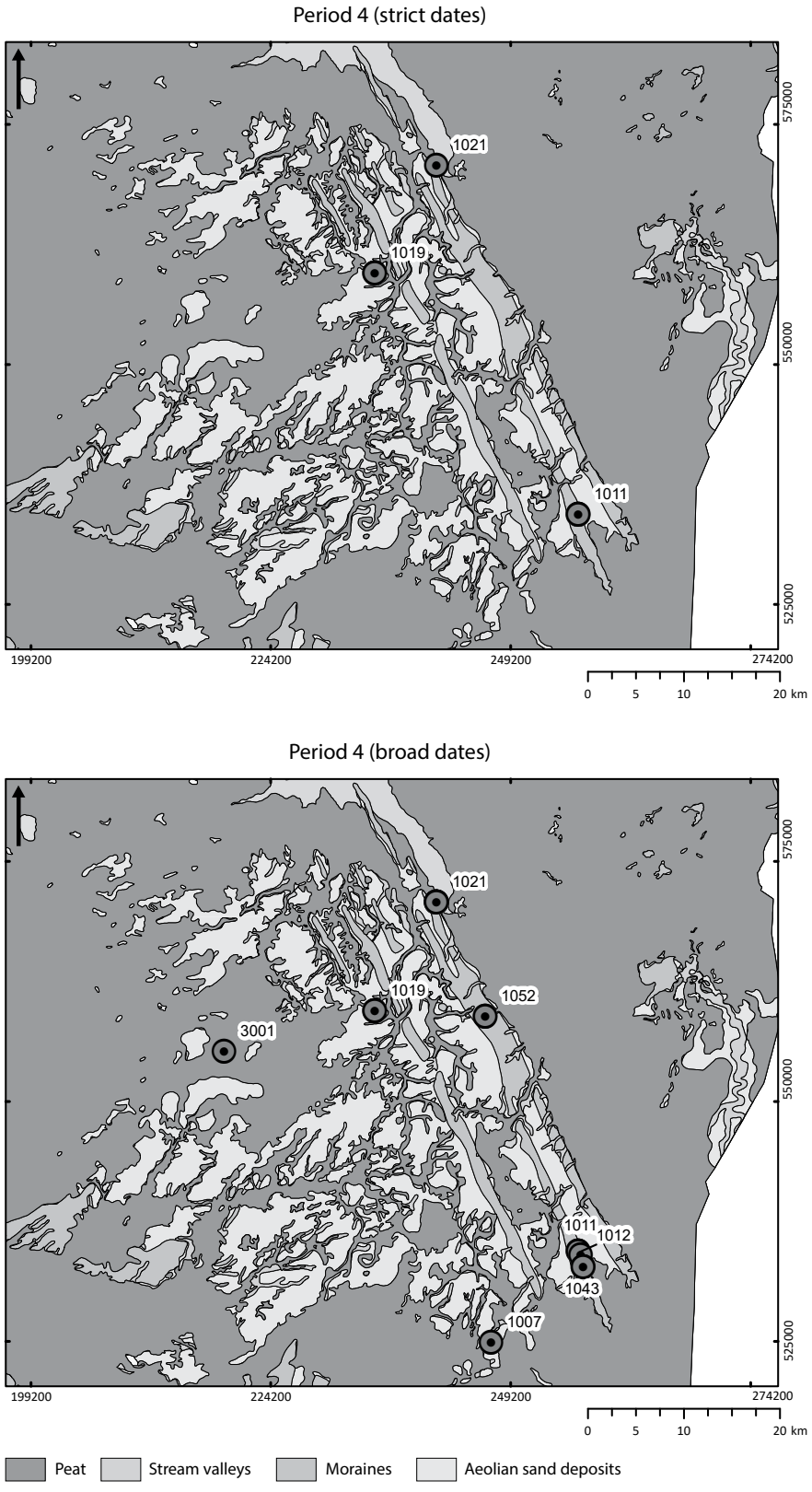


Figure 4: Geographic distribution of settlement sites with houses dated to period 4, both for the strict (above) and the broad dates (below), plotted on the palaeogeographical map of 500 BC (Vos *et al.*, 2020).

Site code	Site	House	Period 0	Period 1	Period 2	Period 3	Period 4	Basis dating	References
1007	Dalen-Thijakkers	House 2	-	-	-	X	X	^{14}C from posthole: 60-220 AD	Harsema, 1987
1011	Emmen-Frieslandweg	House 6	-	-	-	-	X	Pottery from features: 2nd-3rd century AD	De Wit, 2003a
1011	Emmen-Frieslandweg	House 14	-	-	-	-	X	Pottery from features: 2nd-3rd century AD	De Wit, 2003a
1011	Emmen-Frieslandweg	House 15	-	-	-	-	X	Pottery from features: 2nd-3rd century AD	De Wit, 2003a
1012	Emmen-Noordbargeres	House 6	-	-	X	X	X	Pottery from feature: V3 or V4	De Wit, 2015b
1019	Peelo-Haverland	House 57	-	-	-	-	X	Association with house 58	Kooi, 1995
1019	Peelo-Haverland	House 58	-	-	-	-	X	^{14}C from postholes 131-311 AD; 80-231 AD	Kooi, 1995
1019	Peelo-Haverland	House 80	-	-	-	-	X	Association with finds from 2nd century AD	Kooi, 1995
1021	Midlaren-De Bloemert	House 2	-	-	-	X	X	Pottery from features: Gw5c	Nicolay, 2008a
1021	Midlaren-De Bloemert	House 5	-	-	-	X	X	Pottery from features: Gw5a, K2	Nicolay, 2008a
1021	Midlaren-De Bloemert	House 7	-	-	-	X	X	Pottery from features: Gw5a, Gw6a, K2, S3	Nicolay, 2008a
1021	Midlaren-De Bloemert	House 8	-	-	-	X	X	Pottery from features: Gw5a, K2, Gw6a/b	Nicolay, 2008a
1021	Midlaren-De Bloemert	House 9	-	-	-	-	X	Pottery from features: Gw6a, V4	Nicolay, 2008a
1021	Midlaren-De Bloemert	House 10	-	-	-	X	X	Pottery from features: Gw5a, Gw5c; Ge5; Gw6a, V4, K3b	Nicolay, 2008a
1043	Noordbarge-Hoge Loo	House 1	-	-	X	X	X	^{14}C from wall trench: 37 BC – AD 126	Harsema, 1976b; Arnoldussen and Albers, 2015
1043	Noordbarge-Hoge Loo	House 7	-	-	-	X	X	^{14}C from posthole: 27-125 AD	Harsema, 1976b; Arnoldussen and Albers, 2015
1043	Noordbarge-Hoge Loo	House 25	-	-	-	X	X	^{14}C from posthole: 54-127 AD	Harsema, 1976b; Arnoldussen and Albers, 2015
1052	Gieten-OV knooppunt	House-ph1	-	-	-	X	X	Pottery from features: 50-150 AD	Loopik, 2010a
1052	Gieten-OV knooppunt	House-ph2	-	-	-	X	X	Pottery from features: 50-150 AD	Loopik, 2010a
3001	Fochteloo	House II-1 (1935)	-	-	-	X	X	Association with pottery: 2nd/3rd century AD	Van Giffen, 1958; Taayke, 1995: 56; Waterbolk, 2007

Table 4: Sites with houses dated to period 4. The houses that are strictly dated to period 1 are marked in grey.

Appendix 3

Overview of radiocarbon dates

IntCal13 curve (Bronk Ramsey, 2009) has been used to calibrate radio-carbon dates.

Feature no. for development-led excavations =	[trench no.]-[feature no.]
Feature no. for old BAI-excavation =	[year of excavation]-[month of registration].[find no./feature no.]

Site code	Site	House	Remarks (find no; feature no.)	Code	BP	Calibrated date (2σ)	Material used for dating	Context of material	Reference
1001	Borger-Daalkampen	House 2 (N34)	Not specified	GrA-23258	2735 +/- 40	968-814 BC	not specified	not specified	Waterbolk, 2009: 43
1001	Borger-Daalkampen	House 7 (N34)	Not specified	GrA-23259	2540 +/- 40	803-543 BC	not specified	not specified	Waterbolk, 2009: 54
1001	Borger-Daalkampen	House 3 (N34)	75; 15-147	GrA-23263	2190 +/-40	380-120 BC	charred cereals	posthole	Lanting and Van der Plicht, 2006: 341
1003	Zwinderen	Farmstead 3	24; 21-37	GrM-15993	2070 +/- 35	185 BC-AD 4	charred fruits (2 fruits of Fallopia convolvulus)	posthole	*This publication*
1004	Wachtum	House LIA	2945; 29-259	GrM-14801	2930 +/- 20	1211-1052 BC Too old	charred cereal (Triticum diccocon)	posthole	*This publication*
1006	Dalen-Molenakkers	House (Molenakkers II-2015)	178; 4-93	Beta-429878	2140 +/- 30	350-60 BC	charcoal	posthole	De Wit, 2016b: bijlage 7
1007	Dalen-Thijakkers	House 1	1979-V.20; 1979-V.20	GrA-28570	2105 +/- 35	345-41 BC	charcoal	Posthole entrance of the house	Lanting and Van der Plicht, 2006: 341
1007	Dalen-Thijakkers	House 2	1979-V.4; 1979-V.4	GrA-28569	1885 +/- 30	AD 60-220	charcoal	posthole	Lanting and Van der Plicht, 2012: 311
1009	Holsloot-Holingerveld	House 4 (not house 2 as in report)	223; 101-25	GrA-20329	2110 +/- 50	355 BC-AD 2	charcoal	posthole	Van der Velde *et al.*, 1999: bijlage 1
1012	Emmen-Noordbargeres	House 2 (parkeerplaats)	100; 13-331	Beta-475319	2080 +/-30	191-3 BC	charcoal	posthole	De Wit, 2018b: 12
1016	Hijken-Hijkerveld	House 1	1970-X.84; 1970-X.84	GrN-6291	2380 +/- 35	730-391 BC	charcoal	pit	Lanting and Van der Plicht, 2006: 343
1016	Hijken-Hijkerveld	House 3	1970-X.148; 1970-X.148	GrN-6288	2375 +/- 35	728-388 BC	charcoal	posthole	Lanting and Van der Plicht, 2006: 343
1016	Hijken-Hijkerveld	House 8	1970-X.107; 1970-X.107	GrN-20553	2355 +/- 80	763-210 BC	charred cereal	pit	Lanting and Van der Plicht, 2006: 343
1016	Hijken-Hijkerveld	House 18	1973-VI.50; 1973-VI.50	GrN-19695	2150 +/- 40	358-56 BC	charcoal	posthole	Lanting and Van der Plicht, 2006: 343
1016	Hijken-Hijkerveld	House 18	1973-VI.52; 1973-VI.52	GrN-19696	2165 +/- 35	360-109 BC	charcoal	posthole	Lanting and Van der Plicht, 2006: 343
1016	Hijken-Hijkerveld	House 18	1973-VI.54; 1973-VI.54	GrN-8252	2070 +/- 80	358 BC-AD 79	charcoal	posthole	Lanting and Van der Plicht, 2006: 343
1018	Peelo-Es	House 27	1978-VI.316; 1978-VI.316	GrM-15122	2005 +/- 25	52 BC-AD 59	charred seeds (Polygonum lapathifolium; GIA-sample no. 14080)	posthole	*This publication*
1018	Peelo-Es	House 27	1978-VI.316; 1978-VI.316	GrM-14110	2229 +/- 15	372-208 BC From the same feature as GrM-15122. Charred seeds are chosen as more reliable than twigs. Therefore, this date is considered too old.	charred twigs (GIA- sample no. 14088)	Posthole	*This publication*
1018	Peelo-Es	House 3	1977-V.89; 1977-V.89	GrM-14109	2463 +/- 15	756-486 BC Date unsure, see discussion GrM-14110.	charred twigs (GIA-sample no. 14078)	posthole	*This publication*
1019	Peelo-Haverlanden	House 58	1982-IX.1026; 1982-IX.1026	GrM-14641	1810 +/- 20	AD 131-311	charred seeds (Raphanus raphanistrum; GIA-sample no. 14110)	posthole	*This publication*
1019	Peelo-Haverlanden	House 58	1982-IX.1027; 1982-IX.1027	GrM-14647	1860 +/-30	AD 80-231	charred seeds (species indet; GIA-sample no. 14120)	posthole	*This publication*
1020	Peelo-Kleuvenveld	House 107	1983-IX.1083; 1983-IX.1083	GrM-15111	2270 +/- 30	400-210 BC	charred seeds (species indet; GIA-sample no. 14099)	posthole	*This publication*
1020	Peelo-Kleuvenveld	House 106	1983-IX.1093; 1983-IX.1093	GrN-12341	2445 +/-35	756-408 BC	charred acorns	Posthole	Kooi, 1996a: 422

Site code	Site	House	Remarks (find no; feature no.)	Code	BP	Calibrated date (2σ)	Material used for dating	Context of material	Reference
1020	Peelo-Kleuvenveld	House 106	1983-IX.1118; 1983-IX.1118	GrN-12342	2760 +/- 35	1007-817 BC	charcoal	pit nearby house 106 date too old or no association	Kooi, 1996a: 543
1021	Midlaren-de Bloemert	House 11	1025; 20-925	GrN-29642	1865 +/- 20	AD 81-220	charcoal	burnt layer in the house	Nicolay, 2008a: bijlage 2; Nicolay and Waterbolk, 2008: 103
1021	Midlaren-de Bloemert	House 11	3194; 104-904	GrN-29643	1845 +/- 20	AD 90-236	charcoal	burnt layer in the hosue	Nicolay, 2008: bijlage 2; Nicolay and Waterbolk, 2008: 103
1027	Emmen-Angelsloo	House 75	1961-VII.165; 1961-VII.165	GrN-6132	2360 +/- 35	726-376 BC	charcoal	posthole	Lanting and Van der Plicht, 2006: 166
1043	Noordbarge-Hoge Loo	House 1	Not specified	GrN-7253	1950 +/- 35	37 BC-AD 126	charcoal	Wall trench	Lanting and Van der Plicht, 2006: 344
1043	Noordbarge-Hoge Loo	House 5	1972-IX.341	GrN-6865	2125 +/- 50	358-39 BC	charred cereals & charcoal	posthole	Van Zeist, 1981: 171-172
1043	Noordbarge-Hoge Loo	House 5	Not specified	GrN-7252	1990 +/- 35	88 BC-AD 82	charcoal	Wall trench	Lanting and Van der Plicht, 2006: 344
1043	Noordbarge-Hoge Loo	House 7	1972-IX.308; 1972-IX.308	GrM-14113	1930 +/- 15	AD 27-125	charred seeds (Secale cereale; GIA-sample no. 7815)	posthole	*This publication*
1043	Noordbarge-Hoge Loo	House 7	1972-IX.308; 1972-IX.308	GrN-7251	1930 +/- 35	38 BC-AD 137	charcoal	posthole	Van Zeist, 1981: 171-172
1043	Noordbarge-Hoge Loo	House 11	1973-V.794; 1973-V.794	GrM-14112	2072 +/- 15	163-44 BC	charred seeds (Polygonum convolvulus; GIA-sample no. 8086)	posthole	*This publication*
1043	Noordbarge-Hoge Loo	House 11	1973-V.794; 1973-V.794	GrN-7217	2180 +/- 50	380-99 BC	charcoal	posthole	Van Zeist, 1981: 171-172
1043	Noordbarge-Hoge Loo	House 14	1973-V.756; 1973-V.756	GrN-7216	2175 +/- 55	379-61 BC	charcoal	posthole	Van Zeist, 1981: 171-172
1043	Noordbarge-Hoge Loo	House 25	1974-VI.999; 1974-VI.999	GrM-14114	1921 +/- 15	AD 54-127	charred seeds (Secale cereale; GIA-sample no. 8269)	posthole	*This publication*
1043	Noordbarge-Hoge Loo	House 33	1993-VI.14; 1993-VI.14	GrN-20070	2170 +/- 30	360-116 BC	charcoal	Posthole	Lanting and Van der Plicht, 2006: 344
1043	Noordbarge-Hoge Loo	House 33	1993-VI.3; 1993-VI.3	GrA-20068	2150 +/- 20	352-111 BC	charcoal	Posthole	Lanting and Van der Plicht, 2006: 344
1044	Orvelte	House	1971-X.2; 1971-X.2	GrN-6684C	2015 +/- 60	179 BC-AD 122	charcoal	posthole	Lanting and Van der Plicht, 2006: 344
1051	Ees-Zuidesch	House	sample no.10; 3-117	Schom m10	2025 +/- 30	151 BC-AD 55	charcoal	pit inside house	Hensen, 2012, bijlage 5
1051	Ees-Zuidesch	House	sample no. 8; 3-116	Schom m8	2030 +/- 30	156 BC-AD 53	charcoal	posthole	Hensen, 2012, bijlage 5
1057	Westeinde-Noormansveld	House 1	1006; 24-56	GrM-144115	2512 +/- 15	776-549 BC	charred seeds (Triticum dicoccon)	posthole	*This publication*
1057	Westeinde-Noormansveld	House 1	1264; 24-32	Beta-45440	4380 +/- BP	3090-2910 BC Too old	charcoal	posthole	Arnoldussen and De Vries, 2017: 82
1069	Ruinen-Oldhave Bos	House	53; 20-86	IHME-2988	2270 +/- 40	403-206 BC	charcoal	pit inside the house / hearth?	Koopstra and Lenting, 2016: 22

Appendix 4

Co-occurences between characteristics

	3A (123)	2A (10)	1A (1)	MA (39)	RLS PotW (67)	RLS W (62)	W T (35)	WP (84)	Zwin (22)	ODIV (29)	BDIV (13)	WSP (44)	1S (9)	2S (82)	3S (17)	ENT S (75)	ENT E (27)	ENT P (102)	ENT +S (12)	ENT +P (11)	ENT Pit (21)	OH (11)	TRES (12)
3A (123)	**	3	1	22	54	47	26	68	19	21	10	37	7	67	14	63	25	87	11	10	9	8	7
2A (10)		**	0	4	4	2	1	6	3	2	0	5	1	7	1	5	1	7	0	0	0	1	1
1A (1)			**	0	0	1	1	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0
MA (39)				**	12	22	10	19	1	8	2	8	0	24	5	18	3	22	2	2	3	0	1
RLS PotW (67)					**	0	12	43	18	8	4	31	8	41	6	33	18	54	6	2	1	8	3
RLS W (62)						**	23	36	3	17	9	12	1	31	9	35	6	37	6	7	11	0	4
WT (35)							**	0	3	7	0	8	4	17	3	18	2	20	2	3	0	5	1
WP (84)								**	18	19	13	34	2	52	13	47	19	64	7	7	12	3	6
Zwin (22)									**	2	3	18	0	19	3	7	12	20	0	2	0	4	0
ODIV (29)										**	7	8	0	21	7	19	4	19	6	6	8	2	2
BDIV (13)											**	5	0	8	5	10	3	11	5	2	5	0	0
WSP (44)												**	3	35	4	20	16	37	4	3	1	6	1
1S (9)													**	0	0	4	0	6	2	0	0	1	1
2S (82)														**	0	39	21	63	8	2	5	3	7
3S (17)															**	12	4	13	1	7	6	3	0
ENT S (75)																**	0	69	10	6	14	2	4
ENT E (27)																	**	25	1	2	0	4	3
ENT P (102)																		**	12	11	9	6	7
ENT +S (12)																			**	2	4	1	3
ENT +P (11)																				**	4	2	0
ENT Pit (21)																					**	0	5
OH (11)																						**	0
TRES (12)																							**

Table 1: overview of the co-occurrences of the total dataset of dated and undates houses (n=155). 3A: three-aisled; 2A: two-aisled; 1A: single-aisled; MA: combined construction with regard to number of aisled; RLS PotW: roof-load supporting construction with posts outside the walls; RLS W: walls as roof-load supporting construction; WT: wall trench; WP: wall posts; Zwin: presence of Zwinderen-set; ODIV: other types of interior divisions; BDIV: byre divisions; WSP: supporting posts inside the walls; 1S: undifferentiated interior; 2S: bipartite interior; 3S: tripartite interior; ENT S: simple entrance construction; ENT E: elaborate entrance construction; ENT P: pair of opposing entrances in long sides of the house; ENT +S: pair of opposing entrances in long sides of the house plus single entrance; ENT +P: two pairs of opposing entrances in the long sides of the house; ENT pit: entrance pit; OH: overhang; TRES: threshold.

	3A (20)	2A (1)	1A (0)	MA (5)	RLS PotW (15)	RLS W (5)	WT (3)	WP (12)	ZWIN (0)	ODIV (2)	BDIV (2)	WSP (8)	1S (7)	2S (11)	3S (2)	ENT S (16)	ENT E (3)	ENT P (15)	ENT +S (3)	ENT +P (1)	ENT pit (1)	OH (0)	TRES (1)
3A (20)	**	0	0	4	10	4	2	8	0	1	2	7	5	9	2	13	3	12	3	1	1	0	1
2A (1)		**	0	0	1	0	0	1	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0
1A (0)			**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MA (5)				**	1	3	0	3	0	1	0	1	0	3	1	3	0	4	0	0	1	0	0
RLS PotW (15)					**	0	2	7	0	1	1	4	6	6	1	9	3	8	3	0	0	0	1
RLS W (5)						**	1	4	0	1	1	3	1	4	0	4	0	5	0	0	1	0	0
WT (3)							**	0	0	0	0	1	3	0	0	2	0	2	0	0	0	0	1
WP (21)								**	0	2	2	6	1	8	1	7	2	8	1	1	1	0	0
ZWIN (0)									**	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ODIV (2)										**	0	1	0	2	0	1	1	2	0	0	0	0	0
BDIV (2)											**	2	0	2	0	2	1	1	1	0	0	0	0
WSP (8)												**	2	5	1	6	2	5	2	1	1	0	0
1S (7)													**	0	0	5	0	3	2	0	0	0	1
2S (11)														**	0	6	3	8	1	0	1	0	0
3S (2)															**	2	0	1	0	1	0	0	0
ENT S (16)																**	1	11	2	1	1	0	1
ENT E (3)																	**	2	1	0	0	0	0
ENT P (15)																		**	0	0	1	0	1
ENT +S (3)																			**	0	0	0	0
ENT +P (1)																				**	0	0	0
ENT pit (1)																					**	0	0
OH (0)																						**	0
TRES (1)																							**

Table 2: overview of the co-occurrences of the houses dated to period 1 broad dates (n=26). 3A: three-aisled; 2A: two-aisled; 1A: single-aisled; MA: combined construction with regard to number of aisled; RLS PotW: roof-load supporting construction with posts outside the walls; RLS W: walls as roof-load supporting construction; WT: wall trench; WP: wall posts; Zwin: presence of Zwinderen-set; ODIV: other types of interior divisions; BDIV: byre divisions; WSP: supporting posts inside the walls; 1S: undifferentiated interior; 2S: bipartite interior; 3S: tripartite interior; ENT S: simple entrance construction; ENT E: elaborate entrance construction; ENT P: pair of opposing entrances in long sides of the house; ENT +S: pair of opposing entrances in long sides of the house plus single entrance; ENT +P: two pairs of opposing entrances in the long sides of the house; ENT pit: entrance pit; OH: overhang; TRES: threshold.

	3A (33)	2A (4)	1A (0)	MA (10)	RLS PotW (36)	RLS W (15)	WT (7)	WP (27)	ZWIN (13)	ODIV (5)	BDIV (1)	WSP (19)	1S (2)	2S (28)	3S (2)	ENT S (17)	ENT E (10)	ENT P (27)	ENT +S (0)	ENT +P (1)	ENT pit (0)	OH (3)	TRES (0)
3A (33)	**	0	0	5	22	12	4	22	11	3	1	15	0	24	1	15	10	24	0	1	0	3	0
2A (4)		**	0	2	3	0	0	4	2	1	0	3	0	3	1	2	0	3	0	0	0	0	0
1A (0)			**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MA (10)				**	5	5	2	5	1	0	0	3	0	6	1	3	1	5	0	0	0	0	0
RLS PotW (36)					**	0	3	23	13	3	0	17	2	21	2	12	8	23	0	0	0	3	0
RLS W (15)						**	4	10	4	3	1	6	0	10	1	6	4	9	0	1	0	1	0
WT (7)							**	0	1	1	0	2	1	4	0	2	2	4	0	0	0	1	0
WP (27)								**	12	4	1	17	0	21	2	13	8	21	0	1	0	3	0
ZWIN (13)									**	1	0	11	0	12	1	4	6	12	0	1	0	3	0
ODIV (5)										**	0	3	0	4	1	3	1	4	0	1	0	1	0
BDIV (1)											**	1	0	1	0	1	0	1	0	0	0	0	0
WSP (19)												**	0	18	1	8	6	16	0	0	0	2	0
1S (2)													**	0	0	0	0	0	0	0	0	0	0
2S (28)														**	0	14	8	23	0	0	0	2	0
3S (2)															**	0	1	1	0	1	0	1	0
ENT S (17)																**	0	17	0	0	0	0	0
ENT E (10)																	**	8	0	1	0	2	0
ENT P (27)																		**	0	0	0	2	0
ENT +S (0)																			**	0	0	0	0
ENT +P (1)																				**	0	1	0
ENT pit (0)																					**	0	0
OH (3)																						**	0
TRES (0)																							**

Table 3: overview of the co-occurrences of the houses dated to period 2 broad dates (n=42). 3A: three-aisled; 2A: two-aisled; 1A: single-aisled; MA: combined construction with regard to number of aisled; RLS PotW: roof-load supporting construction with posts outside the walls; RLS W: walls as roof-load supporting construction; WT: wall trench; WP: wall posts; Zwin: presence of Zwinderen-set; ODIV: other types of interior divisions; BDIV: byre divisions; WSP: supporting posts inside the walls; 1S: undifferentiated interior; 2S: bipartite interior; 3S: tripartite interior; ENT S: simple entrance construction; ENT E: elaborate entrance construction; ENT P: pair of opposing entrances in long sides of the house; ENT +S: pair of opposing entrances in long sides of the house plus single entrance; ENT +P: two pairs of opposing entrances in the long sides of the house; ENT pit: entrance pit; OH: overhang; TRES: threshold.

	3A (33)	2A (1)	1A (0)	MA (13)	RLS PotW (17)	RLS W (27)	WT (15)	WP (22)	ZWIN (7)	ODIV (10)	BDIV (1)	WSP (15)	1S (0)	2S (30)	3S (3)	ENT S (21)	ENT E (12)	ENT P (27)	ENT +S (1)	ENT +P (1)	ENT pit (0)	OH (3)	TRES (2)
3A (33)	**	0	0	7	16	0	12	20	7	7	1	12	0	25	3	19	10	22	1	3	0	3	1
2A (1)		**	0	1	0	0	0	1	0	1	0	0	0	1	0	1	0	1	0	0	0	0	0
1A (0)			**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MA (13)				**	3	11	6	6	0	4	0	3	0	11	1	7	2	7	0	1	0	0	0
RLS PotW (17)					**	0	3	13	7	5	1	11	0	14	2	20	7	14	1	1	0	3	0
RLS W (27)						**	14	12	2	7	0	7	0	20	2	16	6	17	1	3	0	3	1
WT (15)							**	0	0	5	0	3	0	12	1	11	1	8	1	2	0	2	0
WP (22)								**	7	4	1	11	0	17	2	10	9	17	0	1	0	1	1
ZWIN (7)									**	1	1	5	0	6	1	2	5	6	0	1	0	1	0
ODIV (10)										**	0	6	0	9	1	9	2	4	1	2	0	2	0
BDIV (1)											**	1	0	1	0	0	1	1	0	0	0	0	0
WSP (15)												**	0	15	0	10	6	12	1	1	0	0	0
1S (0)													**	0	0	0	0	0	0	0	0	0	0
2S (30)														**	0	17	9	22	1	2	0	1	1
3S (3)															**	1	1	1	0	1	0	2	0
ENT S (21)																**	0	14	1	2	0	3	0
ENT E (12)																	**		0	1	0	1	1
ENT P (27)																		**	0	0	0	0	0
ENT +S (1)																			**	0	0	1	0
ENT +P (1)																				**	0	1	0
ENT pit (0)																					**	0	0
OH (3)																						**	0
TRES (2)																							**

Table 4: overview of the co-occurrences of the houses dated to period 3 broad dates (n=40). 3A: three-aisled; 2A: two-aisled; 1A: single-aisled; MA: combined construction with regard to number of aisled; RLS PotW: roof-load supporting construction with posts outside the walls; RLS W: walls as roof-load supporting construction; WT: wall trench; WP: wall posts; Zwin: presence of Zwinderen-set; ODIV: other types of interior divisions; BDIV: byre divisions; WSP: supporting posts inside the walls; 1S: undifferentiated interior; 2S: bipartite interior; 3S: tripartite interior; ENT S: simple entrance construction; ENT E: elaborate entrance construction; ENT P: pair of opposing entrances in long sides of the house; ENT +S: pair of opposing entrances in long sides of the house plus single entrance; ENT +P: two pairs of opposing entrances in the long sides of the house; ENT pit: entrance pit; OH: overhang; TRES: threshold.

	3A (16)	2A (0)	1A (0)	MA (6)	RLS PotW (2)	RLS W (15)	WT (10)	WP (7)	ZWIN (1)	ODIV (8)	BDIV (0)	WSP (6)	1S (0)	2S (13)	3S (2)	ENT S (9)	ENT E (3)	ENT P (7)	ENT +S (2)	ENT +P (3)	ENT pit (0)	OH (0)	TRES (1)
3A (16)	**	0	0	2	1	12	8	6	1	6	0	3	0	9	2	8	2	5	2	3	0	0	1
2A (0)		**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1A (0)			**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MA (6)				**	1	5	3	2	0	3	0	3	0	6	0	3	2	3	0	1	0	0	0
RLS PotW (2)					**	0	0	1	1	1	0	2	0	2	0	0	2	2	0	0	0	0	0
RLS W (15)						**	10	5	0	7	0	4	0	10	2	9	1	4	2	3	0	0	0
WT (10)							**	0	0	6	0	2	0	8	2	6	0	3	1	3	0	0	0
WP (7)								**	1	1	0	3	0	4	1	4	2	4	1	0	0	0	1
ZWIN (1)									**	0	0	1	0	1	0	0	1	1	0	0	0	0	0
ODIV (8)										**	0	4	0	6	2	7	1	1	2	3	0	0	0
BDIV (0)											**	0	0	0	0	0	0	0	0	0	0	0	0
WSP (6)												**	0	5	0	5	2	3	1	1	0	0	0
1S (0)													**	0	0	0	0	0	0	0	0	0	0
2S (13)														**	0	6	3	6	1	3	0	0	1
3S (2)															**	1	0	1	0	0	0	0	0
ENT S (9)																**	0	2	2	3	0	0	0
ENT E (3)																	**	3	0	0	0	0	0
ENT P (7)																		**	0	0	0	0	0
ENT +S (2)																			**	0	0	0	0
ENT +P (3)																				**	0	0	0
ENT pit (0)																					**	0	0
OH (0)																						**	0
TRES (1)																							**

Table 5: overview of the co-occurrences of the houses dated to period 4 broad dates (n=20). 3A: three-aisled; 2A: two-aisled; 1A: single-aisled; MA: combined construction with regard to number of aisled; RLS PotW: roof-load supporting construction with posts outside the walls; RLS W: walls as roof-load supporting construction; WT: wall trench; WP: wall posts; Zwin: presence of Zwinderen-set; ODIV: other types of interior divisions; BDIV: byre divisions; WSP: supporting posts inside the walls; 1S: undifferentiated interior; 2S: bipartite interior; 3S: tripartite interior; ENT S: simple entrance construction; ENT E: elaborate entrance construction; ENT P: pair of opposing entrances in long sides of the house; ENT +S: pair of opposing entrances in long sides of the house plus single entrance; ENT +P: two pairs of opposing entrances in the long sides of the house; ENT pit: entrance pit; OH: overhang; TRES: threshold.

Appendix 5

Description of pits discussed in chapter 5

For all pits, the primary documentation (maps, GIS-files, lists of finds, lists of pottery determinations and/or the database of the Noordelijk Archeologisch Depot) was consulted. All pottery sherds were counted and weighted again using the scales at the depot, except for the finds from Pesse-Eursinge which were weighted at the University of Groningen. Some differences may therefore exist in sherd count and total weight between the numbers listed here and the numbers listed in the original publication.

Pit code	Site	Find number(s)	Trench	Feature	Period	N (total)	W (total)	Average sherd weight	Other finds	Reference
1001-pt2	Borger-Daalkampen II (2007)	575; 576; 577	96	45	1	38	966	25.4	Sandstone blade	De Wit *et al.*, 2009a
1001-pt3	Borger-Daalkampen II (2007)	250	61	26	1	18	791	43.9	Stone quern	De Wit *et al.*, 2009a
1001-pt4	Borger-Daalkampen II (2008)	623	25	233	Preh	1	7	7.0	-	Van der Meij, 2010a
1001-pt5	Borger-Daalkampen II (2008)	73; 630	34	49	Preh	6	140	23.3	Stones, burnt	Van der Meij, 2010a
1002-pt1	Fluitenberg-Zevenberg	561	-	5135	2	88	846	9.6	Charcoal	Schrijer and De Neef, 2008
1006-pt1	Dalen-Molenakkers II (2014)	121; 122	9	30	1	193	5491	28.5	Stones (burnt?); Burnt daub; Burnt bone; Charcoal	De Wit, 2016b
1006-pt2	Dalen-Molenakkers II (2015)	40; 85; 86	2	33	2	12	208	17.3	Burnt bones; Charcoal (366-192 cal. BC; Beta-429876: 2200 +/-30 BP)	De Wit, 2016a
1006-pt3	Dalen-Molenakkers II (2015)	41; 88	2	34	2	21	138	6.6	Burnt daub	De Wit, 2016a
1006-pt4	Dalen-Molenakkers II (2015)	119	4	112	1	93	1831	19.7	Stone (tool?); Burnt daub	De Wit, 2016a
1008-pt1	Dalen-Huidbergsveld	1990-XI.25	-	1990-IX.25	1	117	1732	14.8	-	Kooi, 1991
1008-pt2	Dalen-Huidbergsveld	1990-XI.10	-	1990-IX.10	1	8	106	13.3	Stone quern	Kooi, 1991
1009-pt1	Holsloot-Holingerveld	68; 69; 126;159; 163; 164	5	159	Mix?	192	2607	13.6	Stone; Burnt daub; Charcoal (394-175 cal. BC; 2220 +/- 50: GrA-20329); Slag (?)	Van der Velde *et al.*, 2003
1009-pt2	Holsloot-Holingerveld	205	103	1	2	11	201	18.3	Stone	Van der Velde *et al.*, 2003
1012-pt1	Emmen-Noordbargeres	91	2	26	1	111	4772	43.0	Flint, burnt; Burnt bone; Charcoal	De Wit, 2015b
1012-pt2	Emmen-Noordbargeres	1020; 1027	92	26	1	6	295	49.2	Flint	De Wit, 2015b
1012-pt3	Emmen-Noordbargeres	599	74	36	1	121	3278	27.1	Burnt daub; Burnt bone	De Wit, 2015b
1012-pt4	Emmen-Noordbargeres	755; 575	75	25	1	26	708	27.2	Stone; Flint	De Wit, 2015b
1012-pt5	Emmen-Noordbargeres	894; 895	86	21	1	295	6492	22.0	Stone, burnt; Stone tool(s)	De Wit, 2015b
1012-pt6	Emmen-Noordbargeres	224; 235; 237	22	2	0/1	75	1622	21.6	Stone, burnt; Stone tool (?); Flint; Charcoal	De Wit, 2015b
1012-pt7	Emmen-Noordbargeres	796	79	103	1	21	636	30.3	-	De Wit, 2015b
1012-pt8	Emmen-Noordbargeres	788; 790	79	8	Preh	10	164	16.4	Loom weights	De Wit, 2015b
1012-pt9	Emmen-Noordbargeres	812	79	138	Preh	1	4	4.0	-	De Wit, 2015b

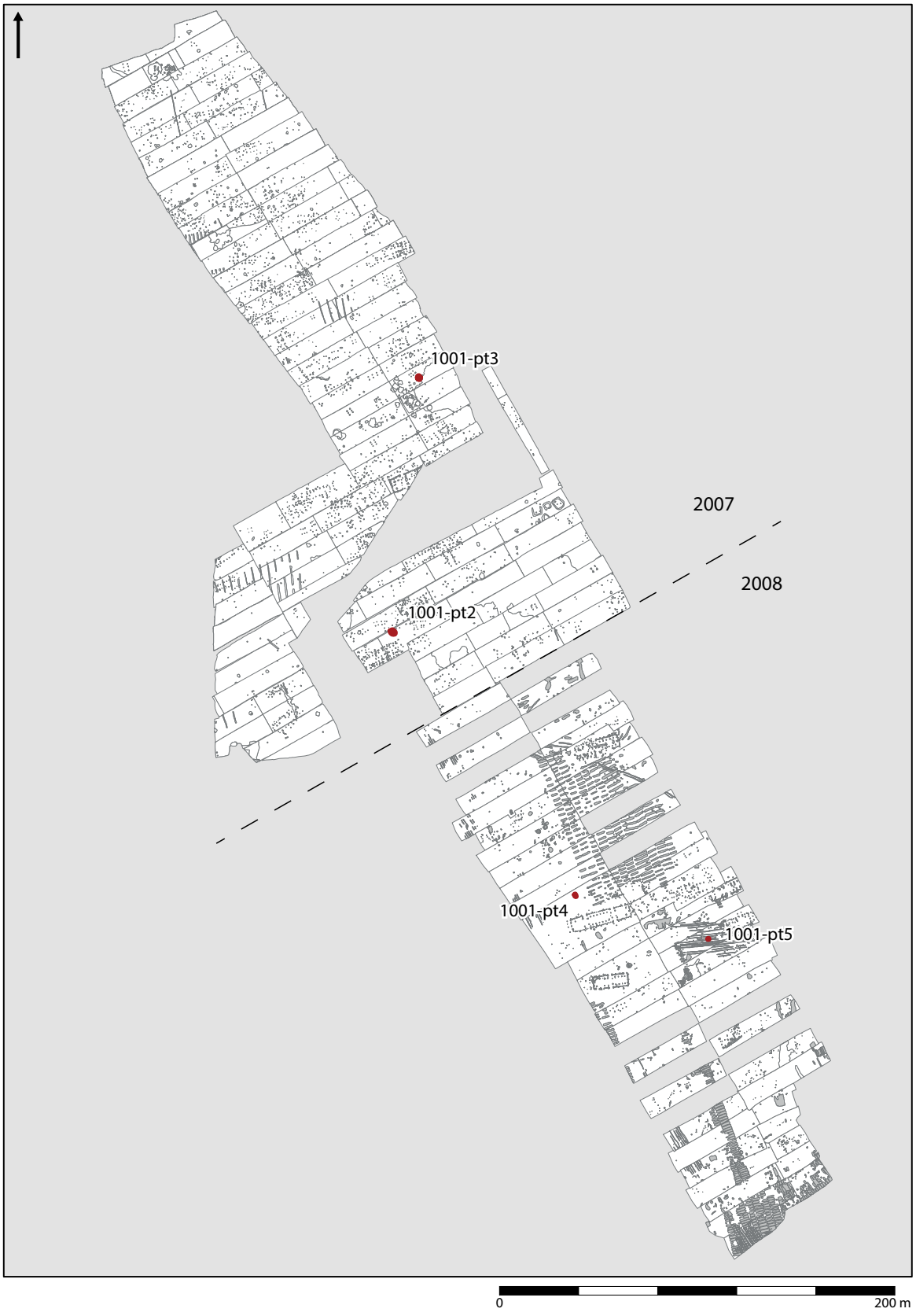
Pit code	Site	Find number(s)	Trench	Feature	Period	N (total)	W (total)	Average sherd weight	Other finds	Reference
1012-pt10	Emmen-Noordbargeres	318	34	4	1	43	1278	29.7	Stone; Ceramic sieve	De Wit, 2015b
1012-pt11	Emmen-Noordbargeres	167	21	8	1	15	352	23.5	Flint	De Wit, 2015b
1012-pt12	Emmen-Noordbargeres	169	21	11	1	20	168	8.4	Stone; Flint	De Wit, 2015b
1013-pt1	Pesse-Eursinge	1973-VIII.2	-	1973-VIII.2	1	133	7401	55.6	Stone, burnt; Stone tool	Lanting, 1977
1013-pt2	Pesse-Eursinge	1973-VIII.7	-	1973-VIII.7	1	210	7319	34.9	Stone (burnt?)	Lanting, 1977
1013-pt3	Pesse-Eursinge	1973-VIII.9	-	1973-VIII.9	1	160	6098	38.1	Burnt daub	Lanting, 1977
1013-pt4	Pesse-Eursinge	1973-VIII.10	-	1973-VIII.10	1	131	4866	37.1	Stone (burnt?); Burnt daub	Lanting, 1977
1016-pt1	Hijken-Hijkerveld	1973-VI.20	-	1973-VI.20	1	2235	56555	25.3	Stone, burnt; Burnt daub; Burnt bones; Charcoal; Flint	Arnoldussen and De Vries, 2014
1016-pt4	Hijken-Hijkerveld	1973-VI.40	-	1973-VI.40	1	1843	64639	35.1	Stone, burnt; Stone tool; Spindle whorl; Burnt daub; Burnt bone; Charcaol; Flint	Arnoldussen and De Vries, 2014
1019-pt1	Peelo-Haverland	1987-VI.1677	-	1987-VI.1677	2	167	3824	22.9	-	Kooi, 1995
1019-pt2	Peelo-Haverland	1987-VI.1678	-	1987-VI.1678	2	18	482	26.8	-	Kooi, 1995
1019-pt3	Peelo-Haverland	1987-VI.1679	-	1987-Vi.1679	2	50	1320	26.4	-	Kooi, 1995
1020-pt1	Peelo-Kleuvenveld	1983-IX.1047	-	1983-IX.1047	0/1	122	3566	29.2	Charcoal; Burnt bone	Kooi, 1996a
1020-pt2	Peelo-Kleuveneld	1983-IX.1036	-	1983-IX.1036	0/1	234	3661	15.6	Burnt daub; Spindle whorl; Charcoal	Kooi, 1996a
1020-pt3	Peelo-Kleuvenveld	1983-IX.1059	-	1983-IX.1059	0/1	26	1154	44.4	Stone; Stone quern; Burnt daub	Kooi, 1996a
1020-pt4	Peelo-Kleuvenveld	1983-IX.1060	-	1983-IX.1060	0/1	225	2899	12.9	-	Kooi, 1996a
1020-pt5	Peelo-Kleuvenveld	1984-XI.1184	-	1984-XI.1184	0/1	9	176	19.6	-	Kooi, 1996a
1020-pt6	Peelo-Kleuvenveld	1983-IX.1038	-	1983-IX.1038	0/1	46	704	15.3	-	Kooi, 1996a
1042-pt2	Gees	1956-VII.16	-	1956-VII.16	1/2	113	4374	38.7	Burnt seeds	*Documentation Groningen Institute for Archaeology, University of Groningen*

Appendix 6

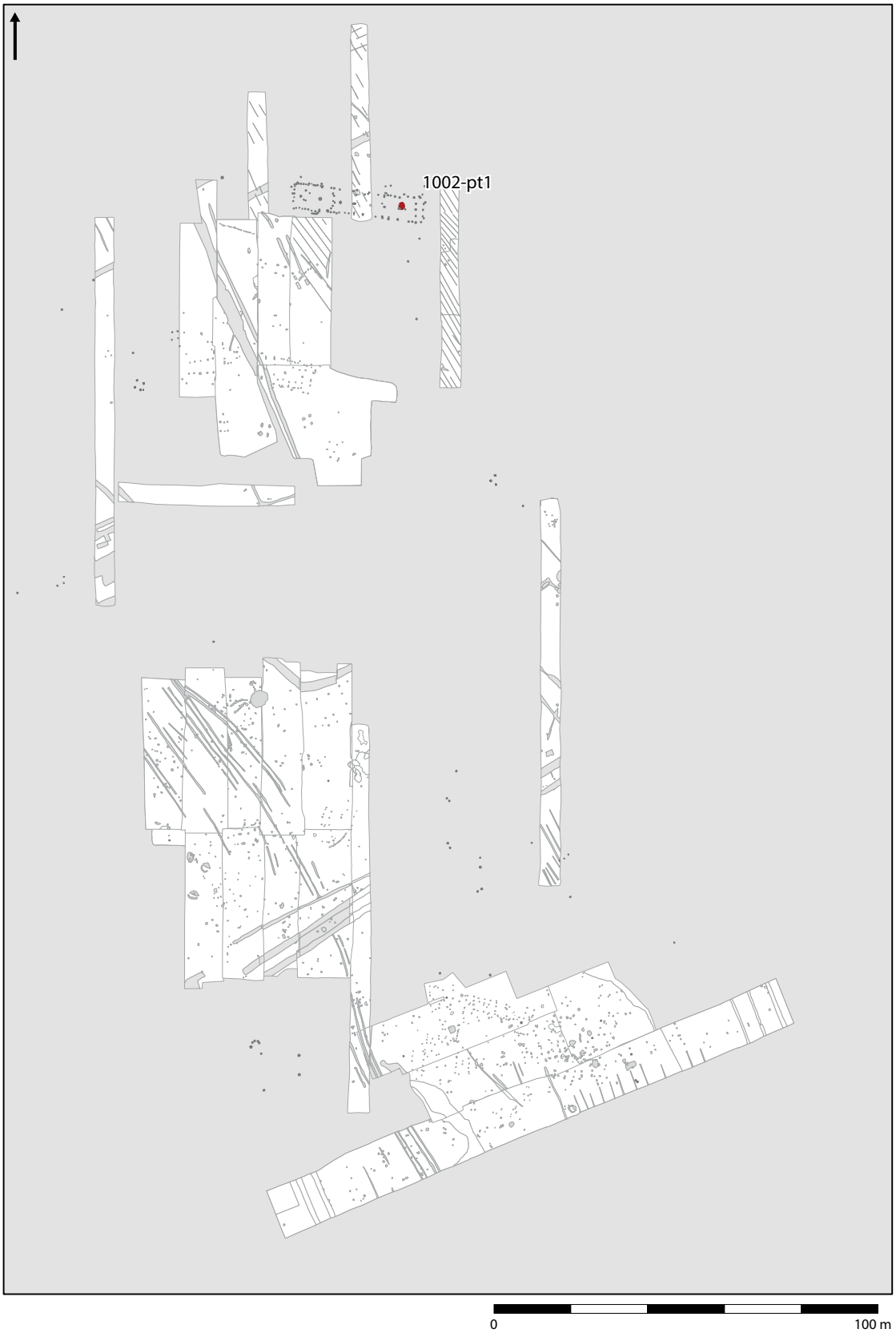
Overview of location of pits discussed in chapter 5

For references, see appendix 1.

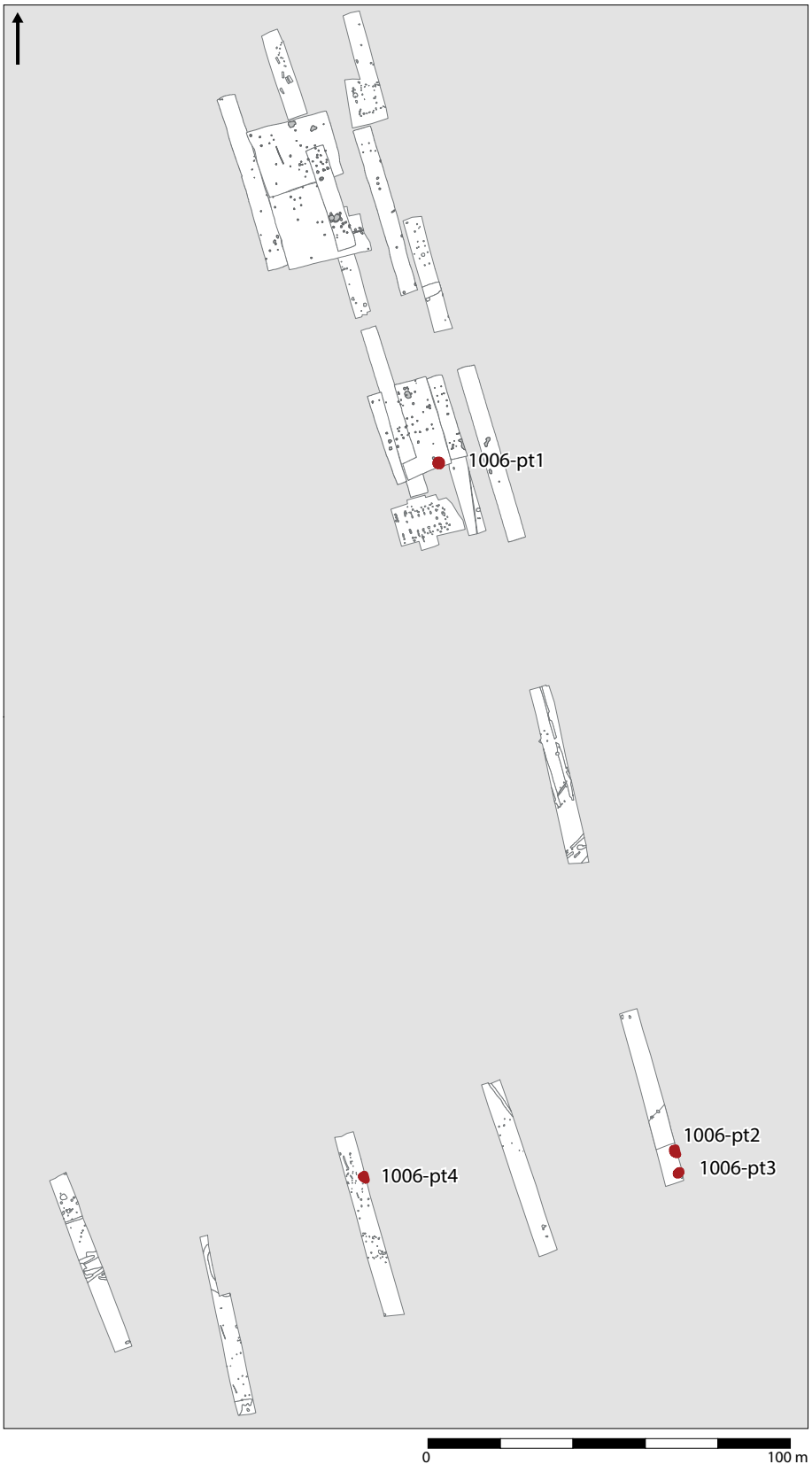
Borger-Daalkampen II (2007 & 2008) – site code 1001



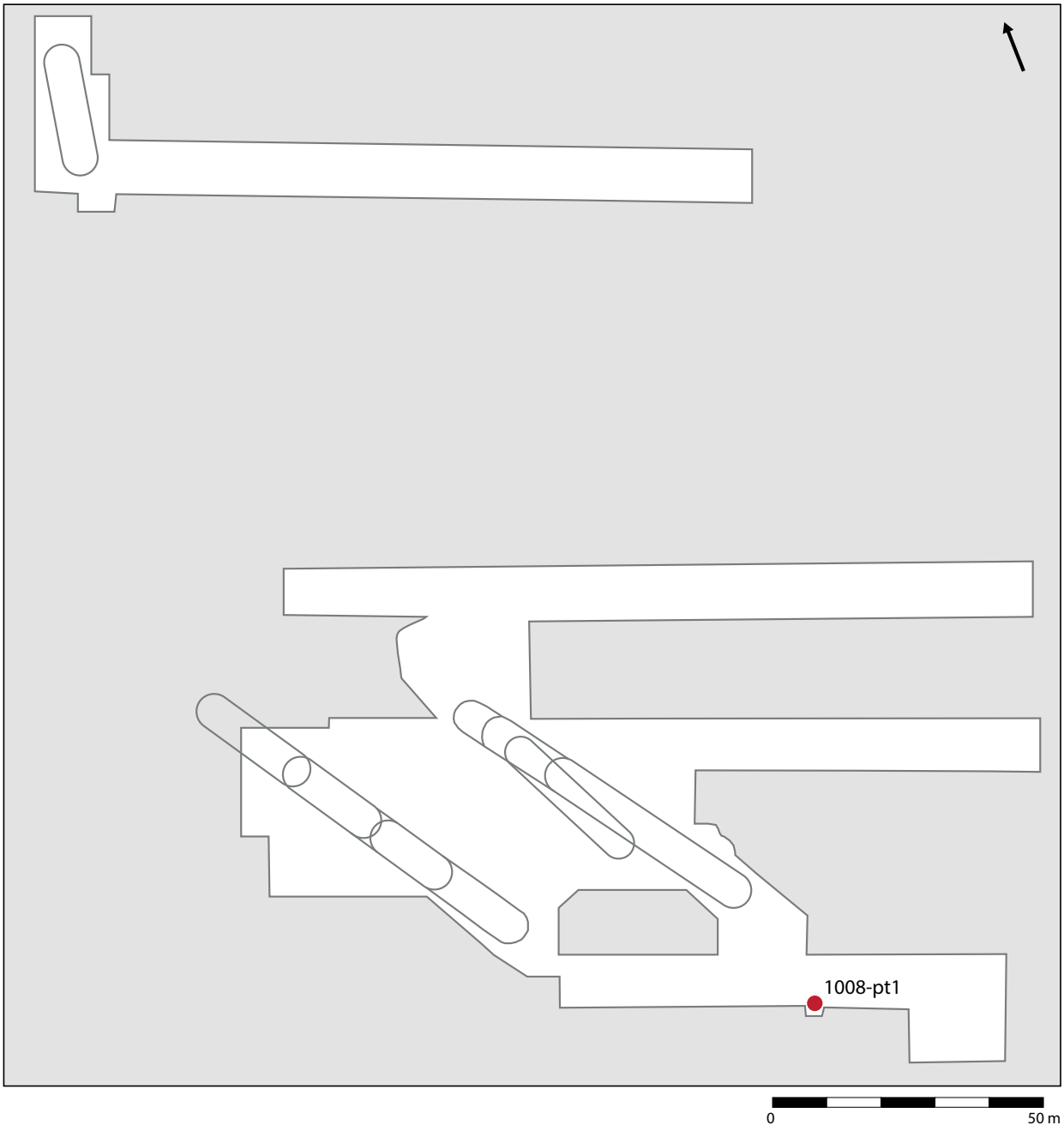
Fluitenberg-Zevenberg – site code 1002



Dalen-Molenakkers II – site code 1006

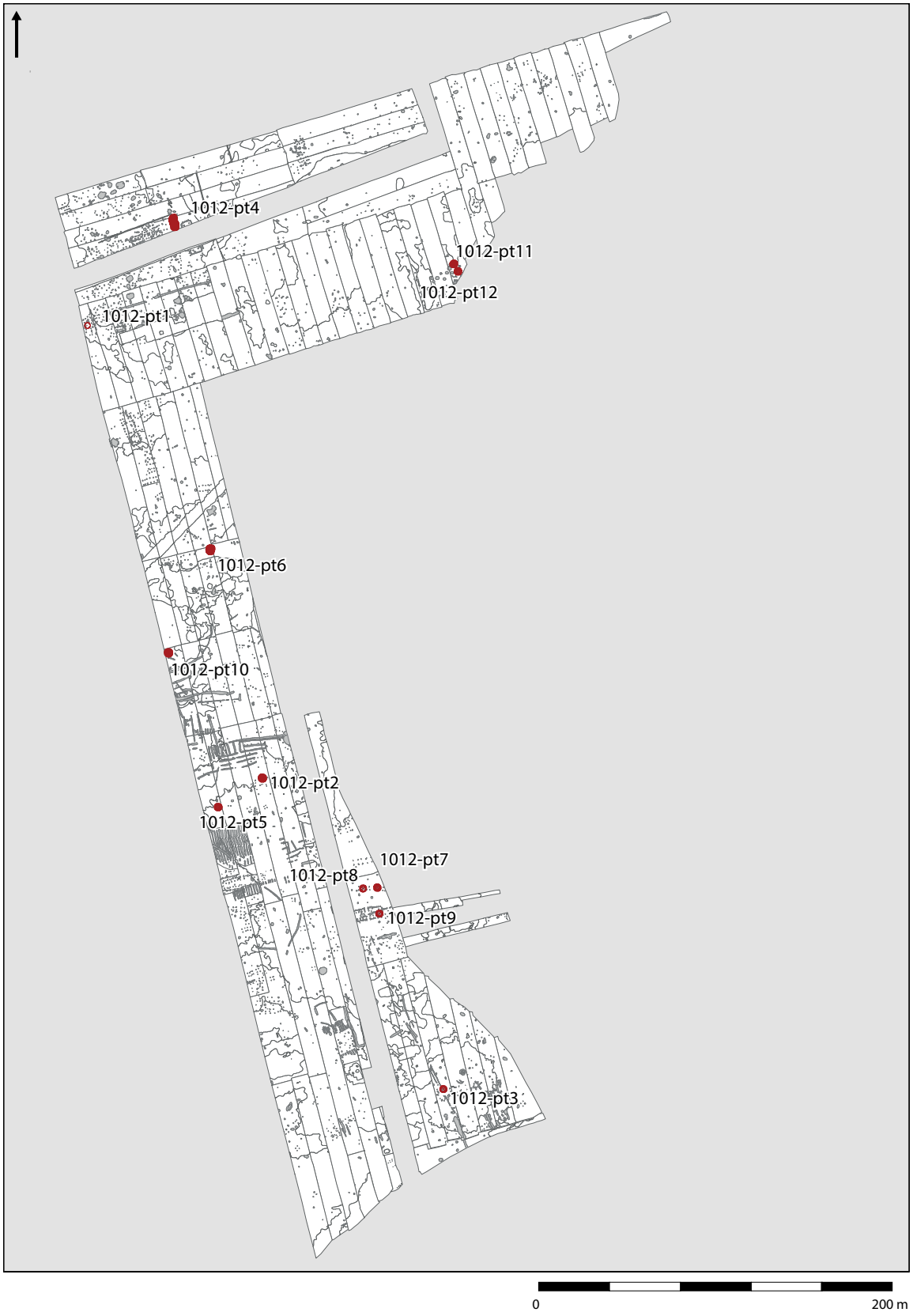


Dalen-Huidbergsveld – site code 1008



Holsloot-Holingerveld – site code 1009

Emmen-Noordbargeres – site code 1012



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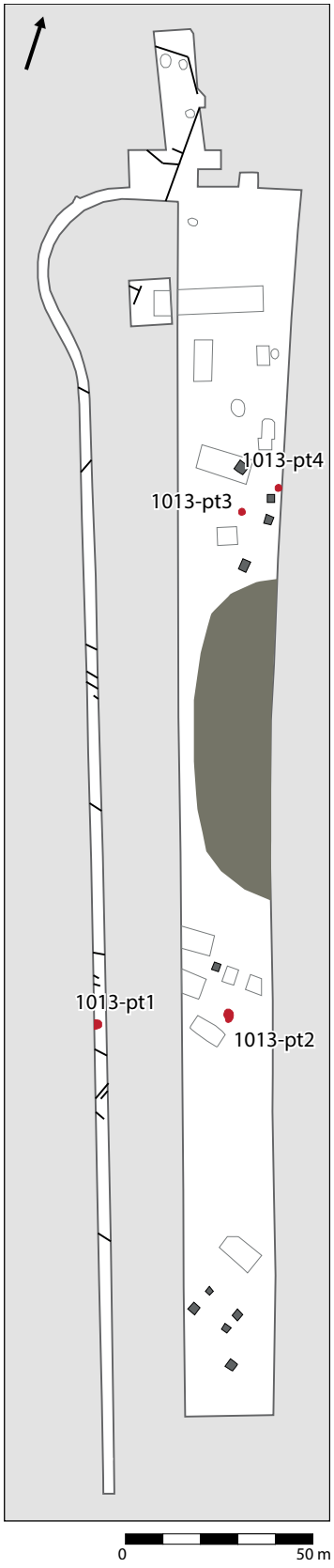
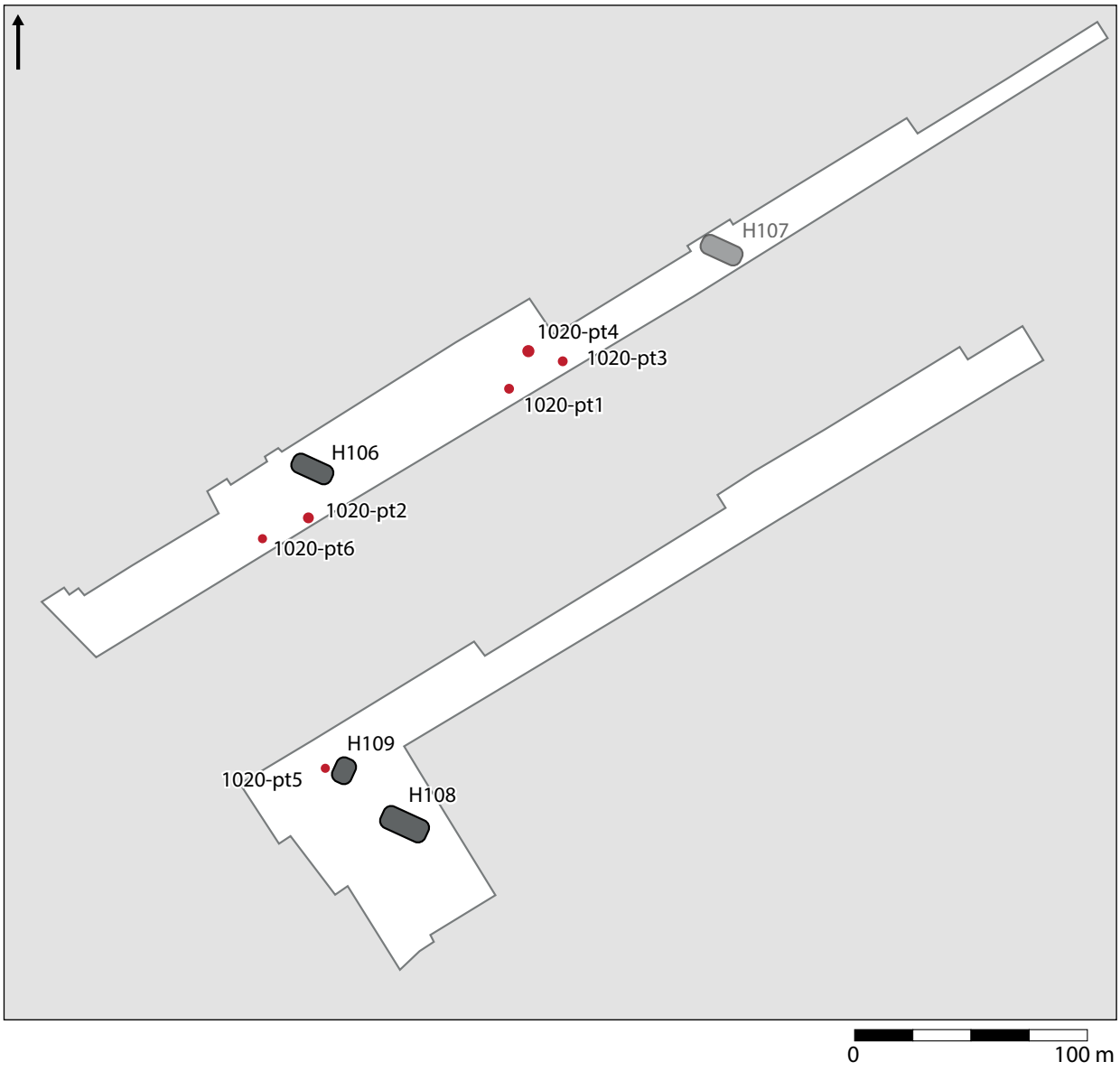


Hijken-Hijkerveld – site code 1016

Peelo-Kleuvenveld – site code 1020



Appendix 7

Overview of characteristics of pits discussed in chapter 5

		Content				Treatment				No of criteria
		Large quantity	High MNI	Variety in vessel shapes	Variety in other finds	High average sherd weight	Estimated Vessel Equivalent	Fragmentation	Secondary firing	
Outside the house	1001-pt2	38/996	2	2	2	25.4	24	Possibly	50	4
	1012-pt4	26/708	8	2	2	27.2	7	No	38.5	3
	1016-pt1	2235/56555	39	5	5	25.3	29	Possibly	67.4	8
	1016-pt4	1843/64639	62	4	7	35.1	42	Possibly	39.3	8
	1020-pt5	9/176	1	1	0	19.6	0	No	22.2	1
Out-building	1001-pt3	18/791	2	1	1	43.9	0	No	0	2
	1012-pt7	21/636	1	1	2	30.3	12	No	100	2
Isolated	1006-pt1	1193/5491	7	2	5	28.5	25	No	14.0	6
	1006-pt4	93/1831	3	2	3	19.7	11	Possibly	75.3	2
	1008-pt1	117/1732	16	4	1	14.8	5	Possibly	54.7	5
	1008-pt2	8/106	1	1	1	13.3	10	Possibly	62.5	2
	1012-pt1	111/4772	3	2	3	43.0	23	Yes	10.8	5
	1012-pt2	6/295	2	1	1	49.2	6	No	50.0	2
	1012-pt3	121/3278	9	2	4	27.1	8	No	96.7	5
	1012-pt5	295/6492	9	2	2	22.0	22	Possibly	46.1	6
	1012-pt6	75/1622	10	4	4	21.6	5	No	13.3	4
	1012-pt10	43/1278	2	3	1	29.7	9	Possibly	34.9	3
	1013-pt1	133/7401	11	5	1	55.6	24	Yes	65.4	7
	1013-pt2	210/7319	16	5	1	34.9	17	No	22.9	6
	1013-pt3	160/6098	9	3	1	38.1	12	Possibly	93.8	5
	1013-pt4	131/4866	8	6	2	37.1	16	No	29.8	6
	1020-pt1	122/3566	10	4	1	29.1	6	No	54.1	5
	1020-pt2	234/3661	17	4	5	15.6	10	Yes	50.4	6
	1020-pt3	26/1154	4	3	4	44.4	13	Yes	11.5	4
	1020-pt4	225/2899	13	4	4	12.9	3	Yes	38.2	6
	1020-pt6	46/704	2	2	2	15.3	0	No	21.7	1
	1042-pt4	113/4374	22	4	1	38.7	6	No	21.2	6
Other	1012-pt11	15/352	1	1	1	23.5	0	No	22.0	2
	1012-pt12	20/168	1	1	2	8.4	0	No	55.0	1

Table 1: Overview of characteristics for the pits of period 1 (broad dates). For the column of fragmentation, light grey signifies possible evidence for deliberate fragmentation, based on secondary firing of the fracture margin. Dark grey signifies certain evidence in the shape of point of impact or refits between features.

		Content				Treatment				No of criteria
		Large quantity	High MNI	Variety in vessel shapes	Variety in other type of finds	High average sherd weight	Estimated Vessel Equivalent	Fragmentation	Secondary firing	
Inside the house	1002-pt1	88/846	7	4	2	9.6	5	No	36.0	3
	1009-pt2	11/201	1	1	0	18.3	0	Possibly	81.8	2
	1019-pt1	167/3824	11	3	1	22.9	16	Possibly	46.7	6
	1019-pt2	18/482	0	0	1	26.8	-	No	66.7	2
	1019-pt3	50/1320	7	3	0	26.4	5	Possibly	22.0	4
Isolated	1006-pt2	12/208	1	1	2	17.3	8	No	100	1
	1006-pt3	21/138	1	1	1	6.6	0	No	100	1
	1042-pt4	113/4378	22	4	1	38.7	6	No	21.2	5

Table 2: Overview of characteristics for the pits of period 2 (broad dates). For the column of fragmentation, light grey signifies possible evidence for deliberate fragmentation, based on secondary firing of the fracture margin. Dark grey signifies certain evidence in the shape of point of impact or refits between features.

Samenvatting (Dutch summary)

Een gevestigde norm? Norm en variatie in sociale groepen en hun materiële manifestaties in nederzettingen uit de ijzertijd en inheems-Romeinse tijd (800 v. Chr.-300 na Chr.) op het Fries-Drents plateau.

Inleiding

Naar aanleiding van een toevalsvondst werd in 1969 de vindplaats Hijken-Hijkerveld opgegraven door het Biologisch Archeologisch Instituut (BAI, huidig Groninger Instituut voor Archeologie/GIA) van de Rijksuniversiteit Groningen. De resultaten van deze opgraving zijn van grote invloed geweest op ons beeld van de ijzertijdbewoning op het Fries-Drents plateau. De huisplattegronden en het nederzettingssysteem zoals aangetroffen in Hijken-Hijkerveld vormden de basis voor modellen over ijzertijdbewoning op de Noord-Nederlandse zandgronden. Uit een herevaluatie uit 2014 (Arnoldussen & De Vries, 2014) bleek het verhaal van de *typesite* Hijken-Hijkerveld veel rijker dan gedacht. De nieuwverworven inzichten bleken echter soms ook in tegenspraak te zijn met de modellen waar Hijken-Hijkerveld de basis voor had gevormd. Deze discrepantie tussen algemeen geldende modellen en afwijkingen op vindplaatsniveau riep de vraag op welke rol norm en variatie speelden in laat-prehistorische samenlevingen. Daarmee vormde de opgraving Hijken-Hijkerveld de directe aanleiding voor dit proefschrift.

Bij de bestudering van laat-prehistorische nederzettingen valt op dat er duidelijke overeenkomsten zijn in de materiële cultuur (gedeelde normen), maar dat er ook altijd variaties waarneembaar zijn. In eerdere onderzoeken heeft de nadruk vooral gelegen op de overeenkomsten in materiële cultuur, die voortkomen uit een gedeelde norm wat betreft het maken, gebruiken en ontdoen of buiten gebruik plaatsen van objecten. Variaties hebben beduidend minder aandacht gekregen. Dat is spijtig, omdat daarmee een waardevol deel van de informatie ongebruikt blijft. Juist een vergelijking tussen de gedeelde norm en afwijkingen daarop geeft inzicht in sociale processen, zowel wat betreft het uitdrukken van affiliatie met grootschalige gemeenschappen als de mogelijkheid om de nadruk te leggen op regionale en lokale tradities.

In dit proefschrift staat het thema van norm versus variatie in materiële cultuur centraal. De nederzettingen op het Fries-Drents plateau uit de ijzertijd (800-0 v. Chr.) en inheems-Romeinse tijd (0-300 na Chr.) vormen de casestudy voor het onderzoek. De vraag die daarbij gesteld wordt is als volgt: welke sociale duiding kunnen we geven aan de normativiteit en variatie (in de productie, het gebruik en het (on)bewust ontdoen) van materiële cultuur zoals zichtbaar is in de ijzertijd- en inheems-Romeinse nederzettingen op het Fries-Drents plateau?

Om deze vraag te beantwoorden zijn drie gerelateerde onderwerpen bestudeerd, namelijk (1) de wijze waarop mensen hun huizen bouwden (huizenbouwtradities), (2) de gebruiken die zij hadden rondom het zich ontdoen van objecten die buiten gebruik waren geraakt (algemene depositiegebruiken) en (3) de wijze waarop sommige objecten soms bewust en op speciale wijze in de grond geplaatst werden met een schijnbaar ander doel dat het weggooien van afval (speciale depositiegebruiken). Het uitgangspunt in dit onderzoek is dat gebruiken gedeeld kunnen worden op verschillende sociale en

ruimtelijke schalen en dat gedeelde gebruiken niet noodzakelijk volledig identiek hoeven te zijn. Variatie kan daarbij inzicht geven in de manier waarop op kleinere schalen aanvullende of afwijkende gebruiken konden bestaan naast de breed gedeelde gebruiken.

De vier schalen die hier onderzocht worden zijn, van klein naar groot, (1) het huishouden, (2) de nederzetting of de lokale schaal, (3) de regionale schaal of regio's binnen het Fries-Drents plateau en (4) de supra-regionale schaal of het Fries-Drents plateau als geheel (fig. 1.2). De onderzoeksperiode is onderverdeeld in vier subperiodes: periode 1 (800-400 v. Chr.), periode 2 (400-0 v. Chr.), periode 3 (0-100 na Chr.) en periode 4 (100-300 na Chr.). Deze periodes zijn gebaseerd op de chronologie van lokaal, handgevormd aardewerk (Taayke, 1996) en onderbouwd met de beschikbare ^{14}C-dateringen uit het onderzoeksgebied (Lanting & Van der Plicht, 2003, 2006, 2012; zie ook: De Vries, 2017).

Hoofdstuk 2: theoretisch kader

Hoofdstuk 2 presenteert het theoretisch kader, hoe vanuit sociologisch en antropologisch perspectief norm en variatie als sociaal fenomeen begrepen kan worden, hoe dat vertaald kan worden naar een archeologisch model en hoe daar een passende methodologie voor opgesteld kan worden. Het is daarbij belangrijk om in gedachte te houden met wat voor soort gemeenschappen we van doen hebben in dit onderzoek. Gedurende de ijzertijd en het begin van de inheems-Romeinse tijd moeten gemeenschappen op het Fries-Drents plateau gezien worden als kleinschalige boerengemeenschappen die het gemengde boerenbedrijf als bestaansbasis hadden (Harsema, 2005: 551-553). Pas aan het einde van de onderzoeksperiode, vanaf de 1^{e} eeuw na Chr., zijn de eerste aanwijzingen te vinden voor sociale stratificatie in nederzettingscontext, namelijk in de vorm van *Herrenhöfe*. Dit zijn erven die geïnterpreteerd worden als de woonplaats van lokale, regionale of supra-regionale leiders (Nicolay, 2010: 120-122; 2020: 160-161). Processen die samengaan met sociale stratificatie, zoals specialisatie, lijken voor het grootste deel van de onderzoeksperiode niet van toepassing te zijn. Het is daarmee aannemelijk dat keuzes wat betreft de productie, het gebruik en het ontdoen van objecten primair op het niveau van het huishouden gemaakt werden. Het archeologische equivalent van het huishouden, het huis en het erf, vormen daarmee de kleinste onderzoekseenheid.

Op basis van sociologische en antropologische modellen wordt duidelijk dat huishoudens ingebed moeten zijn geweest in grotere sociale groepen of gemeenschappen, waarbinnen gebruiken gedeeld werden en informatie werd gedeeld. Het concept *communities of practice* (Wenger, 1998) beschrijft hoe groepen mensen informatie kunnen delen, maar ook de sociale waarde daarvan kennen en de gedeelde gebruiken volgen, in een tijd waarin er weinig tot geen formeel vastgelegde standaarden zijn. Door gebruiken te delen, hebben huishoudens een middel om uitdrukking te geven aan hun affiliatie met grotere groepen (Wenger, 1998: 77). Voor het huidige onderzoek is het belangrijk dat de gebruiken van individuele deelnemers in een dergelijke *community of practice* nooit volledig representatief zijn voor de gebruiken van de groep als geheel. Er is altijd sprake van enige mate van variatie op kleinere schaal. Via gemeenschappen die verschillend zijn, maar wel deels dezelfde deelnemers hebben, kunnen gebruiken worden verspreid (Wenger, 1998: 111, 126-129).

Voor archeologen is het delen van informatie het meest tastbaar in de herhaalde en dus herkenbare productiewijze van objecten. Voor het Fries-Drents plateau zijn huizenbouwtradities en de productie van handgevormd aardewerk hier voorbeelden van. Toch kan dit concept ook betrekking hebben op andere, op het oog minder tastbare gebruiken, zoals de juiste manier om voorwerpen te gebruiken en het juiste moment en de juiste wijze om deze weer buiten gebruik te plaatsen of af te danken (de zogenaamde ideële biografie: Kopytoff, 1986). Ook de omgang met afval is sociaal bepaald (Douglas, 2002) en daarom relevant om in archeologische context te bestuderen. Steeds kan daarbij de vraag gesteld worden op welke schaal deze gebruiken bepaald werden: gaat het om gebruiken ingebed in grote gemeenschappen of zijn het juist uitingen van kleinere ruimtelijke of sociale schalen?

Om de vraag van dit onderzoek te kunnen beantwoorden moeten norm en variatie in materiële cultuur bestudeerd worden als het resultaat van geneste gebruiken. Met geneste gebruiken wordt bedoeld dat sommige elementen van een gebruik op grote schaal gedeeld worden en andere aspecten alleen op kleinere schaal. Omdat de traditionele methodes (typologieën) vooral aandacht besteden aan de gedeelde gebruiken op grote schaal, niet aan de variaties op kleine schaal, is voor dit onderzoek een beter toegesneden methode nodig om patronen in materiële cultuur te beschrijven. In het huidige onderzoek worden objecten en gebruiken beschreven op een lager niveau, niet als geheel (bijv. type A), maar samengeteld uit verschillende elementen (bijv. dakdragende constructie A, muur B, afmetingen x, y en z). Zo kunnen objecten tegelijkertijd eigenschappen delen (allen dakdragende constructie A) en verschillend zijn (muur B, C en H).

Hoofdstuk 3: Huizenbouwtradities op het Fries-Drents plateau

Hoofdstuk 3 presenteert huizenbouwtradities uit de ijzertijd en inheems-Romeinse tijd. Als gevolg van de slechte conservering van organisch materiaal op de zandgronden zijn van de oorspronkelijke huizen uit deze periode vaak alleen nog verkleuringen in het zand overgebleven. Omdat het opgravingsvlak vaak 30 tot 40 cm onder

maaiveld wordt aangelegd (Waterbolk, 2009: 1-2), resten alleen de diepere ingravingen van palen of kuilen. De studie naar huizenbouwtradities is dus gebaseerd op een driedimensionale interpretatie (huis) van een voornamelijk tweedimensionale constellatie van paalsporen (huisplattegrond). Het is de regelmaat in deze constellaties die gebruikt wordt om huisplattegronden te onderscheiden. In totaal zijn 155 plattegronden beschreven en geanalyseerd op basis van de verschillende elementen die samen een huisplattegrond vormen (§ 3.3). De elementen zijn eerst los van elkaar besproken (§ 3.3.1-3.3.5) en vervolgens in samenhang bestudeerd (§3.3.6-3.3.7). Ook is gekeken naar de oriëntatie waarmee het huis in de nederzetting en het wijdere landschap is geplaatst (§ 3.3.8) en hoe de levensduur van huis en erf verlengd zijn (§3.3.9).

In de laatste paragraaf (§ 3.4) van hoofdstuk 3 is besproken hoe verschillende sociale groepen onderscheiden kunnen worden op basis van norm en variatie in huizenbouw in de ijzertijd en inheems-Romeinse tijd op het Fries-Drents plateau. Er zijn twee verschillende manieren waarop dit mogelijk is. De eerste manier om sociale groepen te onderscheiden is door te kijken naar overeenkomsten en verschillen door de tijd heen (diachrone normen en variaties). De tweede manier is door te kijken naar gelijktijdige overeenkomsten en verschillen (synchrone normen en variaties).

Een diachrone analyse van norm en variatie laat zien dat alle bestudeerde elementen in twee of meer periodes voorkomen (§ 3.3.7). De specifieke combinatie van meerdere elementen verschilt door de tijd heen wel duidelijk (fig. 3.33). De lange gebruiksduur van de bestudeerde elementen geeft aan dat huizenbouwtradities in de basis normatief waren en dat verandering vaak vooral geleidelijk plaatsvond. Sommige elementen bleven honderden jaren in gebruik. Nieuwe gebruiken of nieuw geïntroduceerde elementen vormden vaak eerst een minderheid en werden in latere periodes pas dominant. Dit past in een model waarbij kleinere gemeenschappen op het Fries-Drents plateau met elkaar in verbinding stonden en informatie zich geleidelijk verspreidde via deze onderling verbonden groepen.

Niet alle verandering was echter geleidelijk. Soms veranderden individuele elementen meer abrupt en werden ze vervangen door een volledig nieuw element. Dit is in periode 3 bijvoorbeeld te zien in de wijze waarop de breedte van de ingangspartijen veranderde (§ 3.3.3). Ook wat betreft andere thema's is in periode 3 bewijs voor een meer directe verandering te vinden. Dit wordt bijvoorbeeld duidelijk in de overgang tussen twee opeenvolgende, maar deels overlappende bouwtradities. Deze overgang moet in periode 3 geplaatst worden (§ 3.3.7) en besloeg dus een periode van slechts 100 jaar.

Voor de meeste van de geanalyseerde kenmerken geldt dat ze over het gehele onderzoeksgebied aangetroffen konden worden en vaak ook nog daarbuiten, zoals de driebeukige constructie (fig. 3.45). Ze werden dus voornamelijk gedeeld op supra-regionaal niveau. Er waren echter wel verschillen tussen de periodes in de intensiteit waarmee gebruiken gedeeld waren. Gebruiken in periode 1 waren variabel op alle schalen. Gedeelde normen werden dus slechts in grote lijnen gedeeld (bijv. huisbreedte: § 3.3.2, fig. 3.14). De wijze van het bouwen van huizen in periode 2 en deels in periode 3 kende duidelijk meer overeenkomsten, waarbij er sprake was van een grote mate van standaardisatie. De huizenbouwtradities waren meer normatief dan de vorige periode (§ 3.3.7, fig. 3.33). Daarnaast waren variaties in periode 2 en 3 zichtbaar op regionale schaal. Binnen het onderzoeksgebied was er een ruimtelijk onderscheid in het voorkomen driebeukige constructies (supra-regionaal gedeeld) en tweebeukige constructies (alleen in het zuiden en zuidoosten, dus regionaal; § 3.3.1, fig. 3.5). Daarnaast waren er variaties binnen deze twee- en driebeukige huizen die eveneens alleen in het zuiden en zuidoosten van het onderzoeksgebied voorkwamen (bijv. de zogenaamde Zwinderen-set: § 3.3.4.2, fig. 3.25). Hieruit blijkt dat niet alle informatie op dezelfde schaal gedeeld werd en huishoudens ook tot verschillende gemeenschappen konden behoren. In periode 3 en 4 werd variatie zichtbaar op een nog kleinere schaal, namelijk op het niveau van de nederzetting. Nog steeds waren deze gemeenschappen duidelijk onderdeel van supra-regionale groepen wat betreft de wijze waarop huizen gebouwd werden, maar de keuzes om specifieke elementen wel of niet aan de constructie van hun huis toe te voegen werd ingegeven door nederzettingen waar de huishoudens deel van waren.

Hoofdstuk 4: Algemene depositiegebruiken in laat-prehistorische nederzettingen

Hoofdstuk 4 geeft een weergave van de algemene depositiegebruiken in laat-prehistorische nederzettingen op het Fries-Drents plateau. Deze sociale conventies hebben met betrekking tot dit onderwerp tot nu toe minder aandacht gekregen in vergelijking met huizenbouwtradities. Het afdanken van in onbruik geraakte voorwerpen, het bewust begraven van objecten of de omgang met afval zijn alle voorbeelden van sociaal significante gebruiken (Kopytoff, 1986; Douglas, 2003). Het is een interessant thema voor het onderzoeksgebied. Het meeste vondstmateriaal uit laat-prehistorische nederzettingen op het Fries-Drents plateau wordt namelijk als afval geïnterpreteerd (bijv. Kooi, 1994: 271, 273; De Wit *et al*, 2009b: 63-67). In het huidige onderzoek is het niet mogelijk alle componenten van afval te bestuderen. Vanwege de slechte conserveringsomstandigheden van de zandgronden zijn vooral de organische materialen zijn niet meer aanwezig. Er is daarom gekozen om aardewerk als *proxy* te gebruiken.

Eerst zijn de factoren besproken die van invloed zijn op de wijze waarop aardewerk gedeponeerd wordt, zowel

uit het verleden als het heden (§ 4.2). Vervolgens zijn voor negen vindplaatsen de omvang en de aard van aardewerkvondsten besproken aan de hand van twee meest voorkomende contexten waarin aardewerk aangetroffen wordt in laat-prehistorische nederzettingen, namelijk paalsporen en kuilen. Dit is eerst apart gedaan voor paalsporen (§ 4.4) en voor kuilen (§ 4.5), vervolgens zijn de twee contexten in samenhang bestudeerd (§ 4.6).

In de laatste paragraaf is besproken hoe verschillende sociale groepen onderscheiden kunnen worden op basis van norm en variatie in algemene depositiegebruiken. Daarnaast is besproken of het mogelijk is om gebruiken waar te nemen op kleinere tijdschalen of in kleinere ruimtelijke schalen. In de eerste plaats kunnen de laat-prehistorische bewoners van het Fries-Drents plateau als één sociale groep worden waargenomen door te begrijpen hoe afval in de bodem is gekomen op een wijze die gelijk is voor het hele onderzoeksgebied en voor alle vier de periodes. Hieruit blijkt dat er sprake was van normen in algemene depositiegebruiken die even wijdverspreid waren als de huizenbouwtradities. Voor alle vier de periodes gold namelijk dat afval voor het overgrote deel *niet* in het bodemarchief terecht kwam, waarschijnlijk omdat afval rondom het huis op het loopoppervlak gedeponeerd werd. Tijdens de momenten waarop palen uitgetrokken werden, werden de lege paalkuilen niet systematisch gebruikt voor het weggooien van afval. Daar waren de hoeveelheden aardewerk in de paalkuilen te klein voor (fig. 4.4). Voor geen van de periodes waren er aanwijzingen dat kuilen systematisch gebruikt waren voor het weggooien van afval. Er zijn te weinig kuilen met aardewerkvondsten van enige omvang aangetroffen om een dergelijk gebruik aan te tonen (fig. 4.29). Het fenomeen afvalkuil kan dus niet gehandhaafd worden. Daarnaast is er nauwelijks verschil tussen de inhoud van paalsporen en kuilen vastgesteld. Voor beide contexten geldt dat de meeste aardewerkvondsten gering waren in aantal en omvang (fig. 4.33). Het overgrote deel van de aardewerkvondsten uit paalsporen en kuilen was zo gering dat ze gezien moeten worden als toevallige inclusies of opspit (§ 4.6).

Hoewel het voor het hele onderzoeksgebied en de hele periode van onderzoek dus de norm gold om afval aan het loopoppervlak te laten, zijn er ook aanwijzingen dat incidenteel aardewerk wel bewust begraven werd. Voor deze bewuste deposities zijn subtiele diachrone variaties waarneembaar in de hoeveelheden aardewerk die begraven werden, de behandeling van het materiaal en de contexten die geschikt geacht werden (fig. 4.33). Voor periode 1 vond het bewust deponeren van aardewerk vooral op afstand van huis en erf plaats, in geïsoleerd liggende kuilen (fig. 4.24-4.25), in kuilen in Celtic fields, in kuilen nabij geïsoleerd liggende spiekers en in de paalgaten van de spiekers zelf (§ 4.4.2; § 4.5.2). Sommige van deze aardewerkvondsten tonen sporen van bewuste fragmentatie en secundaire brand en kunnen als speciale deposities geïnterpreteerd worden. In periode 2 is een duidelijke en breed gedeelde omslag te zien, waarbij materiaal nog maar nauwelijks bewust in sporen gedeponeerd werd. Vooral kuilen werden niet meer gebruikt voor deposities (§ 4.5.3, tabel 4.6). Wanneer paalsporen gebruikt werden voor de depositie van aardewerk waren zij vaker onderdeel van huisplattegronden en minder vaak van spiekers (§ 4.4.2, fig. 4.9, fig. 4.15-4.17). De ruimtelijke associatie met het huis en erf werd belangrijker. In periode 3 en 4 is wederom een verandering waarneembaar die over een groot gebied gevolgd kan worden. Vooral in de geclusterde nederzettingen uit deze periodes was er een duidelijke ruimtelijke relatie tussen het huis en de depositie van aardewerk, ook werden kuilen en paalsporen vaker gebruikt voor de depositie van aardewerk (§ 4.4.2, fig. 4.18). Afval werd nog steeds rondom het huis gedeponeerd, maar werd vaker in kuilen in de nabijheid van huisplattegronden teruggevonden (§ 4.5.2, fig. 4.31-4.32). Depositiegebruiken veranderden daarmee als gevolg van grootschaligere veranderingen in de structuur van nederzettingen.

Hoofdstuk 5: Speciale depositiegebruiken

Hoofdstuk 5 bespreekt de speciale depositiegebruiken uit periode 1 en 2. Een incidentele dump van afval kan voor sommige van deze vondstcomplexen uit periode 1 en 2 weliswaar niet uitgesloten worden, maar voor veel van deze vondstcomplexen lijkt een andere interpretatie waarschijnlijker, namelijk die van speciale depositie. Van deze speciale deposities wordt gedacht dat ze uitgevoerd werden om speciale momenten in het bestaan van het huishouden of het huis te markeren, zoals het sterven van het hoofd van het huishouden of het verlaten van het erf (Brück, 1999: 153; Gerritsen 2003: 40, fig. 3.1). Ook andere omstandigheden zijn denkbaar, zoals het maken van een offer voor bovennatuurlijke krachten voor het beschermen van de oogstvoorraad (Cunliffe, 1992) of bij andere speciale gelegenheden (Van den Broeke, 2015: 90).

De elementen om onderscheid te maken tussen depositiegebruiken in het algemeen en speciale depositiegebruiken zijn eerst gepresenteerd (§ 5.2). In totaal zijn 41 aardewerkassemblages beschreven en geanalyseerd aan de hand van de onderscheiden elementen in context, inhoud en behandeling. Eerst zijn de elementen los van elkaar besproken (§ 5.4-5.6) en vervolgens in samenhang (§ 5.7). In de laatste paragraaf is duidelijk gemaakt hoe speciale depositiegebruiken binnen de algemene depositiegebruiken een aparte groep vormden. Deze discussie heeft betrekking op de essentie van speciale deposities, waarbij beargumenteerd is dat er in periode 1 en 2 sprake was van een duidelijk gedeelde norm over hoe speciale deposities eruit moesten zien.

De behandeling van de objecten in de 41 assemblages vertoont duidelijke overeenkomsten (fig. 5.39). Ten eerste was fragmentatie een belangrijk kenmerk (fig. 5.6.3). De assemblage die samengesteld werd, bestond uit gefrag-

menteerde potten in verschillende vormen en formaten. Dit blijkt onder meer uit het feit dat potten zelden volledig gereconstrueerd kunnen worden (§ 5.6.2). Dit wijst erop dat de potten al incompleet, en dus gefragmenteerd, waren voordat ze gedeponeerd werden. Een aanvullend argument voor fragmentatie zijn sporen op enkele fragmenten aardewerk, die erop wijzen dat de potten doelmatig gebroken zijn (§ 5.6.3). Doordat de potten gebroken waren voor ze gedeponeerd werden, ontstond vervolgens de mogelijkheid om delen te selecteren voor depositie en delen achter te houden, bijvoorbeeld om uit te delen onder de deelnemers van het ritueel (zie Chapman, 2000; Chapman & Gaydarska, 2007). Het achterhouden of selecteren van potdelen is een tweede kenmerk dat voor alle assemblages is aangetoond, gezien zo goed als alle potten incompleet gedeponeerd waren (§ 5.6.2.1, fig. 5.26). De derde overeenkomst zijn sporen van secundaire brand. Zo goed als alle assemblages tonen de aanwezigheid van vuur rondom de speciale depositie (§ 5.6.4).

Uit de analyses is gebleken dat er duidelijke overeenkomsten zijn in de opbouw van de assemblages. Naast de aardewerken potten komen andersoortige objecten in bijna alle assemblages voor, zoals keramieken gebruiksvoorwerpen en stenen (§ 5.5.4). Dat deze voorwerpen een integraal onderdeel waren van de assemblage blijkt uit de overeenkomstige behandeling die deze voorwerpen kregen.

Een tweede thema dat is behandeld is in hoofdstuk 5 is de wijze waarop norm en variatie in speciale depositiegebruiken ingezet kunnen worden om sociale groepen te onderscheiden. Naast de bovengenoemde, gedeelde kenmerken tonen de 41 assemblages ook variaties. Voor periode 1 is het duidelijk dat de context van de speciale depositie, in lijn met de algemene depositiegebruiken, primair buiten het erf uitgezocht werd (§ 5.4.1, fig. 5.4). De samenstelling van assemblages in periode 1 was gevarieerd, namelijk verschillende soorten aardewerk en verschillende andere objecten (fig. 5.17, fig. 5.20). De potten waren incompleet, maar als grote fragmenten aanwezig (§ 5.6.1). Potvorm speelde een belangrijke rol in de wijze waarop fragmenten wel of niet geselecteerd werden (fig. 5.36). Secundair branden was belangrijk, soms zo vergaand dat aardewerk fragmenten volledig gepoft werden. Deze kenmerken werden gedeeld op supra-regionaal niveau, maar variaties binnen periode 1 zijn waarneembaar in de hoeveelheid materiaal, de samenstelling van de aardewerkassemblage en het aantal verschillende andere objecten (fig. 5.17, fig. 5.20). Onderlinge vergelijking van assemblages toont aan dat deze variatie eerder verklaard kan worden aan de hand van gedeelde normen op nederzettingsniveau dan op het niveau van huishouden of de regio (§ 5.8.2).

In periode 2 was er sprake van een duidelijke afname in het aantal speciale deposities (fig. 5.1), ondanks de toename in het aantal huisplattegronden uit dezelfde periode (fig. 3.1). Daarnaast is er een verschuiving te zien in de voorkeurscontext. Speciale depots waren in periode 2 duidelijk aan het huis gekoppeld (§ 5.4.1, fig. 5.4). Eveneens was er sprake van een afname in de hoeveelheid materiaal dat gedeponeerd werd. Dit gold niet alleen voor de omvang (aantal scherven, totaalgewicht: § 5.5), maar ook voor de variatie binnen de assemblages. Er werden minder verschillende potten geselecteerd en minder verschillende andersoortige voorwerpen (fig. 5.17, fig. 5.20). De absolute en relatieve afname van het gebruik van kuilen voor speciale deposities is in lijn met de observaties in algemene depositiegebruiken, waar eveneens een afname zichtbaar was in het gebruik van kuilen. De verschuiving naar het huis en erf komt ook overeen met de algemene depositiegebruiken, waarvoor is aangetoond dat het huis vaker de context voor depositie vormde. De schaarste waarmee deze kuilen met inhoud uit periode 2 voorkomen, moet gezien worden als variaties op een norm waarin kuilen geen rol meer speelden. Deze variaties zijn het resultaat van afwijkende keuzes die op het niveau het huishouden gemaakt zijn, maar over het hele onderzoeksgebied voor kwamen.

Conclusie

In de conclusie zijn de verschillende verhaallijnen samengebracht om de vraag te beantwoorden welke sociale duiding gegeven kan worden aan de normativiteit en variatie (in de productie, het gebruik en het (on)bewust ontdoen) van materiële cultuur zoals zichtbaar is in de ijzertijd- en inheems-Romeinse nederzettingen op het Fries-Drents plateau. Uit de analyse van huizenbouwtradities, algemene depositiegebruiken en speciale depositiegebruiken blijkt dat er gedurende de gehele onderzoeksperiode en voor het hele onderzoeksgebied duidelijk gedeelde normen waren. Variaties op deze normen zijn eveneens vastgesteld over de gehele onderzoeksperiode. Vaak waren deze variaties niet willekeurig. Om deze variaties sociaal te kunnen duiden is het noodzakelijk om ze in kleinere tijdseenheden en op kleinere schaal te bestuderen.

Voor periode 1 (de eerste helft van de ijzertijd) gold dat er in de huizenbouwtradities veel ruimte was voor variatie. Dit was in tegenstelling tot de speciale depositiegebruiken die wel duidelijke normen volgden (fig. 6.7). Uit dit onderzoek blijkt daarnaast dat speciale deposities vooral op plekken op afstand van het huis gedaan werden, waarbij soms een associatie gezocht werd met bijgebouwen en de akkersystemen (Celtic fields). Het is opvallend dat juist niet het belang van het huis en het huishouden benadrukt werd, terwijl speciale deposities elders vaak in verband gebracht worden met het verlaten van het huis (Gerritsen, 1999; 2003: 40, fig. 3.1). Het gebrek aan nadruk op het huis en huishouden is echter in lijn met eerdere observaties dat de nederzetting geen grote rol speelde in de formatie van gemeenschappen, maar dat het gezamenlijk gebruik van urnenvelden en Celtic fields bepalend waren voor de vorming van lokale gemeenschappen (Gerritsen,

2003: 145-148). Variabele huizenbouw en strikte depositiegebruiken kunnen gezien worden als een materialisering van de verschillende schalen waarop affiliatie met groepen groter dan het huishouden uitgedrukt werd.

In periode 2 (de tweede helft van de ijzertijd) was er sprake van een toegenomen standaardisatie in de huizenbouwtradities. De normen hoe huizen gebouwd moesten worden, werden breed en in meer detail gedeeld en nagevolgd. In tegenstelling tot de voorafgaande periode, vormden het huis en het erf de plaats waar banden met grotere groepen vorm krijgen. In sommige gevallen was de band met supra-regionale groepen belangrijk (bijv. bij driebeukige plattegronden), in andere gevallen speelden regionale gebruiken ook een rol (bijv. bij tweebeukige plattegronden). Op het niveau van de nederzetting was er geen sprake van gedeelde gebruiken in huizenbouwtradities en depositiegebruiken. Op deze schaal valt juist op dat er veel variatie was, vooral in het zuiden en zuidoosten van het onderzoeksgebied (fig. 6.8). Ook de weinige speciale deposities hadden een sterkere associatie met het huis en bevestigden de centrale rol van huis en erf. Het is lastig om oorzaak en gevolg aan te wijzen, maar de toenemende standaardisatie in huizenbouw en de (symbolische) nadruk op het huis viel samen met het in onbruik raken van de urnenvelden (Hessing & Kooi, 2005). Toch was er, gezien de continuering van het gebruik van Celtic fields (Arnoldussen, 2018), geen sprake van een volledige breuk tussen gebruiken in periode 1 en 2. Voor andere regio's in Nederland, zoals het Maas-Demer-Schelde gebied, wordt een toenemende formalisering van nederzettingen geplaatst aan het einde van periode 2, in de vorm van een toename in het aantal gelijktijdige huizen en een toename in clustering (Arnoldussen & Jansen, 2010: 388-392; Schinkel, 1998: 177, fig. 157; Gerritsen, 2003: 247). Aanwijzingen voor dergelijke ruimtelijke en sociale samenhang, het ontstaan van geclusterde nederzettingen, zijn er niet voor het Fries-Drents plateau in deze periode. Ook dit is in lijn met de observatie dat vooral de erven in periode 2 en hun inbedding in regionale en supra-regionale groepen belangrijk zijn en niet de tussenliggende sociale schaal van de nederzetting.

Pas in periode 3 (eerste eeuw na Chr.) en 4 (tweede en derde eeuw na Chr.) ontstonden op het Fries-Drents plateau de eerste begrensde nederzettingen waarvan met zekerheid gezegd kan worden dat ze uit meerdere erven bestonden. Deze overgang moet vooral aan het begin van periode 3 geplaatst worden, maar in de zuidelijke en zuidoostelijk regio vond dit vermoedelijk pas in de loop van periode 3 of in periode 4 plaats (fig. 6.9). Het groeiende belang van de nederzetting, praktisch en symbolisch, werd uitgedrukt door duidelijke clustering en afbakening van het nederzettingsterrein. Wat betreft de huizenbouwtradities valt op dat, in tegenstelling tot periode 2, huizen binnen een nederzetting meer onderlinge gelijkenissen vertoonden dan huizen tussen verschillende nederzettingen. Ook in andere gebruiken bleek de nederzetting aan belang te winnen. Wanneer graven uit deze periodes gevonden worden, zijn ze ruimtelijk geassocieerd met de nederzetting als geheel en soms met de individuele erven binnen een nederzetting (Van der Velde, 2011: 125). Ook van de akkers wordt gedacht dat ze in de nabijheid van nederzettingen lagen (Hiddink, 1999: 164-168).

Het huidige onderzoek heeft met deze observaties op verschillende manieren vraagtekens kunnen zetten bij de voorgestelde culturele homogeniteit van het Fries-Drents plateau. Enerzijds blijken overeenkomsten met gebieden buiten de grenzen van het onderzoeksgebied soms even sterk te zijn als binnen het onderzoeksgebied, zoals geldt voor het concept woonstalhuis of de driebeukige traditie. Anderzijds heeft het onderzoek aangetoond dat norm en variatie in materiële cultuur op verschillende wijzen tot stand is gekomen, soms als het gevolg van diachrone processen (bijv. hoe de afmeting van ingangspartijen verschilt per periode), soms als het gevolg van regionale verschillen (bijv. de aan- of afwezigheid van tweebeukige plattegronden) en soms door de sociale schaal waarop keuzes gemaakt zijn (bijv. de lokale invulling van speciale depositiegebruiken).

Hieruit volgt dat prehistorische gemeenschappen niet alleen bestudeerd moeten worden óf op een hoger schaalniveau óf alleen op basis van de details van een enkel erf. De meerwaarde die dit onderzoek heeft aangetoond ligt in het bestuderen van prehistorische gemeenschappen op verschillende schalen. Door norm en variatie op verschillende schalen naast elkaar te laten bestaan, wordt het mogelijk om mensen uit het verleden te begrijpen als groepen die verbonden waren op verschillende schalen. Door over en weer te blijven vergelijken, tussen gelijktijdige gebruiken en opvolgende gebruiken, tussen regio's en grotere gebieden, wordt het mogelijk te begrijpen hoe mensen onderdeel waren van grotere groepen maar daarbinnen nog steeds als individuen konden handelen.

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SETTLING WITH THE NORM?

When studying later prehistoric societies, it is evident that shared practices, as well as variations, exist in the settlement record. Traditionally, the emphasis has mainly been on the elements shared on large scales, the widely shared norms. Variations in material culture have received little attention. This is regrettable, because through the study of both norm and variation in material culture, it is possible to understand how people are part of larger communities and, at the same time, express their affiliation to smaller social groups. In this book, housebuilding practices, general deposition practices and special deposition practices from (Roman) Iron Age (800 BC-AD 300) settlements in the northern Netherlands are studied on different scales as practices that can be similar and different at the same time.

Based on the analyses, normativity and variation in material culture can be understood in different ways. For the whole period of research, housebuilding and (special) deposition practices are best understood as nested practices, in which spatial and social scales played different roles throughout the period of research. In addition to this, it has become evident that the degree of normativity, and thus of variation, visible in the archaeological record differed between subperiods, but could also vary between the practices within one subperiod. This means that, at the same time, large-scale affiliations could be stressed in one practice, while the importance of the smaller social group was emphasised in another practice.

More than just searching for a better understanding of the (Roman) Iron Age societies in the northern Netherlands, this thesis also aims to understand how the use of typochronologies and the choices researchers make influence our understanding of the past. This thesis is therefore not only of interest for researchers studying later prehistoric settlements but also for those interested in archaeological methodology in general.

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