3

The Age of Beakers

3.1 Introduction

This chapter sets the stage by presenting a concise introduction of the 3rd millennium BCE in north-west Europe, with a particular focus on the Netherlands. In Dutch prehistory the 3rd millennium BCE is usually referred to as the Late Neolithic, which is subdivided into the Late Neolithic A (LNA, ca. 2800-2450 BCE) comprising both the CW culture and All Over Ornamented phase (AOO), and the Late Neolithic B (LNB, ca. 2450-2000 BCE) being the era of the BB complex (Louwe Kooijmans *et al*. 2005).

3.2 Late Neolithic A: The rise of Corded Ware

It is at the start of the 3rd millennium BCE that a new complex of cultural traditions rapidly spread across large parts of northern Europe. Until then, this part of the world had been settled by various subgroups of the Funnel Beaker culture. While its origins lay in the early 4th millennium BCE, the classic Funnel Beaker culture dates to the second half of the 4th until the beginning of the 3rd millennium BCE and is characterised by a well-developed set of material culture and cultural practices, most notably farming and the building of megalithic tombs (see Bakker 1979; 1992; Midgley 1992; Raemaekers 2005, 274). Although the Funnel Beaker culture is not one monolithic cultural body, and various subgroups existed with various different styles and peculiarities, these differences were subtle and strong cultural cohesion existed between the various groups (see Midgley 1992). Especially in the later Funnel Beaker culture, the pottery became less and less regionally distinctive, to such a degree that Midgley (1992, 489) speaks of the "blurring of regional boundaries". By all accounts the Funnel Beaker culture appears to be a well-defined, stable cultural group spread out across northern Europe with a very particular material culture, subsistence system and cultural practices. It is perhaps due to this view of the Funnel Beaker culture that made the abrupt changes that took place at the beginning of the 3rd millennium so enigmatic. It is around the turn of the new millennium that suddenly and rapidly a new cultural tradition known as the CW culture spread from the east to Central and north-west Europe to replace the Funnel Beaker culture (see Fig. 3.1; for a chronological overview, see Furholt 2003).

The CW tradition did not merely reflect some changes in material culture, but went hand in hand with altogether new forms of cultural practice. Apart from var-

Fig. 3.1 Distribution map of the CW culture in Europe (after Schnurbein 2009, 79; base map: Wikimedia Commons).

ious new types of material culture (most notably the cord-decorated beaker), this included new burial practices that now typically involve single inhumations covered by relatively small and low burial mounds (Bourgeois 2013; Hübner 2005, 472; Midgley 1992, 488). These *single graves*, situated underneath small mounds, usually contain various types of grave goods (see Fig. 3.2). Some of these are traditionally interpreted as weapons and are hence seen as evidence for the rise of warfare as an ideologically laden activity. Given their association with a single individual, these objects are moreover seen as proxies of a ranked social system and the rise of hierarchy or social stratification (see Vandkilde 2005, 10; Hübner 2005, 637; 964; Drenth and Lohof 2005, 447).

The scale and speed at which this new tradition spread across Europe led to various hypotheses that involved mass migrations and most famously the incursion of fierce horse-riding warriors armed with battle axes (Childe 1957 [1925]). As is the case with the rapid spread of the Funnel Beaker culture in the mid 4th millennium, there has been much discussion about whether the spread of the CW culture primarily involved colonisation or acculturation (see Hübner 2005 for a detailed discussion of CW culture research history). Until fairly recently, the general consensus was that we were dealing with a gradual transition rather than a widespread cultural revolution (Hübner 2005, 964).

New aDNA studies, however, have recently shown evidence of the widespread influx of genetic newcomers in the 3rd millennium BCE (*e.g.* Haak *et al.* 2015;

Fig. 3.2 Grave assemblage of a CW burial near Renkum (AMP0424), objects include a type 1d beaker, a northern flint blade, a flint axe and a battle axe (collection and photography: National Museum of Antiquities, Leiden).

Allentoft *et al.* 2015; Parker Pearson *et al.* 2016; Knipper *et al.* 2017; Olalde *et al.* 2018). Samples taken from CW individuals show a close relatedness to peoples living in the Steppes, most notably the Yamnaya culture (originating in eastern Ukraine and adjacent parts of western Russia). These papers speak of 'massive' migrations of large groups of people over vast distances, indicating that Childe's original interpretation might actually not have been that far off. Some evidence even indicates that new people not only came in, they took over. This can be inferred from a recent paper by Olalde *et al.* (2018) where it is presented that after the influx of Steppe people more than 90% of Britain's gene pool was replaced. The influx of people from the Steppe also gives new credence to the spread of Indo-European languages as part of these migrations from what is generally seen as the heartland of Proto-Indo-European (see Anthony 2007; Kristiansen *et al.* 2017).

Although these studies are absolutely fascinating, they – for now – lack sufficient integration with existing archaeological evidence (see Heyd 2017). The sudden and rapid spread of burial mounds could indeed be explained by large migrations from the Steppes, but at the same time there is also evidence of a continuation of various cultural practices that indicate some form of historical continuity. At the moment these developments in the field of aDNA research are going so fast that it will take time for archaeologists to catch up and provide a better contextualization of the samples taken,

evaluate their representativeness and hence the implication of these results for the understanding of 3rd millennium BCE population dynamics (*cf.* Vander Linden 2016).

3.2.1 Secondary products revolution

The start of the 3rd millennium BCE is not only marked by cultural changes, there are also major shifts taking place with respect to economy and subsistence. The slash-and-burn agricultural practices of the Funnel Beaker culture made an increasingly dramatic impact on the landscape of northern Europe, which at the start of the 4th millennium BCE was still densely forested (Midgley 1992, 311). These forests however gave way to the steady expansion of open landscapes consisting of grass- and heathlands (Doorenbosch 2013). These new types of landscapes could sustain larger groups of domestic animals, in particularly cattle and sheep/goats (Hübner 2005; Becker 2008; Müller 2008; Sherratt 1981). The exploitation of these animals, moreover, became increasingly important due to various changes that occurred across Europe in the second half of the 4th millennium but primarily in the 3rd millennium BCE. They are known as the Secondary Products Revolution (Sherratt 1981). 'Secondary products' refer to animals not being solely kept for meat (primary product), but also for traction (*e.g.* beasts of burden, to pull carts/ploughs), and to provide milk and wool. These developments went hand in hand with the widespread adoption and implementation of new technology such as *the wheel* – allowing increased mobility and transport of goods, *the plough* – allowing new parts of the landscape to be used as arable and the introduction of *the horse* – which of course had a potentially dramatic impact on the mobility of people (see Anthony 2007; Becker 2008).

Although individually these elements all have their own history and point of origin, it is not until the 3rd millennium BCE that they come together and lead to major economic intensification that had extensive socio-cultural consequences (see Greenfield 2010 for a more recent discussion of the Secondary Products Revolution).

3.2.2 The Dutch Corded Ware Culture in context

The research focus of CW sites has primarily been on graves and funerary monuments. This is not only because barrows remained as visible monuments in the landscape, thus attracting early researchers. It is also due to the general scarcity of 3rd millennium settlements or domestic sites in most parts of northern Europe (Salanova 2016, 29). In the Netherlands several domestic sites are known, but most consist merely of (surface) find scatters, classified as the likely remains of settlements (for an overview, see Drenth *et al.* 2008). Many of the excavated settlements are palimpsests of several different occupation phases (see Fokkens *et al.* 2016). Other well-excavated sites, some of which even have revealed house-plans, are located in the wetlands of West-Frisia (see Drenth *et al.* 2008, 157; Kleijne *et al.* 2013; Theunissen *et al.* 2014; Smit *et al.* 2012; Beckerman 2015). At these sites evidence is present for crop cultivation and animal husbandry. However, hunting and fishing also played an important role in the wetland subsistence system. Although these sites are well dated and yielded CW pottery, they are not associated with burial mounds, which are mostly known from the sandy uplands of the northern and central Netherlands. Hence, despite the overlap in chronology and material culture, there may be a marked difference in cultural practice between these

two regions. It therefore remains unclear to what degree these regions can be seen as part of the same 'culture' (see also Kroon *et al*. 2019, 19).[19]

The same problems exist in most parts of northern Europe where clear settlement evidence is rare or fragmentary at best. The available evidence indicates the existence of a landscape that became increasingly more open and was dotted with dispersed small hamlets, often comprising only one or two houses (Müller 2008, 398). An inventory of settlement data in Denmark revealed 340 excavated settlements dating to the 3rd millennium BCE. Of these, 146 had domestic structures with an average of 1.8 houses per settlement, indicating that they were probably the residence of only one (extended?) family (Siemen 2008, 80). Although the growing of (cereal) crops is an ever present constant in 3rd millennium settlement data, the zoological evidence indicates an increasing dependence on animal husbandry, in particular cattle and sheep/goat (Midgley 1992, 488). These animals are easily kept on the extensive heath- and grasslands and became increasingly important to human subsistence due to the secondary products that they provided in the form of traction (plough and transport), milk and wool. In addition to these sedentary structures, the genetic link to the Steppe people also opens up the possibility of a mobile herding population living in wagons, comparable to the Yamnaya Culture (Anthony 2007).

In addition to the characteristic cord-decorated beakers and battle axes, a variety of other objects are typically associated with the CW culture. Apart from a variety of groove- and spatula-decorated beakers, also (storage/cooking?) vessels occur such as large beaker-like vessels (*golfbandbekers* or *Wellenbandbecher*) and large decorated vessels known as 'proto-potbeakers'. CW amphorae occur quite frequently in north-east Europe, but they are very rare in the Netherlands (Van der Waals 1964b). In addition, Drenth (2005, 338) lists various other types of ceramic objects such as small pots, bowls and even spoons. With regards to lithics, the CW culture is rather inconspicuous. Most flint artefacts retrieved from settlements and surface scatters are produced using a simple ad-hoc flake-core technology and mostly consist of (retouched) flakes (Drenth 2005, 338; Van Gijn 2010). The pine-tree shaped tanged arrowheads are perhaps one of the few locally produced flint artefacts typologically indicative of the CW culture. In addition, imported flint objects also occur such as long (ca. 10 cm) Scandinavian flint blades, large (>15 cm) flint axes and in the late LNA – often associated with AOO beakers – the expertly crafted flint daggers made of Grand-Pressigny and Romigny-Léhry flint that were imported from central and northern France respectively.

In the context of the Secondary Products Revolution discussed above, the most notable finds associated with the CW culture are no doubt the wooden disc wheels retrieved from various bogs in the northern Netherlands (Van der Waals 1964a). Especially the fact that some of these appear to have been specifically made for deposition (not finished and made of unsuitable wood types), indicates the major ritual significance of these objects, and in all likelihood the carts they were part of, in 3rd millennium ideology.

19 It must be noted however that even though these wetland sites may display distinct differences with upland Corded Ware groups, according to Barth (1969, 12) it is to be expected that one ethnic group spread over a territory with varying ecological circumstances will exhibit regional diversities in cultural behaviour.

In the Netherlands the CW culture is mostly confined to the northern half of the country. Although the central and western wetlands have revealed several settlements that contained CW pottery (see Fokkens *et al.* 2016), no burial mounds are known from these regions. The CW burial mounds are primarily located on the higher sandy uplands of the Veluwe and Utrechtse Heuvelrug (central Netherlands) and the Drents Plateau (northern Netherlands). It is only in the late CW/AOO phase (probably after ca. 2600 BCE) that several burial mounds are erected in the southern Netherlands located on the edge of the Meuse river valley.

The evidence for habitation (both settlement and burial evidence) in the southern Netherlands is attributed to the Stein-group, while the riverine delta in the central Netherlands is the domain of the Vlaardingen-group (Louwe Kooijmans 1983;1987; Verhart 2010; Van Gijn and Bakker 2005; Amkreutz 2010; Modderman 1964). In this context a remarkable recent discovery of a settlement near Veldhoven (southern Netherlands) should be mentioned. Here five large house plans were found (25-40 m in length) dating to the first half of the 3rd millennium that were associated with Vlaardingen/Stein-type pottery (Van Kampen and Van den Brink 2013). No CW-type artefacts were found at the site and LN burial mounds are also absent. At the start of the 3rd millennium BCE the Netherlands are thus inhabited by several different cultural groups.

There is only limited evidence of the northern CW communities having interaction with the Stein/Vlaardingen groups.[20] The northern CW communities seem to have relied primarily on contacts with their CW neighbours in (northern) Germany and Scandinavia. Apart from close links in material culture and funerary customs, these links are also apparent from exotic materials, in particular flint axes and blades that were most likely imported from northern Germany and/or southern Scandinavia. It is not until the end of the CW culture and the transition to the BB complex that clear exchange relations with the south become apparent – most notably in the form of imported French flint daggers.

3.2.3 All Over Ornamented beakers: The rise of Bell Beaker or the demise of Corded Ware?

A particular type of pottery, known as the all over ornamented (AOO) beaker, has long played an important role in the archaeological debate, especially with regards to the chronology of the Late Neolithic. These beakers show a clear relation with CW beakers – the main difference being that the AOO beakers had decoration applied to the entire body in contrast to the CW beakers of which only the top half was decorated – but also show clear parallels with bell beakers – the main difference being that the latter were decorated in zones rather than have decoration applied continuous from top to bottom. Lanting and Van der Waals (1976, 3) were the first to place the AOO beakers in the typochronological sequence in between the CW beakers and the bell beakers. Dating to around 2600-2450 BCE they form a good typochronological bridge between the CW and BB pottery. It must be noted, however, that according to current views the AOO probably did not concern a distinct chronological horizon but rather co-occurred with late CW beakers, as well as early bell beakers (also see Drenth

20 Inversely, CW imports in Vlaardingen-sites are known, for example CW pottery, see Kroon *et al.* (2019, 15).

Fig. 3.3 Grave assemblage of the AOO grave from mound 4, Garderen Solsche Berg (AMP0257), objects include an All Over Corded Beaker, amber bead necklace, flint axe, Grand-Pressigny flint dagger and a battle axe (collection and photography: National Museum of Antiquities, Leiden).

and Hogestijn 1999, 104; 2007, 76; Lanting 2008, 15).[21] This almost evolutionary trajectory, where CW beakers transformed into AOO beakers and subsequently into bell beakers, however, formed the main reason why many researchers placed the origin of the BB complex in the Lower Rhine Basin, the so-called 'Dutch-Model' (referring to the typological model as presented by Lanting and Van der Waals 1976).

Although further details on the CW grave ritual and the objects typically found in the graves will be presented in detail in the next chapters, it is relevant to the current discussion to mention that *compositionally* the graves containing AOO beakers do not differ from the graves with CW beakers (see Fig. 3.3). Both occur with the same set of grave goods indicating that CW culture and AOO were very much related (*cf.* Fokkens 2012, 24; Fokkens *et al.* 2016, 280). And, importantly, this set differs markedly from the BB grave set. The main difference between CW and AOO graves lies primarily in the origin and geographical distribution of the objects found in the graves; it is not what is *in* the graves, it is *where it is coming from*.

As will be presented in the following chapters, for the CW culture there are strong (cultural/exchange) links with other CW groups in Germany and Scandinavia, but there is little to no evidence suggesting (cultural/exchange) links with the south. This appears to change around 2600 BCE, marked by the first occurrence of AOO beakers. These can be found throughout the CW region in the Netherlands, but also in large parts of Atlantic Europe, including Britain, France and the Iberian Peninsula

21 See Lanting (2008, 15) for several closed contexts where AOO and CW/BB pottery co-occur.

(see Vander Linden 2006a; Salanova 2000, 12; Case 2004a, 19). Although in the Netherlands the AOO is often seen as the final phase of the CW culture, especially in Atlantic Europe the AOO is rather seen as the first phase of the BB complex.[22]

That the AOO does not merely concern a new style in pottery decoration is reflected not only by the rather different distribution of the AOO beakers themselves – including Atlantic Europe – but also by flint daggers (that co-occur with AOO beakers as well as late CW beakers) which were imported from Atlantic Europe (Grand-Pressigny flint daggers from central France and Romigny-Lèhry flint daggers from northern France). As will be argued below (Chapter 5), the introduction of this new type of beaker as well as the introduction of these French daggers does not reflect structural changes in the funerary practice itself, but rather indicate the existence of different exchange lines through which new (styles of) objects start to circulate (see also Salanova 2016). As such it is difficult to decide whether the AOO signifies the final stage of the CW culture or the first stage of the BB complex.[23] In fact, it incorporates aspects of both, reflecting a continuation of the CW culture burial ritual but incorporating objects from different regions/networks more in line with the later developments characteristic for the BB complex.

3.4 Late Neolithic B: Bell beakers on the horizon

The second half of the 3rd millennium BCE is characterized by the spread of a new set of material culture across large parts of Europe. A particular kind of decorated pottery, known as the bell beaker, is found from Portugal to Poland and from Scotland to Sicily. It is not merely the spread of this particular type of pottery, however, but also an accompanying set of paraphernalia that is commonly associated with bell beakers that finds its way through Europe. This 'Bell Beaker package' – as it is usually referred to (*e.g.* Burgess and Shennan 1976; Clarke 1976; Shennan 1976; 1977; Turek 2003) – consists of such items as flint barbed-and-tanged arrowheads, copper tanged daggers, amber V-perforated buttons and stone archers' wristguards. Apart from the more typical items, the set also includes some objects that are rarer, albeit commonly associated with bell beakers, such as gold ornaments and cushion stones – cubically shaped stone implements that are believed to be anvils used for working metal (Butler and Van der Waals 1966). In the Netherlands the introduction of this Bell Beaker package moreover coincides with the first introduction of metalwork in the form of copper tanged daggers and flat axes as well as the first gold ornaments (Butler and Van der Waals 1966). Although the main constituents of the BB 'package' have a wide distribution across Europe, it must be stressed that differences have been recognized between the various parts of Europe. For example, in Spain, Portugal and south-west France the

22 Parker Pearson *et al.* (2019c, 452) mention that the Boscombe Bowmen were among the earliest Beaker immigrants to Wessex. Isotopic signatures suggest they may have come from northern France. They were associated with All Over Cord beakers and a Cord-Zoned Maritime beaker. Dating to 2470-2200 BCE makes them slightly later than the Dutch AOO phase (see Section 3.1).

23 Also see similar argument presented by Fokkens 2012. His analysis shows that AOO ceramic styles were not only adopted by the CW culture but also by other (non-CW) cultural groups in the Netherlands (Vlaardingen), hence the AOO is taken as an intrusive development that marks the beginning of major culture change (Fokkens 2012, 19).

Fig. 3.4 Distribution map of the BB complex in Europe (after Schnurbein 2009, 79; base map: Wikimedia Commons).

'package' is complemented with copper spearheads, known as Palmela points (Vander Linden 2006b, 323), whereas stone archer's wristguards are largely absent in northern Germany and southern Scandinavia (Sarauw 2006, 66).

Originally, this rapid spread of material culture was seen as evidence of either a colonizing culture or perhaps the spread of travelling smiths or merchants (Childe 1957 [1925]; also see discussion of BB research history by Heyd 2001, 387). However, it soon became more and more clear that the Bell Beaker 'culture' is actually a form of cultural practice that is mostly manifested in graves, while settlement data across Europe is much more varied (*e.g.* Burgess and Shennan 1976; Kleijne 2019; Turek 2003).[24] This variation can also be seen in the recent aDNA studies that showed that some BB groups had Steppe ancestry to varying degrees, but others (Iberian Peninsula) had not (Olalde *et al.* 2018).

Research has shown that although grave sets might seem to indicate the existence of a uniform archaeological culture throughout Europe, the study of settlements actually indicates much more local variability, both in terms of subsistence strategies and material culture that in many cases clearly indicate some form of historical continuity (Vander Linden 2006b; Kunst 2001; various contributions in Fokkens and

24 A notable exception is Denmark where only few sites are known that have yielded BB-style pottery. Most finds, however, are associated with domestic sites, while BB pottery is completely absent from graves (Liversage 2003; Sarauw 2006, 66).

Nicolis 2012). The term 'Bell Beaker culture' is thus more and more often replaced by the somewhat vague term 'Bell Beaker phenomenon' or stripped to its bare essentials and simply referred to as the 'Bell Beaker package' (see Czebreszuk 2003 for lengthy discussion on the subject). However, as mentioned above, this 'package' or 'set' is not a fixed, uniform assemblage of objects that occurs throughout Europe. In addition, this 'package' refers primarily to the objects commonly found in graves, but this does not mean that the BB graves themselves are uniform across Europe. Apart from the fact that throughout Europe different variations occur in this 'package' – even if these are slight – the actual graves themselves are very varied indeed. When taking a bird's eye view on BB graves in Europe as a whole, the actual graves themselves adhere much more to regional patterns. In France, for example, typically BB graves are found interred into pre-existing megalithic monuments (Lemercier 2012, 128; Salanova 2016; Vander Linden 2006), a practice that was also prevalent in southern Scandinavia, although also various other burial practices occurred (Vandkilde 2005, 14). In the Netherlands most BB graves are situated underneath burial mounds, in line with the pre-existing CW customs[25], whereas in Poland and Bohemia BB graves are most typically non-monumental flat graves positioned in small north-south oriented rows (Krut'ová 2003; Przemyslaw 2003).[26] For these reasons I prefer to use the more neutral term 'Bell Beaker complex' in general discussions.

The BB complex is mostly manifested by the spread of a certain set of material culture that was shared far and wide and was more or less superimposed on, or integrated in, the local cultural practices. Turek (2003) argued that the BB complex must be seen not so much as resulting from either the spread of objects or people, but more as the spread of a certain style in material culture or ideology. Although without doubt both objects and people would have been (highly) mobile to various degrees (as is shown by recent aDNA and isotope studies, see Knipper *et al.* 2017; Parker Pearson *et al.* 2019c), it is important to realize that the most remarkable aspect of the BB complex is the fact that this set of material culture is employed across large parts of Europe in a rather standardized manner: *as grave goods*.

3.4.1 Bell beakers in context

The Bell Beaker complex is well studied, both in the Netherlands and elsewhere in Europe. Unfortunately due to the nature of the archaeological record, much about the BB complex is still elusive. Although there is a rich dataset on graves, in contrast relatively little is known about BB domestic contexts. This applies to the Netherlands as well as to many other regions in Europe. In the Netherlands only few well-excavated domestic sites with a BB component are known (see Drenth 2005, 354; Fokkens 1998, 111; Louwe Kooijmans 1974; 1985, 127; Kleijne 2019, 172-174). As was the case with the LNA settlements, these sites often contain several occupation phases without

25 Finds of bell beakers as well as a BB ^{14}C-date on cremated bone from the Dutch megaliths indicate these too were re-used, at least to some degree, for funerary practices during BB times, also see Lanting 2008, 60; but also 258-277 for a list of BB finds in Dutch megaliths. See Besse (2004, 141) for a distribution map of Europe displaying communal (megalithic) versus individual BB burials.

26 Both Krut'ová (2003, 211) and Przemyslaw (2003, 145), however, mention that in Central Europe too, it is possible that many of the BB burials may originally have been covered by small mounds that have since been destroyed by later agricultural activities.

a clear stratigraphy, making it very difficult to distinguish the BB finds (other than typologically distinct artefacts) from the finds associated with other periods (see Fokkens *et al.* 2016). Another problem is that most of the known BB domestic sites are situated well outside the main distribution of the BB barrows.[27] It is thus difficult to say to what degree these sites are representative for the people actually building the barrows central to this study (see also similar discussion on LNA settlements above).

What is generally agreed upon, however, is that for the entire Late Neolithic we are dealing with small-scale dispersed settlements involved in mixed farming comprising the raising of cattle, herding of sheep and goats and cultivation of several crops including cereals (Fokkens 2005; Drenth 2005). As was mentioned before, the 3rd millennium BCE is characterized by the widespread adoption of relatively new agricultural techniques involving the plough or ard as well as horse and cart-based transport. In the Netherlands, these developments are complemented in the second half of the 3rd millennium BCE with the first introduction of metallurgy (Butler and Van der Waals 1966).

As was presented above, in the first half of the 3rd millennium BCE there were several different cultural groups present in the Netherlands with varying levels of archaeologically distinguishable forms of interaction. The CW culture in the central and northern Netherlands (north of the main rivers) seem mainly to have been part of an exchange network focussed on northern Germany and southern Scandinavia, as is evidenced by shared cultural practices (for example burial monuments and funerary practices), object styles (most notably pottery) and the exchange of exotic objects (flint axes and blades). In contrast, the western and southern Netherlands had more affiliations with Belgium and northern France, as evidenced by the origins of raw materials used (see Van Gijn and Bakker 2005, 281), as well as object styles (most notably pottery).[28] This is what makes the BB complex all the more remarkable as it appears to cross-cut these pre-existing cultural networks. From the start of the BB complex around 2500 BCE, a clear BB-component can be found throughout the Netherlands from the south to the north. All distinct cultural groups present in the Netherlands around 2500 BCE appear to adopt the BB material package to varying degrees.[29]

The BB complex mostly manifests itself in burial contexts, but this does not mean BB-related material culture is absent in settlements. Especially in the wetlands of the western Netherlands BB pottery regularly occurs in settlements (see Fokkens *et al.* 2016; Kleijne 2019) whereas graves are rare in this region, albeit not absent.[30] Apart from these new types of artefacts, the second half of the 3rd millennium mostly seems to be a continuation of the first half, without any signs of clear changes with respect

27 The two LNB barrows of Oostwoud (Fokkens *et al.* 2017) are a notable exception.

28 These affiliations are manifested in material culture styles such as pottery types and technology but are apparent also from mapping the provenance of raw materials used (see Van Gijn and Bakker 2005, 281). Cultural differences between the northern and southern Netherlands can however already be attested in the Early/Middle-Neolithic Swifterbant culture (Raemaekers 1999, 111).

29 This applies to all groups archaeologically visible. It must however be noted that for large parts of the southern provinces (Brabant and Zeeland) hardly any good data is available for the Middle- and Late-Neolithic, neither from graves nor settlements. However stray finds of such objects as French daggers for example do suggest these parts were indeed inhabited.

30 See for example the BB graves of the well-excavated and well-published site of Molenaarsgraaf (Louwe Kooijmans 1974), or the barrows of Oostwoud (Fokkens *et al.* 2017).

to settlement patterns or subsistence strategies. Simply labelling sites as BB whenever BB-style pottery is found, does therefore no justice to regional differences and local socio-cultural histories. As shall be demonstrated in the following chapters, even in the case of BB burials, there are clear signs of continuation of both specific burial customs and the barrow-building tradition that started in the CW culture (see Chapter 7). Such evidence of a continuation of practices is not unique to the Netherlands, but is also attested elsewhere in Europe. Czebreszuk (2001) for example argues for strong links between the CW culture and BB complex in Poland. Kunst (2001, 83) also notes that during the BB period on the Iberian Peninsula, the non-beaker pottery is largely identical to the earlier pottery. Although the manner, nature and possible reasons for the adoption of this BB package is a much discussed topic, it must be stressed not to oversimplify the cultural heterogeneity of the second half of the 3rd millennium BCE. As shall be demonstrated below, in the BB complex there are clear signs of continuation with previous points in time, as well as clear regional differences that manifested themselves in a multitude of ways. This includes differences in pottery decoration styles, burial customs and regional access to different exchange networks. In this respect it is also important to note that in some parts of Central Europe, the CW culture did not simply merge into the BB complex, as in recent years it has become clear that both BB and CW groups must have co-existed in the same regions, simultaneously (Bertemes and Heyd 2002, 187).

3.6 Typochronology

The core of the typochronology of the Dutch Late Neolithic beaker pottery was composed by Lanting and Van der Waals (1976; see Fig. 3.5) who improved the existing models. Based on their work the Dutch Late Neolithic was divided in three phases – the CW culture, AOO and BB complex – the latter is often subdivided into the (initial) pan-European maritime BB phase and the (later) local-style bell beakers (Veluvian beakers in the central Netherlands and the Dutch North-East group, mainly located in the provinces of Overijssel and Drenthe). However, in recent years it has become clear that several types of these beakers did not really represent 'phases' in which that particular type of pottery was the only one in use (see Beckerman 2015, 167; Fokkens *et al.* 2016, 280). Instead it has become clear that especially in the middle of the 3rd millennium BCE a combination of beaker types was in use simultaneously (see Drenth and Hogestijn 1999).[31]

The most 'iconic' types of artefact that have the widest spatial distribution in both the CW culture and BB complex, were long thought to represent the first phases of either period. However, in recent years it has become clear that this is likely not the case. The first phase in the CW culture is often described as the 'A-horizon', marked by A-type cord-decorated beakers (see Fig. 4.3), A-type battle axes, and so-called *Strichbundel* amphorae (Struve 1955, 82; Midgley 1992, 488; Hübner 2005). These types of objects have a wide distribution, but in absolute quantities they are actually extremely rare. Hübner (2005, 697), for example, notes that in Denmark there is only

31 This is also corroborated by the available ^{14}C-dates indicating various types of beakers must have occurred around 2500 BCE (for dates, see Lanting and Van der Plicht 2000).

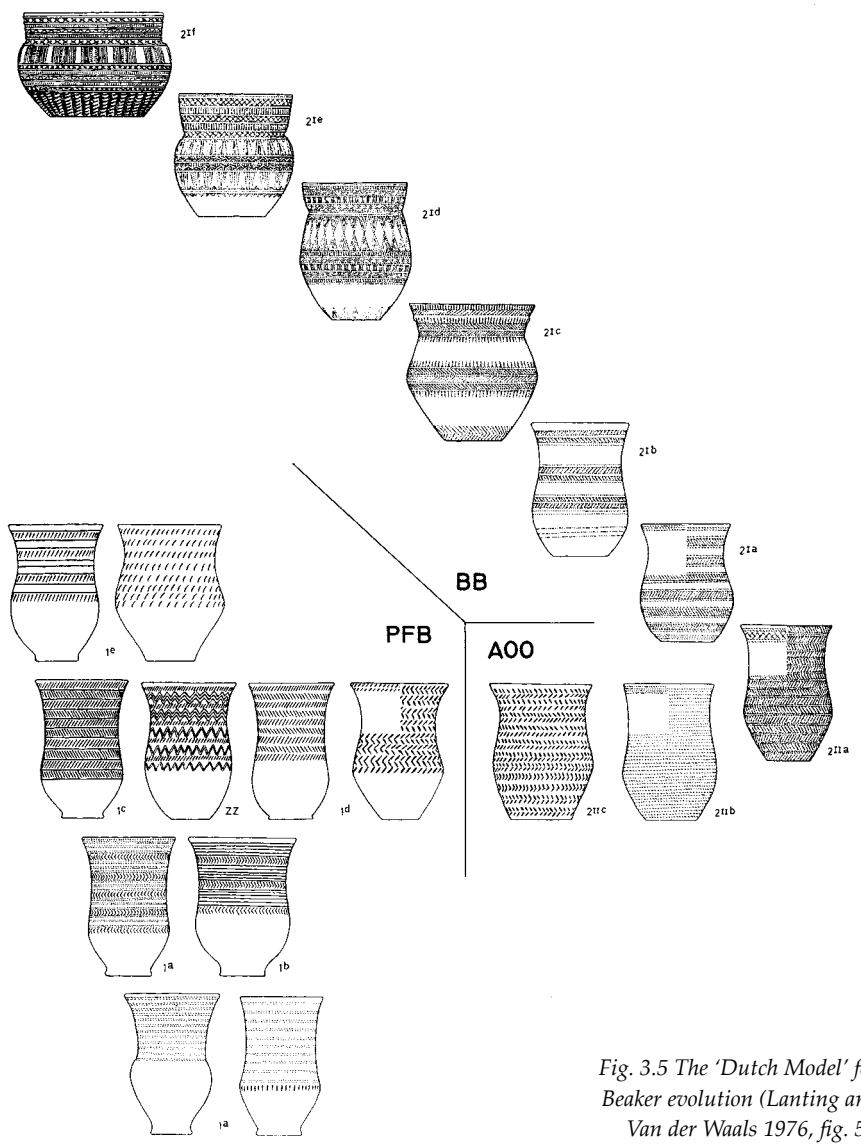

Fig. 3.5 The 'Dutch Model' for Beaker evolution (Lanting and Van der Waals 1976, fig. 5).

one site where an A-type cord-decorated beaker and an A-type battle axe were actually found together in direct association. She therefore rightly questions whether this set of material culture really represents a tightly bound chronological horizon, or whether it is a modern construct of objects that actually occurred over a much longer time-span, but are grouped together by archaeologists due to their stylistic similarities (Hübner 2005, 696). According to Furholt (2014, 4) the definition of the A-Horizon is indeed the result of a circular argument rather than representing a prehistoric reality. The similarity of particular artefacts elsewhere in Europe were automatically linked to the presumed early types in Denmark (as recognized by Glob 1944), but these chronologies were never based on stratigraphy or absolute dating (Furholt 2014, 4). In fact, new analyses of available ^{14}C-dates indicates that these 'A-horizon-types' do not represent a

discrete chronological horizon of pan-European material uniformity, but were instead in use over much longer periods of time with various regional and/or temporal differences (Furholt 2003, 120; 2014, 4).

The same applies the so-called maritime bell beakers (MBB). The MBB have a pan-European distribution and are therefore seen as the most iconic of bell beakers, representing a truly international style (see Burgess and Shennan 1976; Needham 2005; Salanova 2000). These beakers with a slender S-shaped profile are decorated with friezes of comb-decorated zones lined with cord-impressions and alternated by empty friezes (see Fig. 4.6).[32] Despite their pan-European distribution, however, these objects too are extremely rare, making it unlikely that they represent a distinct and exclusive chronological phase. In the Netherlands, for example, maritime bell beakers only occur in a handful of graves.[33]

Proceeding from the general typochronological sequence, some authors have tried to establish a far more detailed typochronology. Drenth and Lanting (1991), for example, presented a detailed four-stage subdivision for the LNA with specific (types of) objects occurring in any of the four 100-year sub-phases. From both a methodological and theoretical perspective, however, I feel that such a detailed typochronology is highly problematic at best. In some cases, it is possible to develop detailed typochronological models. A good example is the Early Neolithic Linear Pottery culture in which typology has led to a chronological scheme of only 50-year periods (Modderman 1970). However, in that case the typochronology was based on vast amounts of pottery from single settlement sites that could moreover be associated with the large Linear Pottery culture houses and associated rubbish pits: closed contexts that due to overlapping features already provided a secure relative dating. This, however, is a completely different situation compared to the Late Neolithic, for which closed contexts with large amounts of contemporary pottery sherds with relative dates are unknown. Instead these finds come from isolated graves, found throughout the Netherlands. And only rarely actual ^{14}C-dates are available that can be used to directly date these finds. There is thus hardly any objective data to indicate which of them are contemporaneous. Also the possible existence of regional styles or regional preferences for specific stylistic elements is largely neglected, as is the possibility that regionally different/similar types of artefacts may have been subjected to different/similar depositional practices (for a similar argument, see Furholt's (2014) critique on typochronology).

Another important objection is the fact that many of these objects come from graves which are essentially ritual contexts. As of yet we only have a rather limited understanding of the nature of the Late Neolithic grave ritual with respect to object

32 According to Drenth and Hogestijn (1999, 102), 'true' maritime bell beakers (type 2Ia in Lanting and Van der Waals 1976) have a slender S-shaped profile, are higher than they are wide and have at least five single or double horizontal friezes decorated with diagonally placed comb-impressions, which are lined with a horizontal line made either by horizontally placed comb or cord-impressions. These decorated friezes are alternated with empty friezes of similar height.

33 Drenth and Hogestijn (2007, 76) only count five or six specimens of the so-called 'true maritime bell beakers' in the entire Netherlands. Also note figure 5 in Salanova (2001, 96) indicating the ratio between AAO/maritime beakers versus local style bell beakers. Throughout France and the Iberian Peninsula the AAO/maritime beakers are quite rare, forming the minority compared to local-style beakers. Only in Brittany and Portugal the AAO/maritime types are more predominant, albeit still forming a minority (see also Case 2004a, 10).

styles. Rituals are the context *par exellence* in which stylistic traits can be used to convey all sorts of messages (*cf.* Bloch 1971; Thomas 1991, 73). Objects that are used in rituals or ceremonies can, for example, be highly traditional, meaning that their stylistic traits need not conform to either their domestic and/or contemporaneous counterparts. An obvious example of this phenomenon is the use of a prehistoric battle axe that was hilted in silver in the 13th century AD (believed to be the hammer of Saint Martin) and is kept as a relic in the cathedral of Utrecht (Schuyf 1995). There are therefore some serious risks when constructing a (typo)chronological scheme based on objects that are – to a large degree – derived from poorly understood ritual contexts.

In addition, many of the Late Neolithic artefact types are not well-defined at all. Especially with regards to the typology of the bell beakers. As will be discussed in Chapter 4, huge variation exists in vessel shapes and types. Especially the Veluvian bell beakers are extremely difficult to fit into the typological scheme as devised by Lanting and Van der Waals (1976). Van der Waals and Glasbergen (1955, 26) argued already in 1955 that in their opinion "it would be unwise to try to freeze into a rigid typology the living and versatile process which is reflected by the Dutch Bell Beaker development." However, much discussion also exists with respect to the definition of the maritime bell beakers. Over the last few decades the definition of this type of beaker has been continually changed and adapted and depending on which one is used, the number of finds in the Netherlands changes from 14 to only two (Drenth and Hogestijn 2007, 76). It may thus be questioned to what degree this is merely a game to keep archaeologists occupied or whether this can really help enhance our understanding of the past.[34]

The problems with the over-detailed typochronologies are also apparent when considering the available ^{14}C-dates. Beckerman (2012; 2015) recently published a critical re-examination of ^{14}C-dates related to the Late Neolithic beaker typochronology. She concluded that many types are not reliably dated at all, and in some instances the available ^{14}C-dates directly contradict the proposed ordering of objects in the existing typochronological frameworks (Beckerman 2012, 40). Similar results were obtained in Britain where a compilation of ^{14}C-dates clearly indicated flaws in the existing typochronology of the late 3rd millennium BCE (Kinnes *et al*. 1991; Needham 2005, 171; but also see Furholt (2014) for similar discussion on CW).

For these reasons I will be very cautious when dealing with Late Neolithic typochronology. I will mostly use Beaker types to indicate early, middle or late stages in the 3rd millennium BCE and will refrain from using artefact types for detailed chronological placement.

3.7 Concluding remarks

The 3rd millennium BCE must have been a highly volatile period, the start of which was marked by the widespread (genetic) influx of people from the Steppes along with horses and most probably Indo-European languages (*e.g.* Haak *et al.* 2015; Allentoft *et al.* 2015; Parker Pearson *et al.* 2016; Knipper *et al.* 2017; Olalde *et al.* 2018; Anthony 2007). In many respects it can therefore be seen as the basis of later Prehistory and even of modern Europe.

34 See Needham (2005) for a similar discussion on typology and chronology of British beakers.

The wheel, the plough, the introduction of the horse, keeping cattle for milk production, keeping sheep for their wool – all of these innovations had their own places of origin and were all in existence well before the dawn of the 3rd millennium BCE. However, it was during the 3rd millennium BCE that all these important developments became commonly accepted and widely adopted (Sherratt 1981; Greenfield 2010). As a set of inter-related developments, it was at this point in time when they resulted in far-stretching economical intensification, which was of major influence on both subsistence as well as on social, ritual and ideological systems.

Although Eastern Europe had already adopted metallurgy, it was not until the end of the 3rd millennium that the widespread exchange of metals and the adoption of metallurgy occurred throughout all of Europe. It were these exchange networks that formed the basis of what subsequently became known as the Bronze Age.

These developments form the background against which Late Neolithic funerary practices must be seen. Throughout this thesis, these issues will be explored in greater detail.