Universiteit
Leiden
The Netherlands

Monuments on the horizon : the formation of the barrow landscape throughout the 3rd and the 2nd millennium BCE

Bourgeois, Q.P.J.

Citation
Bourgeois, Q. P. J. (2013, January 10). *Monuments on the horizon : the formation of the barrow landscape throughout the 3rd and the 2nd millennium BCE*. Retrieved from https://hdl.handle.net/1887/20381

Version:	Corrected Publisher's Version
License:	Licence agreement concerning inclusion of doctoral thesis in the Institutional Repository of the University of Leiden
Downloaded from:	https://hdl.handle.net/1887/20381

Note: To cite this publication please use the final published version (if applicable).

Cover Page

Universiteit Leiden

The handle http://hdl.handle.net/1887/20381 holds various files of this Leiden University dissertation.

Author: Bourgeois, Quentin

Title: Monuments on the horizon : the formation of the barrow landscape throughout the 3rd and 2nd millennium BC

Date: 2013-01-10

Chapter 3

The chronology of barrow construction in the Low Countries

3.1 Introduction

The praxis of mounded burial lasted for several millennia in the Low Countries. The construction of round barrows started at around 2800 cal BC (Lanting and Van der Plicht 2001, 35; Furholt 2003, 100) and continued up to at least the Early Roman Period (*e.g.* Hiddink 2003, 22; 2011).

Barrow construction throughout these three millennia was, however, by no means continuous. Recent research has suggested a gap between the Middle Bronze Age and Late Bronze Age in terms of frequency (Bourgeois and Arnoldussen 2006; Bourgeois and Fontijn 2008). And mounded burial appears to decrease in intensity in the Middle and Late Iron Age (Hessing and Kooi 2005, 649-652; but see Fontijn, *et al.* 2011).

While at the same time the outward form of the barrow remained the same, its constituent elements changed fundamentally. As these constituent elements are typical for specific periods, it is relatively easy upon excavation to establish when a barrow was built. Indeed, it is not very difficult to distinguish between a Neolithic and a Middle Bronze Age mound. And at the same time, there is little confusion between Middle Bronze Age and Late Bronze Age and Early Iron Age mounds (Gerritsen 2003, 124-125).

These differences have allowed archaeologists to differentiate between specific features of a barrow. Post circles, surrounding barrows, for example, are typical for the Middle Bronze Age. Palisaded ditches on the other hand are common in the Late Neolithic, and non-existent in the Middle Bronze Age. These elements have thus been used in various typochronologies (for a latest reappraisal see Drenth and Lohof 2005, 441; Hessing and Kooi 2005, 634-635).

Recently, many new radiocarbon dates have been made available (for an overview see Lanting and Van der Plicht 2001; 2003). These new dates have already led to significant revisions of the older typochronologies (Bourgeois and Arnoldussen 2006). An overview of these shifts, however, is still lacking.

In this Chapter I will first review the existing typochronologies. I will argue that they are based on predominantly typological arguments and that these are in need of a revision. In the second part of this Chapter I will discuss the available evidence and assess the chronological position of several typical elements of a barrow.

3.2 Barrow chronologies, the creation of a chronological framework

3.2.1 Existing typochronologies

The original framework for the Late Neolithic and the Bronze Age in the Low Countries was developed in the 60's and 70's (Anonymus 1965/1966; and especially Lanting and Mook 1977; see Fokkens 2001 for an overview). This original framework was based upon the occurrence of specific types of burial, pottery and surrounding features in specific periods (Lanting and Mook 1977, 4-6; Fig. 3.1). In the past two decades the original framework has been reworked and updated by several authors (Drenth and Lanting 1991; Lohof 1991; Theunissen 1999; Lanting and Van der Plicht 2001; 2003; Drenth and Lohof 2005; Van den Broeke, *et al.* 2005; see Fig. 3.1). Each revision modified the upper and lower boundaries for each respective phase.

Especially the position and dating of the Early Bronze Age shifts dramatically between several of these typochronologies. According to Lanting and Van der Plicht, the Early Bronze Age starts at around 1900 cal BC and continues up to 1575 cal BC with the beginning of the Sögel-Wohlde phase (Lanting and Van der Plicht 2003, 151; see Drenth and Lohof 2005, 449 for a similar view). On the other hand, if we accept the typochronology as presented in *The Prehistory of the Netherlands* (Van den Broeke, *et al.* 2005, 28, see note 28; and which is also used by Theunissen 1999, 57), the Early Bronze Age starts in 2000 cal BC and stops at around 1800 cal BC.

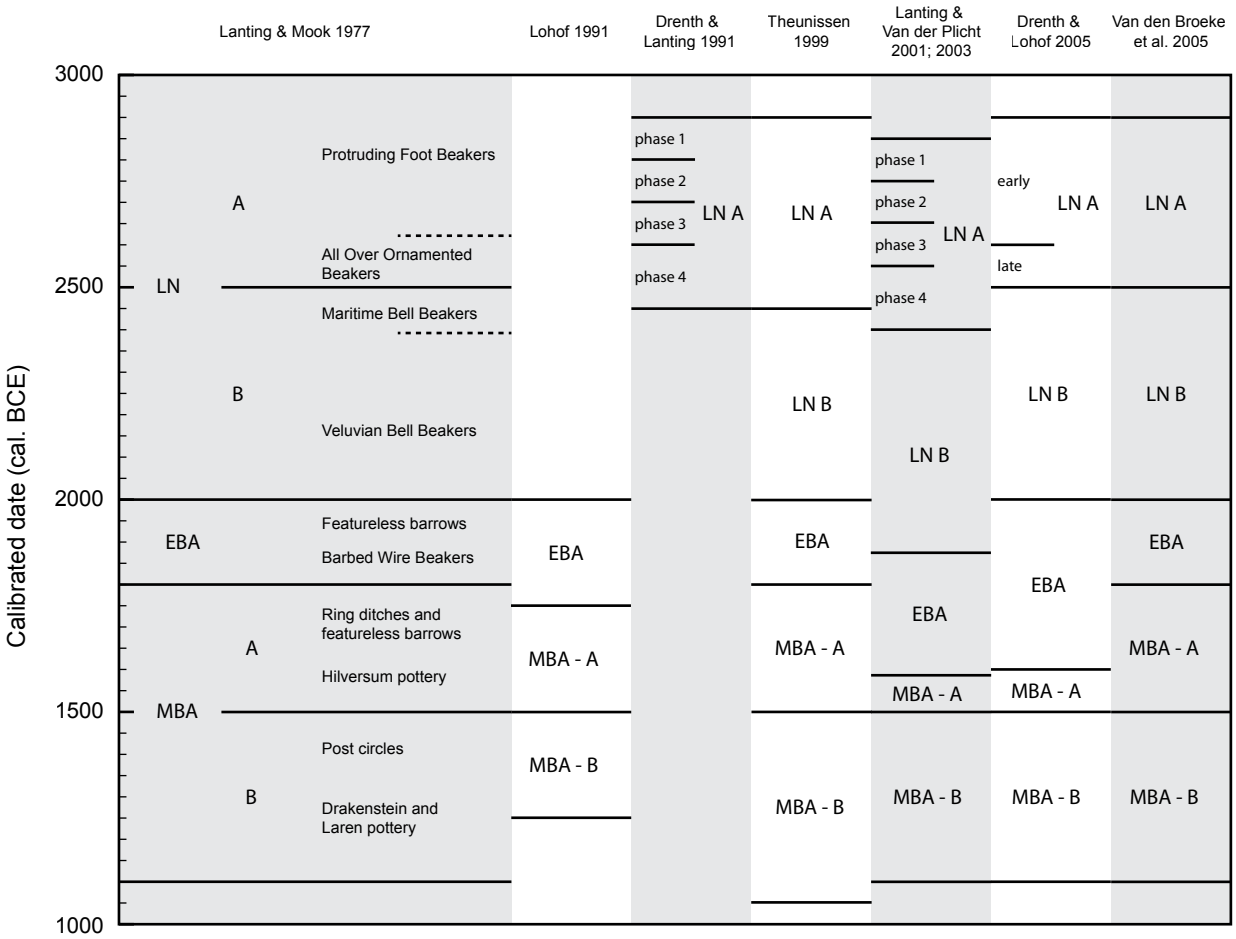


Fig. 3.1: The typochronological framework for the 3rd and 2nd Millennium BC as defined in several publications. The respective boundaries have been calibrated where some of the authors used uncalibrated dates.

It is important to note however that both revisions still consider Barbed Wire Beakers as typical for the Early Bronze Age. While the boundaries may have changed, the underlying assumptions and the arguments for the subdivision have not (Fokkens 2001, 241). For example, in each revision the Middle Bronze Age A still includes barrows surrounded by ring ditches and the Middle Bronze Age B barrows with post circles.

In this sense, the revisions have only moved the goal posts, while not challenging the underlying assumptions (*cf.* Fokkens 2001). This moving of the goal posts is of particular relevance to the present research as each element is assumed to date to a specific time-period. Ring-ditches, for example, are assumed by all authors to date to the Middle Bronze Age A, yet are they to be dated to the period between 1575 and 1500 or rather to 1800-1500? And are they then exclusive to that period?

In this Chapter I will not concern myself with redefining the boundaries that separate each specific phase. That discussion is neither of any relevance to the present research nor within its scope. I would rather argue that we need to revise the underlying assumptions and reappraise the available evidence. Simply put, in this Chapter I will try and establish a dating range for all relevant and constituent elements of the barrow.

The need for a reappraisal has only increased with the advent of new radiocarbon dating techniques (notably on cremated bone; Lanting, *et al.* 2001; Lanting and Van der Plicht 2003). It has been of particular relevance to the Bronze Age and has already led to significant shifts in typochronology (Bourgeois and Arnoldussen 2006; Bourgeois and Fontijn 2008).

3.2.2 Problems with the previous typochronologies

The issues with the previous typochronologies do not stem solely from defining the boundaries for the Early Bronze Age.

A further problem is that the larger chronological framework for the prehistory of the Low Countries is assumed to correlate to changes in burial tradition (*e.g.* Van den Broeke, *et al.* 2005, 31, note 28). While the division between for example the Middle Bronze Age A and B might work for settlements (Arnoldussen 2008, 174-192), it does not for burial mounds (Bourgeois and Arnoldussen 2006; Bourgeois and Fontijn 2008). Specific elements of the grave ritual – such as post circles – have their own temporality which are not synchronous with other elements.

Essentially, typological arguments are assumed to overrule chronological evidence. There is for example an assumption that ring ditches are earlier than post circles, and that the latter succeeds the former. Yet most acknowledge that the radiocarbon dates of both overlap to a considerable extent (Lohof 1991, 43; Theunissen 1999, 63; Lanting and Van der Plicht 2003, 158). Nevertheless, the typological argument is used to attribute undated barrows encircled by ditches to the Middle Bronze Age A and mounds surrounded by post circles to the Middle Bronze Age B (Lohof 1991, 44; Theunissen 1999, 55; Lanting and Van der Plicht 2003, 158; Drenth and Lohof 2005, 440-442).

The radiocarbon evidence is effectively dismissed and superseded by typological arguments. This dismissal even continues up to the level of individual directly radiocarbon dated mounds. Lanting for example continuously dismisses dates on post circles prior to 3300 BP as 'too old' irrespective of the quality of the date. Similar radiocarbon dates on ring ditches however are never considered 'too old' (for several examples see Lanting and Van der Plicht 2003, 180-182).

A second problem is that chronological developments from one region are extrapolated onto developments in other regions. According to Lanting and Van der Plicht, the start of the Late Neolithic B and the transition to Bell Beaker pottery occurred no later than 2450 cal BC as '*around 2425 cal BC habitation in Swiss lake settlements stops*' (Lanting and Van der Plicht 2001, 36 [my translation]). The presence of two sherds of a maritime Bell Beaker in one of these settlements is then taken as an argument to date the earliest occurrence of this type of pottery in the Low Countries as '*between 2500 and 2450 cal BC*' (*ibid.*; for a similar argument concerning the Early Bronze Age see Lanting and Van der Plicht 2003, 153-155). Yet the presence of two (!) sherds in Switzerland tells us nothing about the development of maritime Bell Beakers and its correlation with Corded Ware in the Low Countries (Włodarczak 2009, 737).

The last, and perhaps the more significant problem, is that several of these typochronologies are based upon uncalibrated radiocarbon dates (*e.g.* Lohof 1991, 38; Lanting and Van der Plicht 2001; 2003; and implicitly Drenth and Lohof 2005). Such a chronology is based upon the assumption that '*enough radiocarbon dates*' allow for the comparison between different phases (Lanting and Van der Plicht 2001, 12). They assume that a radiocarbon date of, for example, 4200 BP is older than one of 4100 BP (see for several examples Lanting and Van der Plicht 2001, 74-75).

This, I would argue, is based upon a fallacy. Not using calibration will only create an artificial chronology, which does not take into account the limitations inherent to a chronology based upon radiocarbon dates (Włodarczak 2009, 739; Furholt 2003). Especially the effects of *wiggles* and plateaus in the calibration curve have a considerable impact on how a radiocarbon date is translated into a calendar age (Taylor and Aitken 1997, 76-78).

For the 3rd Millennium BC two plateaus have a considerable impact on the chronological resolution for the period (Furholt 2003, 15-18; Włodarczak 2009, 739-740). The first one is located between 2880 and 2580 cal BC; the second

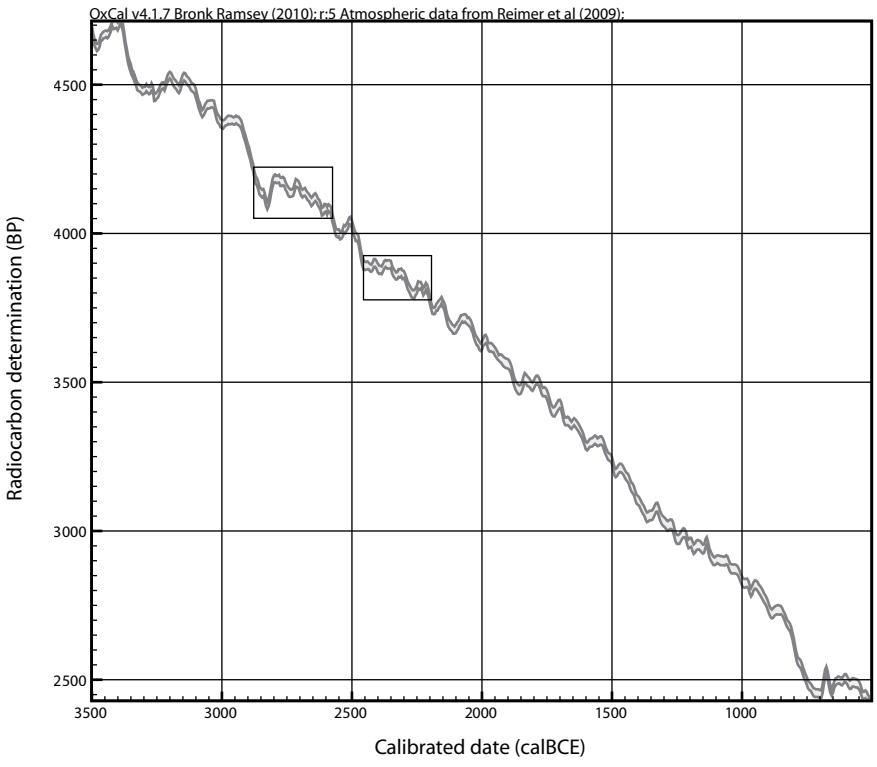


Fig. 3.2: The black rectangles indicate the two plateaus affecting calibration in the 3rd Millennium BC (the plateaus as defined by Włodarczak 2009, 741).

one between 2460-2200 cal BC (Fig. 3.2). In practical terms this means that a radiocarbon date with a calibration range that falls within such a *wiggle* will date to the time-span of the entire plateau.

To give an example, the first plateau which concerns barrow construction covers three centuries in the early 3rd Millennium BC. As a result, the calibration range for a radiocarbon date of 4200 BP with an average standard deviation of 50 years will have a considerable overlap with one of 4100 BP. The calibrated ranges for both radiocarbon dates translate into respectively 2900 – 2630 cal BC and 2870 – 2500 cal BC. There is in fact a considerable chance that the latter is older than the former.

This means for instance that a subdivision of the Late Neolithic A into four different phases (as suggested by Drenth and Lanting 1991; Lanting and Van der Plicht 2003, 35-36), is entirely untenable in the light of calibrated radiocarbon dates. The calibration curve simply does not allow for such a fine resolution. The relative position of each of the phases with respect to one another may well be valid, yet the absolute dates attached to them cannot be upheld. For all purposes they should thus be considered as contemporaneous.

3.2.3 The need for a revision

It should be clear from the discussion above that the existing chronology of the barrow ritual is in need for a revision. I would argue that we need to move away from a chronology based upon typological arguments and the pitfalls of circular reasoning that accompany it (*cf.* Wentink in prep.). Rather I would advocate the creation of a chronology based upon calibrated radiocarbon dates, provided these come from a reliable context directly associated with one or more constituent elements of a barrow (*cf.* Mook and Waterbolk 1985).

It is nevertheless important to note that a chronology based on radiocarbon dates is not without its own problems. Three significant issues can limit the value of any radiocarbon chronology. Firstly, problems of a reliable association between the radiocarbon date and the event one wishes to date, secondly issues of contamination and longevity of the dated samples and thirdly the impact of calibration. The first two problems are relatively straightforward and extensive discussion on these can be found elsewhere (for a general overview see Taylor and Aitken 1997; Mook and Waterbolk 1985; for an overview specific to Corded Ware and barrows see Furholt 2003, 13-20).

Issues of association should be self-evident to most archaeologists, and only directly associated radiocarbon dates were used in the chronology presented below. In the case of post circles, any radiocarbon dates come from either the post circle or the primary grave with which it is directly associated (where this can be established!).

Most of the radiocarbon dates in this chronology were obtained from charcoal or cremated remains. It should be noted that charcoal on the one hand can produce an age greater than the event we wish to date due to the *old wood effect* (Taylor and Aitken 1997), while on the other hand cremated remains may yield dates that are too young as a result of contamination (De Mulder 2011, 123-154; Van Strydonck, *et al.* 2009).

In contrast to the above-mentioned issues, the calibration of radiocarbon dates has a much more significant impact on chronology. On the one hand the precision with which we can convert radiocarbon dates into calendar years is determined by the standard deviation of the date itself, and on the other hand the nature of the calibration-curve.

The bigger the standard deviation of the date, the wider the chronological range. In general, most radiocarbon dates cover a time frame of approximately one or two centuries. Especially dates carried out in the last few years (with a low standard deviation) allow for a fine chronological resolution.

The structure of the calibration-curve however, determines the limits of the chronological resolution available for a specific time period. As I argued above, several plateaus in the calibration curve determine the highest chronological resolution we can obtain. For some periods this will result in a resolution of 300 years or more (Furholt 2003, 17-18). Even for other – smaller – wiggles, the temporal resolution is at its best one or two centuries. These are the temporal limits at which we must operate.

Fig. 3.3 (opposite page): Overview of all commonly occurring features in association with burial mounds in the Low Countries. The plan is a composition and adaptation of two different barrows: Harenermolen (Van Giffen 1930, 44-45) and Vaassen Tumulus II (Lanting and Van der Waals 1971b, Fig.7).

3.3 Barrow Jargon

Before we continue any further with the creation of a chronology I will first define some of the key concepts used in barrow archaeology. The terminology I employ is a jargon typical to Dutch barrows and their descriptions in the excavation reports. To avoid any ambiguity in how a specific term is used, I provide a definition of the most common terms (Fig. 3.3).

3.3.1 Primary barrows versus mound phases

Many barrows in the Low Countries are the culmination of several phases of activity. Once built they are subsequently increased in size on multiple occasions, new layers of sods are stacked on top of ancient barrows and new features are erected around them. In Dutch Archaeology each of these phases has been termed a mound phase (*heuvelperiode* in Dutch; Lohof 1991, 37; Theunissen 1999, 46-47). This also includes newly erected mounds as well as the stacking of an additional layer of sods on top of a pre-existing barrow.

Yet this equates the building of a new mound to the restoration of an ancient mound, which in my view are two fundamentally separate practices. The first creates a new place in the landscape while the second acknowledges and reinforces the presence of a pre-existing mound (I will return to this discussion in Chapter 7; *cf.* Gerritsen 2003, 236). Therefore I advocate to distinguish between the two and to call the former *primary barrow*s and the latter *secondary mound phases*.

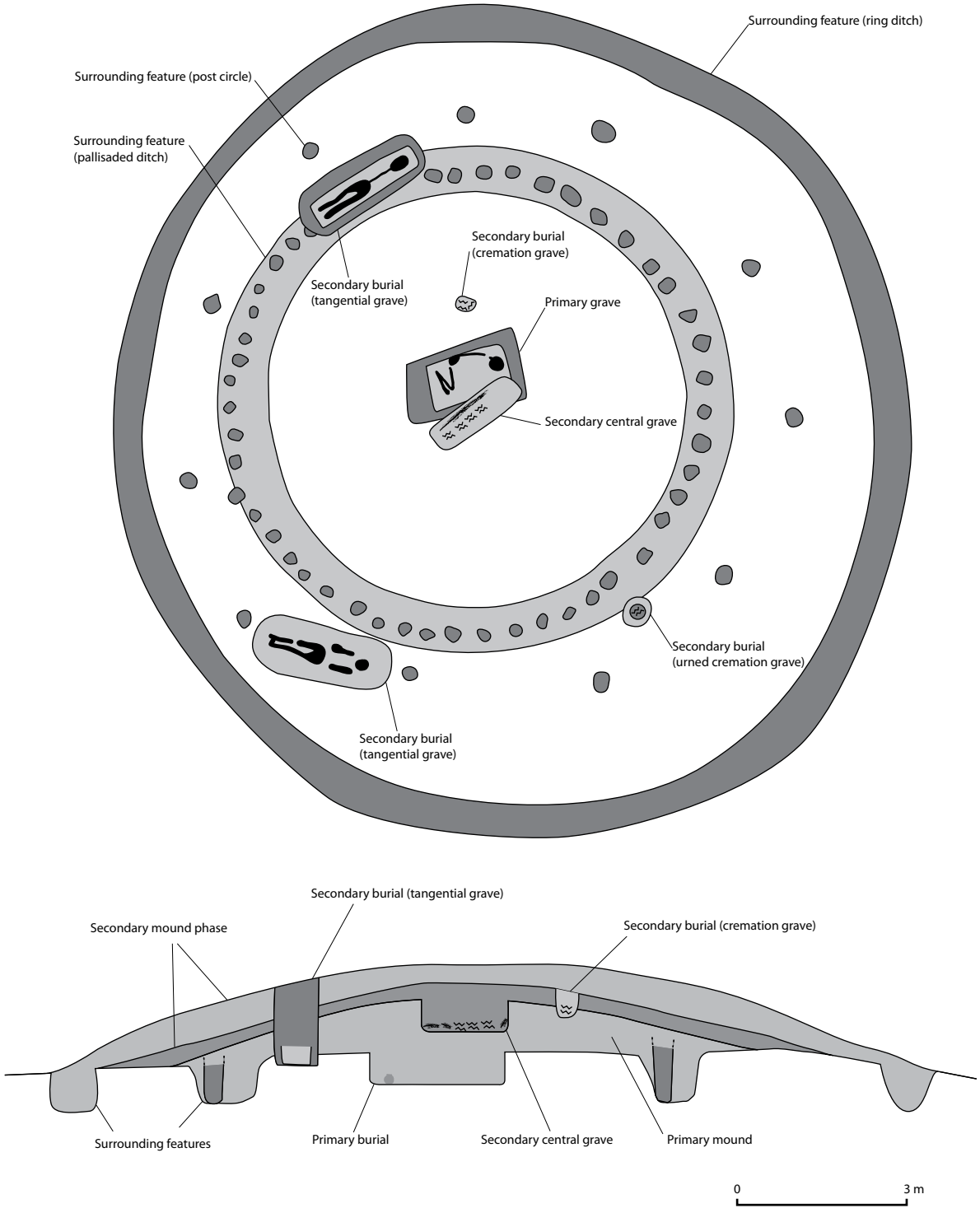
Thus a *primary barrow* is a barrow erected over a natural soil. It is by definition the first man-made elevation at a specific location. *Secondary mound phases* are additional layers of material (either sods or sand) covering an older barrow.

3.3.2 Surrounding features

Barrows in the Low Countries are frequently surrounded by anthropogenic features. These can be found at the foot of the mound, circumscribing the barrow itself. The most common surrounding features are ring ditches and post circles (see below). Surrounding features can be associated with both the primary mound or with secondary mound phases.

3.3.3 The distinction between primary and central graves

A lot of confusion originates from the use of the terms *primary* and *central* graves. Both are used to describe either a grave covered by a *primary* barrow *or* a grave centrally located, but dug *into* a barrow (*e.g.* Theunissen 1999, 91, Fig. 3.31 who



uses the term primary and Lohof 1994 who uses the term central grave for both). The lack of this distinction is based upon the assumption that centrality of a grave implies primacy and is tied into the mound phase concept (see above).

To avoid any confusion I use the term *primary* for all graves *covered* by the *primary* barrow *and* preceding its construction. I use the term *secondary central* grave for all burials dug into the centre of a pre-existing mound *and* directly covered with an additional layer of material.

3.3.4 Secondary graves

Secondary graves are all graves dug into a pre-existing barrow. They can be dug into the flanks of the mound or at the centre, but are *not* necessarily associated with a *secondary mound phase*.

3.3.5 Tangential graves

These are a specific type of *secondary graves*. They are oblong or rectangular pits which are dug into the flanks of a barrow. As the name already implies, they are positioned with their long side towards the centre of the barrow. Tangential graves can contain both cremation as well as inhumation remains.

3.4 A chronology of the barrow ritual

The chronology presented below is based on directly dated features of the barrow ritual. Here, only the features relating to the construction of the mound in the Late Neolithic and the Bronze Age as well as activities after construction of the mound have been considered. I will first discuss the construction of the mound itself and all surrounding features, followed by a discussion on relevant burial types.

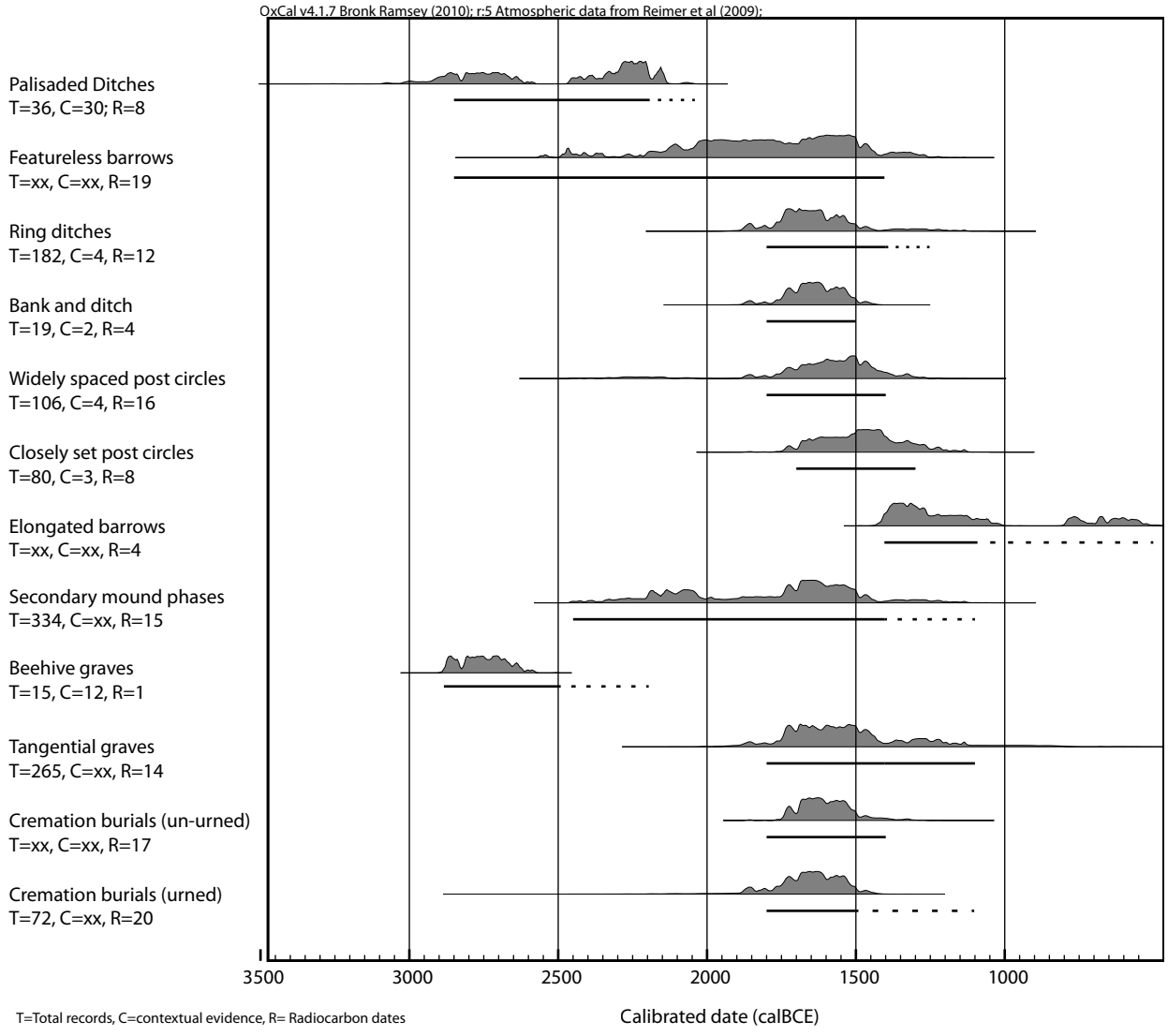


Fig. 3.4: An overview of all discussed features. Each dating range is composed of both the summed range of all directly associated radiocarbon dates (the grey histogram) and contextual evidence (indicated by the black line). An interrupted black line indicates sporadic evidence. All used radiocarbon dates can be found in Appendix C and all contextual evidence in Appendix D.

Both radiocarbon dates and datable artefacts have been considered. In Fig. 3.4 an overview of all radiocarbon dated elements in combination with other evidence is presented. All relevant data on the radiocarbon dates and their association with the barrow features can be found in Appendix C. The association between the features and datable artefacts in Appendix D. In total 132 individual radiocarbon dates form the basis of this chronology, with 80 having been obtained from cremated remains and 52 from charcoal. If both charcoal and cremated remains from the same context were radiocarbon dated, the preference was given to cremated remains as these are not affected by their own age (see above).

3.4.1 Barrow construction

In the Low Countries mounds were erected on top of burials from the early 3rd Millennium BC (Lanting and Van der Plicht 2001; Furholt 2003, 100) up to at least the early roman period (Hiddink 2003, 22; 2011). The copying and repetition of this practice suggests a long-term continuity of at least 3000 years.[3] The end-result of these millennia of copying resulted in a landscape filled with thousands of monuments.

At any given point in time however, the construction of a new monument is nevertheless considered to have been a rare event (Theunissen 1999, 72), with the construction of a new mound reserved for the burial place of a select few (Lohof 1994).

In the Low Countries the intensity of barrow construction waxes and wanes through time. It is generally assumed that barrow construction gradually picked up in intensity with more barrows being constructed in the Bronze Age as opposed to the Late Neolithic (Drenth and Lohof 2005, 453; Lohof 1994, 101-102; Theunissen 1999, 72). This is true if we consider both primary mounds as well as additional mound-phases (as both Drenth, Lohof as well as Theunissen have done; but see Gerritsen 2003, 236).[4]

Yet as I argued above these are two separate actions. If we consider only the primary barrows a different picture emerges (Fig. 3.5). Roughly as many burial mounds were constructed in the Late Neolithic as there were in the Bronze Age. Approximately 240 for the 3rd Millennium and an equal amount for the 2nd Millennium BC. The Late Neolithic barrows were mainly built in the period

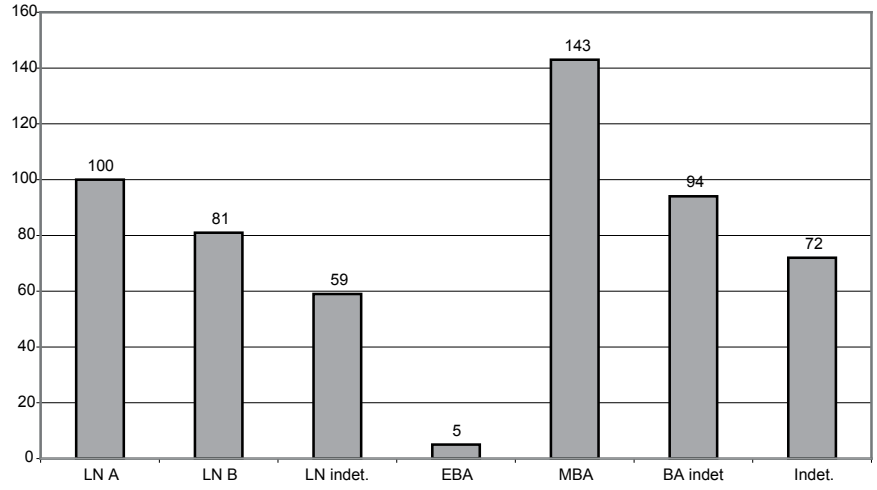


Fig. 3.5: Frequency of all primary barrows in the database.

3 In other regions of North-Western Europe the practice continued well into the Early Middle-Ages (*e.g.* Sopp 1999, 133; Gansum and Oestigaard 2004).

4 This is made explicit by Theunissen who only recognises practices of reuse between typochronological separate time-periods (1999, 102-103).

between 2800 and 2200 cal BC; whereas the Bronze Age barrows were built in the period between 1800 and 1400 cal BC. This is corroborated by all radiocarbon dates from primary mounds (Fig. 3.6), showing a similar trend.

There are however strong regional differences. In the Southern Netherlands for example there are only a few burial mounds dated to the Late Neolithic (Theunissen 1999, 57), and most mounds date to the Bronze Age. On the other hand in the Central Netherlands the majority can be dated to the Late Neolithic rather than to the Bronze Age. As I will argue in Chapter 4, this is partly due to an archaeological bias (see p.47-48). Recent excavations undertaken by our research group have revealed several Middle Bronze Age barrows in the Central Netherlands (Fontijn and Louwen in prep.; see below). It is nevertheless an archaeological reality that some areas have high densities of Neolithic barrows, contrasting with much lower densities elsewhere, perhaps reflecting specific historical events.

The overview presented here, differs from the previous typochronologies on two points. Firstly it suggests a decrease in barrow construction in the Early Bronze Age and secondly, another decrease in the Middle Bronze Age B. From approximately 2100 cal BC up till 1800 cal BC, only a few barrows were built. To illustrate, there is only one primary barrow dated to the period between 3650 and 3450 BP (Putten-Zuiderveld, GrN-6424, 3595±35 BP; see Appendix C). After this decline, barrow construction picks up pace again with an increase especially around 1800-1400 cal BC and again a sharp decline afterwards (Bourgeois and Arnoldussen 2006; Bourgeois and Fontijn 2008) until around 1100 – 1000 cal BC with the onset of urnfields

Palisaded ditches

Palisaded ditches (*standgreppel* in Dutch) are a specific type of ditch typical for the Late Neolithic (36 recorded in our database). These ditches surround the foot of the barrow with in these ditches a palisade of wooden posts encircling the mound (see Fig. 3.3). This definition is different than what is generally accepted in Dutch archaeology. Recognizing these ditches is difficult and subject to much debate. I will enter into this discussion in more detail in Chapter 6 (see p.118-124). Suffice to say here is that most Neolithic barrows were surrounded by such a construction (Lanting 2007/2008, 62-63; see Chapter 6).

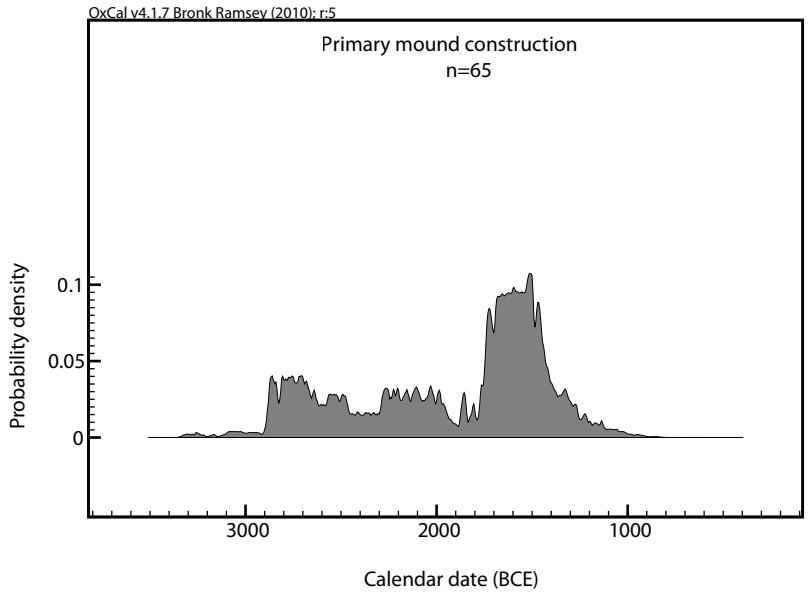


Fig. 3.6: The summed radiocarbon evidence of all directly radiocarbon dated primary barrows.

Radiocarbon evidence for this type of feature is rather limited (only six good associated dates), yet contextual evidence leaves little doubt. Almost all palisaded ditches are associated with Late Neolithic graves. Barrows surrounded by palisaded ditches are typically associated with Corded Ware, All Over Ornamented and Bell Beaker pottery. Radiocarbon dates suggest that palisaded ditches were no longer built after 2200 cal BC.

Featureless barrows

A problematic category are the barrows surrounded by no features, so called *structuurloze* or featureless barrows. They are sometimes considered typical for the Early Bronze Age (Lohof 1991, 31-40; Lanting and Van der Plicht 2003, 154; Drenth and Lohof 2005, 441). Two significant problems hamper the identification of featureless barrows as an independent category of the barrow ritual.

Firstly, in my opinion (having some field experience), it can be very difficult to properly identify surrounding features and they can be easily missed. During the excavation of a small Neolithic barrow on the Veluwe in 2008, we excavated the foot of a barrow by hand until we were well below the level of the old surface. It was not until we mechanically excavated a control level some 20 cm deeper that the reddish features of a palisaded ditch appeared as if out of nowhere (Fontijn and Louwen in prep.).

As most of the pre-World War II excavations rarely excavated any deeper than the presumed old surface, surrounding features were perhaps not always properly recognised as such. This problem is further aggravated by the effects of increased podsolisation at the foot of the mound (Waterbolk 1964; Modderman 1975; Runia and Buurman 1987). It is therefore interesting that almost all apparently 'featureless' barrows are either old excavations or partial excavations (and usually both).

A second problem is that many of the claimed 'featureless barrows' are in effect secondary mound phases (see above). The radiocarbon and contextual evidence in that sense should be considered with care. Indeed more than half of the radiocarbon dated graves, calibrated between 2100 and 1800 cal BC, are *secondary central* graves rather than *primary* graves (for a further discussion on the Early Bronze Age see Chapter 7).

Notwithstanding the above-mentioned problems, featureless barrows will certainly have existed, yet their identification should not be made carelessly. In general, featureless barrows occur throughout the time-period in which barrows are constructed.

Ring ditches

Ring ditches are without doubt one of the most common surrounding features of barrows in the Low Countries (182 recorded in our database). It is therefore surprising that only 12 directly associated radiocarbon dates are known. A further 22 radiocarbon dates are known, although these are not always reliably associated. In most cases, the dated materials are small concentrations of charcoal in the filling of the ditch itself. The directly dated ring-ditch barrows mainly occur in the period between 1800 and 1500 cal BC. Contextual evidence does suggest that the practice was more long-lived than this and occurred until at least 1400 cal BC. Ring ditches reappear again in the Late Bronze Age and Early Iron Age in urnfield contexts. In a few rare cases Neolithic barrows are also surrounded by a simple ditch at the foot of the mound (as opposed to a palisaded ditch, *e.g.* Louwe Kooijmans 1973).

Bank-and-ditch barrows

As a specific variant of the barrows surrounded by a ring ditch, bank-and-ditch barrows have a bank between the ditch and the mound proper (*ringwalheuvels* in Dutch; see Theunissen 1999, 59-60 for an extensive discussion). Bank-and-ditch barrows are usually found in the south of the Low Countries and are relatively rare (N=19). Radiocarbon evidence indicates they are largely contemporaneous with barrows surrounded by a ring ditch. This is corroborated by the contextual evidence. In general bank-and-ditch barrows date between 1800 and 1500 cal BC.

Widely spaced post circles

Glasbergen originally identified 9 different types of post circles (Glasbergen 1954b). Type 1 and 2 can respectively be translated into late Neolithic beehive and palisaded ditches (see above). Types 3 and 4 are widely spaced post circles and represent the most common type of post circles (106 recorded in our database). Even though Glasbergen seperates these two, in my opinion they are essentially the same. In both cases, the posts are separated by a few metres (on average 2 m) and beams were placed on top of them connecting the posts (Glasbergen 1954b, 153-154. This is evidenced in several cases for both types (see Chapter 6, Fig. 6.5). Radiocarbon evidence for the widely spaced post circles unequivocally dates them between 1800 and 1400 cal BC. This is supported by the few bronze artefacts which are associated with them.

Closely spaced post circles

The remainder of the post circles as defined by Glasbergen (types 5 to 8) can be combined into a series of single, double, triple and in rare cases even quadruple circles of very closely set posts (80 recorded in our database).[5]

The distance inbetween the posts is at the most half a metre and usually a very dense concentration of posts was erected around the mound itself. In some cases a vast forest of posts would almost surely have obscured visibility of the mound itself (for the visual impact of post circles see Chapter 6).

The radiocarbon evidence suggests a tendency for closely set post circles to date slightly later than widely spaced post circles. Nevertheless contextual evidence, as well as some directly dated cremated remains, demonstrates that both widely and closely spaced post circles were at least partially contemporaneous. It may be the case however that the closely spaced post circle gradually gained in popularity over the widely spaced post circle during the 15th Century BC. A combination of the radiocarbon evidence and contextual evidence dates most of them between 1700 and 1300 cal BC.

Oval and rectangular barrows

From the centuries following the peak of barrow construction (roughly between 1700 and 1400 cal BC) and prior to the emergence of urnfields (starting at around 1100-1000 cal BC; Hessing and Kooi 2005; Lanting and Van der Plicht 2003, 161-165) very few barrows are known. For at least three to four centuries almost no barrows were being built with the exception of a few elongated and rectangular barrows (Bourgeois and Fontijn 2008, 49-50; Delaruelle, *et al.* 2008).

5 The close set post circles group all of Glasbergen's post circles of type 5, 6, 7 and 8. All these post circles comprise of a circle of posts set ± 25 cm from one another with the only difference being the presence of one, two, three or four circles of close set posts.

While some of these elongated barrows certainly date to the Late Bronze Age or Early Iron Age and are part of an urnfield-tradition (so-called *langbedden*), some of them date to the period between 1400 and 1000 cal BC, as confirmed by the available radiocarbon evidence.

Secondary mound phases

The adding of new mound phases to already existing mounds was a common practice in the Low Countries. 230 barrows in our database have at least one additional mound phase. In total 334 secondary mound phases have been recorded. These usually consist of a simple layer of sods stacked on top of a primary barrow, and in some cases were also accompanied by a new ditch or post circle (for an extensive discussion see Chapter 7).

Fifteen radiocarbon dates are directly associated with these secondary phases. Two distinct activity phases can be evidenced from the radiocarbon dates. The practice of adding a new layer of material on top of primary mounds started off in the Late Neolithic B. The practice declined in the Early Bronze Age, but so did barrow construction in general, only to be revived again around 1800-1700 cal BC. The radiocarbon evidence indicates that the practice fell into disuse again after 1400 cal BC.

3.4.2 Burial types

Beehive graves

The definition of a beehive grave is a difficult one as it is subject to different interpretations and is tied with the discussion on palisaded ditches (see above and Chapter 6; under the strictest definition we have 15 beehive graves). Without going into too much detail, beehive graves are in essence small burial chambers, either lined with wickerwork or a small palisaded wall (for an extensive discussion on this type of grave, see Wentink in prep.). These constructions were subsequently covered by a barrow.

The contextual evidence dates beehive graves specifically to the Late Neolithic A. As far as we know, there are no beehive graves associated with Late Neolithic B material. The radiocarbon dating range is much older than what is generally accepted for the Late Neolithic A. This is probably due to the contamination of the two oldest samples (Hijkerveld grave I and Anloo grave E; Furholt 2003, 91; see Appendix C). If we disregard these two, beehive graves occur between 2850 and 2450 cal BC.

As reuse plays a significant role in the formation of the barrow landscape I will also discuss the three most common practices of reuse. First, so-called tangential graves. Secondly, small pits dug into a barrow containing urned and un-urned cremation remains. And thirdly, the stacking of an additional layer of sods on top of an older mound.

Tangential graves

A tangential grave is essentially a grave, dug into an already existing mound. They are positioned with their long side towards the centre of the barrow (hence the name tangential). This type of secondary burial is very common in the Low Countries (N=265) although they are more common in the north than in the south. They are assumed to be typical for the Middle Bronze Age B within so-called *family-barrows* (Drenth and Lohof 200, 451).

Fourteen radiocarbon dates are available. The sum of the radiocarbon dates demonstrates that most of the tangential graves are contemporaneous with the main increase of barrow construction during the Middle Bronze Age. There is some evidence however that would suggest that the practice of placing tangential graves in mounds continued after 1400 cal BC. This is corroborated by a few bronzes found within some of these graves (notably at Elp, Ballooërveld and Weerdinge, see Appendix D).

Generally speaking most tangential graves date to the period between 1800 and 1400 cal BC, although there are certainly some graves which can be dated to the centuries afterwards.

Cremation burials

The second most common type of secondary burial consists of cremated remains deposited in a simple pit. Without any grave goods or other datable artefacts (usually even lacking charcoal), this practice remained elusive and difficult to date. Prior to our excavations at the Wiesselse Weg, only two radiocarbon dates were available for this type of burial.

An exhaustive dating programme of all the cremation burials from the Wiesselse Weg has now allowed us to radiocarbon date this practice securely to the Middle Bronze Age. We should be careful of a bias however, as most radiocarbon dates come from a single site![6]

While running the risk of perhaps generalising too much, I would nevertheless argue that cremation burials commonly date to the period between 1800 and 1400 cal BC.

Cremation burials (urned)

Urned cremation burials are the third most common type of secondary grave found within mounds. In total 72 have been recorded in our database, with 20 having been radiocarbon dated. All of these can be dated between 1800 and 1500 cal BC with the apex between 1700 and 1500 cal BC. After approximately 1500 cal BC urned cremation burial in large vessels decreased in popularity. In the Northern Netherlands the practice continued sporadically with urned cremation burials in large Gasteren urns and in the Southern Netherlands occasionally in large undecorated and coarse vessels. In the Late Bronze Age and Early Iron Age urned burial within older mounds revived in urnfield contexts (*e.g.* Verwers 1972; Lanting and Van der Plicht 2003, 162-163).

3.5 A new chronology

I have summarized the chronological framework as I use it in Fig. 3.7. This chronology is based upon the elements described above and other elements discussed by my colleague K. Wentink (notably pottery styles and other artefacts in the Late Neolithic (Wentink in prep.).

The chronology I present here deviates from that of previous researchers on three significant points. The first is the notable decline in barrow construction which sets in at around 2100 cal BC and lasts until 1800 cal BC. The second point concerns the contemporaneity between post circles and ring ditches in the

6 Nevertheless, a similar radiocarbon programme dating all cremation graves from the barrows at Garderen Bergsham (excavated by Van Giffen 1937b, but not included here), corroborate this dating range. In total 29 un-urned cremation burials were radiocarbon dated and 27 date to the period between 1800 and 1400 cal BC, with only two dating slightly later between 1400 and 1200 cal BC.

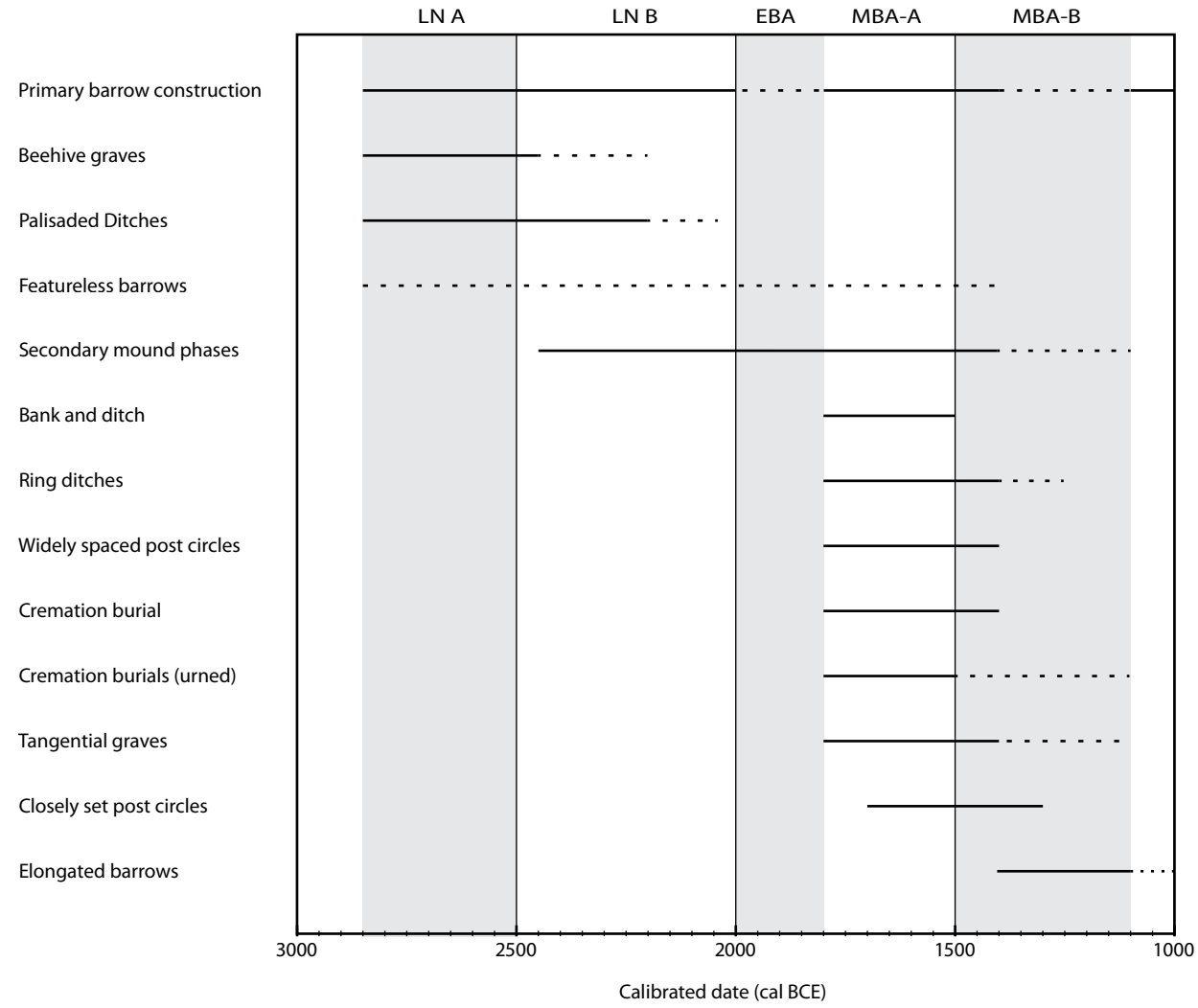


Fig. 3.7: Overview of all dating ranges for each element of the burial ritual mentioned in the text. The boundaries between different archaeological periods (shaded areas) are taken from Van den Broeke et al.*, 2005 and represents the classical subdivision of the later prehistory.*

Middle Bronze Age and their occurrence in the period between 1800 and 1400 cal BC. The third point concerns a second decline in barrow construction and reuse of older mounds after 1400 cal BC.

An overview of all radiocarbon dates together with contextual evidence, reveals a strong decline in both barrow construction and reuse of older barrows in the period between 2100 and 1800 cal BC. It appears as though towards the end of the Late Neolithic and before the Middle Bronze Age A, the practice of mounded burial decreased in frequency. It is important to note however that it did not disappear altogether, and that barrows certainly continued to play a role in Early Bronze Age communities (see Chapter 7).

Secondly, the surrounding features of the Middle Bronze Age, which were first considered to be sub-divided into two distinct phases, must instead be viewed as contemporaneous. On the basis of the radiocarbon evidence, one can only conclude that all these surrounding features were in use at the same time. There is a tendency for radiocarbon dates from closely set post circles to be slightly later than those of ring ditches and widely spaced post circles. Nevertheless, the considerable overlap, and the fact that some widely spaced post circles date *after* 1500 cal BC and that some closely spaced post circles date *before* 1500 cal BC, strongly suggests they were contemporaneous.

From approximately 1400 cal BC onwards, barrow construction was once again in decline. Considerably fewer barrows can be dated to this period. Reuse of older barrows continued sporadically (especially secondary burial), but certainly declined in frequency as well. As with the Early Bronze Age, the decline must not be seen as a full abandonment of the barrow ritual. There were still some barrows being built, yet on a much smaller scale than in the preceding period. It was not until the advent of the Late Bronze Age with its urnfields that the praxis of mounded burial picked up pace again.

As a final point I would like to emphasise that I refrain from creating a new periodisation, and that this chronology is only applicable to the tradition of barrow construction.

3.6 Concluding remarks

The typochronology I outlined above suggests that there were two distinct periods in which the frequency of barrow construction declined considerably: in the Early Bronze Age and the Middle Bronze Age B (from 1400 cal BC onwards). These gaps represent considerable periods of time, extending over multiple generations and they suggest that there was little continuity between these phases. In that light it is remarkable how easy it actually is to distinguish between a Neolithic and a Bronze Age barrow. A similar argument can be made concerning Middle Bronze Age barrows versus Late Bronze Age and Early Iron Age urnfields (see Gerritsen 2003, 124-125). This suggests fundamental changes in the burial ritual.

This then leads us to the following two questions: firstly, were these changes reflected in the structuring of the landscape; and secondly, how did people react to the earlier monuments in the subsequent phases (*i.e.* in the Middle Bronze Age A and the Late Bronze Age).