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Heads North or East? A Re-Examination of Beaker Burials in Britain

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Thesis submitted for the degree of Ph.D.
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Declaration

I hereby certify that this thesis has been composed by myself, is my own work and has not been submitted for any other degree of professional qualification.

Date.....30.05.2014.....Signature|.....*Marc Heise*.....

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**In memory of my friend Marc-André
and my supervisor Magda Midgley**

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Abstract

This thesis compares burial practices of Beaker-using communities in Britain and provides a corpus of British Beaker burials. Chronologically, this study covers the period from around the 25th until the 18th century BC, from the Chalcolithic to the Early Bronze Age.

Beakers were a new feature in late British prehistory and were probably introduced through small-scale migration and cultural transfer. Together with the pottery, a new style of funerary practices was introduced, that was comparable to continental practices at that time and strictly distinguished between male and female individuals. The standard continental practice, e.g. in Bohemia, was that men were buried with their head to the north, lying on their left side, thus facing east. Women were also facing east, but were buried on the right side and were consequently orientated to the south. This particular pattern can be found in southern Britain but is less strict in its application. This peculiar finding has attracted much scholarly interest since its discovery. Therefore, the research of Beaker funerary practices has a long tradition and still forms a core area of research.

This study considers two main questions: does the data confirm established opinions on Beaker burial practices, including a distinct regional division of burial traditions, e.g. in terms of body orientation between northern and southern Britain, and is it possible to identify which area of continental Europe exerted the greatest influence on developments in Britain?

In order to be able to structurally compare these burials, a database containing 311 entries has been compiled from the published literature. All available data on the skeletons has been integrated, including orientation, position, and limb position. Additionally, data on grave construction and artefacts has been collected. This data has been analysed quantitatively and qualitatively, both comparatively and statistically.

Through the collected data, this thesis argues that the general image of Beaker burial practices is still valid. However, certain generalisations require revision, for example the orientations of individuals. Chronologically, early Beaker burials follow strict standards, while during the course of Beaker currency these standards become less strictly adhered to. Possible regions of the origin of British Beaker burial practices are usually connected with the Lower Rhine area. The study agrees that this area had strong influences in northern Britain, but argues that southern Britain, on grounds of orientations and positions of the bodies, had more varied influences with a stronger input from central Europe.

1 Introduction

While settlements allow the reconstruction of the daily life of a community, such as subsistence strategies, manufacture of products, architecture, etc., graves can provide information about the individual that was part of these communities. Skeletal remains can deliver descriptive information such as sex, age, health and possibly place of birth (and subsequently migration strategies). They may also give information on the kind of labour or activity the individual was involved in, the medical knowledge of a society or of a certain treatment of the body during lifetime, for example the deliberate deformation of the skull. Furthermore, the skeletal remains, their display in the grave, the associated grave goods, the construction of the grave, the place where the burial took place, post-mortem treatment of the body, etc. can provide information about the society in which the individual lived. It can give insights in the ritual world, in belief systems, but also on the social status of the individual or of the people who organized and carried out the burial. The buried person directly represents a member of society and is an important component of the communities that archaeology attempts to reconstruct. Burials form one of (if not the) major source(s) of information of the Beaker Phenomenon in many areas of Europe and therefore have been and continue to be a focal point of research. Beakers are the material expression of an archaeological phenomenon that dominates the second half of the 3rd Millennium BC in many parts of Europe. Beakers are easily recognizable. Simply put, they are often S-shaped in profile, well manufactured and distinctly (comb)-decorated. This definition applies to the ‘standard’ (Salanova 2000, 193) or Maritime Beaker (Sangmeister 1957)¹ (Fig. 1) that is found all over the distribution area and which is thought to stand at the beginning of the Beaker development, which according to current research starts around the 28-27th century BC in Portugal (Müller & van Willigen 2001; *contra* e.g. Vander Linden 2012). From there it spread along established exchange networks within a short period of c. 200-300 years over the entirety of Europe. In Britain, the earliest dated Beaker contexts fall into the mid-25th century cal BC, with the burial of the Amesbury Archer (Fitzpatrick 2011) and the last Beakers date to around the 18th century cal BC (Kinnes *et al.* 1991; Needham 2005).

¹ Named after its distribution along the Atlantic coast.

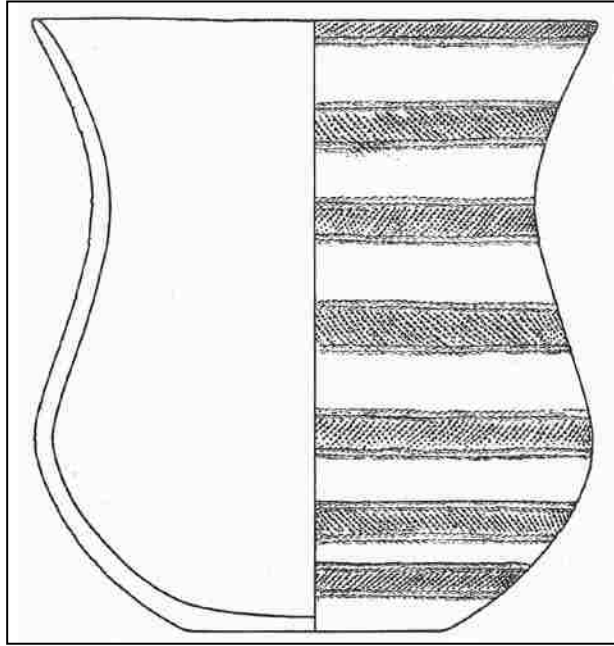


Fig. 1 Standard or Maritime Beaker from Buinerveld, gem.Borger, Netherlands
(after Lanting 2008, 170, fig. 48.a)

It was recognised at an early stage of research that the relatively uniform Beaker pottery had a wide distribution that encompassed an area from northern Morocco as the southern boundary, to as far north as the Shetland Islands and from the Portuguese Atlantic coast to Hungary (Fig. 2). Beakers are regularly associated with a clearly defined set of artefacts that comprises tanged copper daggers, flint arrowheads, wrist-guards², V-perforated buttons, Palmela points, bow-shaped pendants and 4-footed bowls (Fig. 3)³ (Shennan 1975, 175). Despite this standardized ‘Beaker Set’⁴ Colin Burgess and Stephen Shennan recognized that cultural expressions such as burial practices, settlement patterns and also developed Beaker styles varied considerably from region to region and could not be explained within the framework of an ‘archaeological culture’ in the Childean sense (Burgess & Shennan 1976).

² Also called ‘bracers’.

³ Some objects of the Beaker Set are region-specific or have region-specific properties. Palmela points (leaf shaped copper points) are found on the Iberian Peninsula and in western France; bow-shaped pendants are predominantly a feature of central and east-central Europe. The same applies to hollow-based arrowheads that are predominantly found in that area while barbed-and-tanged arrowheads are a feature of the western distribution area (cf. Fig. 2). V-perforated buttons are not only a feature of the western domain as indicated by Fig. 2 but are also found in larger numbers in east-central Europe.

⁴ See Chapter 2.1.6.

The notion of an ‘archaeological culture’ is central to archaeology and therefore before continuing with Beaker-specific questions a general discussion of this concept is needed. ‘Archaeological culture’ has been a central criterion in the definition and interpretation of archaeological entities throughout the 20th century (Wotzka 1993, 25).⁵ The idea behind the concept is that certain artefacts (often pottery shapes or decorations) or groups of artefacts or features (e.g. burial practices) cluster together in a given time and space. Artefacts are interpreted as the material expression of a social group that has a common culture in the widest (and often unexplained) sense. The formulation of that paradigm goes back to pre-historians Gustav Kossina and Gordon Childe and subsequently strongly influenced prehistoric research. Kossina wrote in 1911 and then more explicitly in 1926 „...*streng umrissene, scharf sich heraushebende, geschlossene archäologische Kulturprovinzen fallen unbedingt mit bestimmten Völker- oder Stammesgebieten zusammen*“ (1926, 21). It means that strictly and clearly defined coherent archaeological provinces (defined in terms of recurring archaeological assemblages) unconditionally identify areas of tribes or peoples. Kossina mapped finds that he thought were contemporaneous and correlated them with historically documented tribes and peoples. Arguing for a continuous development of the material culture, he was thus able to follow those tribes back into prehistoric times (Wotzka 1993, 28-29).

Kossina’s original postulations were mainly based on historical sources not on archaeological sources; he wanted to match distributions of archaeological finds with historically identified entities. In addition he used archaeological finds in general in order to prove his theory but did not use closed archaeological assemblages. Gordon Childe maintained Kossina’s principle ‘culture provinces = peoples’, but he developed the idea in fundamental ways. He wrote “[w]e find certain types of remains – pots, implements, ornaments, burial rites, house forms – constantly recurring together. Such a complex of associated traits we shall term a ‘cultural group’ or just a ‘culture’. We assume that such a complex is the material expression of what today be called a ‘people’[...]” (Childe 1929, V-VI).⁶ Childe’s definition of

⁵ For a detailed discussion of the concept of the archaeological culture see Wotzka 1993; 2000 and Brather 2001; 2004.

⁶ Other than Kossina, Childe generally detached the racial element from his culture definition. However, where a certain physical type was associated with recurring assemblages he “venture[d]” to use the term “race” (Childe 1929, V-VI). Also see Footnote 21.

the archaeological culture became a central aspect of culture-historical reasoning in archaeology throughout the 20th century. However, in later works he re-thought aspects of his definition because he had realized that archaeological culture did not necessarily define a people or a group with a common language or a political entity (Childe 1975, 52). Thus, Childe reduced his view of culture to a technical definition in that the groups to be described merely shared common material expressions (Wotzka 1993, 31).

Criticism of the traditional culture concept was mainly raised with the advent of the New Archaeology, in particular by Lewis Binford. He argued that the static traditional, or as he called it 'normative' culture theory in archaeology could only describe cultural differences or similarities (in material culture) but was unable to explain cultural processes (Binford 1965, 203).

Despite the theoretical discussion that followed on Binford, there is no generally accepted definition today but it seems that the focus lies again on a more technical, descriptive concept. In his introductory account on archaeological theory Matthew Johnson's definition reflects that notion: "*An archaeological culture is a repeatedly recurring assemblage of traits – pottery, house forms, burial practices – seen over a discrete time and space. It may or may not relate to a human culture*" (Johnson 1999, 189). Even if we use a technical description it is worth reminding ourselves that 'archaeological cultures' are categorisations that have been constructed by archaeologists in order to arrange archaeological remains chorologically and chronologically. That means we are not dealing with real, but with subjectively constructed entities that have been created by the individual archaeologist (Brather 2000, 448). In the light of this discussion it becomes clear why Shennan & Burgess were dissatisfied with the traditional concept in connection with Beakers.



Fig. 2 Beaker distribution area
 (grey shaded area) with regional groups (dot-and dashed line) and the Beaker package (separated in central
 Europe, indicated by a roughly N-S running line)
 (modified after Vander Linden 2004, 52, fig. 6 and Salanova 2005, 8, fig. 5)

They argued that the Beaker Set was part of an “*extra-cultural*” activity that together formed the “*Beaker package*” which was the expression of an “*international phenomenon*” of some kind (Burgess & Shennan 1976, 309).⁷

The advantage of the concept of a Beaker Phenomenon was that it explained Beaker homogeneity within regional heterogeneity and it did not involve mass movements of people, but rather the transfer of ideas and it overcame the criticized concept of a Beaker folk. This phenomenon could be explained with some sort of ideology, be it politically, religious or economically motivated, that was responsible for the spread of Beakers (Strahm (ed.) 1995).

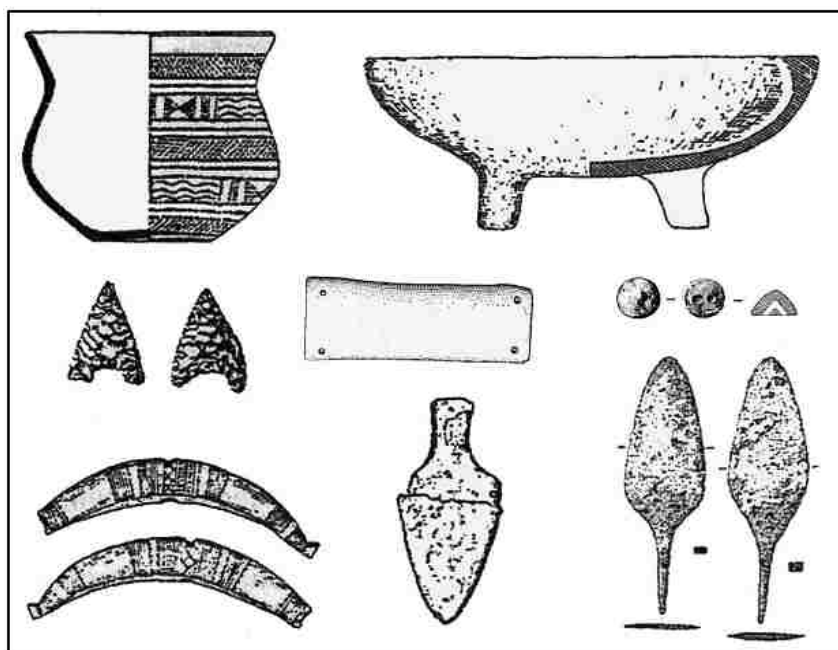


Fig. 3 The components of the Beaker Set or Package
(after Merkl 2010, fig. 1.2)

The recognition of regional cultural variation led to the definition of Beaker ‘provinces’ (Harrison 1980; Strahm 1995), ‘regions’ (Vander Linden 2004) (cf. Fig. 2), or ‘domains’ (Besse & Desideri 2005). These terms were filled with different meaning according to the respective author, but ultimately the groups are comparable. Funerary contexts are an essential aspect of this definition. In the

⁷ This idea seems to reflect Caldwell’s ‘interaction sphere’ model for the Hopewell ‘culture’ in North America (Caldwell 1962, cited in Binford 1965, 208 where this model is discussed in more detail).

western domain (Iberian Peninsula, France) Beaker associated burials were predominately found in re-used megalithic tombs of Neolithic date, whereas in large parts of the eastern domain the predominant practice was inhumation of single individuals (e.g. Besse & Desideri 2005, 84, fig. 20).

A similar situation has been observed in Britain where large numbers of Beaker associated single inhumations in a contracted position dominate the burial record. Some generalisations as to the orientation and position of individuals are possible even though several authors showed that the presented image has been too simplified (e.g. Petersen 1972; Kinnes 1979; Gibson 2004; 2007). It has been argued that in southern Britain males were predominately buried with the head in a northern direction and were lying on the left side. In contrast, women were buried lying on the right side with the head south. Both sexes were thus facing east (e.g. Case 2004a). The bodies were mostly buried in earthen barrows or in pits. In northern Britain, stone cists were the principal form of burial and in contrast to the southern part of Britain the predominant orientation of males was E-W while lying in a contracted or flexed position on the left side. Women lay on the right side with a W-E orientation and both sexes faced the southern quadrant of the compass (e.g. Tuckwell 1975; 1989; 2012; Case 2004a).

British Beaker single burials echo burial practices from the continent. Particularly in southern Britain burials can be easily compared to those from central Europe (the Beaker East Group), both in terms of grave construction and grave orientation but also Dutch *comparanda* can be found. Paul Reinecke described as early as 1900 the recurrent association of Beaker and wrist-guard in flat graves (sometimes with stone cover) as culture-specific traits in central Europe (Müller 1998, 122) and Albín Stocký for the first time observed a gender differentiated burial practice in Bohemia (1929, 148), which was confirmed shortly after by Karl Schirmeisen (1937a, 176; 1937b, 133). They concluded that males were lying on the left and females on the right side. Additionally, they observed that the skeletons were always facing east. Friedrich Schlette complemented this by the observation that in Saxony-Anhalt, Germany, the preferred orientation of the grave was north-south/south-north (1948,

42). A review of c. 500 burials from the Beaker East Group⁸ confirmed this ‘bi-polar gender differentiated’ pattern (Müller 1998; 2001).

This pattern stands in contrast to the Beaker burial practices of northern Britain that were outlined above. It is arguable where their actual prototypes can be found but they have been connected to continental Corded Ware burial practices (e.g. Shepherd 2012).

The Corded Ware / Single Grave Culture (SGC) represents another important archaeological phenomenon or ideology of the 3rd Millennium BC in central Europe which chronologically and chorologically overlapped with the Beaker Phenomenon (Fig. 4).

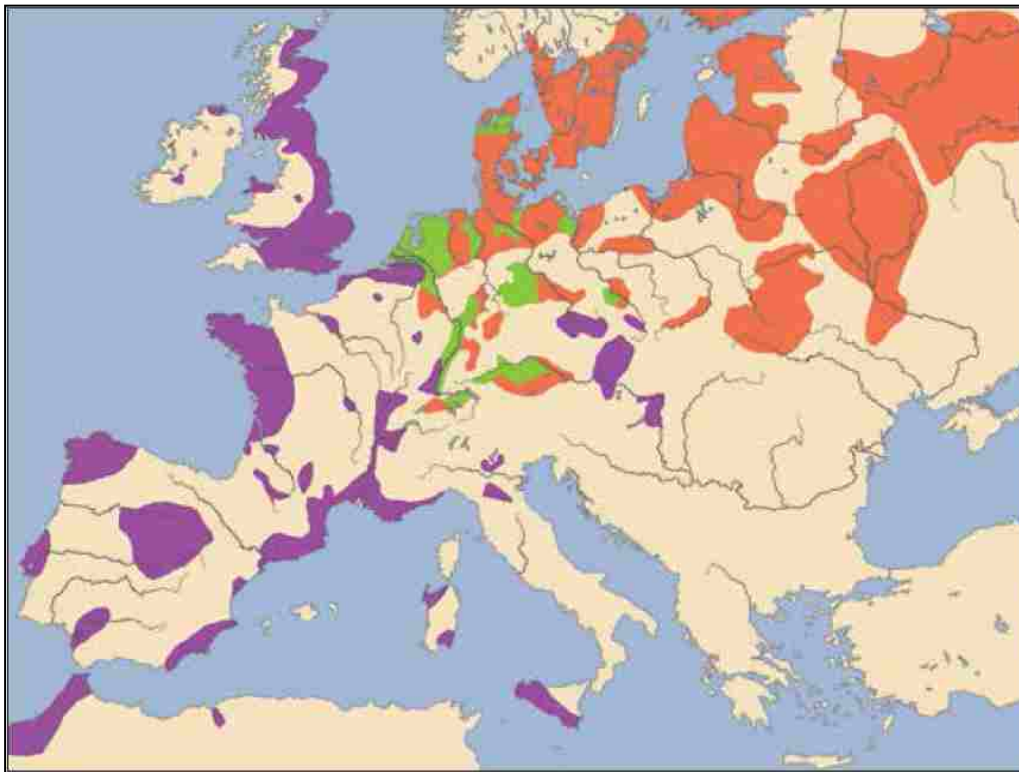


Fig. 4 Distribution of the Beaker Phenomenon (violet) and the Corded Ware Complex (orange); the green signature indicates areas of overlap (after Heise & Schacht 2014, fig. 4)⁹

Its burial practices were also following strict gender differentiated burial patterns that are diametrically opposed to those of Beakers and it has been suggested that the

⁸ Central, east and southern Germany, Bohemia, Moravia and Austria

⁹ Image by D. Schäffler (modified after Gallay 2001, fig. 1).

mortuary practices together with a specific artefact set¹⁰ are the material expression of these different ideologies (e.g. Fischer 1976). Females were buried on their left and the head towards the E; males on their right with the head towards the W and both sexes faced south. The Beaker pattern was possibly a conscious and deliberate reaction in order to distinguishing themselves through burial practices from Corded Ware communities (Fig. 5) (e.g. Fischer 1976; Vander Linden 2003). As can be seen on Fig. 4, one zone of the Beaker – Corded Ware contact was the Rhine area. The described Corded Ware / SGC pattern has also been observed in the Netherlands (Lanting & van der Waals 1976, 44-46). In contrast, the burial record of the partially contemporary but longer lasting Beaker Phenomenon was more diverse (Drenth & Lohof 2005, 435-436) and it included features of SGC burials, but it seemed to have developed or changed them. Interestingly, the results of those changes are patterns that can also be seen in northern British Beaker burials and following from that the Lower and Middle Rhine area have been argued to play an important role in the consolidation of the British Beaker Phenomenon (Clarke 1970; Shepherd 2012). These aspects will be discussed in detail below.

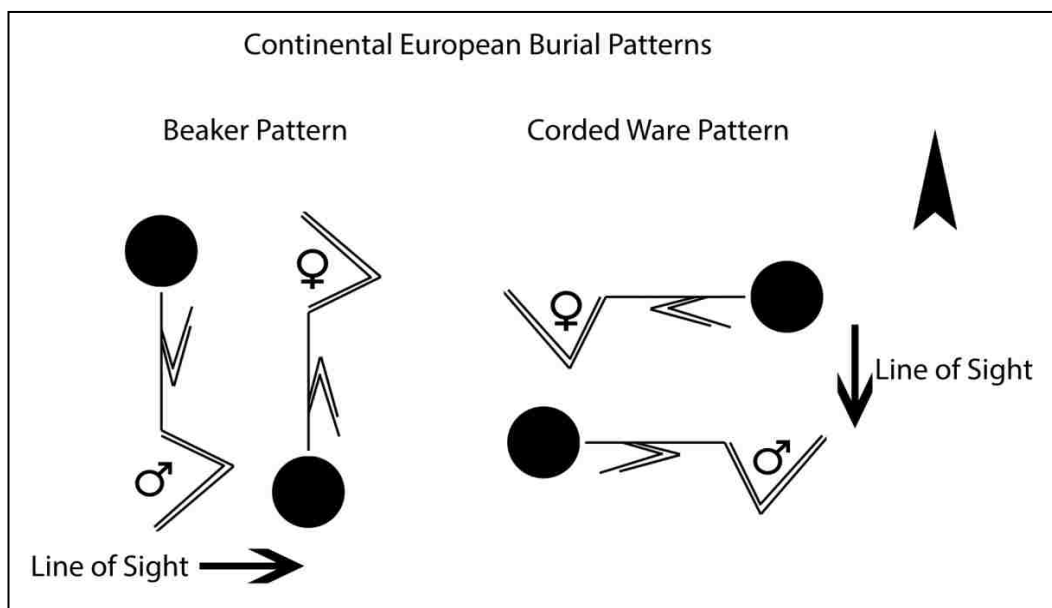


Fig. 5 Continental Beaker and Corded Ware burial patterns

¹⁰ The Corded Ware had also a specific artefact Set, consisting of a Beaker as well as a stone battle-axe.

1.1 Aims and Research Questions

It has been shown that burials take a central place in Beaker research and form the major source of information. Since the work of David Clarke (1970) regional burial studies have been carried out (e.g. Petersen 1972; Tuckwell 1975; 1989) but no comprehensive account for the whole of Britain has been produced, neither for Beakers in general nor specifically for burials. The aim of this work is to compile an up-dated corpus of British Beaker burials that, in addition to Clarke's corpus, adds the results of the last 40 years and to review the evidence in the light of the increased data set. The object is to gain a better understanding of the funerary practices in Britain and to set them in a wider European context. The burials are compared structurally in order to illustrate facets of funerary practices and to obtain a comprehensive image of British Beaker burials.

Two central questions will be answered:

1. Does the data confirm the established thesis of Beaker burial practices, i.e. a distinct regional division of burial traditions, such as body orientation, gender-specific positions, artefact associations and grave type between northern and southern Britain?
2. If such a division exists, how can its formation be explained? Can Britain, based on the funerary evidence, be treated as one coherent region?

1.2 Methodology and Terminology

This thesis is concerned with the characterisation of Beaker burials within different funerary contexts, such as cists, barrows or flat graves. The burial record is analysed with regard to the interred individual, grave goods and constructional features of the graves. Patterns of burial are examined and quantified and the associated artefacts are examined concerning regular associations, quantity and quality of objects.

A corpus of Beaker burials has been compiled (see attached DVD) in order to be able to systematically compare and analyse the relevant features structurally and to pursue the above questions. Two central factors were fundamental for the selection of the sample; firstly, Beaker pottery had to be directly associated with the burial. The pottery is defined here as the 'cultural marker' and identifies an individual as part of a Beaker using community. Arguably, this approach is too narrow because it

excludes potential features with Beaker affiliations, i.e. with typical associations that also occur with Beaker pottery or un-accompanied inhumations within Beaker cemeteries. This poses of course a central methodological problem. Secondly, it was crucial that information on at least one characteristic of the position of the body, for example the orientation was available in the published record. Therefore, the burials in question naturally had to be inhumations and it had to be a discrete corpse that provided information on position, orientation, etc. In general that means the individual was interred in a complete, undisturbed way. However, this was not always the case; in several instances individuals have been included that according to the excavation reports were not in anatomical order at the time of burial. It appears that these individuals were part of more complex funerary rituals and were not buried directly after death but were initially deposited elsewhere. After the body was partially or completely decomposed the (possibly) final act of the burial ritual took place and the remains were buried and if necessary re-arranged into a 'Beaker-typical' position.¹¹ It could be argued that the inclusion of these individuals is methodologically problematical because it does not reflect the original, undisturbed body. The example from Manston, Kent¹² can be mentioned in this context. The individual was disarticulated and incomplete but the bones had been arranged in a way as to 'simulate' a crouched burial. The man was lying on his left side, with the head to the north and facing east. This is in accordance with a normal position of males in the south of the distribution area (see above). Therefore, it is thought that despite the complex treatment of the body, it has been buried in a way that was accepted or required by the burying community and its inclusion in the corpus is unproblematic.

Distribution maps created in the open-source geo-information Software QGIS have facilitated the detection of distribution patterns and potential clustering of certain traits of the funerary record. The sample consists exclusively of published material, including the large corpuses of the antiquarian barrow diggers and of course the work

¹¹ This can then cause problems concerning the dating of the pottery. How much time elapsed between death and burial? Has the Beaker pottery that was associated with the burial been produced prior to death, at death or when the funeral took place? These questions can probably not be answered in practical terms because the accuracy of dating is not sufficient yet and pottery styles can have long currencies.

¹² ID: 123 (the ID refers to the unique Database ID)

of David Clarke (1970). He included material that was published until the year 1964.¹³ For material published after that point, the relevant information was gathered from books and (mostly) national journals. The information for each burial has been excerpted from the primary literature where possible. In many cases it was additionally useful or necessary to also include information and results from secondary sources. This for example was the case where radiocarbon dating programs or specialist reports on artefacts existed.

'Burial', 'inhumation' or 'interment' are used synonymously "with the act of disposing of the corpse" (Parker-Pearson 1999, 5). Throughout this work, the term 'Beaker burial' refers to an individual that is accompanied by Beaker pottery. 'Beaker pottery' describes a complex of pottery that includes beakers, cups, bowls and giant-beakers. The last three mentioned types are typically part of the still not well understood domestic assemblage, while graves almost exclusively contained the Beaker vessel or sherds of Beakers.

The term 'single grave' is used for features that contained one single individual, i.e. it is a technical term. In contrast, 'single / individual burial' describes a discrete body that has been interred. A 'single burial' can therefore also be found in a communal tomb. The term 'Beaker period' refers to the entire currency of Beaker use, i.e. the Chalcolithic and the Early Bronze Age.¹⁴

1.3 Database

In order to record the data, a Microsoft Access database was created with the aim of running queries on aspects concerning mortuary practices. A comparative analysis has been carried out in order to identify possible patterns within the sample. The aim of the database was to allow a quick comparison of features. Further comparative analyses have been carried out with Microsoft Excel. In addition, simple statistical analyses were performed in order to test the significance of aspects such as the height of the Beaker in relation to the sex of the deceased.

Due to its size, the database has not been printed but is available digitally on the attached DVD. The database is available as a Microsoft Access file and as a

¹³ Clarke submitted his PhD thesis in 1964 and it was published in 1970. In his bibliography he referenced post-1964 literature but it is not clear whether he included post-1964 burials in his statistics.

¹⁴ For a discussion of the use Chalcolithic in British prehistory see Chapter 4.2.

Microsoft Excel file. The former will be read-only, the latter can be edited. The most convenient way to view the individual records is in the 'Form View' of Microsoft Access.

Each database entry represents one single Beaker accompanied individual. If two or more individuals have been found in one grave but were accompanied by a Beaker pot each, these have been treated as individual burials and consequently as individual database entries, e.g. the individuals at Broomend of Crichtie, Aberdeenshire.¹⁵ In cases where two bodies were buried contemporaneously but only one of which was accompanied by a Beaker, e.g. so-called 'mother-child' burials,¹⁶ these have been included as a single database entry.

The sample consists of 311 burials from all parts of Britain where Beakers have been found. Despite regional clusters due to concentrated research activities, it can be regarded as representative. However, the sample is not exhaustive. Within the last decades a high number of excavations have been carried out, that produced abundant material which has not been completely published and is often only available as unpublished site reports. Even though much of this 'grey literature' has been made available, there are still considerable gaps.

1.3.1 Description of the Database Fields

Some brief remarks and comments concerning certain fields in the database are necessary. All measurements describing dimensions such as the size of grave pits, pottery or artefacts in general are according to the metric system, i.e. in km, m, cm, mm, etc. Inch, feet or yard have been converted accordingly.

ID: Each asset has a unique ID number. Database entries are numbered consecutively 1-311. When referring to a grave in the text the corresponding ID will be referenced throughout the work in a footnote.

Site: The name of the site has generally been taken from the cited literature. For sites that have been published until 1964 the site names from Clarke (1970) are used. In cases where more than one burial is known from the site, these have been clearly specified, e.g. Aldro Barrow 116, 1, Aldro Barrow 116, 2, Aldro Barrow 116,

¹⁵ IDs: 229, 230.

¹⁶ It will be shown below that the assumption the burial of an adult and a child are necessarily mother-child burials is outdated.

3, etc. Sites are listed alphabetically by countries, which are also in alphabetical order, thus starting with sites in England, followed by Scotland and Wales.¹⁷

Location: Describes the county (in England and Wales) or council area (Scotland) in which the site is located (see: <http://www.ons.gov.uk/ons/guide-method/geography/beginner-s-guide/maps/uk-counties-and-unitary-administrations-effective-at-31st-december--2011.pdf>).

Sex: All information regarding the biological sex is as stated in the literature. In many cases this information should be used with caution. Especially in older publications, the sexing is based on the archaeological sex.

Age Classes: The classification system from Buikstra and Ubelaker (1994, 9; 36) has been adopted here. The age classes used in the database are as follows:

Foetus: Before Birth

Infant: Birth-3 years

Child: 3-12 years

Adolescent: 12-20 years

Young Adult: 20-35 years

Middle Adult: 35-50 years

Old Adult: 50+ years

There is no standard classification system for age classes and other authors have used different systems. Where information concerning the sex has been provided in other systems it was 'translated' into the terminology outlined above in order to achieve a coherent terminology. Additionally, a more detailed division was not thought to be useful.

Age: This field contains the individual's age in years. The information was taken from the literature and should be treated with caution. Especially in older works, the age determination is not reliable.

Orientation: The field specifies the orientation of the individual in relation to the point of the compass. The position of the skull is mentioned first, i.e. an N-S orientated individual was found with the head towards north, the feet to the south.

¹⁷ ID 29, Youlgreave, Bee Low 2 is not in alphabetical order. Furthermore, IDs 308-311 were added at a later stage and are not in alphabetical order.

Even though the skull has been mentioned first, the main criterion on which the orientation of the body was evaluated was the axis of the spinal column.

Position: This field describes how the individual had been arranged in the grave, e.g. lying in an extended position on the back, or in a foetal position on the left side.

Degree of Flexion: A rather minimalist approach was chosen for this field. A distinction has only been made between 'contracted' and 'flexed'. Other authors (e.g. Tuckwell 1975) have differentiated several leg or arm positions. This differentiation has not been made in this work. Especially in older works (from which many of the here presented Beaker burials have been taken) the position of the arms and legs has not been described in detail and therefore only a basic distinction has been applied here.

Facing: Specifies the line of sight in relation to cardinal direction. The skull appears to be out of its original position in many cases, however. When the body had been buried in a coffin or chamber that had not collapsed yet and had reached a state of decomposition in which the tissue, ligaments, etc. did not hold the body parts together any longer, the skull seems to have 'rolled over' regularly. If the body had been buried in an organic container, the head was not located in a 'natural' position, but was pushed / inclined onto the chest. The same situation has been found in cist burials. These graves are sometimes not large enough to easily hold the body and the skeleton can have a 'bent' appearance, as if forced into the cist. It is a rather analytical approach, but the direction in which an individual was facing has been evaluated on an idealised basis. This means a body that was found with an N-S orientation and that was buried on the left side would 'normally' face E. Due to the above mentioned aspects this was often not the case.

Articulated: Gives information if the skeleton was found in anatomical order. Considering the nature of archaeological data there cannot always be sufficient information on that aspect. The state of the skeleton's preservation may impede conclusions. The dislocation or absence of bones can also be influenced by natural processes, such as the collapse of the funerary structure or animal activity. However, sometimes only parts of the body were interred or were removed after burial as parts of funerary rituals.

Grave / Deposition Type: The grave / deposition type describes the construction of the relevant feature. In some cases this also includes the position of the skeleton, e.g. 'Barrow; below surface'. This indicates that the grave had been sunk into the natural land surface and was covered by a mound. The construction history of barrows is not always clear and the erection of the mound might have taken place a considerable period after the burial.

Description Feature: In this field a description of the context is given, such as the location of the grave in the landscape, circumstances of discovery, stratigraphy, and sequence of burials. If the burial was found in a barrow with multiple graves, then these have been briefly described.

Beaker Style: The Beakers have been described according to four different typological schemes in order to simplify description and to offer a comparison between the authors. The typologies that have been used are those from David Clarke (1970) for the whole of Britain, Jan Lanting's & Jan van der Waals' also for Britain, Ian Shepherd's (1986) for Scotland and Stuart Needham's (2005) for the whole of Britain. Ian Shepherd's scheme is specifically for the region of Buchan, because only in that region a coherent sequence was visible. His scheme has been applied here to the whole of Scotland.

Chronology: This field contains absolute data; these are exclusively radiocarbon dates in the case of this work. The raw dates have been calibrated using OxCal 4.2.3 with atmospheric data from Reimer *et al.* (2013). The dates have been rounded outwards by 5 years. First, the laboratory number is given, followed by the BP date and the calibrated calendar years at 2sigma.

Comments: Contains general remarks. Additionally, for all pre-1964 graves, this field contains the page and figure number for the Beaker pot in David Clarke's work (1970).

Coordinates: For each site latitude and longitude coordinates have been provided. In some cases it was impossible to determine the exact position (in the case of old reports) so that an approximate position had to suffice. The reference coordinate system is WGS 84.

Image: It was possible to provide an image with a plan, sections or artefacts for most of the burials. In the case of older excavations plans were not always

published but the Beaker pottery could be shown in most cases. The database contains in excess of 500 images.

1.4 Area of Research

This study focuses on Great Britain, consisting of the countries England, Scotland and Wales. The island of Britain is geographically defined by the North Sea in the east and the Atlantic to the west. This natural boundary was evidently not a cultural boundary in the 3rd Millennium and was crossed frequently (e.g. Cunliffe 2001 2008; Vander Linden 2012).

It is uncertain whether the Beaker Phenomenon reached Britain via the Atlantic or the North Sea but after an initial consolidation phase it developed a local, insular character and in the 800 years of Beaker currency in Britain a variety of specific developments, e.g. Beaker pottery styles, were visible. In addition a very dense concentration of burials has been documented. Despite the inner British varieties, for instance the mortuary practices that have been outlined above, the area has traditionally been treated as a whole. This approach will be followed here and it will be discussed if Britain can in fact be treated as a single Beaker region. Britain offers the chance of investigating a geographically closed system with a specific insular character. At the same time British and continental Beaker groups were interacting, thus receiving and sending impulses.

Ireland has not been included in this study. The whole appearance of the Irish Beaker Phenomenon is different. Beakers were deposited in different contexts in Ireland and the mortuary practices that are the focus of this work do not find parallels in Britain (Carlin 2011).

1.5 Structure of the Thesis

Following on this section, a detailed research history is presented (Chapter 2). It consists of two separate parts covering the general development of research on a Europe-wide level on the one hand and the development of British research on the other hand. The second major part forms the backbone of the work (Chapter 3). The collected data is analysed in this chapter and covers aspects of body treatment, grave architecture and artefact association, possible functions and meanings. The analysed data is discussed within the British setting and finally is put into a wider European framework (Chapter 5).

2 History of Research

The current state of Beaker research can only be understood if one goes back to its beginnings. Some of the ideas that are *en vogue* today have already been discussed in the early accounts of the 19th century barrow diggers. These antiquarians worked with a different set of methods and theories, but several of the questions they were asking are still of interest today. Some theories concerning pottery development, migration or the burial record only make sense in the light of past research and their discussion is thought to be essential. History is sometimes reputed to repeat itself. This seems to be true for the history of research of the Beaker Phenomenon.

The chapter offers an overview of the developments of Beaker studies, first on a Europe-wide basis and then focussing on the history of Beaker research in Britain. While in the first part ideas and theories of supra-regional character and of importance for the entire phenomenon are characterised, the second part is intended to outline inner-British currents of research. Inevitably there will be some overlap but an attempt has been made to reduce this as much as possible.

2.1 European Beaker Research

The history of research into the Beaker Phenomenon itself reads like an infinite loop, returning time and again to the question of origins and diffusion. Castillo wrote in 1928 that only a few questions in prehistoric archaeology have aroused as much interest as the origin and the diffusion of Beakers (Castillo 1928, 13). This sentence could well be the introduction to any present work on the topic (and has been to many). The history of Beaker research arguably extends back some 200 years, to the work of Richard Colt Hoare who excavated a large number of graves, mostly in barrows in Wessex that contained (amongst other mostly prehistoric artefacts) Beaker pottery, and who published the first Volume of *The Ancient History of Wiltshire* in 1812. Naturally, a variety of approaches and theories have emerged over this long time. For a better understanding of the current state of research it is necessary to examine how studies of Beakers and of related topics (including the Beaker-using individuals) started and how, in some cases, these early works still influence present research. As will be seen, certain questions have been of concern from the onset of Beaker research, while others have been forgotten, only to re-emerge as part of current research. Three major topics in particular have recurred

throughout the history of Beaker research as will be shown below: What is the origin of these pots? Who is this Beaker race that must have possessed them? And why was the distribution of Beaker use so extensive? The long history of Beaker research has thus been based around several key queries and various authors have sought to identify how research trends within this field have developed, e.g. Richard J. Harrison (1974), Marion Benz, Alexander Gramsch & Samuel van Willigen (1995) or Laure Salanova (2005). Salanova argued in favour of a three-stage development of Beaker research. The first stage focused mainly on the origin of Beakers and the reasons for their diffusion and lasted until the 1970s, while the second begins with the 'New Archaeology' when new models and social theories were applied in archaeology, such as the notion of Beakers representing prestige goods. The third stage from the 1990s to the present day covers approaches dominated by regional studies, showing Beakers to be incorporated in the local prehistoric communities. This phase is also characterized by the application of new scientific methods, e.g. strontium isotope analyses but also by renewed interest in older topics, such as the movement of people. This approach to characterising the history of Beaker research will be followed below.

Where possible the events being of importance have been organized in a chronological order. However, it seemed appropriate to deal with certain topics *en bloc*. Also, it proved to be useful to discuss works of general importance and works exclusively or mostly related to Britain separately.

2.1.1 Early Beaker Research: the Quest for the Origin of Pots and People

Research centred on Beakers started at the end of the 19th century throughout Europe with the presentation of newly discovered sites and of a mass of new material. On the Iberian Peninsula, for instance, the sites in questions included the fortification and necropolis of *Los Millares* in Spain that had been discovered by the brothers and mining engineers Luis and Henri Siret in 1888 (Siret & Siret 1893) or the rock-cut tombs of *Palmela*, Portugal, that had been accidentally discovered in the 1860s but were presented for the first time in 1908 in the form of the excavator's diaries (Leisner 1956). The works of Sebastião P. M. Estacio da Veiga (1889, 1891) on material from south-west Iberia must also be seen in the context of a growing interest

in archaeology. Additionally, at this time links between Beakers were recognised across Europe. Émile Cartailhac recognized the wide distribution of a uniformly looking ware that he described as “vases en forme de calice ou de tulipe” (chalice- or tulip-shaped), when he compared the finds from *Palmela* with finds of ceramics from the Pyrenees, Provence and Brittany (Cartailhac 1886, 125). It was proved shortly after that the distribution of this distinct pottery was even wider, including finds in modern Hungary, the Czech Republic, Germany, Poland, Italy and Portugal (Voss 1895, 121-123). The finding of these wide connections around the turn of the 19th provoked questions about the origin of Beakers, and became the centre of attention dominating research for large parts of the 20th century. Oscar Montelius suggested Egypt or Asia Minor as the ‘birth-place’ of Beakers (1900). He saw striking similarities between the pottery from those regions and the “glockenförmige[n] Becher”¹⁸ (bell-shaped beakers) and on grounds of the association of metal artefacts (of copper or bronze) with Beakers he dated them to the transitional period between Stone and Bronze Age. He proposed two routes of dissemination to Europe: the first via Sicily and the Iberian Peninsula, the second via the Adriatic and the Balkans (Montelius 1900, 88). Joseph Déchelette took up Montelius’ view a little later and argued for an origin in Asia Minor (1908). Their ‘*ex oriente lux*’ interpretations have to be viewed within the intellectual context of the decades around turn of the century. They exhibit an “idealist vision of human cultural development” with the roots lying in Egypt and Mesopotamia and spreading from there to all parts of the world (Gilman 1995, 2).

The search for the origin soon received a racial component that linked the users of Beaker pottery with a certain race. The formation of national states in the 18th and 19th century led to a new nationalism and archaeology helped to create a national identity through the construction of ethnical reasoning.

With the help of craniological studies different races were thought to be identifiable in the archaeological record. In Britain this had been tried since the mid-19th century (see below chapter 2.2), but Lord Abercromby was the first who specifically argued that Beakers had been brought to Britain at the beginning of the Bronze Age by a distinct race (Abercromby 1902, 374). Archaeologists on the continent also were

¹⁸ A term he had already used earlier (Montelius 1891, 15).

seeking to connect Beakers to a certain people. According to authors such as Matthäus Much (1906) or Hermann Grössler (1909) this folk were represented by Indo-Germanic invaders from the north. Alfred Schliz, who had also carried out craniological studies proposed, on the grounds of his results, Brittany as the cradle of the “international schweifende[r] Horden, halb Händler und halb bogenbewaffnete Nomaden[...] (“internationally sweeping hordes, half merchants, half bow-armed nomads“). Vere Gordon Childe also took the view that the “Beaker culture” had to be interpreted in ethnic terms because of the “markedly round-headed people” on both sides of the Alps, Spain, etc. (Childe 1925, 123; 293; 1929, 193-194) and described the “Beaker folk” as “bands of armed merchants who engaged in trading copper...” (Childe 1925, 223).

The first scholar who expressed the idea of the Iberian Peninsula as the cradle of the ‘Bell Beaker Culture’ was Hubert Schmidt. He saw Beakers in connection with the development and diffusion of metallurgy (Schmidt 1909, 133) and he also argued for typological similarities between the Neolithic pottery of Spain and Portugal with Beakers and accordingly identified the Iberian Peninsula as the cultural centre of Western Europe during the Chalcolithic (Schmidt 1913, 249-252). This was to become the ‘classic theory’ of Beaker origin and diffusion. Pedro Bosch-Gimpera followed this theory (1919; 1920; 1926), and Alberto del Castillo, who was their student and belonged to this “Barcelona School”¹⁹, continued this research. After undertaking a typological analysis of European Beakers he was able to confirm the conclusion that they derived from the Neolithic “cultura de la cuevas” of the Guadalquivir Valley (1922, 29; 196). Especially after the publication of his widely-acknowledged account of 1928 it was generally accepted and for a long time remained common opinion, that Beakers originated in the Iberian Peninsula. Castillo saw the reason for the spread to be the acquisition of copper, and he described the routes of its expansion from Almeria in southern Spain as far as northern Europe, and as far as France and central Europe via Italy. According to Castillo the diffusion was cultural and not based on the movement of people²⁰, at least on the Iberian Peninsula and in areas directly influenced, such as France, the western Mediterranean Islands

¹⁹ Salanova 2005, 19.

²⁰ Childe also argued for “cultural borrowing” and not for a mass migration. Small groups of people would have been looking for gold, amber, copper, etc. (Childe 1929, 197).

and Italy. For central Europe he allowed for the possibility of a 'Beaker Folk' as proposed by Schliz (Castillo 1928, 197-203).

Doubts as to the reliability of that theory were mainly formulated in Britain. While in 1929 Vere Gordon Childe still argued for the origin of Beakers in Spain it is slightly surprising that in 1930 he suddenly switched his ideas to favour central Europe instead (Childe 1930, 200-201). In this he was following the arguments of Fleure and Peak (1930), who were not convinced of an Iberian origin, but who stressed that Beakers could have had their roots in south-east Europe and then developed a standardized form in central Europe. They based their idea on typological similarities and on the density of find spots, but admitted that the evidence was not conclusive (neither for central Europe nor for Iberia) (Fleure & Peak 1930, 66-69). However, these objections never seriously 'endangered' Castillo's theory: Childe stated that "[s]till most authorities hold that the culture as we know it took form in Andalusia or on the Lower Tagus, though plausible typological arguments favour a north-west German origin." (Childe 1957, 227). He still favoured the interpretation of a Beaker race (*ibid.*)²¹ that was based on Kurt Gerhardt's results from craniometrical studies, that the skeletons that were associated with Beakers were a distinct people (Gerhard 1953). In general, theories focussing on, or including an ethnic element decreased in number after the Second World War. The experiences of a politically motivated racial and ethnical reasoning in archaeology led to different approaches. Edward Sangmeister stated shortly after the war that the units described by archaeologists as 'cultures' would not necessarily reflect a people or a political entity (Sangmeister 1951, 74). However, the discussion and work on that topic continued because differences in skull shape seemed to be obvious (see below).

2.1.2 The Dutch Model: a Prequel

Childe did not directly refer to the typological study of J. D. van der Waals and Glasbergen from 1955 and it is not clear whether his statement was motivated by Dutch research, although this remains a distinct possibility. Van der Waals and

²¹ Childe formulated a differentiated concept of „people“, „culture“ and „race“. He wrote that an archaeological culture (a recurrent combination of traits, such as „*dress, armament, ornaments, domestic architecture*“ at a certain time and area) was not to be mistaken with a race, because „*quite exceptionally do the skeletal remains associated with a given culture belong exclusively or even predominately to a single physical type.*“ (Childe 1933, 198). Nevertheless, for the „*Beaker culture*“, he argued in favour of such an association of „*culture*“ and physical type.

Glasbergen developed a typological scheme of the Beaker development in the Netherlands that had a major impact on research (van der Waals & Glasbergen 1955) (Fig. 7). They concluded that the intrusive pan-European / Maritime Beaker (type 2Ia) stood at the beginning of the local Beaker evolution (their ‘Bell Beakers’ as opposed to ‘Protruding Foot Beakers’ (PFB); the latter developing from the central German Corded Ware). The Maritime Beaker then split up in the AOO (type 2IIb) / AOC (type 2IIa) series (by “*borrowing the decorative techniques of the Beakers with protruding foot*”) and in the “*true*” Bell Beaker series (types 2Ic-2If) (van der Waals & Glasbergen 1955, 33-34). Their scheme was widely accepted and formed the basis of the ‘Dutch Model’ that was published in 1976 (see below) (Lanting & van der Waals 1976).

2.1.3 The Rückstromtheorie

Another theory that gained wide acceptance was Edward Sangmeister’s ‘Rückstromtheorie’ (Reflux-Theory) (Sangmeister 1957; 1961, 25-56).²² This idea was based on a two-stage development of the ‘Beaker Culture’ that tried to explain its diffusion. Accepting Castillo’s view that the Maritime Beaker stood at the beginning of the Beaker development, he argued that it then spread from the Tagus estuary to east-central and central Europe.

The prime catalyst for the spread northwards (either via migration or exchange of ideas or goods) was the search for metals (Sangmeister 1961, 25-56). The Maritime Beaker then developed hybrid forms, on the one hand with the Corded Ware in the Netherlands, and on the other hand with local pottery in Bohemia and Moravia. In that way, influenced by the alien pottery (and the people behind it), the local archaeological ‘cultures’ then formed Beaker ‘cultures’ that still retained local attributes, elements of which (namely wrist-guards, V-perforated buttons, the practice of single grave interment, copper daggers) then re-fluxed to the Iberian Peninsula and were responsible there for the formation of the late regional Beaker styles, e.g. Ciempozuelos or Palmela (Sangmeister 1966, 395-407). Stuart Piggott supported Sangmeister’s model and considered the British Beaker ‘cultures’ associated with, and being part of, the *Rückstrom* (Piggott 1963, 89).

²² Sangmeister pointed out that Castillo had already spoken of a re-flux when he showed that cord decoration on Beaker pottery had come to Spain in a re-flux movement from the Rhine area (1957, 265).

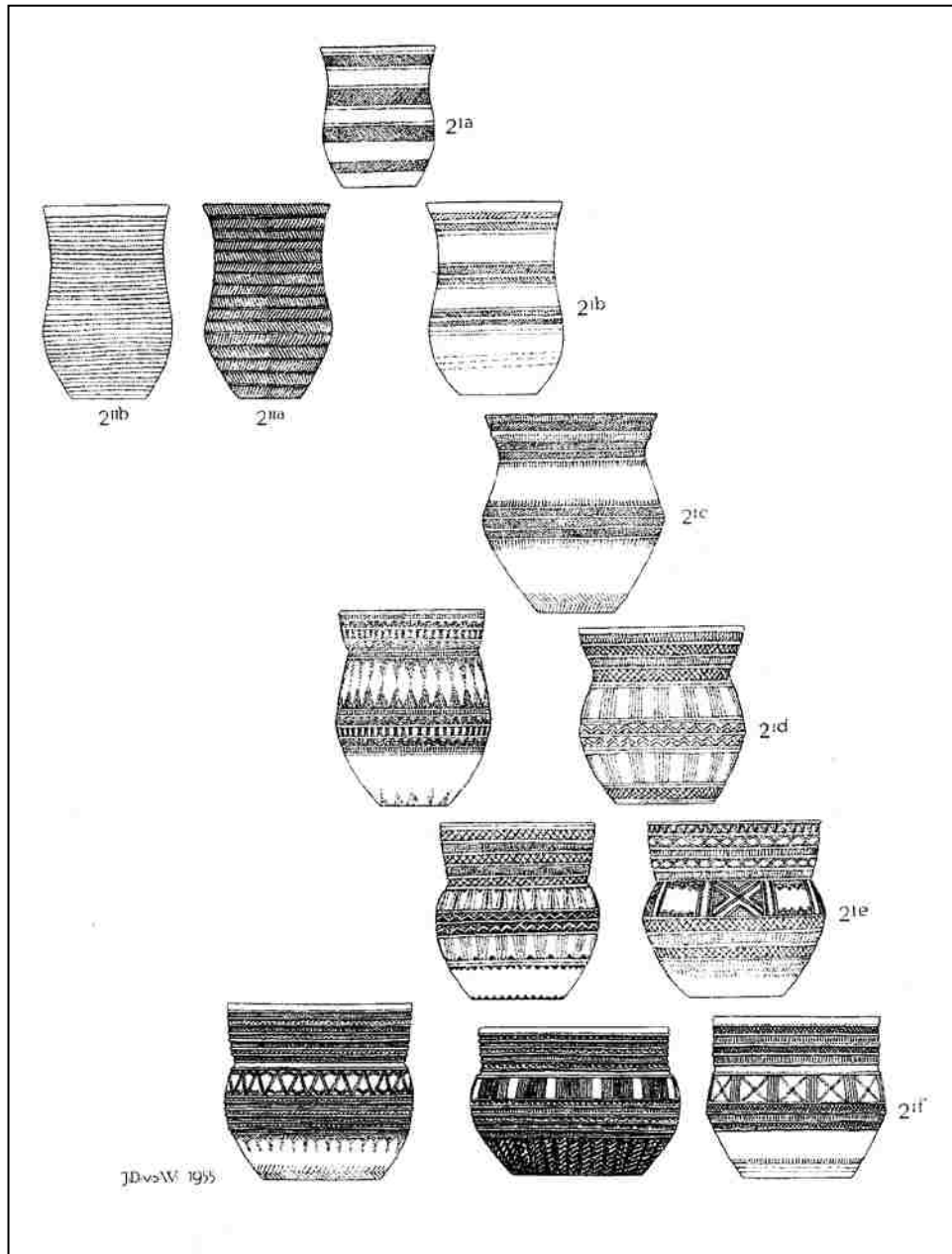


Fig. 6 Relative pottery chronology of Beakers in the Netherlands

The scheme shows the earliest, intrusive Beaker on top and the later, developed types below.

2Ia: Pan-European Type; 2Ib: AOC; 2IIa: AOO; 2Ib: Beaker with incipient zone contraction; 2Ic: Beaker with contracted zones; 2Id-2If: Veluwe Beakers
(after van der Waals & Glasbergen 1955, 18, fig. 9)

This model was criticized, for example by David L. Clarke, who argued on grounds of Dutch radiocarbon dates that AOC Beakers were older than Maritime Beakers or at least considerably overlapped chronologically, thus reversing Sangmeister's

sequence (Clarke 1970, 45). His second objection was that many European Maritime Beakers that should, according to Sangmeister, be part of the Beaker *in-flux* into central Europe already carried cord impressed lines which in the re-flux model would only have become part of the Beaker repertoire in the Rhineland (*ibid.*, 45-46). Additionally, Clarke criticized the “strange hotchpotch” of elements belonging to the reflux-movements and lastly the short chronology of 200 years that Sangmeister calculated for both flux and re-flux (*ibid.*, 46-47). Sangmeister’s comparison of finds over very large distances, such as comparing Ciempozuelos pottery and Beaker pottery from Bohemia and Moravia also weakened his theory. When revising his model, Sangmeister himself criticized his theory, as it was at least partially based on a flawed premise. He realised that the opinion held at the time, that the Maritime Beaker derived from Neolithic impressed wares and had their position at the beginning of the Beaker development, was wrong. In accepting this, a major argument of the reflux-theory disappeared (Sangmeister 2008, unpublished manuscript).

2.1.4 Gulf of Lion

Clarke proposed a different scheme, but he was also looking for the place of emergence of Beakers. In the tradition of Childe he argued that “in a widely diffused assemblage the most widespread forms are likely to be the earliest”, and therefore sought a region with a dense concentration of finds, a region where the Beaker pottery styles that he expected to be early were assembled and where the Beaker assemblage could be derived from pre-Beaker archaeological ‘cultures’ (Clarke 1970, 47). He identified the Gulf of Lion as that region in arguing that his ‘basic’ (i.e. early) decoration motives of European Bell Beakers (including all ‘early’ Beaker types, such as the Maritime Beaker that was the regional Atlantic type) had forerunners in *Chasséen* pottery²³ (Clarke 1970, 47-51). Cord decoration and the typical shape of early Beaker pottery were features that he could not easily deduce from *Chasséen* contexts (*ibid.* 48). While the shape of the pottery had several parallels in preceding archaeological ‘cultures’, e.g. in pre-Beaker Copper Age pottery from the Tagus estuary (Kunst 2001), Lanting & van der Waals were surprised to find that Clarke, who had argued that AOC Beakers stood at the

²³ That dates to c. 4500-3500 BC.

beginning of the Beaker sequence (see above), nevertheless suggested that the origin of AOC Beakers was to be found in the Gulf of Lion and not in the Netherlands (Lanting & van der Waals 1972, 45). Another argument for the origin in southern France was the central location within the distribution area of certain cultural traits or objects (such as corded decoration). It is contended here that this argument of the central distribution is generally valid. The origin of objects does not necessarily coincide with their densest distribution. However, the region with the highest concentration of Beaker finds is the Tagus estuary (Salanova 2000, 187) and it is also considered the place where the Beaker Phenomenon developed (even though that topic is still hotly debated; see below). Taking these criticisms together, it probably explains why Clarke's model for the origin had little impact in research.

Finally, in taking up an old idea of Jaroslav Palliardi (1919), Richard Harrison constructed a dual-origin model for Beakers (1974). He proposed that Maritime Beakers developed in the region of the Tagus estuary and AOC Beakers in the Middle Rhine area. Both types then spread out, met in some areas, e.g. Brittany or the Gulf of Lion and formed there the CZM (cord-zoned Maritime) forms (Harrison 1974, Table 1). His model was hardly discussed in subsequent research, however, probably because another theory – the Dutch Model of Lanting & van der Waals (1976) – was presented shortly after, and this seemed to offer the key to the Beaker problem (see below).

2.1.5 Oberried: the Dutch Model and...

An important moment in Beaker research was the 1974 *Glockenbecher-Symposium* at Oberried, Germany, at which several new theories and ideas were presented and that has been seen as a starting point for a 'new' stage in Beaker research (Lanting & van der Waals 1976). That publication reflects the conflict between works of traditional, culture-historical approaches and those based upon the methodological framework of the New Archaeology of that period. One of the accounts of the *Glockenbecher-Symposium* showed that the 'new' ideas did not appear suddenly but developed over a considerable period of time. Evžen Neustupný, in his paper "Paradigm Lost", described a paradigm change that started in the mid-1950s. He described the governing theories of that period as outlined above, i.e. that "[a]rchaeological cultures were considered to be reflections of groups of ancient peoples, be it nations,

tribes or other ethnic units”.²⁴ Although this view had been criticized by many archaeologist because it had been politically exploited, they still “accepted the set of questions the paradigm imposed on their work”, i.e. the questions about the origin of groups, their contacts and migrations, their religion and the physical anthropology. He added that the physical-anthropological approaches were not favoured after World War II for reasons of racism (Neustupný 1976, 241-247). In the same volume, however, Kurt Gerhardt (1976) published his craniometrical study that showed that from the point of view of a physical anthropologist, skulls exhibited clearly distinguishable features. It also becomes clear when reading the discussion that followed Gerhardt’s account, that scholars such as J. D. van der Waals or Edward Sangmeister accepted these differences and thought they were significant, even though they did not suggest that different skulls identified different races (Lanting & van der Waals 1976, 164-166).²⁵ Also Humphrey Case connected the spread of Beaker pottery in Britain with a “human genetic type”, also based on Gerhardt’s results (1976, 454). It is significant to see how, on the one hand, these scholars demanded different approaches in order to explain the spread of Beakers. On the other hand, they partly remained within the traditional paradigms.

Neustupný continued that economics and social relations – important factors in Processual Archaeology – were neglected because with them the traditional problems could not be solved. In that context he mentioned D. L. Clarke’s *Beaker Pottery of Great Britain and Ireland* as a good example of this paradigm being still applied, referring to Clarke’s waves of invasions (see below). He also argued that a shift towards new approaches and ideas started in parts of east-central Europe because newly available dates did not fit the traditional view any longer (Neustupný 1976, 241-247). Concerning Beaker archaeology those years produced important new theories and new thought-provoking impulses. They may not have delivered the answer to the problem but were one step towards solving it and some of them still are accepted theories.

Of crucial importance and major impact was the work of J. Lanting and J. D. van der Waals with their detailed account on the Dutch Beaker material. This ‘Dutch Model’

²⁴ He called that “Kossinna’s paradigm” after one of the most influential – even not first – advocates.

²⁵ They did not talk about ‘races’ but ‘groups’. Even though they replaced the term they remain in old patterns of thought.

was based on the scheme of Glasbergen and van der Waals of 1955 and their typological data were now supported by radiocarbon dates from closed finds. The result of that work, however, had a major difference. While in 1955 the Maritime Beaker was considered to be intrusive, the 1976 work seemed to prove that in the Netherlands a continuous development from Protruding Foot Beaker (PFB) to All-Over Ornamented (AOO) Beaker to Maritime Beaker occurred (Fig. 8).

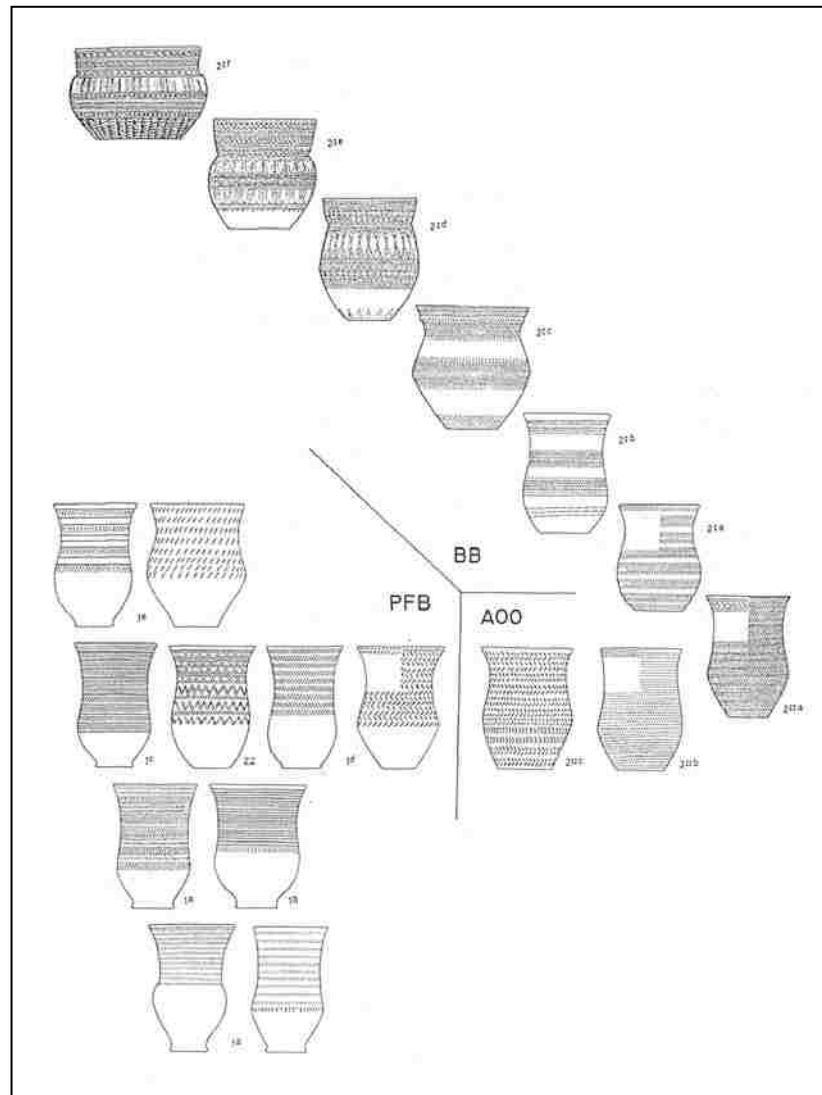


Fig. 7 Typological development of Beakers in the Netherlands
(PFB: Protruding Foot Beakers; AOO: All Over Ornamented Beakers; BB: Bell Beakers)
(after Lanting & van der Waals 1976, 4, fig. 1)

Nevertheless, the authors stressed that it was not possible to identify ‘the’ origin of the ‘Bell Beaker Culture’ in the Lower Rhine Area since typical artefacts (wrist-

guards, daggers) were not known to be associated with the early AOO and Maritime pottery. Furthermore they argued against the “misleading simplification” of a single point of origin (Lanting & van der Waals 1976, 2). However, this last observation was not appreciated or was simply ignored by large parts of the research community and the theory was subsequently applied as a universal solution in many parts of Europe. A first critique of that model was formulated by Christian Strahm (Strahm 1979, 285-293). Strahm pointed out firstly, that the radiocarbon dates that had been cited were not calibrated, and secondly, that the situation in the area in question could also have developed differently.²⁶ Moreover, he stressed that the model could not be applied to other regions.

Further critiques were published considerably later, e.g. by Ian Kinnes *et al.* (1991), Julia Roussot-Larroque (1990, 189-204), Humphrey Case (1993, 248) and Laure Salanova (1998). They also criticized the weak basis of the model, namely the small number of (uncalibrated) radiocarbon dates used and the looseness of association between the dated samples and the Beakers in question. The paltry seven dates associated with Beakers were all from charcoal, four of them coming from one context, and moreover the subsequently calibrated dates did not support Lanting and van der Waals’ sequence. Salanova also considered the small number of Maritime Beakers compared to AOO and Veluwe Beakers and questioned whether it was valid to assign a chronological phase to the Maritime Beakers, that stand at the beginning of the Beaker development (1998, 1-2). These criticisms, especially concerning the validity for other regions, have not been accepted everywhere. Parts of the research community until recently accepted the Dutch Model as the most likely answer to the ‘Beaker question’, such as Rafael Garrido-Pena who pointed out that, even though disputed, the model was still accepted (Garrido-Pena 2000, 18). Nowadays it seems that the most accepted area of origin is the Tagus estuary in Portugal, for the old C¹⁴-dates that have been gained from Beaker contexts (see Müller & van Willigen 2001). Nevertheless, there is an ongoing debate as to the validity of the sequence proposed in the Dutch Model. The same conference in Riva del Garda that produced Müller and van Willigen’s analysis also saw a review of the Dutch Model by Zita van der Beek and Harry Fokkens (van der Beek & Fokkens 2001). They argued that the

²⁶ Beakers could have developed in SW Europe and spread to NW Europe where they ‘met’ Corded Ware and through a process of amalgamation they form the AOC Beaker.

similarities between Single Grave Culture (below: SGC) contexts and Bell Beaker contexts, in terms of pottery, flint industry and settlement patterns and funerary practices were striking and pointed to a continuous development in the area, thus confirming Lanting and van der Waals' theory for the Netherlands (*ibid.*). While arguing for continuity in material culture, they stated at the same time that the succession Protruding Foot Beaker (PFB) – AOO Beaker – Bell Beaker represented a chronological sequence that does not necessarily give clues as to the origin of the Bell Beaker phenomenon. That means that they seem to separate the material expressions of the local community (e.g. the Beaker pottery) from a possibly alien ideological framework (the Beaker phenomenon) that could have originated elsewhere.

In the context of his work on the chronology of central European and southern Scandinavian Corded Ware, Martin Furholt discussed the pottery sequence in the Netherlands and concluded that the assumptions of the Dutch Model had to be revised (Furholt 2003, 97-98). He showed that the radiocarbon dates could neither verify nor falsify whether PFB Beaker were older than AOO Beakers. The dates rather suggested that they were contemporaneous occurrences. The theory that Beakers were stylistic developments was refuted by him because of the existence of radiocarbon dates for Beaker contexts from other regions that pre-dated the Dutch dates (*ibid.*).

In a recent account, the chronology and sequence of PFB - AOO - Bell Beaker has been discussed again and was tested against the available radiocarbon dates (Beckerman 2011-12). Beckermann concluded that the mass of available radiocarbon dates for PFB, AOO and Beaker contexts in the Netherlands were unreliable due to uncertain contexts, old wood effects, etc. and that the sequence of these pottery styles could not be tested with the currently available radiocarbon dates (Beckerman 2011-12, 40). However, despite the Iberian radiocarbon dates and the argument of continuity from the Portuguese *copos* to Beakers the discussion on the Dutch Model continues. Marc Vander Linden argued that the “*local validity of the Dutch sequence cannot [...] be questioned*” (2012, 76). Vander Linden refuted Salanova's argument that a missing horizon of pure Maritime Beakers in the Netherlands would speak against their origin there. Such a 'pure' Maritime Beaker horizon did not exist

anywhere in the distribution area and therefore its absence in the Netherlands meant nothing. He rather thought that especially the lack of this horizon could be interpreted in terms of the local roots of Maritime Beakers that were seamlessly integrated in the Netherlands (*ibid.*). The only pottery that according to Vander Linden could be the typological prototype for Maritime Beakers, were vessels of the SGC (*ibid.*). Clearly, there is still a lively debate on the Dutch Model 30 years after its introduction and further radiocarbon dates from secure contexts will be necessary to convince either the advocates or opponents of the model.

2.1.6 ...the Beaker Network and the Beaker Set

The symposium in Oberried in 1974 did also produce works that showed a clear shift from traditional descriptive culture-historical models towards approaches that were orientated on Processual Archaeology. That basically meant a) a focus on more scientific and thus reproducible and comprehensible approaches and b) a shift towards anthropology and thus on human behaviour. Exponents of this shift were David L. Clarke (1976, 459-475 – despite his somewhat culture-historical interpretations elsewhere: Clarke 1970; see below) and Stephen Shennan (1976, 231-240). They put forward the argument that, in order to obtain new results, new questions had to be asked and the material culture had to be interpreted in different ways. “[T]he problem is not a matter of data but a matter of alternative assumptions and approaches, alternative models and concepts, alternative questions and explanations – in short, a matter of theory” (Clarke 1976, 460). He developed a model in which the Beaker receives the role of a “vehicle[s] of rank, prestige, status display...” as opposed to a cheap, functional domestic product (*ibid.*). Clarke explained the spread of Beakers in terms of the exchange of small numbers of high-value, fine-ware Beakers, made by semi-specialist potters, over pre-existing exchange networks (*ibid.*, 462-463; 466). In doing so, he divorced these Beakers from the context of the usual common ware and removed one of the components of the construct of the ‘Beaker culture’. As one consequence he proposed to replace the term Beaker “culture” by Beaker “network” (*ibid.*, 468).

Furthermore, Shennan, at the same congress and in 1976 with Colin Burgess (1976; see below), interpreted the meaning of Beakers similarly. They regarded the Beaker ‘culture’ not as a discrete entity linked with a specific ethnic group or ‘folk’ but as a

restricted set of artefacts in the context of local communities. This set would represent an inter-cultural phenomenon, possibly with a ritual background, so no (or little) movement of people was involved but a transfer of ideas. As an ethnographic parallel they described the Peyote cult that spread in the 19th century AD from Mexico and reached native North American societies. This cult not only involved the consumption of an intoxicating substance (the Peyote cactus with psychoactive properties) but also a characteristic set of artefacts that were part of the cult (Shennan & Burgess 1976, 309-327).

Shennan also called for Beaker studies that focused on smaller geographical areas in order to evaluate local sequences, rather than repeatedly placing Beakers in an international framework and oversimplifying the situation. In his study area in central and east-central Europe he was able to demonstrate a continuous development in the archaeological record to which Beakers were added (Shennan 1976; also see Heyd 2007).

The decade of Beaker conferences ended with a symposium in Edinburgh, where some of the ideas that had been developed in and after Oberried were adopted (Mercer 1977). The studies that were presented there, examined the evidence in four major European areas. Thereafter, with the exception of Richard Harrison's review of the history of Beaker research and the current state of knowledge (Harrison 1980) no major works were published for decade or so.

2.1.7 Cheers!

Andrew Sherratt (1987) was also looking for an answer to the Beaker problem inside the vessel itself, like Childe (1947, 218) and Burgess (Burgess 1976, 311) had done before him. However, Sherratt's approach was novel in its focus on Beakers as equipment relating to an elite tradition of drinking and conviviality. He described a complex of cultures that was characterized by drinking equipment and which spread from east to west, i.e. Globular Amphora, Corded Ware and Beakers. According to Sherratt these drinking ceremonies involved the consumption of alcohol, and were carried exclusively by male social elites to whom the valuable commodity was available. These ceremonies and, with them, the Beakers spread between dominant groups in different areas as one of several new forms of social interaction, that

underlined the importance of certain individuals rather than of groups (Sherratt 1987, 93).

2.1.8 Developments in Beaker Research, 1980s to Present

Sherratt's notion, that the Beaker phenomenon related to a male-dominated exchange system connected with drinking rituals has however been challenged, for example by Humphrey Case (1995) and Neil Brodie (1997). Case regarded Beaker pottery as principally an everyday product, which was not connected to a cult activity. The occasional well-made vessels were simply one element of the usual domestic repertoire (Case 1995). Brodie did not propose a 'global' explanation for the spread of Beakers but one that could explain the situation in north-west Europe. He argued that the initial spread of Beakers was connected to the desire of Late Neolithic communities in north-west Continental Europe to acquire copper objects from neighbouring communities in the south-east (Brodie 1997, 307ff.; 2001). These south-eastern communities were located beyond the "Chalcolithic frontier", i.e. the line, or rather the area that separated societies with and without the knowledge of the production of copper artefacts. In order to establish and maintain long-range contacts and partnerships with these copper-possessing groups marriage partners could have been exchanged, possibly resulting in a westwards move of male specialists in copper working and females that would carry their potting skills across the 'Chalcolithic frontier' towards the south-east (Brodie 1997, 309; 2001, 493-494). According to Brodie that movement could be demonstrated by finds of Beaker pottery with SGC derivation in Bohemia and Moravia (*ibid.*). It is thought that Brodie's initial hypothesis could not be tested and was rather speculative at that time. Only with results from isotope analyses there seem to be areas, such as in Bavaria, where movement of females could be proved (Brodie 2001, 492-493 and see below). With these still rather new insights Brodie's idea gains new momentum and it can be seen that at least in some areas a certain degree of movement was a factor in the spread of Beakers.

Clarke's remark "[t]he wheel has come to full circle" (1970, 5) when he described Beaker typologies, can also be applied to the quest for the origin of Beakers. The old paradigm that Beakers derived from the Iberian Peninsula was again proposed by Michael Kunst (2001). He argued that Beakers were found in contexts with "items of

longer tradition” (e.g. the *folha de acácia* pottery from Portugal) which indicated that Beakers were a new style of decoration within an established repertoire that had not been brought in from outside. He suggested that similar dynamics had led to the development of the *copos* that pre-dated Beakers and from which Beakers had probably derived (2001, 82). His last argument concerned the radiocarbon chronology which is thought to be the strongest point in his argumentation. This was based on the results of Johannes Müller and Samuel van Willigen who could show that the oldest radiocarbon dates for Beaker contexts came from Portugal and that Beakers spread from there to other parts of Europe (Müller & van Willigen 2001). The contribution of these authors had major impact on the discussion about the Beaker Phenomenon in Europe, because it seemed to have solved one of the first problems of Beaker research (but see below). The volume in which that article was published belongs to a series of publications that were the results of international conferences in the framework of the association ‘*Archéologie et gobelets*’ (see for example Czebreszuk 2004; Rojo-Guerra *et al.* 2005; Baioni *et al.* 2008). Since its formation in 1996 the association ‘*Archéologie et gobelets*’ “promotes collaboration with people and institutes working on Bellbeakers in particular, Late Neolithic in general, and Early Bronze Age” (http://lap.unige.ch/archeo_gobelets/team_gb.html). These meetings that have been organized by the association in different parts of Europe and subsequent publications, such as the volume that was the result of the meeting at Riva del Garda (Nicolis 2001) have given great impulses and proved to be of great importance for (especially continental) Beaker research. Rather than giving ‘global’ explanations the accounts focused on the regional evidence and investigated the role in and the impact of Beakers on local societies.

One key discovery of the last decades was that of the graves of the ‘Amesbury Archer’ (Fig. 9), his ‘Companion’ and the ‘Boscombe Bowmen’ in 2002 on Boscombe Down in Wiltshire (Fitzpatrick 2002; 2009; 2011). The finding of these exceptional features is of special interest for British Beaker research as will be shown below but must also be regarded of great importance for Beaker research in general. In particular, the exceptional grave of the ‘Amesbury Archer’, which is the ‘richest’ Beaker associated grave so far discovered in Europe, must be noted. The middle-

adult man lived between c. 2500-2300 cal BC and represents probably one of the first Beaker burials in Britain.

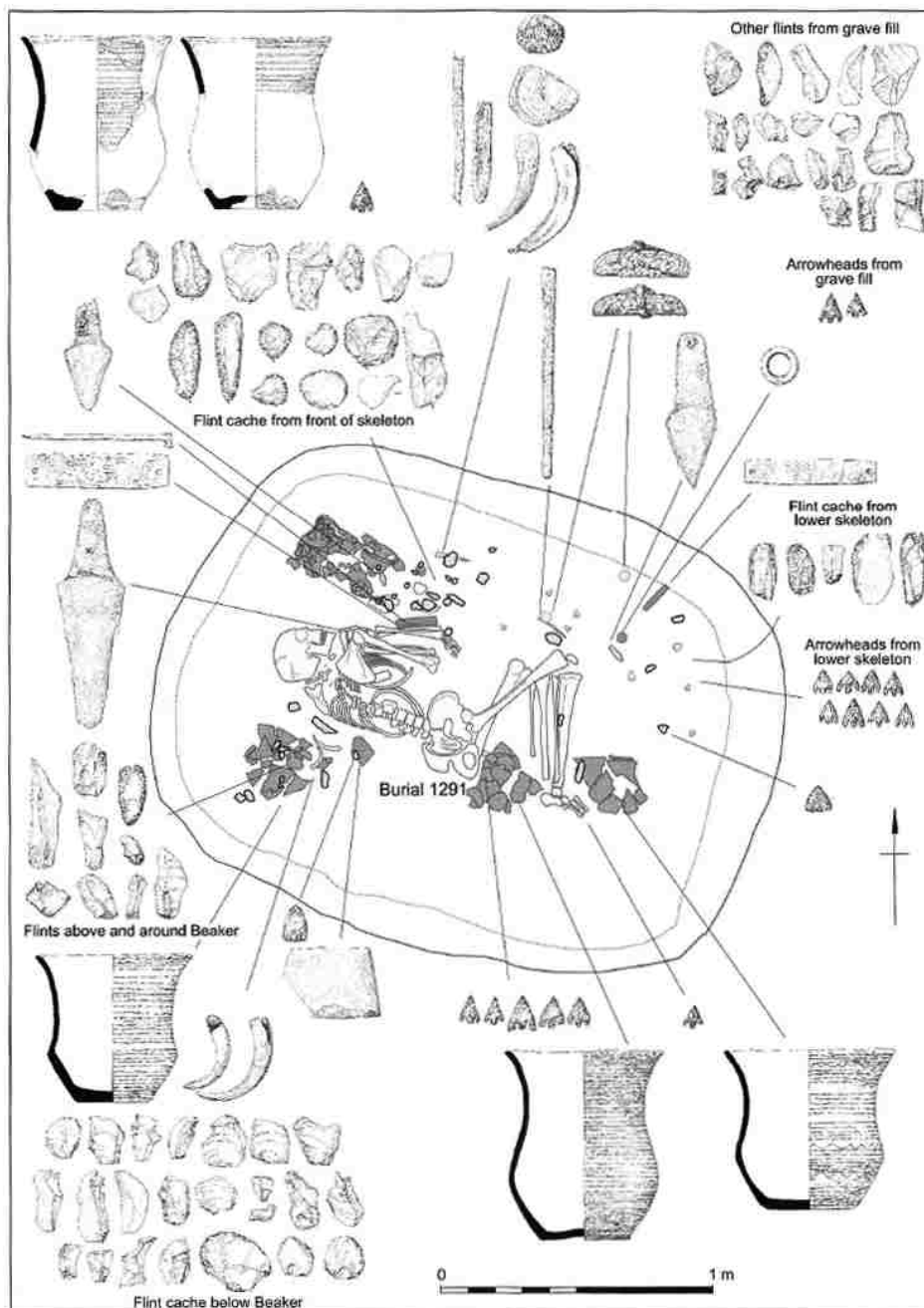


Fig. 8 Plan of the burial of the Amesbury Archer with the position of the body and the artefacts (after Fitzpatrick 2011, 78, fig. 28)

Amongst many other artefacts, he was accompanied by five early Beakers, three copper daggers and two wristguards, arrowheads and several ornaments. The

quantity of the associated artefacts is without parallel but in addition stable isotope analyses showed that the individual did not grow up in Britain, but probably on the continent. The oxygen analyses allowed for an origin of the man “in South-East or West Germany and up into Scandinavia” (Chenery & Evans 2012, 87). The strontium isotope composition pointed to an origin in the Alpine region (*ibid.*). Not only the ‘Amesbury Archer’ but also three adult males (the ‘Boscombe Bowmen’) that were found on Boscombe Down in close vicinity to the ‘Amesbury Archer’, exhibited strontium isotope compositions that were not in accordance with compositions for the area of discovery. These individuals had possibly spent their youth in Wales, that means about 100-150 km from their final resting place, or alternatively in Scotland or the Lake District (Evans *et al.* 2006; Evans & Chenery 2012, 32; Chenery & Evans 2012, 187). In particular, the finding of the possible origin of the ‘Amesbury Archer’ caused a stir. The idea that an individual had travelled that far and had received such a remarkable burial seemed to prove the theory of migrating individuals dramatically. There is, however, a critique that should not be forgotten: in the excitement about this finding, one important aspect has not been stressed sufficiently and Harry Fokkens acted as the *advocatus diaboli* when he recently stressed that in his opinion the available data concerning the origin of the ‘Amesbury Archer’ had been severely over-interpreted (Fokkens 2012, 124, note 2). According to Fokkens, insufficient baseline research on the oxygen isotope data had been carried out and the conclusion that the origin of the man was the Alpine region was “overstretching the resolution of the data” (*ibid.*).²⁷

The result that the Amesbury Archer and Boscombe Bowmen had travelled, in the former case possibly even over considerable distances, led to an increased focus on stable isotope analyses in order to identify mobility or migration patterns of people (see also below, Chapter 5.2 Demography). Strontium (Sr) and Oxygen (O) isotope analyses have proved to be a valuable tool in this respect (e.g. Evans *et al.* 2006). Depending on the geological properties the proportion of strontium in the ground differs. It enters the food chain without fractionation and is incorporated in bones and teeth of organisms and in that way the proportion of strontium that the individual consumed through food during different phases of its life is archived in bones or

²⁷ For a general critique see Pollard 2011.

teeth (Bentley 2006; Heyd *et al.* 2003, 119). Tooth enamel is formed during childhood and does not change afterwards. Thus, the strontium proportion reflects the local geology during childhood. In contrast, bones are rebuilt during life and reflect the strontium proportions in the last years of life (*ibid.*). If the strontium proportions of an individual differ from the strontium proportions of the soil where it was found, mobility is indicated. In Beaker research this method has been applied from the late 1990s, for example in Bavaria, Germany and it could be shown there that parts of the population were newcomers (Grupe *et al.* 1997; Price, Grupe & Schröter 1998). The application of this method increased in the last years. The analysis of the oxygen isotope composition in teeth also gives information as to the location in which the individual lived during childhood (Evans *et al.* 2006). Oxygen is taken up through the fluids such as groundwater, and has also region-specific properties (*ibid.*; Chenery & Evan 2012, 185).

Movements of people could also be demonstrated for Corded Ware using communities in central Germany (Haak *et al.* 2008). At Eulau, Saxony-Anhalt, four groups of multiple burials comprising a total of 13 individuals including children and adults were excavated that had been dated between c. 2650-2500 cal BC (at the 1σ level) (*ibid.*, 18228, table 1) They were probably victims of a violent conflict as five individuals exhibited traumatic lesions. The arrangement of the individuals suggested that families had been buried together and aDNA analyses demonstrated that some individuals were kin and it was also possible to find a 'core family' consisting of an adult male, an adult female and two children. Furthermore, isotope strontium isotope analyses showed that the males and children from the site revealed a consistent strontium value that agreed with the local strontium values. Three female individuals had differing strontium values that and the closest location of similar values lies in a distance of about 60km in the Harz Mountains (Haak *et al.* 2008).

Other research projects focussing on possible movements of people in western Switzerland in later prehistory aimed on the analysis of non-metrical dental traits (Desideri & Besse 2010; Desideri *et al.* 2012). The results of the analyses of dental traits indicated a certain degree of mobility or "a moderate population contribution" during the late Neolithic that slightly increased in Beaker times (Desideri *et al.* 2012, 95-96). However, the analyses did not seem to be clear-cut. Further analyses of

artefactual evidence indicated that influences from both the eastern and the western Beaker domain were visible in western Switzerland (Desideri et al 2012, 94-96). Additionally, in the context of the origin of Beaker pottery and its dispersion, petrologic analyses of pottery have aimed to clarify the provenance of vessels, or rather the provenance of the clay they were made from. Thus, not only the movement of people but also of the artefacts has been tried to clarify. In Britain, Mike Parker Pearson could demonstrate that Beakers had been produced and discarded locally (Parker Pearson 1995, 92-93) and also in other areas such as central Spain the pottery had been made from local clays (Millan & Arribas 1994). The same was shown more recently for the fortified site of Leceia; also there the recovered pottery had been made locally (Cardoso, Querré & Salanova 2005). In south-western Brittany, however, some Beakers were identified that had been produced elsewhere, as shown by petrographic analysis. However, it was not possible to show how far the Beakers in question had travelled (*ibid.*).

2.1.9 Little Bits of History Repeating

It has been shown that certain topics in Beaker research either proved to be permanent issues or shifted into the focus, lost importance only to become crucial again, either because new data allowed to answering old question or because new methodological approaches had developed.

This phenomenon of recurring patterns in the history of research has been explained in a model formulated by Andrew Sherratt who wanted to illustrate these cycles in European cultural and intellectual history (Sherratt 1996). In applying a long-term perspective, he summarized two dialectic ways of thought as ‘enlightenment’ and ‘romantic’ attitudes to the past. According to Sherratt ‘enlightenment’ writings are “comparative and scientific, privileging rational thought and offering deterministic models” as seen, e.g. in the New Archaeology / Processual Archaeology, whereas ‘romantic’ ones are “contextual and relativist, emphasizing feeling and experience and offering not abstract structures but sensitive interpretations and perceptible phenomena”. The shift of attitudes can be explained through changing circumstances in societies, e.g. due to political or economic reasons (Sherratt 1996, 141-142, Fig. 1). Referring to Sherratt’s model we can recognize both ‘romantic’ and ‘enlightenment’ attitudes in present research. On the one hand, works that can be

addressed as post-processual can be seen, on the other hand abundant scientific approaches focusing on objective data are carried out, such as strontium isotope analyses in order to obtain information on migration or large radiocarbon dating programs (e.g. the “Beaker People” project for the whole of Britain). The cycles that Sherratt described get shorter with time (cf. Sherratt 1996, fig. 1) and thus reflect the remarkable pace of the development of research and the accumulation of new data. It is thought that it is hardly possible at the moment to identify periods of strictly diverging approaches. There does not seem to be a general theoretical itinerary or agenda, but a co-existence of approaches.

2.2 Beakers in Britain

2.2.1 A Century of Research: from Drinking Cup to Beaker (1812 – 1912)

The first antiquarian studies that included Beakers were not systematic approaches to the topic, but generally aimed on visible monuments such as barrows, mounds and megalithic structures. That logically resulted in a focus on (Beaker) funerary contexts, which persisted well until the 1960s and even though research is much more varied today much work is still based on funerary contexts.

This resulted in a focus in both the studies of monuments and artefacts and also on the human remains, in particular the recovered human skulls, in order to identify the putative race of their owners.

The results of these early antiquarian excavation reports have been published in several works of regional character. The first substantial publications in Britain were Richard Colt Hoare’s *The Ancient History of Wiltshire*²⁸, Vol. 1 (1812) and Vol. 2 (1821) in which he presented the results of the excavation of some 465 barrows.²⁹ The actual fieldwork had been carried out predominately by Hoare’s colleague and friend William Cunnington. In fact, Hoare himself was mostly not present at the excavations (Piggott 1975). Cunnington had recognised that for the understanding of the archaeological feature it was crucial to document his excavations in the form of notes or sketches (Cunnington 1975) and thus enabled Hoare to conclude that in the

²⁸ Hoare published a total of five volumes between 1810 and 1821. The first three have been published as *The History of Ancient Wiltshire*, Vol. 1, the last two in Vol. 2.

²⁹ For a more detailed commentary on that work see the introduction of the 1975 reprint of *Ancient Wiltshire*, Vol. 1, by D. D. A. Simpson (Simpson 1975, 11-16).

Wiltshire barrows crouched inhumations with N-S orientation were the oldest form of burial. These were frequently placed in a 'cist'³⁰ found with *Drinking Cups* (Beakers) that were either found at the head or the feet. Cremations replaced crouched inhumations, but were also partially contemporary with them. The latest form of inhumation was extended individuals that were accompanied by iron artefacts (1812, 24-25). Hoare's comments on Beaker burials laid the foundation for the later more clearly specified stereotype of Beaker burials: a single skeleton found in a crouched position under a barrow. Raised and educated in a 'romantic' environment Hoare explicitly turned towards 'enlightenment' approaches in his work. This scientific positivist / enlightened spirit is reflected in the famous first sentence of the introduction to the *The History of Ancient Wiltshire* and also the closing sentence of the work: "We speak from facts, not theory." Hoare stressed that he "shall not seek amongst the fanciful regions of romance, an origin for [...] Wiltshire Britons, nor to prove by whom, and at what period" the "Island was first peopled" (Hoare 1812, 7).

Further works of relevance for Beaker studies were starting to be published around the mid-19th century with the presentation of a large amount of material, mainly from barrow excavations. These included the works of Thomas Bateman (1848; 1852; 1861), John Thurnam (1863; 1869; 1871; Davis & Thurnam 1865), William Greenwell (1877) and some years later John Mortimer (1905).

Bateman published the results of the excavations of about 400 barrows (1848, 1861). He concluded that Beakers were always associated with skeletons and because of the usual association with flint artefacts and only occasionally metal finds, he dated them to "a period when metal was almost unknown" (Bateman 1861, 285). He also was one of the first British authors to include the results of "ethnological" studies in his work (Bateman 1852, 210). He described two types of crania that he had found in the course of the excavation in many barrows to which he associated different races. Individuals with an "elongated and boat-shaped cranium" (long-headed or *dolichocephalic*) that were small of stature, but having "great muscular development" were found in chambered tombs and were almost exclusively accompanied by flint artefacts (Bateman 1852, 211-212). In the round barrows he

³⁰ "By the word cist, I mean an excavation cut in the soil or chalk, for the reception of the skeleton, ashes, or sepulchral urn." (Hoare 1812, 42).

recognized a different skull shape of the buried individuals. These people had broad (*brachycephalic*) skulls and “were rather tall as well as strong” and were sometimes accompanied by a greater variety of grave-goods, occasionally metal objects and he specifically made mention of the well-made pottery that he repeatedly found in the round barrows – the Beakers (*ibid.*, 211; 214). Based on these associations, Bateman pre-dated the chamber tombs to the round barrows. The latter he placed in the transitional period between the stone and metal ages (Bateman 1852, 214). He, however, did not consider the change in skull shape to be sudden and neither to be the result of “any hostile interruption of colonization.” (*ibid.*). Concerning the introduction of Bronze, he was uncertain whether it was an indigenous development or if it proved “the admixture of a foreign element amongst the ancient population” (*ibid.*, 218).

Mostly based on the skeletal material excavated by Bateman, Joseph Barnard Davis and John Thurnam³¹ published their *Crania Britannica* in 1865. Davis contradicted Bateman’s theory that there had been at least two successive ‘races’ in prehistoric Britain. This was not based on skeletal material alone, but also on the argument that the massive chamber tombs and their elaborate constructions could not be older than the less complex round barrows (1865, 229). He further disagreed that bronze had been introduced by a “conquering people”, but rather through “gradual introduction and diffusion” (1865, 55). As Neil Brodie (1994, 37) pointed out, it is remarkable that Thurnam did not share this opinion of Davis, who was his co-author of *Crania Britannica* (Thurnam 1863, 125).³² Instead, he argued in favour of Bateman’s earlier view that dolichocephalic crania belonged to a Neolithic population (buried in the chambered barrows), whereas brachycephalic crania identified a Bronze Age population (that was buried in round barrows) (Thurnam 1871, 543-544). This opinion was part of a review in which Thurnam analysed the evidence on round barrows, particularly of those 354 barrows³³ that had been published by Hoare

³¹ Thurnam was a medical doctor and his main concern was to identify the races of the early inhabitants of Britain and Ireland based on craniometric studies.

³² For a detailed discussion on craniometric studies see Brodie 1994, 36-42.

³³ In fact, Hoare published the results of 465 tumuli, but Thurnam excluded those that he could not use in his analysis (Thurnam 1871, 285-288).

(Thurnam 1871)³⁴. This was the first “systematic study” of the then excavated material and Paul Ashbee called it a “landmark” of barrow studies (Ashbee 1960, 21). It included the classification of pottery forms in which Thurnam was able to distinguish four distinct pottery traditions, among them the ‘drinking cups’ (Beakers) (1871, 337). However, as Abercromby had already noticed, Thurnam put the Beakers at the end and not the beginning of his scheme (Abercromby 1912, 17), thus arriving at the sequence Cinerary Urns – Incense Cups – Food Vessels – Drinking Cups (1871, 337). Based on the pot shape, he divided Beakers typologically into three groups: α : high-brimmed globose cup, mostly found in southern Britain; β : ovoid cup with recurved rim; γ : low-brimmed cup, mostly found in northern England and in Scotland (*ibid.* 391-395).³⁵ Thurnam underlined his earlier views and he had a clear idea about the chronological division between long and round barrows; based on the lack of metal finds, he thought that long barrows must have belonged to the “Stone period” (Neolithic), while round barrows produced not only stone artefacts but “chiefly” those of bronze and sometimes of iron and thus belonged to the Bronze Age or the Bronze Age Iron Age transition, respectively (Thurnam 1869, 168). As outlined above, Bateman had dated Beakers to a period when metal was mostly unknown. Thurnam disagreed and dated Beakers to a later time period. He argued that the lack of metal was the result of a change in deposition practices rather than an argument for an early date. He supposed that the practice of metal / weapon deposition had become rare, possibly through Roman influence (Thurnam 1871, 389).

Concerning position of the individuals, Thurnam confirmed Hoare’s observation that the predominant orientation of individuals was N-S and that the body was in most cases either placed on the left or right side in a contracted position (Thurnam 1871, 315-319). These patterns, however, were formulated for burials in barrows in general rather than specifically for Beaker burials.

Based on his excavations of barrows mostly on the Yorkshire Wolds Canon William Greenwell supported the chronological division of Bateman and argued that long

³⁴ Two years earlier Thurnam had published an analysis of the long barrows (1869) that is of less interest here.

³⁵ According to Needham’s scheme α -Beakers broadly coincide with Long Necked Beakers, β with Low Carinated Beakers and γ with Short Necked Beakers (Needham 2005).

barrows were the older barrow form that dated before the introduction of metal (Greenwell 1877, 3). He dated inhumations under round barrows to a period after the introduction of bronze and added that both the practice of inhumation and cremation existed concurrently (*ibid.* 20). Greenwell also understood that specific patterns concerning the orientation and position of the skeletons existed, but he did not explicitly state whether certain orientations and artefact associations coincided, even though he produced a detailed table of his barrow excavations (*ibid.*, 458-478). He, however, had recognised that individuals with the head in a westerly direction were mostly resting on their right side and based on gender-typical artefacts he concluded that these were predominately women (*ibid.*, 25-26.). In contrast, males and children were lying in an easterly direction on their left sides (*ibid.*, 26).³⁶ This observation is in accordance with present results as will be shown in the analyses below (see chapter 3.5). John Robert Mortimer generally followed the ideas of Greenwell and quoted whole paragraphs of *British Barrows* (Mortimer 1905). He excavated 288 barrows that produced a total of 893 burials (328 cremations and 565 inhumations). Of the 893 burials, 258 were associated with pottery and of those only 38 with Beaker pottery, all of which were associated with inhumations (*ibid.* xxxlv; lv). For several years Mortimer's work was the last in the long line of publications of barrow excavations and the vast amount of Beaker material that had been excavated and published in the decades before still had to be analysed. Consequently, subsequent research focused more on Beakers themselves, particularly on typological and chronological aspects.

Shortly before John Abercromby had published an article on the origin of Beakers (Abercromby 1902) and in addition to Thurnam's notion of a Bronze Age population with brachycephalic skulls (see above), Abercromby not only suggested that the appearance of Beakers could be connected to immigration from the continent, but also added an ethnic element in that he connected the immigrants with a new 'race' that had brought Beakers to Britain at the beginning of the Bronze Age (Abercromby 1902, 374). "The 'Beaker Folk' had been born[.]" (Brodie 1994, 39). In the same work, Abercromby suggested to replace the term 'Drinking Cup' that had been introduced by Colt Hoare a century earlier (1812, 25) and instead introduced the term

³⁶ ♀: 40 placed on the right side, 52 on the left; ♂: 26 on the right side, 19 on the left (Greenwell 1877, 26).

'Beaker' because it was better corresponding to the Scandinavian and German nomenclature and therefore would facilitate scientific work (Abercromby 1902, 374). Abercromby's subsequent work replaced Thurnam's Beaker nomenclature by subdividing Thurnam's grouping and thus established a complicated typology of Beaker pottery (Abercromby 1904) and in 1912 he provided the first corpus of Beaker pottery in Britain³⁷. In this latter body of work, he presented a less complicated Beaker classification system and also changed the nomenclature of Thurnam's Beaker groupings from α , β , γ to A, B, C. The classification of the vessels focussed primarily on their shape and then on ornamentation (Abercromby 1912).³⁸

2.2.2 Re-ordering Beakers

Changes to Abercromby's scheme became necessary when it was recognized, that the succession of his typologically established groups A, B and C were not in accordance with the archaeological evidence. Childe amended the grouping for typological reasons and for reasons of associations, thus becoming B, C, A (Childe 1930, 200-201). This new typology was supported by other authors, e.g. by Graham Clark who pointed out that B Beakers were typically associated with copper daggers and wrist-guards while C and A Beakers had riveted bronze daggers, flint daggers, stone axe-heads, pulley-rings and V-perforated buttons as recurring associations (Clark 1931, 417-418). Clark concluded that pottery typology, artefact associations and distribution of pottery indicated two distinct Beaker groups whose origins had to be sought in the Low Countries and the Rhine Valley, respectively (*ibid.*, 424; 426). Even though the original succession A, B, C lost acceptance, the nomenclature was maintained and re-fined by other authors such as Margaret Crichton Mitchell, who was working on the Scottish Beakers and called for a revised classification system for British Beakers on the base of Abercromby's work (Crichton Mitchell 1934, 134). According to Crichton Mitchell several of the C Beakers that Abercromby had identified as British developments had direct parallels in the Netherlands. She also argued for a two-fold immigration with a strong Dutch influence in Scotland (Crichton Mitchell 1934, 161). Later works led to more and more complex

³⁷ That was only replaced in 1970 by David Clarke's monumental work (see below).

³⁸ Another of Abercromby's important contributions to archaeology was the foundation of one of the first Chairs in Archaeology in Britain at the University of Edinburgh. This Chair was later held by Vere Gordon Childe and Stuart Piggott who both greatly contributed to Beaker research.

classifications until Stuart Piggott replaced and simplified the (altered) Abercromby nomenclature by the terms, “Bell Beaker”, “barrel”, “short and long necked Beaker” (Piggott 1963, 57). In the classification process he did not only consider the pottery, but the whole range of artefact associations (*ibid.*). David Clarke criticised Piggott for not offering a detailed explanation when he replaced the old classification system and concluded that with this simple system “the wheel has come full circle” entering “the 1970’s using a colloquial form of Thurnam’s classification on the 1870’s” (Clarke 1970, 5).

2.2.3 A Beaker Monument and Classification Systems

Clarke’s critique was published in one of the most influential studies on Beaker typology and Beaker evolution schemes for Britain and marked the beginning of a new phase in Beaker research in Britain (Clarke 1970). Being innovative itself, the work led to new approaches and refreshed the discussion on Beakers, not only in Britain, but also on the continent. This work was not only remarkable in terms of the sheer amount of newly presented material, but also regarding its methodological approach. Clarke had two central objections against classification systems that were in use at this time. His first criticism was directed towards the general practice of how archaeologists had classified the material. He called for new methods for archaeological classification to achieve objective results that should be less intuitive and more scientific. With the application of statistical methods, he aimed to replace intuitive approaches with scientific ones (Clarke 1962, Clarke 1970, 3-5; 24-25). His second critique was directed especially towards Beaker classification systems that had mostly been based on vessel shape. In his opinion, it was crucial to additionally include pottery variables such as the position of the decoration on the vessel and styles of motifs (Clarke 1970, 5). In order to classify and order Beaker pottery he used these three pottery variables and then analysed them in two steps. In the first, he defined the three variables to be of *equal importance* and wanted to achieve objective results by applying a statistical method, the matrix analysis (Clarke 1962, Clarke 1970, 4-5). He acknowledged that computerized statistical methods were in an experimental stage at the time of his work and based the final classification of his work on the second step. There he applied the principle of *graded importance* to the above mentioned variables resulting in the classification of several style groups that

also had chronological value (Clarke 1970, 33-44; 52-53). This procedure of giving graded importance and of weighing the variations and shape against those in decoration (technique, position, and motif), however, was contradictive to his initial call for more scientific approaches because his weighing was interpretive and intuitive. He argued for the application of new methods, but remained in old thought patterns and consequently arrived at old-fashioned conclusions. Clarke had defined seven Beaker groups that he regarded representative of successive waves of invaders from the continent (All-Over-Cord (AOC); European (E); Wessex/Middle Rhine (W/MR); Northern (British)/Middle Rhine (N/MR); Northern (British)/North Rhine (N/NR); Barbed Wire (BW); East Anglian (E.Ang.) (Clarke 1970, 37-43, Fig. 10).

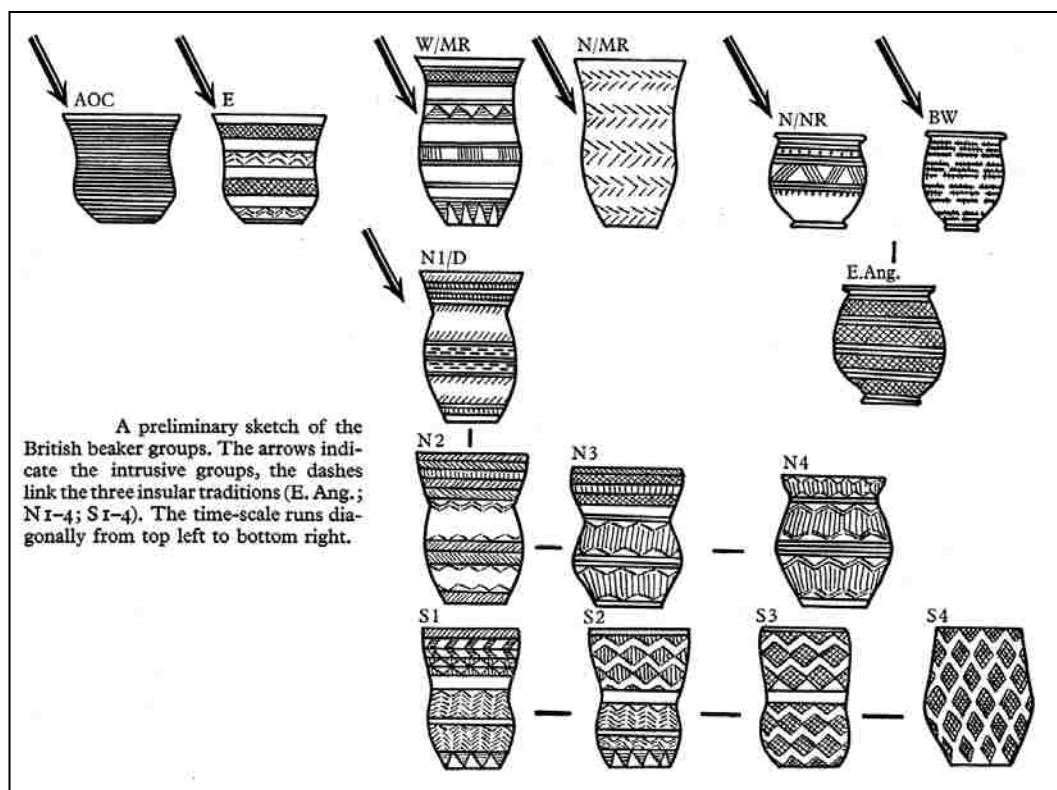


Fig. 9 David Clarke's Beaker scheme (Clarke 1970, 42. Fig. VII)

He was criticized for his results shortly after, e.g. for the already mentioned classification procedure. The different weight of shape and decoration in favour of decoration that Clarke considered to be greatest symbolic importance was criticized as well as the not always transparent approach of his classification (Lanting & van

der Waals 1972, 23-24). Also the parallels from the continent that Clarke used for his groupings as well as the Beaker groups he established were not supported by Lanting and van der Waals. The labelling of some of Clarke's groups was not in accordance with the distribution of the types defined by him. Some Beaker types were distributed over much larger areas (*ibid.*, 28). In focussing on the two aspects position of the decoration and vessel shape, Lanting & van der Waals worked out a typological scheme of Beaker development for Britain that slightly differed from the one Clarke had offered. Even though their grouping of Beakers was more or less identical, the interpretation of Lanting & van der Waals was quite different. They argued in favour of a single immigration event from the Lower Rhine area around 2100 B.C. that brought the AOC Beakers to Britain. The AOC and Maritime Beakers were the only types for which they accepted a continental background. For Britain they proposed a continuous seven-step Beaker development from four focus areas. The chronological division of these steps was – as they themselves acknowledged – rather hypothetical due to the weak basis of the then available radiocarbon chronology (*ibid.*, 41-45) and they generally allowed for some chronological overlap of their steps (*ibid.*, 37).

This view was to some degree shared by Humphrey Case who did not favour a single explanation, but proposed a mixture of immigration and interchanges between settled communities (Case 1976, 453; 1977, 72-73). His tri-partite division in an Early, Middle and Late Style was comparable to that of Stuart Piggott in 1963, but Case stressed that none of his styles was indicative exclusively of one stage, so that the Early Style had its focus in that stage, but possibly persisted throughout the Middle and also the Late Stage (1977, 71-72). He argued against immigration in the Early phase because of missing recurrent associations that were visible with his Middle and Late styles. The early (AOC) Beakers were a fashion that had been brought to Britain by cultural contact and did not include population movement (*ibid.*, 74). Case's typology as well as Clarke's and Lanting and van der Waals' are or have been used simultaneously. Ian Shepherd additionally adjusted Lanting and van der Waals' scheme for Scotland – precisely for the region of Buchan – in order to match the local evidence that differed from the data further south (Shepherd 1986).

2.2.4 Alternative Approaches

The interpretations that Clarke reached, however, were old-fashioned in the light of the theoretical context of the 1970s. Models connected to invasions, mass migrations, 'Beaker culture', 'Beaker people' or 'Beaker folk' did not produce any satisfactory results and were consequently replaced by theories that favoured the diffusion of ideas rather than of people (e.g. Case 1976, 453; Shennan 1976, 231). Colin Burgess defined an international Beaker assemblage, consisting of the vessel itself and its recurrent associations such as wrist-guards, barbed and tanged arrowheads, double pointed awls and a variety of ornaments. However, these widely distributed artefacts were not representative of a common social or economic system, nor were they associated with uniform settlement or house types, or with common ritual monuments or burial traditions (Burgess 1976, 309-312). Burgess developed the idea of Beakers being representative of an extra-cultural "Beaker package" that was embedded in the local societies, thus forming a continuous sequence. Furthermore, this package was the "outward manifestation" of an international phenomenon and was connected with "some sort of activity" that societies across Europe took up at that time (*ibid.*). The pottery worked as a prestige object, whose popularity might have rooted not in the vessel but in its contents.³⁹ The dissemination was a result of inter-tribal contact and therefore the large movement of people was not involved, even though he did not rule out the possibility of movement of traders, prospectors, adventurers or refugees. His example of the spread of the Peyote cult in America has been referenced ever since as a possible model that could explain the spread of Beakers.

As outlined above, the main sources for the study of Beakers were related to funerary practices. One notable exception was Alex Gibson who was the first to present a comprehensive study on Beaker settlement pottery (Gibson 1982). Even though much work has been done on settlements since (e.g. Parker Pearson 2012), Gibson's work remains the only comprehensive account until now.

³⁹ This idea had previously been mentioned, e.g. by Childe, who saw beer as a source of influence (like Vodka or Gin disclosed an instrument of European domination in Siberia and Africa) (Childe 1947, 218).

2.2.5 Research from the 1990s and Current Approaches

The perception of the chronological significance of the existing typologies was challenged by a work published in 1991 that changed the image of Beaker development considerably. It could be demonstrated that the traditional typo-chronology was not in accordance with the new absolute chronology. The dates for different Beaker styles overlapped considerably and also showed that some types had been in use for most of the Beaker period of about 800 years. That result also meant that the typologies used at the time had to be seen with some caution (Kinnes *et al.* 1991). The work provoked several comments that followed on that article and these basically doubted or neglected its results. The typo-chronological sequence of Lanting and van der Waals' scheme from 1972 was not compatible with the new radiocarbon dates. However, these authors objected that the dates published by Kinnes *et al.* were inaccurate (some having a span of 500 years at 1 sigma) and that the purely archaeological evidence, such as stratigraphies or association patterns did not contradict their scheme (Lanting & van der Waals 1991, 69). Ian Shepherd (1991) also expressed doubts as to the informational value of the dates obtained through the radiocarbon-dating program. The "single dates from disparate contexts" would hardly be able to solve any problem of Beaker currency. He demanded the study of regional focus areas and like Case and Simpson he underlined the importance of associations and their chronological value, e.g. concerning metalwork (*ibid.*).

In the light of these criticisms, Humphrey Case modified his scheme from 1977 and arranged Beaker pottery in "a quarter-millennium calendrical chronology" and replaced his "Early – Middle – Late" division by Steps 1, 2, 3, thus lessening their chronological value and allowing for an overlapping of the Beaker styles. He then defined five regions from Ireland to southern England (A - E). This division was based on pot types and associations and included not only pottery from burials, but also from settlements (Case 1993; 2001). Methodologically, the inclusion of domestic material in his scheme was an important step forward because he considered pottery from contexts that had possibly been deposited in a more mundane manner compared to the ritual-laden material from burials. However, later schemes focused again on pottery from graves (e.g. Needham 2005) because of the

better preservation, but especially because the increasing number of radiocarbon dates for closed contexts allowed a more precise dating and ordering of Beakers. Around the same time a topic that had been widely avoided after World War II was brought up again. Neil Brodie ventured to enter the highly controversial field of craniometrical studies again and reviewed a sample of Late Neolithic and Early Bronze Age crania in order to verify or falsify the existence of a “Beaker Folk” (1994). His findings supported the traditional view that skulls tended to change morphologically at the beginning of the Bronze Age. Neolithic skulls “were markedly dolichocephalic, while those of the Bronze Age were more variable but tended towards brachycephaly” (Brodie 1994, 70). He also demonstrated that if a “Beaker Folk” with brachycephalic skulls had existed, brachycephalisation should be visible in regions that were inhabited by Beaker migrants as opposed to Beaker-free areas that should “not show equivalent evidence of brachycephalisation” (Brodie 1994, 71). That was not the case and in fact, early Bronze Age skulls from both areas, with and without Beaker finds, exhibited indistinguishable cranial indices (*ibid.*). As a possible alternative explanation for changes in cranial indices he argued that climatic changes could be responsible. He was able to show that dolichocephaly and brachycephaly can be dependent on temperature and humidity, respectively (*ibid.* 74-78). According to his results, warmer climates correlated positively to cranial indices thus leading to brachycephaly. That was in accordance to climate data for the early Bronze Age that indicated higher temperatures. Conversely, cranial indices correlated negative to humidity, i.e. in wetter climates dolichocephalic skulls can be expected (*ibid.*). There was surprisingly little response to Brodie’s work, possibly because his results were in accordance with (most) present day views towards the problem that there is no such thing as a ‘Beaker Folk’. The topic, however, remains a ‘mine field’. Brodie correctly stressed that the reluctance to measure crania had its basis “in the distorted racism of past decades”, but he was also right to argue that the topic should not be taboo (Brodie 1994, 80). Controversial topics may still generate new insights and it is thought that they must not be excluded from research. An unbiased approach is difficult, of course, and embarking on a fresh interpretation of craniometric data can be a ‘dangerous’ task, arousing suspicions as to one’s attitude. Present day research is again dealing with (mostly small-scale)

population movements, origins, etc., so all possible sources should be included, even those that are deemed uncomfortable. Since Brodie's work there has been no attempt to analyse cranial data – at least in Britain. This brings a dilemma to archaeological research because there are objectively recognisable differences in skull shapes that might give insights into the development of populations over time. A new methodological framework will need to be developed that includes both archaeological and environmental data as part of the explanation process if this field of research will form a part of (Beaker) research again. Summing up, the data set from Britain and central Europe showed that there had been changes of cranial indices. These, however, were possibly the result of climatic influences and not of immigrating Beaker people. This is indicated by the presence of brachycephalic skulls in areas that did not witness any Beaker influence.

In the light of the above mentioned, parts of the work of Volker Heyd (Heyd 2001, 403-404) and Heyd *et al.* (Heyd *et al.* 2003, 113; 116-117), concerning southern German Beakers, are seen critically here. Heyd *et al.* argued in favour of the existence of the 'Beaker people' following the work of Peter Schröter (Schröter 1997) who summarized the published data and highlighted the marked cranial differences that existed between earlier and contemporaneous populations (i.e. users of Corded Ware) and Beaker users. According to him, the morphology of the skulls was so significantly different that both populations could not genetically be related. He furthermore extended his argument in stating that the theory of an origin of Beakers in the Netherlands that was based on pottery typology could be disproved on grounds of cranial morphology. 'Beaker people' were not related to Corded Ware users or the SGC and therefore no continuity – other than argued in the Durch Model - could be demonstrated (Schröter 1997). The possible origin of the new people was connected by Schröter to an immigration of people from south-east Europe.⁴⁰ Heyd *et al.* adopted that view and constructed a model that proposed two immigration events. The minor event stood at the beginning of the development of Beakers in

⁴⁰ Schröter was also arguing on the basis of the works of K. Gerhardt who very much supported the work of E. v. Eickstedt who was the most influential exponent of racial ideology before and during World War II and Professor of Anthropology in western Germany until his death in 1965. This is not to be understood as an attempt to move Schröter into a racist corner! The premises of his work, however, are based on a foundation that was laid in an environment that produced racial and racist ideologies.

central Europe in the form of an “infiltration” of small groups from western Europe that carried the ‘Beaker Phenomenon’. The rapid distribution of the already developed Beaker package that these groups carried and the lack of settlement evidence were interpreted as signs of a mobile population. These groups did not interact with Corded Ware using communities and it even appeared that both groups were rejecting each other at least in parts of southern Germany and Bohemia (Heyd et al. 2003, 114; 117). In contrast, in Lower Austria, Moravia and Hungary Beaker users actively looked for contact with the local communities that can be seen in graves with mixed inventories. Here, ‘Beaker people’ were “recruiting” members of local communities that at the beginning still retained their own identity as seen in the mixed grave inventories of Beaker and also local traditions. This connection initiated the development of the “Beaker Culture” (*ibid.*, 117) and the morphologically distinct people that were recruited in the described areas then immigrated to southern Germany and there introduced the Beaker culture (*ibid.*). Interestingly, this model incorporated several aspects of older theories, such as the high mobility of early Beaker users (comparable to “bands of armed merchants who engaged in trading copper...” (Childe 1925, 223)), but also a form of reflux-theory with people from the west that came to central Europe and south-eastern Europe. In the latter area they came in contact with local communities and then re-fluxed to southern Germany. These detailed events appear too constructed and it is thought that the phases of Beaker development that the authors outlined were not sufficiently founded on independent chronology. Heyd *et al.* stated that the number of radiocarbon dates was not sufficient yet (2002-03). Furthermore, the argument of an ethnically distinct Beaker population is not supported in the current research, but seems more likely to regard the reasons responsible that were described by Brodie. It is of special interest that he could show that typical Beaker skulls are actually not that typical and can also be found in Beaker free areas. Also, when discussing about a racial component and migrations it would then be interesting to know who brought the Beaker Phenomenon to southern Germany in the first place? Were these people also morphologically distinct?

One additional way to explain cranial morphological changes can possibly be seen in a changing diet and this could be connected to Brodie’s argument of a changing

climate at the beginning of the Bronze Age. Climatic changes would not only have direct impact on physiological properties through temperature or humidity as outlined by Brodie (1994, 78), but could have influenced subsistence strategies and thus the available food resources that can also influence human physiology.

Summing up, it is argued here that the current evidence from Britain and central Europe does not provide a single answer to the question whether there was a distinct Beaker population. Features that had not been present in the physical appearance of pre-Beaker populations can be seen but the explanations that have been proposed to explain them are ambiguous. In Britain at least the evidence in favour of the Beaker 'Folk' is not thought to be convincing. Until more results are available, it is preferred here to regard differences in skull shapes as results of natural influences, such as climatic changes as Brodie suggested, until more satisfying explanations are available.

In 2005 Stuart Needham proposed a tri-partite development of the Beaker Phenomenon in Britain, based on Beaker typology, radiocarbon dates, a review of stratigraphies and artefact associations. Needham identified an initial phase from c. 2500-2250 cal BC where Beakers representing a "circumscribed" and "exclusive culture" (Needham 2005, 209). In this phase Beakers and a "primary Beaker package" (Sheridan 2007b, 92) were introduced into Britain that were of continental, especially north-west European, inspiration (Needham 2005, 209). This initial pioneering stage was followed by a phase of cultural integration from c. 2250-1950 cal BC when "Beaker cultural values" overcame pre-existing values and Beaker cultural expressions such as burials strongly increased in numbers. At the same time however, a diversification in burial rites took place and the Beaker and some Beaker-typical objects lost their importance in the graves, while others, such as the large flint daggers, became increasingly important (Needham 2005, 209). Further radiocarbon dates indicated that this phase probably began even slightly earlier (Sheridan 2007). In Needham's third and last phase (c. 1950-1750 cal BC) he described the role of Beakers as a "past reference", with usually "poor" graves (low quantity and quality of accompanying grave goods) (Needham 2005, 210).

A possible mechanism of the spread of Beakers was outlined shortly after also by Needham (2007) and it is thought that his model of (minor) movements of people fits

well into increasingly popular models that include migration as a means to explain the diffusion of Beakers. On the basis of recent isotope studies, it is possible to trace movements of single individuals, though it is felt that these results are too quickly applied into new migration theories and Harry Fokkens' critique should be kept in mind (see chapter 2.1.8). Needham's model of the "reinforcing circle" explained the spread of Beakers with the establishment of cross-cultural contacts to areas that were not yet 'beakerised' (Fig. 11) (Needham 2007). People in these areas were either interested in gaining closer contact with Beaker users or rejected contact. If the former was the case, the Beaker "culture" was adopted and after a consolidation phase in the now 'beakerised' area, the Beaker phenomenon could be passed on through further cross-cultural contact and so forth (Needham 2007, 42-43, fig. 6.1).

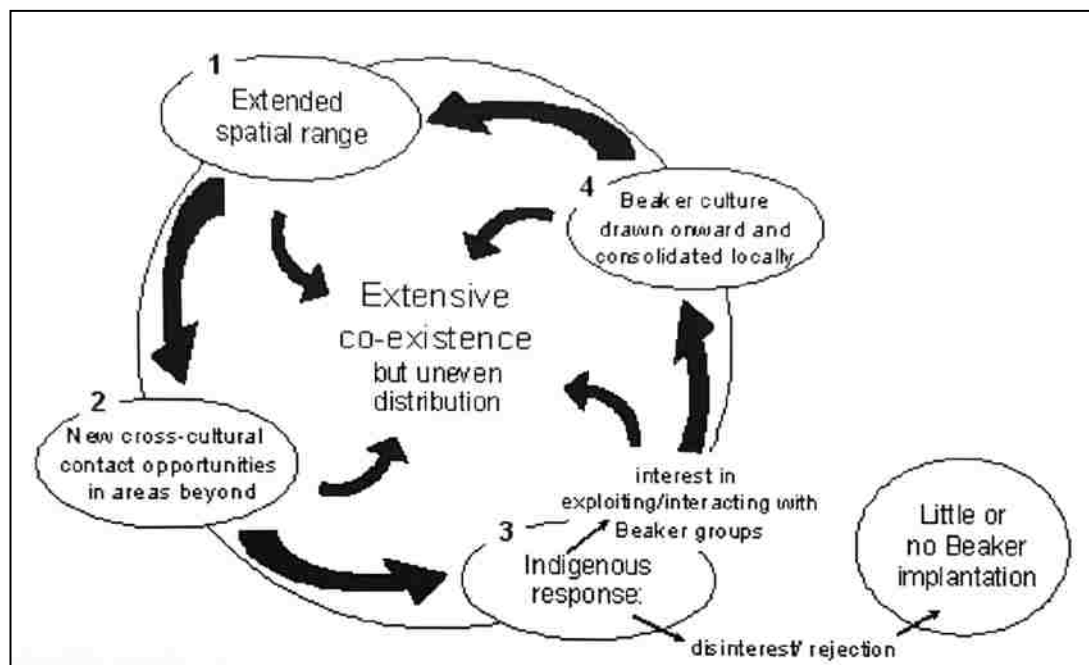


Fig. 10 "The reinforcing circle at the bow-wave of Beaker expansion" (after Needham 2007, 43, fig. 6.1)

Arguably one aspect is thought to have been over-emphasized in Needham's model. He suggested that a "bow-wave" of Beaker incomers established communities in the respective areas and there triggered a consolidation-phase in which they (the newcomers) had to emancipate themselves from the indigenous communities and had to establish their rights to be accepted in the new territories. Even though he did not propose large-scale migrations, it is argued here that his groups must then have been

of considerable size in order to pose a ‘threat’ or to challenge indigenous societies that probably lived rather scattered. This image of a “bow-wave” is possibly misplaced, as it is reminiscent of Clarke’s waves of people migrating to Britain. If there is a bow, something is following on that bow: Needham did not specify the magnitude of this “bow wave”, and the size of the boat that caused it.

The image of this ‘bow wave’ as an equivalent for the initial phase of Beaker presence, however, can possibly be used for some of the features that Alison Sheridan has described in Scotland (Sheridan 2007b). Sheridan identified several burials in Scotland where the associated pottery (mainly AOC Beakers) and the structural elements of the grave, such as the orientation of the pit, reminded one of continental archetypes, namely Dutch (*ibid.*). She argued that “some” of these Dutch-style features and artefacts “may” have been the product of immigrants from the continent (*ibid.*, 105). Bone preservation in Scotland is often poor due to acidic soils. So far no skeletons from these ‘Dutch-style’ burials could be analysed in order to identify the possible region of origin of these individuals.

That the ‘Amesbury Archer’ immigrated to southern England from the continent is widely accepted and is based on the isotope analyses of his bones and teeth (see Fitzpatrick 2012). Apart from the particular interest in this individual and the implications concerning his origin, the finding had a big impact on British Beaker research. Major research projects followed on the discovery, such as the Beaker People Project (Parker Pearson 2006), that aims to investigate “patterns in mobility, diet, environment and subsistence practices during the Early Bronze Age across Britain” based on isotope data (Jay 2009). Oxygen and strontium analyses as methods of determining human mobility have been outlined above (cf. chapter 2.1.8). Furthermore, carbon (C), nitrogen (N), oxygen (O) and sulphur (S) analyses on calcified tissue of vertebrates⁴¹ can give information on diet, for instance whether the predominant protein intake was in the form of animal protein (*ibid.*; Jay & Richards 2007, 77; Lee-Thorpe 2008, 926). This information, in turn, can point to “subsistence strategies, such as transhumance” (Jay *et al.* 2012, 228). Some preliminary results of the Beaker People Project showed that the diet was very similar throughout with the consumption of high levels of animal protein, but without indications of consumption

⁴¹ Also on finger nails or hair, but these are usually not preserved.

of significant levels of marine resources, even in coastal areas (*ibid.*, 230). Additionally, a comparison of the carbon isotope ratios in bone collagen from individuals included in the Beaker People Project and a Middle Iron Age sample showed a considerable shift between these periods. This shift could have had different reasons, such as climate change, deforestation or a possible change in human diet. The tentative conclusion that was reached suggested that this shift was the result of a change in the way domesticated herbivores were managed or foddered. That conclusion was based on the finding that animals from two sites did not show that shift in the carbon isotope ratios. If climate change had been the reason, then the shift would have to be expected in all animals (Jay et al. 2012, 231-232). Furthermore, isotope data for East Yorkshire and Scotland indicated local and regional mobility (*ibid.* 234). The final results await their final publication, but preliminary reports have been published (Jay & Richards 2007; Jay *et al.* 2012). The Beakers and Bodies Project had similar objectives, but instead of the large geographical area that was covered by the Beaker People Project, the focus was to carry out an “in-depth analysis and interpretation” of a smaller region, namely north-east Scotland (Curtis & Wilkin 2012). The aim of this approach was to explain regional developments and traditions in order to explain “the reception and adoption of technologies and practices which might characterise the Chalcolithic” (*ibid.* 238). These above discussed contributions (Jay et al. 2012, Curtis & Wilkin 2012) were published in a work that brought new momentum in the discussion of the Beaker Phenomenon and the transition between the Late Neolithic and Early Bronze Age in Britain in general. The volume “Is there a British Chalcolithic?” was the result of a conference held in Bournemouth in 2009, which apart from regional works and the studies discussed above, addressed the general problem on whether the evidence in Britain requires to further subdivide the later British prehistory and to introduce a ‘Chalcolithic’ between the Late Neolithic and the Early Bronze Age that broadly covers the period between 2500 and 2200 BC (Allen, Gardiner & Sheridan 2012). Some of the crucial contributions to that volume are discussed below and it can be shown that there is no consensus, but rather a lively debate on that topic. While some authors argued decidedly in favour of the introduction of a British Chalcolithic (e.g. Needham 2012), others strongly disagreed that copper had a major (or any) impact

on British societies in the mid-3rd millennium BC (e.g. Vander Linden 2012). This disagreement is partly the result of different definitions of the Chalcolithic. A minimalistic definition that simply describes the presence of copper artefacts in a given region would be a too narrow definition. There is a debate whether copper production, i.e. mining and processing of ores should be part of the definition or if metal-working is sufficient as a defining factor. The crucial point is the effect on the society that comes in contact with metal. If subsistence, settlements, exchange networks and the ritual sphere are not affected, then the overall importance of metal has arguably not been great.

In their assessment of the evidence in other parts of Europe (Spain, the Balkans and the Carpathian Basin) Martin Bartelheim and Raiko Strauß argued that a coherent, common definition will be difficult or impossible to find because the term Chalcolithic is filled with different meanings in different areas and these ‘Chalcolithics’ additionally have very different chronologies that further complicates comparison (Bartelheim & Krauß 2012). They applied a holistic definition, in that metal or metallurgy should affect all aspects of a society, including for instance subsistence strategies (*ibid.*). In fact, if applying Bartelheim’s & Krauß’ definition then a British Chalcolithic did not exist. Alison Sheridan’s opinion is supported here, however, that “the period between the 25th century and the first appearance of bronze” should be dubbed Chalcolithic (Sheridan 2012, 53). Despite the many unknown variables during that period and the comparably low level of metallurgical activity, she argued that the magnitude of “novel practice and ideologies from the continent” demanded a separate term in order to facilitate discussion and to move within a more coherent framework than offered before, such as Late Neolithic – Early Bronze (*ibid.*).

As shortly outlined above, several European archaeologies have used the term Chalcolithic to describe the period of exclusive copper use; in Britain it was uncertain until the 1950s whether a pure copper metallurgy existed. In the following decades several stages of copper use were identified and the larger number and better quality of radiocarbon dates has allowed to identifying such a phase of exclusive copper use also in Britain (Needham 2012, 2-3). Unlike other European areas, such as Spain or France where metallurgy was practiced long before Beakers appeared on

the scene (e.g. Ruiz-Taboada & Montero-Ruiz 1999), in Britain metal objects and possibly metallurgy were probably introduced by Beaker users. Alternatively, Needham (2012) has argued that metallurgy was introduced to Britain prior to Beakers, but no securely dated contexts have so far been recorded that would support that theory and the first securely dated copper objects have been found in Beaker funerary contexts.

Stuart Needham supported the idea of a Chalcolithic and defined three association groups for that period (Period 1, Groups a-c) on grounds of key associations. Despite not being a “strictly temporal succession”, they indicated chronological differences between the association groups. His Period 2 graves already belonged to the Early Bronze Age but contained artefacts that were more typically found in Chalcolithic graves (*ibid.*, 11; CD App. 1.1).

Ben Roberts and Catherine Friemann argued on the one hand that the introduction of this period could potentially divert the focus on Beakers and metallurgy towards a more comprehensive approach of the highly dynamic processes in the 3rd millennium BC including monumentality, social structure and long-distance communication, treatment of the dead and technology (Roberts & Frieman 2012, 34). On the other hand they objected that the scanty evidence for metal working and its un-precise radiocarbon dating due to the plateau of the calibration curve in the later 3rd millennium BC, only allowed to assigning metal objects on the basis of typology to a proposed Chalcolithic (*ibid.*). Moreover, Roberts & Friemann pointed to the possibility that the earliest tin-bronze objects could have been curated and / or recycled, which would mean that the period of an assumed Chalcolithic, that in archaeological chronologies is very short for Britain in the first place, might shrink or even disappear completely (Roberts & Frieman 2012, 34). In reviewing metal analyses, Peter Bray came to a similar conclusion and put forward the argument that tin-bronze could have already existed around the mid-3rd millennium, which is much earlier than typically assumed and thus rendering the introduction of a British Chalcolithic obsolete (Bray 2012).

Whether or not they agreed with the concept of a British Chalcolithic, all authors agreed that the 3rd millennium in Britain was a period of considerable changes and dynamic processes. With the available evidence that the short period between the

introductions of copper artefacts and / or metallurgy probably by Beaker users from the mid-3rd millennium BC, until the beginning of the use of tin-bronze around the 22nd century BC can be dubbed Chalcolithic. This concept might be used as a working hypothesis until the already sound basis of radiocarbon dates is further reinforced and research into metallurgy, as outlined by Bray, will help to better defining this period.

This recent episode of British research has been outlined in detail for two reasons. Firstly, the terminological framework has to be defined in order establish a common basis for discussion, whether one decides to use it or not. Secondly, while the term 'Beaker period' captures the time in which Beakers were in use it does not reflect the changes that happened within this period, for instance the important change from copper to bronze metallurgy.

2.2.6 History of Burial Studies and Interpretation of Beaker Burials

It has been shown above that studies focussing on funerary activity have a long history and have been the basis for many Beaker studies⁴², e.g. the works of Hoare and Bateman. Barrows were the main target of these early excavations and had huge impact on Beaker research. Other forms of burial also have been documented, such as cists that dominate the Scottish burial record. In addition, flat graves were known even though their number is low when compared to barrows. This is probably a result of the higher discovery potential of barrows due to their visibility in the landscape. Flat-cemeteries (i.e. cemeteries with graves that show no evidence for mounds or other upstanding constructions) of Chalcolithic / Early Bronze Age date have only been found scarcely. They were discovered due to the increasing number of development projects or in gravel quarrying in the first decades of the 20th century. The sites of Cassington (Leeds 1934; cf. 3.4.3 Pits) and Foxley Farm, Eynsham (Leeds 1938; cf. 3.4.3 Pits), both in Oxfordshire, for example produced 12 and 18 graves, respectively. Not all of the bodies were associated with Beaker pottery, but the burials showed a site-specific alignment and formed a coherent group, particularly in the case of Cassington where the majority of the graves were aligned N or NW. These sites can probably be best interpreted as cemeteries of small

⁴² Settlement sites were also discovered very early but in smaller numbers, thus playing a minor role in research (cf. Abercromby 1912, 81-82; 83).

communities that were in use possibly only for one or two generations. They were potentially the burial grounds of families or kinship groups and even though they had a different outline they can be compared to some of the barrows, for example on the Yorkshire Wolds that have been interpreted as family graves (Petersen 1972).

Cemeteries with a linear arrangement such as those in Eynsham and Cassington have also been documented on the continent. Volker Heyd *et al.* named several examples from southern Germany that have similar structures (Heyd *et al.* 2003, 109-110, fig. 1). This is not an isolated and Beaker specific phenomenon, however, and a direct relation between the continent and Britain is probably too contrived.

It is of particular interest that at the two mentioned British sites both Beaker and non-Beaker burials belong to one cemetery and possibly to the same community. It indicates that not all members of the community were entitled or selected to receive a Beaker or that not all members decided to be buried with a Beaker. Either way, it shows a broadly contemporary practice of varying rituals.

Nevertheless, barrows remained a central topic and were discussed again after the Second World War as a result of surveys and excavations that became necessary with intensified land-use by quarrying, agriculture, etc. In that period the notion that Beaker associated individuals were predominantly found under barrows in a crouched position was cemented thus forming the idea of a 'Beaker stereotype' burial. With the results of their works Leslie Grinsell (e.g. 1953; 1957) and Paul Ashbee (1960) presented detailed accounts on the barrows in England, including many of those that had been excavated in the 19th century. Grinsell argued that Beakers were connected to invasion events and were brought to Britain in several 'waves' by the 'Beaker folk', an assumption that had been held by earlier authors. He argued that the typical type of burial was the crouched single burial beneath round barrows or in a flat grave (Grinsell 1953, 18-19). Paul Ashbee argued in the same direction and added the individual burial had replaced the "*impersonal collective rites*" of the Neolithic communities (Ashbee 1960, 41; 94). These generalisations, however, led to a circular argument as Alex Gibson has stressed; in arguing that crouched burials were introduced together with Beakers, any crouched burial consequently had to be of Beaker or of post-Beaker date (Gibson 2004, 173; 207, 47). Even though Gibson was right with his critique of an over-simplified view of

burial practices, it is argued in this thesis that in fact there existed a preferred way or at least a general agenda for burial practices in Beaker-using communities, even if these were not followed as strictly as on the continent (cf. Chapter 1).

In a more systematic way funerary practices were described by David Clarke (1970). He argued that Beaker and Corded Ware burial practices mixed in the Rhineland and subsequently entered Britain where it was possible to distinguish between a northern and southern Beaker burial tradition. According to Clarke, the group of N-S orientated burials in southern Britain had its roots in the European Beaker burial traditions, whereas the mainly E-W orientated Beaker burials in the north of Britain stood in the tradition of Corded Ware / SGC burial practices (1970, 257-258). The observation of a distinct north / south burial tradition that was defined broadly by the River Tees had already been made by Stuart Piggott (1963, 76).⁴³ This boundary in the Tyne and Tees is expressed by different burial traditions, with barrows in the south and cists burials in the north (Atkinson 1972, 107-116). Clarke furthermore assumed that these burial traditions became less significant at a later stage, after Beaker groups were established in Britain (Clarke 1970, 257). This notion can also be matched with Needham's model that described the early phase as "circumscribed culture" with affiliations to the continent, while at a later stage Beakers had become part of the local communities and the initially strict orientation rules lost their importance (Needham 2005).

In their critique on Clarke's work *Beakers of Great Britain and Ireland*, Lanting & van der Waals (1972) also discussed the funerary practices and generally agreed with Clarke. According to them, the prevailing practice in the Wessex area from an early moment in the Beaker development was to bury the dead with a north-south / south-north orientation (with slight deviations to NW-SE, or NE-SW), but hardly ever west-east / east-west. This practice included also gender-specific differences: males were orientated northwards, lying on the left side, facing east (with a small number of male individuals documented lying on the right side, facing west). Females on the other hand were usually buried on their right side with the head to the south, also facing east (also here with the exception of some individuals that were lying on their left side, thus facing west) (Lanting & van der Waals 1972, 37). For Yorkshire,

⁴³ In fact, the idea of a northern and southern British Beaker province had been formulated earlier but was based on pottery typology (cf. Crichton Mitchell 1934).

Lanting and van der Waals distinguished between early and later burials (according to their Beaker evolution scheme). The only two earlier examples cited by them (both associated with AOC vessels)⁴⁴ were buried in a way that can be found in the Wessex area, i.e. with N-S orientation. Most of the potentially later graves were individuals buried on their left side, orientated east-west and consequently facing south, or lying on their right side, orientated west-east also facing south. Arguing on the basis of the association of grave goods, they generally identified the individuals lying on the left side as males (Lanting & van der Waals 1972, 40).

The determination of the sex on grounds of associated grave goods is methodologically problematic because it can lead to a circular argument. In stating that a certain artefact group is gender specific, for instance the dagger for males, consequently every individual with that artefact has to be male. Other examples are the 'smiths' graves with metal working tools which are usually found with males. The recent discovery of the grave of a female with these tools from Lower Austria, however, shows that there are exceptions (Merkl 2013, 8-9). Even though in practical terms it is true that certain artefacts seem to be exclusively associated with males or females, respectively, the assumption has to be tested against the skeletal material. In 1972 Fred Petersen reviewed the large amount of data on barrows on the Yorkshire Wolds and aimed to deconstruct the oversimplified image that had been drawn for funerary practices connected to barrows (Petersen 1972). Instead of the idea of a single barrow erected for a single individual, a 'warrior' or 'chief', he pointed out that the majority of barrows were rather cemeteries, possibly of kinship groups, than individual burial places that often were subject to continuous ritual activity (*ibid.*). Petersen also indicated that crouched burials were a feature that had already existed in the Neolithic, for example at Duggleby Howe (Mortimer's Towthorpe 273) where the crouched burial was associated with a decorated bowl of Neolithic date (Petersen 1972, 28; also see Mortimer 1905, 23-42; Loveday 2002, Gibson & Bayliss 2009). Colin Burgess shortly after also discussed, amongst other examples, the same barrow and showed that there was no discontinuity after the arrival of Beakers and that the single inhumation tradition was established already in the Neolithic (Burgess & Shennan 1976, 310). Burgess further argued that a variety

⁴⁴ ID: 157, Rudstone 67; ID: 205, Willerby 235.

of local funerary practices already existed before Beakers appeared on the scene, in which Beakers were then absorbed (Burgess 1980, 70). In the same year Richard J. Harrison suggested that many Beaker mortuary customs in Britain were of local character and rather family-specific than supra-regional and were less standardized. He concluded that it would be difficult to see more than a “vague pattern” in Beaker funerary practices (Harrison 1980, 94).

However, shortly before Harrison’s contribution in 1980, Alexandra Tuckwell⁴⁵ published an article (based on her doctoral thesis) on Beaker and Food Vessel accompanied burials in Yorkshire where she examined a sample of a total of 636 burials, also mainly from 19th century excavations (Tuckwell 1975). She confirmed earlier views on funerary practices in Yorkshire and was furthermore able to demonstrate that a gender differentiated pattern for Beaker and Food Vessel associated burials existed (*ibid.*). The evidence for the 63 Beaker associated burials that she listed in her appendix was fairly consistent; female individuals were buried on the right side, with the head towards west and facing south (her ‘RWSF’ pattern), as opposed to male burials that showed an ‘LESM’ pattern, i.e. resting on the left side, being orientated eastwards and also facing a southerly direction. Shepherd argued that the pattern for Yorkshire developed due to influences from Corded Ware communities on the continent (Tuckwell 1975). She was also able to demonstrate that the pattern she detected in Yorkshire was valid for north-east Scotland, like Yorkshire a region with a dense Beaker distribution, and she also explained that finding with Dutch contacts (Tuckwell 1975; Shepherd 2012). Her sample of 26 individuals from that area however, was smaller than that from Yorkshire. In addition, she showed that Beakers belonging to Lanting and van der Waals Step 5 were found almost exclusively with female burials and despite the small sample she observed a tendency that this Beaker type, rather than having chronological implications, was more likely indicative of a gender specific association of a certain Beaker type (Shepherd 1989). In a recent article Shepherd presented an updated account and again pointed out the correlation between certain Beaker styles and male or female burials, respectively, especially in north-east Scotland (Shepherd 2012). The placement of the bodies is of particular importance in the framework of this

⁴⁵ Now: Alexandra Shepherd.

work. Shepherd argued that the deposition practice in northern Britain and Scotland concerning orientation and position reflected continental European rules of Single Grave Culture (SGC) / Corded Ware deposition practices with one major difference; in Britain “the gender differentiation is the reverse” to the continental practice (Shepherd 2012, 274), i.e. males were buried on the left in Britain and females on the right. This practice is in accordance with central European Beaker practices and Shepherd argued that the northern British evidence indicated an amalgamation of Corded Ware and Beaker burial practices (Shepherd 2012). However, Lanting and van der Waals had pointed out in 1976 – despite the weak data base due to bad preservation conditions of human remains – that Beaker burials of males west of the River IJssel in the Netherlands were E-W orientated and were lying on the left side (Lanting & van der Waals 1976). This means that they were buried in the same way as Beaker burials in northern Britain. Additionally, Eric Drenth and Erik Lohof only recently stated that it is “assumed” that men in the SGC were buried with a W-E orientation on the right side and men with Beakers were buried E-W lying on the left side and thus echoing the northern British practice (Drenth and Lohof 2005, 435). The apparent lack of female burials is problematic. It is possible that the assumption of a male pattern is simply wrong and that we see both males and females buried with the same orientation and position (Lohof 1994). The poor preservation prohibits clear-cut statements.

Nevertheless, gender differentiated burial patterns seem to prevail at the end of the Neolithic and beginning of the Bronze Age in the north-western part of the continent. If we accept this also for the Netherlands, an amalgamation, as suggested by Shepherd, might already have happened in the Netherlands and the tradition could have spread to Britain from there.

Despite these rather strict and clearly observable funerary practices in several areas of north-west Europe they do not reflect the whole range of contemporary funerary practices. Alex Gibson highlighted in two articles the diversity of funerary practices in Britain throughout the Neolithic, Chalcolithic and Early Bronze Age (2004; 2007). Like Burgess and Petersen, Gibson argued that the concentration on the so-called ‘typical’ Beaker burials was oversimplifying the evidence and concealed the complexity of Beaker funerary practices (*ibid.*). In a diachronic approach Gibson

highlighted practices of individual and multiple inhumation, cremation, deposition of disarticulated human remains, excarnation and sequential burials and stressed that firstly, the supposedly Beaker-typical practice of individual inhumation had been practiced already in earlier periods in Britain. Secondly, practices that had traditionally not been associated with Beakers, such as multiple inhumation or cremation were practiced throughout the period of Beaker-use in Britain and also after Beakers went out of use (*ibid.*). His observation of the variability of funerary practices in Beaker and in contemporary non-Beaker contexts is important because it illustrates the flexibility of these communities in terms of burial ritual.

The argument of the practice of Neolithic single inhumations, however, can from the present author's point of view not be regarded as the direct motivation for Beaker single inhumations. The number of Neolithic single burials is low compared to their numbers in the succeeding Chalcolithic and it has also been argued that the graves were potentially separated by a gap of several hundred years (Kinnes 1979, 75; Loveday *et al.* 2007; Healy 2012, 148-149). Single burials, however, were still known or occasionally practiced by Late Neolithic communities when Beakers were introduced into England. Regardless, the rapid increase of Chalcolithic Beaker single burials cannot be attributed to autochthonous developments but rather by a stimulus from outside. This argument has to be seen in the light of the north-western European Beaker and Corded Ware practices.⁴⁶ In addition and despite the variability highlighted by Gibson, this thesis will demonstrate that a quite standardized form of Beaker burial developed and became the accepted practice in many parts of the distribution area.

⁴⁶ Also in the Netherlands a continued practice of crouched inhumations in single graves has been documented from the Middle Neolithic onwards (Lohof 1994, 104).

3 Bodies and Graves

The following chapter forms the core of the work. It contains the description and discussion of the results that were obtained from the comparative analysis of the database regarding the treatment of the bodies and the construction of the funerary structures. The sample consists of 312 graves containing 323 individuals that according to the above definition can be dubbed Beaker burials. In eleven graves two individuals had been interred that were securely or most likely contemporary depositions.⁴⁷

3.1 Geographic Distribution

Out of the 322 Beaker associated burials from 311 graves in Britain, 215 sites are located in England, 86 in Scotland and 10 in Wales (Tab 1).

Country		
	Frequency	Percent
England	216	69,2
Scotland	86	27,6
Wales	10	3,2
Total	312	100,0

Tab. 1 Distribution of sites in the database by country

The sites are found mainly along the east coast of the research area with dense clusters in Aberdeenshire in north-east Scotland but also in the Firth-of-Forth area. (Fig. 12). This can, on the one hand, be explained with the original Beaker distribution in that area, but on the other hand, it also reflects the research activity in north-east Scotland (Sheridan 2007, 93). Further to the south, many features have been documented in Yorkshire, England, but also further inland, in Derbyshire and Wiltshire, England. The three mentioned English regions comprise large numbers of barrow monuments, which, due to their good visibility, have been subject to intensive research. That also explains why a high number of Beaker-associated burials have been documented in these regions.

⁴⁷IDs: 56, 103, 106, 124, 131, 139, 158, 166, 191, 268.

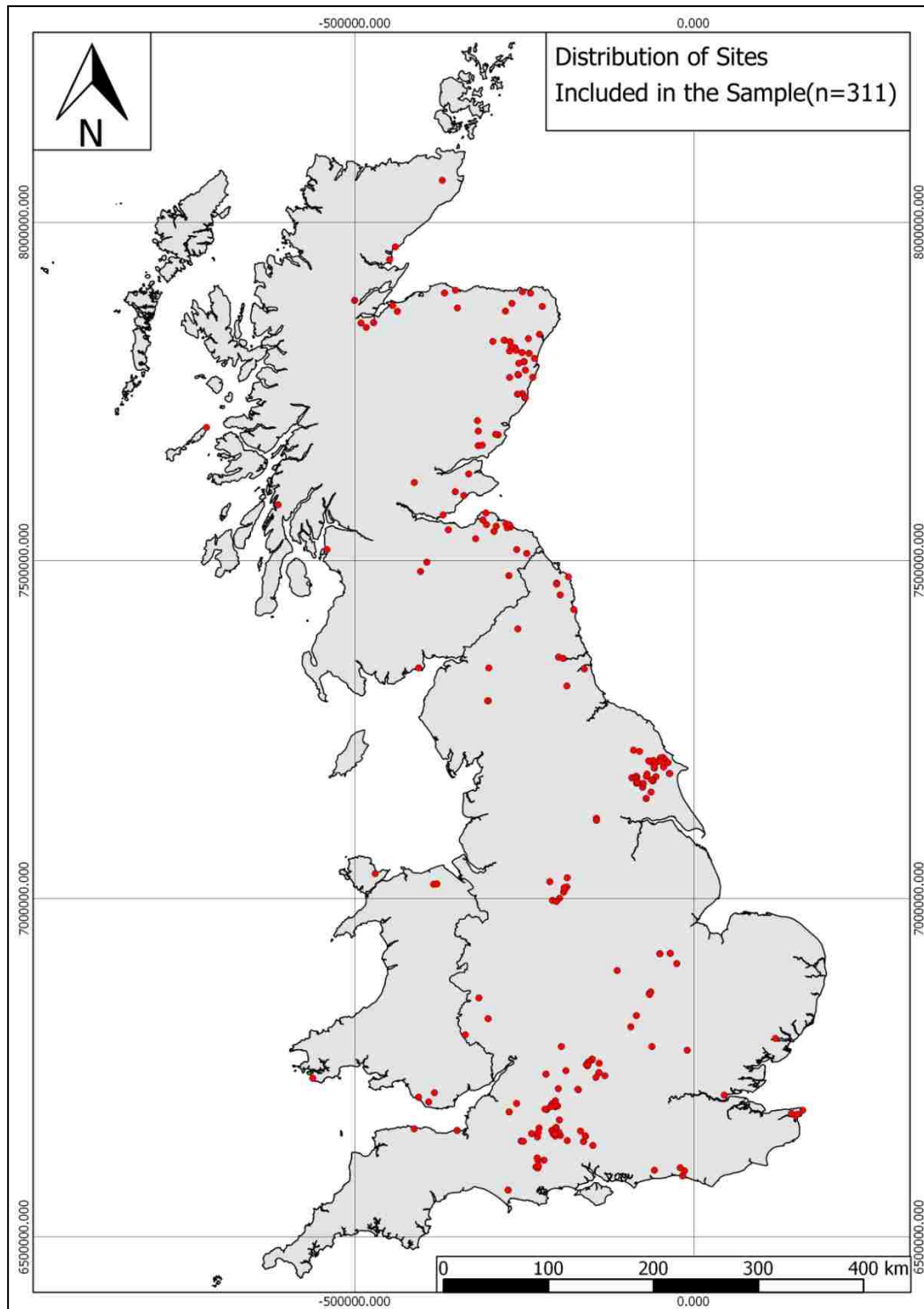


Fig. 11 Distribution map of Beaker funerary sites included in the database (311 sites)

Another feature that attracts attention is a line of sites roughly running in a south-westerly direction from the Wash into Wiltshire.

These sites are situated along the southern limit of the Jurassic Kellaways Formation and Oxford Clay Formation. Directly to the south of this area is a broad zone with low numbers of find spots. In the south-east of England, in the parts of the modern counties of Peterborough, Cambridgeshire, Bedford, Milton Keynes and Oxfordshire and running in a south-westerly direction from the Wash until the Oxford area are Quaternary deposits where only very few sites are known. In other areas too, the distribution of sites indicates a connection between geological properties and settlement and burial activity. A striking example is a cluster of nine burials⁴⁸ in the Peak District in Derbyshire, England which are situated on a relatively small area of limestone with subordinate sandstone and argillaceous rocks that is mostly surrounded by the Millstone Grit Group that consists of mudstone, siltstone and sandstone. There are also several blank spots on the map where no Beaker burials have been documented, such as the Scottish Highlands, the Pennines and Yorkshire Dales, Lancashire, Staffordshire, large parts of Cornwall and also most of Wales. Generally speaking, the mountainous regions usually seem to have been avoided and the distribution of burials is mostly confined to areas that were suitable for settlement. This finding does not seem to be an artefact of the sample that is used here but can also be seen on other distribution maps, e.g. those of Clarke (1970) (cf. Fig. 13). It is uncertain if this distribution reflects prehistoric use of the area and it should not be assumed that there was no human activity in these areas, such as transhumance, which leaves hardly any material evidence. Furthermore, erosion processes have more impact in mountainous areas and further decrease the possibilities of finding archaeological remains. A peculiar finding is that the south-east of England, namely the region of the modern county of Norfolk, is not represented in this sample. Generally, Neolithic and Bronze Age activity was intensive in the area (Healy 1996) and it can also be seen on David Clarke's maps that Beaker activity was strong there. Derek Simpson, in addition, showed that East Anglia witnessed strong settlement activity (1971).

⁴⁸ IDs: 10, 20, 58, 122, 125, 158, 170, 201, 212.

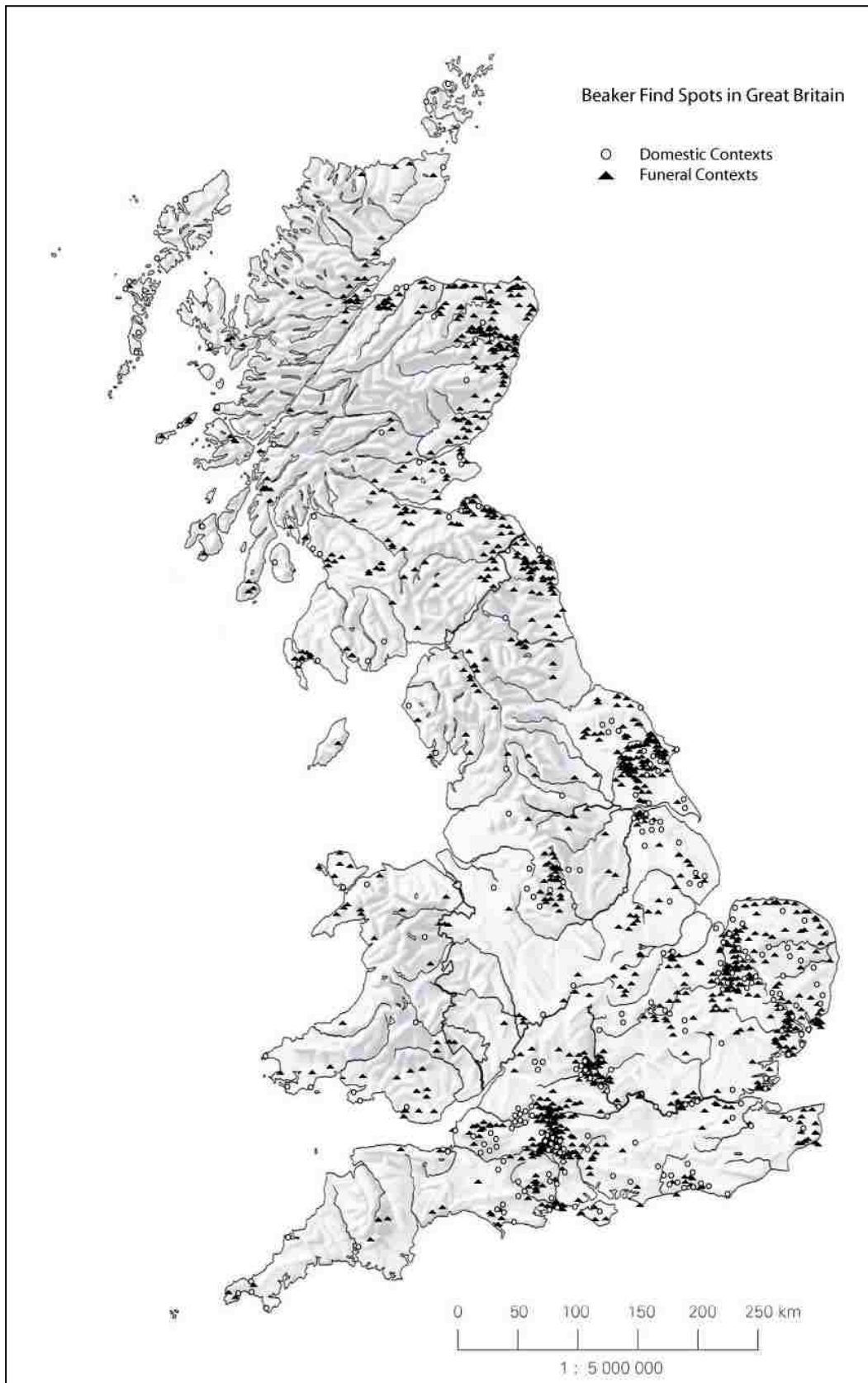


Fig. 12 Distribution of settlements and graves with Beaker pottery
(data from Clarke 1970, 557-566)

3.2 Demography and Social Identity

The determination of sex and age of individuals from archaeological contexts is of great importance for the reconstruction of funerary practices. In order to draw conclusions on social behaviours of a defined human population it is of great interest to observe if male and female individuals are treated in different ways or if the age of the deceased could have an influence on funerary practices, such as position / orientation of the body, quality and quantity of artefacts, type of grave, etc.

Additionally, the examination of human remains allows statements to be made about life circumstances, such as diet, diseases, injuries, violence, etc. but moreover general conclusions as to the structure of the population. At the same time, the accuracy and precision in determining age and sex of skeletal material is often unsatisfying; it merely is a probability statement (White & Folkens 2005, 360).

It must also be borne in mind that each sample of skeletal material is unlikely to be representative of an entire population, but reflects only a small percentage of the total of a once living population while the majority is not present in the archaeological record. That also applies to Beaker burials in Britain. Even though the total number is high in comparison with other European regions, it is distributed over a period of about 750 years between 2450 and 1700 BC (with a focus between c. 2300 and 2000 cal BC) and is not representative of an entire population. This is also the case if not only single burials are counted, but also other forms of Beaker burials, for example multiple burials or cremation burials (cf. Gibson 2004). Several reasons may be responsible for this discrepancy. A considerable number of graves have been destroyed either by natural processes or by human action, especially with the increase of modern agriculture. It is also a matter of recovery in that many features have simply not been found, particularly flat graves.

Furthermore it is uncertain who 'took part' in the Beaker Phenomenon. It cannot be expected that all communities in a given area were culturally 'Beaker' and necessarily buried their deceased in a Beaker fashion. Beakers and associated objects have been argued to represent prestige objects, so it is possible that not all individuals had access to Beakers or were not eligible to be buried on a particular site, or to be associated with a certain array of artefacts. Moreover, and even though Beakers seem to have been an attractive commodity, not everyone was necessarily

willing to be part of the Beaker game and deliberately rejected it. This possibly is of relevance if one accepts that Beakers stood for some kind of ideology.

These points are certainly crucial for this work. Which part of the population in general, or which part of the Beaker-using community in particular, is covered by the sample? Is the sample representative of the whole Beaker community or only for certain parts, such as high or low status individuals? Concerning the long duration of the use of Beaker pottery in Britain it can hardly be expected that a community - or rather communities considering the size of the area of research - would remain stable and un-altered for 700 years and that the same social group of people is represented in the sample over that period. When working with skeletal remains these restrictions should be borne in mind and the data should be used with care. Furthermore, there are methodological constrictions of age and sex determination that will be discussed below.

The discussion concerning demography, gender and sex, and the composition of the burial record in general, is closely connected to aspects of social identity. Following the definition of Diaz-Andreu & Lucy (2005, 1-2), identity is not used here for the description of specific characteristics of individuals, but rather as the *“individuals’ identification with broader groups on the basis of differences socially sanctioned as significant.”*

Funerary contexts are ideal objects of study in this respect, as the decision who is buried in which manner reflects the group’s perception of how identity must be expressed in the grave. What we see is a symbolical representation of idealised social roles, rather than the representation of reality (Amundsen-Meyer 2001). When interpreting these representations, it should be borne in mind that modern western ideas of identity cannot be projected onto less complex societies, because the concepts of identity will differ considerably.

The notion that categories, such as age and gender, can determine a person’s position in society is not new (e.g. Häusler 1966), but the last decades have witnessed an increased focus on the study of identities with refined and developed methodologies (Diaz-Andreu *et al.* 2005). Because categories such as gender and age have often been analysed separately in the past, it has been stressed that social identity is a

multi-layered concept that contains different categories that are interrelated and should not be discussed in isolation (Fernández-Götz 2014, 13-14, Fig. 2.1).

3.2.1 Demography

Apart from determinations of sex, age, and diseases for individuals, information on skeletal remains is gathered in order to draw conclusions about the demography of a population, i.e. their size, structure (age and sex) and dynamics (e.g. migration). Biological aspects, such as fertility or mortality, have to be considered but socioeconomic and sociocultural aspects also play an important role. These are strongly connected, since economic factors can have an impact on reproductive decisions or migration strategies of an individual or a group (Chamberlain 2006, 1-2). In archaeology the reconstruction of prehistoric societies is based on the analyses of material remains, environmental data and particularly human remains. The evidence, however, is always fragmentary and biased for a variety of reasons, for instance differing deposition strategies. Who is buried in an archaeologically detectable way and therefore enters the archaeological record is dependent on cultural decisions made by the burying community. The image that can be drawn does not, therefore, necessarily reflect the composition of the population in question (Chamberlain 2006, 12). Taphonomic processes further influence the size and quality of the sample and, finally, the techniques and the quality of recovery of archaeological remains play an important role (*ibid.* 4; 12). The preservation of skeletal remains has been shown to be an especially important factor for the reconstruction of the burying society. Female and elderly individuals and also children have poorly calcified bones and are likely to disintegrate more rapidly. In that way mortuary profiles can be distorted in that they exhibit greater numbers of male and adult individuals (Walker, Johnson & Lambert 1988, 183). Even accepting these biological properties, they by no means generally account for unbalanced sex or age ratios. In a diachronic study Alexander Häusler compared both sex and age distributions and showed that they are likely a product of cultural preferences of burial practices and less a result of preservation. For the number of children he distinguished two general patterns: cemeteries where children accounted for 5 – 10 % of all excavated individuals and cemeteries with 30 to 50% children. He named several ethnographic parallels for societies in which children were treated differently

from adults. Children had in some instances been buried away from the cemeteries for adults or had been treated in ways that were archaeologically not traceable, such as exposure in trees (1966, 23-29; Tab. 1).

Children have been widely neglected in prehistoric research, probably due to their underrepresentation in the archaeological record, but the last years have seen an increase in studies focussing on children (Fernández-Götz 2014, 29).⁴⁹ The role of children in the production of goods, e.g., pottery, or generally their work in domestic or agricultural contexts, has been widely ignored, and the labour force of children is usually underestimated. Ethnological studies have shown that children were working from a young age (*ibid.*, 28-29). In fact, one can simply have a look at European Ethnology, only needing to go back a century or less: children were employed in agriculture and other forms of labour, particularly in rural and less developed areas. Concerning the age structure of the population methodological uncertainties also result in the systematic underestimation of age-at-death (Chamberlain 2006, 4; 12). Archaeologists have also tried to calculate population numbers for certain regions on the basis of size, density and spatial and chronological distribution of monuments (e.g. Atkinson 1968) but these attempts have been rather speculative. These approaches take into account the amount of man-hours that are required to build monuments. The size and structure of houses and settlements or the accessibility and productivity of the surrounding area can also be used for the calculation of population size. The estimates are often based on ethnographic parallels (Chamberlain 2006, 12). However, in the case of Beakers the numbers of settlements that have been excavated to an extent that allows comprehensive estimation of their total size and number of inhabitants is not sufficient. Regardless of the methodological problems, burial data constitute the most important source to approaching palaeodemographic questions. In the case of Beakers in Britain, the study of material from smaller regions promises good results, e.g. for Yorkshire or Wiltshire. For the north-east of Scotland research has already been carried out but has not yet been published in detail (for a preliminary report of the Beakers and Bodies project: Curtis & Wilkin 2012; Jay *et al.* 2012). As stated above, dynamic processes such as migration are also significant in palaeodemographic studies. The

⁴⁹ For children in the Early Bronze Age burial record in Britain see Garwood 2007.

concept of migration presupposes that a population has a recognisable boundary and the individual therefore has a place of permanent residence. It also requires two populations, one whence the migrating person originates and a recipient population (Chamberlain 2006, 38). In archaeology discussion of migration has been controversial because the concept has mainly not been used to explain changes in the demography of a given population, but has seen migration exclusively as an agent of cultural change. This approach has been strongly criticized within the framework of the New Archaeology where the idea of mass migration was refuted in favour of the transfer of ideas (Clarke 1976; Burgess & Shennan 1976). With the introduction of stable isotope analysis, migration is now once again a crucial component of palaeodemographic studies. A certain degree of population movement has always been accepted, however, and could possibly be demonstrated with a so far exceptional example. The well known 'Amesbury Archer' that was found not far from Stonehenge did not grow up in that area but probably in continental Europe, in the Alpine region of Switzerland or Germany (Fitzpatrick 2002; 2011). The magnitude of population movement over shorter distances is uncertain. Analyses that have been carried out within the framework of the Beakers and Bodies project in north-east Scotland do not show extensive movement of individuals (Jay *et al.* 2012). However, strontium isotope analyses of 69 individuals from Bavaria, Germany showed that between 19% and 25% of the individuals changed residence during their lifetime. Additionally, the number of females that had migrated was higher than that of males, leading the authors to conclude that exogamy was practiced (Grupe *et al.* 1997; Price, Grupe & Schröter 1998). Even though this finding is a striking example, it is difficult to assume that it was a general occurrence. This phenomenon could have regional character and may not be valid for other regions. To which degree population movement resulted in demographic change is therefore difficult to answer and has to be tested further. However, a study of a group of Late Neolithic individuals, possibly Corded Ware users that were apparently victims of a raid (as indicated by injury patterns) showed similar results (Haak *et al.* 2008). Strontium analyses on tooth enamel showed that the female individuals had spent their youth in a different area than the region in which they were buried. In contrast, males and children revealed strontium ratios that were consistent with the local geology.

Furthermore, aDNA analysis showed that one core family (male, female, two children) and other related individuals were buried together. That finding led to the conclusion that exogamy had been practised; women had left the place where they had spent their youth, while men stayed in the area of their childhood (Haak *et al.* 2008).

3.2.2 Sex and Gender

The determination of the biological sex of individuals is usually based on the metrical analyses of the skeletal remains, such as the skull, or parts of the postcranial skeleton, such as the long bones. The best results to diagnosing the sex can be achieved by the study of the pelvis, with an accuracy of about 90%. This accuracy, however, is limited to well preserved, adult individuals. The pelvis develops characteristic traits when maturity is reached (White & Folkens 2005, 361). In the case of children, the sexing is more difficult or often impossible, because diagnostic features on bones have not yet developed. Generally speaking, the main difference between female and male skeletal remains is the greater size and weight of the bones of male individuals. The skull, for example, is generally larger and heavier, the vertebral column longer, and also male long-bones are usually found to be longer, heavier and having larger attachments for muscles. However, there is a broad zone of overlap in the dimensions of bones and a clear decision of sex often cannot be made (Brothwell 1981, 59-63; Ubelaker 2000, 55). This variation within a population is additionally complicated by the fact that variations between populations also have to be taken into account. Some populations tend on average to have more robust, larger and heavier individuals in comparison to others. As a result a robust female from one population may be mistaken for a male from another population. This can be especially problematic if only single individuals are known from a population and averages are unknown due to the lack of a larger series of skeletons.

Out of the total of 322 individuals (from 311 graves) included in this sample, 133 skeletons are of indeterminate sex, accounting for about 43% of the total sample (Tab. 2, Fig. 14). 112 male individuals were counted plus 24 probable males summing up to a total of c. 42%. The number of females is disproportionally lower with only 40 individuals, plus 12 probable female (together covering c. 16% of the total sample), resulting in a very unbalanced female - male ratio of about 2:5.

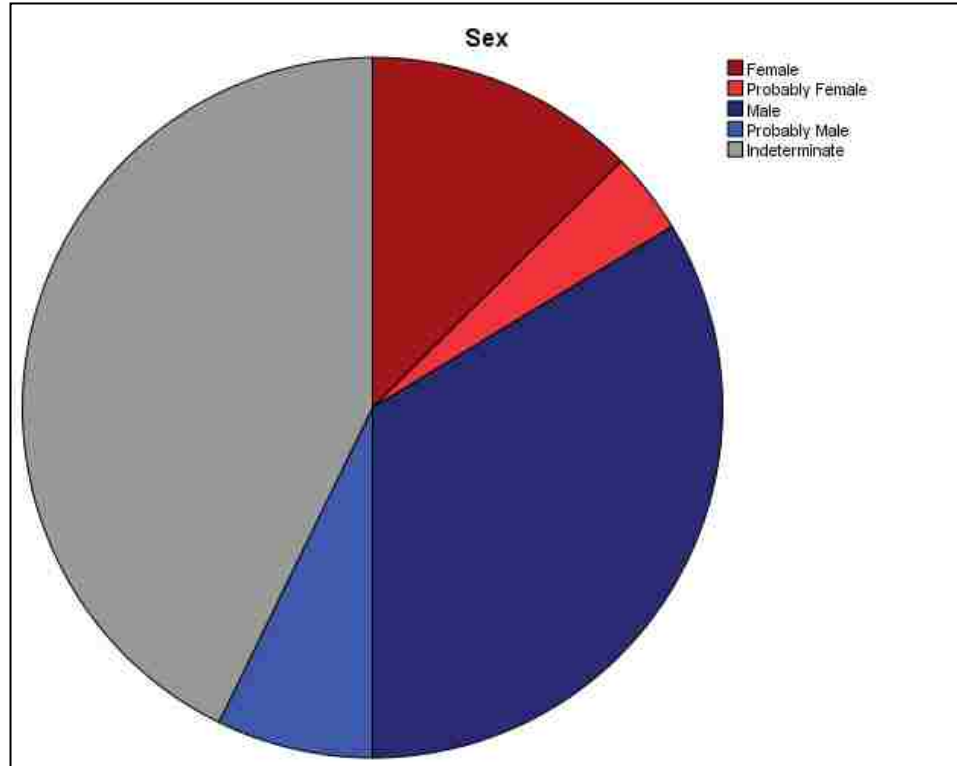


Fig. 13 Chart showing the proportion of sexes

These numbers should be used with some caution for the reasons discussed above, especially as results from antiquarian research frequently do not give the biological but the ‘archaeological sex’, i.e. the sex has regularly been determined according to the accompanying grave goods. Weapons, such as daggers, axes and arrowheads were seen as ‘male’ objects, whereas ornaments and awls etc. were regarded as ‘female’ objects. Even though this equation is true in many cases, it has to be verified for each burial, in order to avoid methodological errors. ‘Sex’ must not be mistaken with ‘gender’: while the first describes a person’s biological identity, the latter describes the social identity (White & Folkens 2005, 385). There are numerous examples from archaeological contexts where anthropologically sexed individuals did not follow sex specific patterns, i.e. that a male individual was buried according to a typically female pattern (e.g. in terms of orientation or position) and vice versa. Possible examples for this practice are known from Beaker contexts from Bohemia-Moravia (Müller 1998, 124) and also from Early Bronze Age contexts from the

cemeteries of Gemeinlebarn F and Frantzhausem I in the Traisen Valley, Austria (Appleby 2011, 243).

Sex			
	Frequency	Percent	Valid Percent
Female	40	12,4	12,4
Probably Female	13	4,0	4,0
Male	112	34,8	34,8
Probably Male	24	7,5	7,5
Indeterminate	133	41,3	41,3
Total	322	100,0	100,0

Tab. 2 Distribution of sexes within the sample

Both Adalbert Müller and J.E.P Appleby argued that the special / different treatment of certain individuals was connected to age, namely that old persons were treated differently. Roland Wiermann discussed the same phenomenon for Corded Ware graves in Bohemia and also showed deviations from the expected sex-related norms in funerary practices. In the case of the sample used by Wiermann, these (7) individuals were all males that had been buried following typical Corded Ware rules for female burials (Wiermann 1998, 130-131). Miroslav Buchvaldek (1967) had also argued that especially old individuals were buried differently from the majority but Wiermann could show for his sample from Corded Ware contexts that the ‘odd’ burials were represented by all age classes. Because the vast majority of individuals were buried stereotypically in Beaker and Corded Ware contexts in east-central Europe these few examples in which sex obviously did not conform to gender attracted archaeologists’ attention. Wiermann discussed ethnographic parallels from North America and Siberia, where men had completely adopted a female role including female clothing, female hairstyle, imitating a female voice etc. These individuals had often religious or magical duties which increased their social position (Wiermann 1998, 130-131). A transformation of gender can take place at different moments in the lives of individuals. It has been suggested that in some societies elderly males may have symbolically given up their “*masculine attributes and social power while at the same time abandoning the practical need to compete with other male members of the community*” (Turek 2011, 56).

Furthermore, in early studies only a low number of sex markers had been used, particularly from the skull. As was shown above, this practice can lead to a high degree of uncertainty in sex determination. It has also been noticed in other works that the number of female individuals in prehistoric funerary contexts in some regions is lower than the number of male individuals. For central European Beaker contexts however, the ratio of male to female burials was about 60 to 40 (Häusler 1966, 48). The finding of a male preponderance is also influenced by factors such as the preservation of individuals, since female individuals tend to be more gracile and their bones are poorly calcified. They are therefore more likely to disintegrate completely (Walker, Johnson & Lambert 1988, 183).

3.2.3 Age

The methods of age determination of skeletons in the field of physical anthropology have been developed since early research in the 19th century. Initially, only a few traits of the human body seemed to be of importance for age determinations, such as the fusion of cranial sutures, dental wear and the metamorphosis of the pubic symphysis. The cranium had been particularly fascinating to anthropologists. There were practical reasons for that because the skull tends to be well preserved compared to the rest of the skeleton. However, throughout the 19th century (and beginning of the 20th) the cranium was a focus of physical anthropology,⁵⁰ partially due to the arising interest in the discipline of ‘craniology’. It became obvious later that the body is influenced by a great variety of processes and that more traits of the skeleton had to be included in the study of individuals’ ages (Kemkes-Grottenthaler 2002, 52). In light of the archaeological data, however, this approach made sense because the skull, as well as teeth, and the pelvis are amongst the bones that usually are better preserved. Still today, age determination is problematic because “*each part of the skeleton, depending on its location, structure and function, reflects a different aspect of the ageing phenomenon*” (ibid. 48). Moreover, the ageing process shows a “*remarkable interpersonal heterogeneity*” due to genetic differences, behavioural variation and interaction with the environment (e.g. physical labour, diet), etc. It also is important to distinguish between ‘chronological age’ and ‘biological age’. The

⁵⁰ See also Chapter 2.1.1.

latter is not an indicator of the age in years but rather the physiological age (*ibid.*). In essence it can be said that two persons born on the same day can exhibit very different degrees of development (White & Folkens 2005, 363).

The precision of age determination differs strongly between young and old individuals. The age of children and adolescent individuals can be defined more securely because “the growing human undergoes a progressive development of bones and teeth” and these steps can be determined reliably (White & Folkens 2005, 360). After the growth process ends at maturity, changes in the skeleton are minor and often degenerative and can be specific responses to a certain task the individual carries out, thus not necessarily demonstrating a direct correlation with age (*ibid.* 360-361). Another effect of the increasing inefficiency and inaccuracy of age determination in old individuals is the fact that the gap between estimated age and the chronological age of the person increases in old individuals (Kemkes-Grottenthaler 2002, 62). Essentially, it means that because of the shortcomings of diagnostic methods, the age of old individuals seems to have been systematically underestimated. As a consequence, the finding that old people are missing in archaeological contexts does not necessarily reflect reality but could be an ‘artefact’ produced by a weak methodology. The underestimation of the age-at-death also applies to female individuals whose age at death also seems to have been underestimated due to methodological reasons (*ibid.* 62-63). It follows that the age of mature individuals can often not be given more precisely than 50+ (pers. comm. Dr. Elena Kranioti, UoE).

Consideration has been given to the aspects and problems mentioned above in that the individuals have been classified according to the age classes defined by Jane Buikstra and Douglas Ubelaker (1994). These are Foetus (before birth; not present in the sample), Infant (birth - 3 years), Child (3-12 years), Adolescent (12-20 years), Young Adult (20-35 years), Middle Adult (35-50 years) and Old Adult (+50 years) (Tab. 3). Owing to the nature of the available data a more detailed division was not useful. A high percentage of skeletal material derives from old excavations and the methods that have been used in the past often hinder more precise conclusions. It is thought that a broader division gives consideration to this problem and also to the problems mentioned above.

Of the 322 individuals the age of 24 individuals was indeterminate (7.5% of the total).

Age Class			
	Frequency	Percent	Valid Percent
Infant	14	4,3	4,3
Infant / Child	1	,3	,3
Child	16	5,0	5,0
Child / Adolescent	4	1,2	1,2
Adolescent	37	11,5	11,5
Adolescent / Young Adult	17	5,3	5,3
Young Adult	45	14,0	14,0
Young Adult / Middle Adult	8	2,5	2,5
Middle Adult	31	9,6	9,6
Middle Adult / Old Adult	13	4,0	4,0
Old Adult	13	4,0	4,0
Adult	61	18,9	18,9
Probably Adult	38	11,8	11,8
Indeterminate	24	7,5	7,5
Total	322	100,0	100,0

Tab. 3 Frequency of age classes

In fact, in several cases the age was not directly stated but from the description of the skeleton it was often possible to estimate the approximate age. The majority of these individuals were probably adult and have been classified accordingly, without further specifying if young, middle or old adult. For example, it can be assumed, that the skeleton “of a tall male of strong build” from Garton Slack Barrow C. 61, East Riding of Yorkshire, England⁵¹ (Mortimer 1905, 211) was beyond childhood and that the “skeleton of immense size” from Winterslow Hut 3, Wiltshire⁵² (Thurnam 1871, 322) was probably an adult male. Several other examples could be named in which the description of the skeletal remains almost certainly identified an adult

⁵¹ ID: 91.

⁵² ID: 211.

individual. This group of 'probably adults' consist of 38 individuals, representing c. 12% of all burials.

Infants and children form a small part of the sample with only 31 individuals, accounting for c. 10% of all individuals. As outlined above, children are underrepresented in many prehistoric skeletal samples despite the expected high mortality rate of children (Wiermann 1998, 130; Häusler 1966, 28-29). In addition to the above outlined preservation difficulties of children it must be assumed that the low number is also dependent on burial practices for children that differed from those for adults (see above). Fourteen infants were included representing c. 4% of the total sample; six of these were found as parts of double inhumations.⁵³ In four cases a female individual was buried with the infant, in one case a male and one individual was of indeterminate sex. Double inhumations with infants / children and female individuals in child-bearing age have often been termed 'mother-child' burials, especially in older publications. Alexander Häusler criticized this label as being given too hastily without conducting anthropological analyses. He named several ethnographic parallels for adult-child burials and showed that other interpretations must also be considered. In some of his examples the individuals that were buried with children were not even kin (1966, 41-42).

Four individuals could not securely been aged as being children or adolescents (12-25 years). The group of adolescents comprises 37 individuals, accounting for 11.5%. Again, there are some individuals that could not be assigned to a single age class: 17 individuals from the sample might either be adolescents or young adults (5%). The group of young adults constitutes the second largest group with 45 clearly identified skeletons. As can be, the numbers decrease for older individuals. Thirtyone middle adult individuals (about 10%) and only thirteen old adults (c. 4%) were counted plus thirteen skeletons that were either middle or old adult (c. 4%). Finally, the largest group consisting of 58 individuals can only be addressed as being generally adult (c. 18%).

These numbers concerning sex and age confirm what can be expected from a European sample from that period. The number of male burials is considerably higher than for females and the age structure of the buried individuals has a focus on

⁵³ IDs: 56, 103, 131, 158, 191, 268.

adolescent, young adult and middle adult individuals. The orientation and position of old individuals does not differ from younger individuals and the phenomenon that has been described by Häusler for other societies does not seem to apply for the sample that has been used here. Also in terms of artefact association old individuals do not differ from younger ones.

3.3 Orientation and Position

Position and orientation of the deceased were important aspects for prehistoric communities and followed society-specific ideas and requirements. Alexander Häusler discussed the development of burial practices in prehistory and classified them as gender-indifferent and gender-specific (Häusler 1990). The orientation of bodies can be gender-indifferent in that persons are buried towards a defined point of the compass independent of their sex and age (Häusler called that ‘monopolar’). ‘Bipolar’ orientation means that individuals, regardless of sex and age, are orientated towards different, often opposed directions of the compass. These practices can also gain a gender-specific momentum when males and females are orientated in different directions, or lie on different sides of the body. While for Palaeolithic and Mesolithic groups of Eurasia, and also for the earliest agricultural societies in Europe, no gender-specific burial practices have been documented, they appeared first in the Copper Age in Hungary and in lowland Poland in the 5th and 4th Millennia (Häusler 1990, 332-334). The same author identified two phases of gender-specific burial practices. The Tiszapolgár- and Bodrogheresztur-cultures of eastern Hungary were part of the first phase. There, monopolar gender-specific practices have been documented, with men lying on the right and women on the left side but both with the head orientated E or SE. In the second phase men and women were additionally orientated in different directions (bipolar) and also the side on which they were lying was gender-specific. The Corded Ware groups of Europe belong to the second phase as do the somewhat later Beaker-using groups and some Early Bronze Age cultures following on them (*ibid.*, 335-337; Fig. 3; Häusler 1966, 49). One important distinction, both in Corded Ware and Beaker communities, was the side on which male and female individuals were buried. The meaning of ‘right’ and ‘left’ has been discussed in many works, e.g. in the famous essay by Robert Hertz *The Pre-Eminence of the Right Hand* (Hertz 1960, 89-113). The connection between left and

right and a certain direction is plausible for central European Corded Ware and Beaker contexts but as will be shown below it was less strict for Britain, even though similar tendencies existed. Numerous ethnographic examples are also known from tribes mostly from eastern Africa and document a strong preference for the right side for males and the left side for females (as in Corded Ware), no matter if these were groups that engaged in agriculture or in herding (Grau 1955). This “*duale geschlechtsorientierte Symbolik*” (dual gender-orientated symbolism) was not restricted to the side on which men and women were lying in the grave, but extends to all areas of ritual and symbolic activities and also to everyday life. In some tribes the position of the grave in relation to their house was of importance; men were buried on the right side of the entrance, women on the left. The tribe of the Lango removed the foetus if a pregnant woman died and buried it according to the sex either on the right or left side (*ibid.*, 165). The Basuto tore down the wall of the stock enclosure on the right side when a man had died and on the left side when a woman was deceased, and in case of sickness of the chief the Thonga men had to sleep on the right side of the house, the women on the left, probably to avoid sexual contact (*ibid.*, 167). Particularly interesting is the example of the Nyamwezi people in the area of modern Tanzania. Here, the right-male/left-female pattern was reversed. The left side is called “lwanda lwa vuta” (side of the bow), because the left hand holds the bow and symbolizes the male side. This distinction affects all areas of ritual life (*ibid.* 162-163). Additionally, certain points on the compass were ascribed to males and females, mostly east and west, whereas the east was mostly associated with males and the west with females. Bodies have been orientated towards a defined direction, for example in order to face the rising sun, i.e. based on cosmological perceptions, or in order to have the head pointed toward a prominent point in the landscape, such as a mountain (Grau 1955, 164; 172-173; Häusler 1966, 51; Häusler 1990, 344). These examples are of special interest for Corded Ware and Beaker contexts in Europe. Corded Ware burials show the right – left distinction as described by Alexander Häusler and Rudolf Grau. Men were lying on their right side with the head towards west, whereas women were on their left side with the head in the east. Beaker burials in central Europe, in contrast, exhibit a distinctly different pattern. Women were placed on their right with the head south and men on their left,

head north. It has been argued that the Beaker specific pattern is a direct reaction to Corded Ware practices and was meant to distinguish between the groups (including a different array of artefacts, especially the Corded Ware typical stone battle-axe and Beaker-specific bow and arrowhead) (Fischer 1976). Particularly on the grounds of the association of arrowheads and wrist-guards but also bow-shaped pendants it has been suggested for Beakers that archery had a special meaning. The example of the Nyamwezi is highly interesting in that it exhibits several parallels with Beaker practices: it was a society engaged in agriculture, herding and fishing; practised a left-right distinction in burial; bow and arrow were part of the ritual world. However, ethnographic parallels cannot be directly applied to archaeological phenomena. Human behaviour does not follow universal patterns and examples from different periods, geographies, climatic properties and ultimately different cultural backgrounds are not directly comparable. However, useful parallels can be found as shown above.

3.3.1 Orientation

As concerns the orientation, bodies have been found orientated in all directions of the compass except towards the SSW and WNW⁵⁴ (Tab. 4; Fig. 15). The largest group of individuals was orientated to the cardinal directions E-W/W-E comprising 87 individuals (c. 27%). The second largest group is orientated on an N-S/S-N axis with a total of 64 (c. 20%) individuals. The notion that the orientation of Beaker accompanied burials does have a geographical significance has been in existence for a long time. This finding can also be confirmed with the current dataset (Fig. 16). Burials that are orientated on an east-west (or vice versa) axis, show a markedly northern distribution along the North Sea coast ranging from north-east Scotland to Yorkshire with a small number of outliers in southern England and in the Midlands. Dense concentrations are especially visible in the East Riding of Yorkshire and North Yorkshire and also in Aberdeenshire in Scotland. The pattern does not greatly differ when E-W and W-E burials are mapped separately, with the exception that E-W orientated burials from the sample do not extend beyond Aberdeenshire, whereas

⁵⁴ The compass has been divided in 16 segments here; the cardinal and inter-cardinal points and the points between the cardinals and inter-cardinals.

a small number of individuals orientated on a W-E axis has been found further to the north of Scotland, around the Moray Firth.⁵⁵

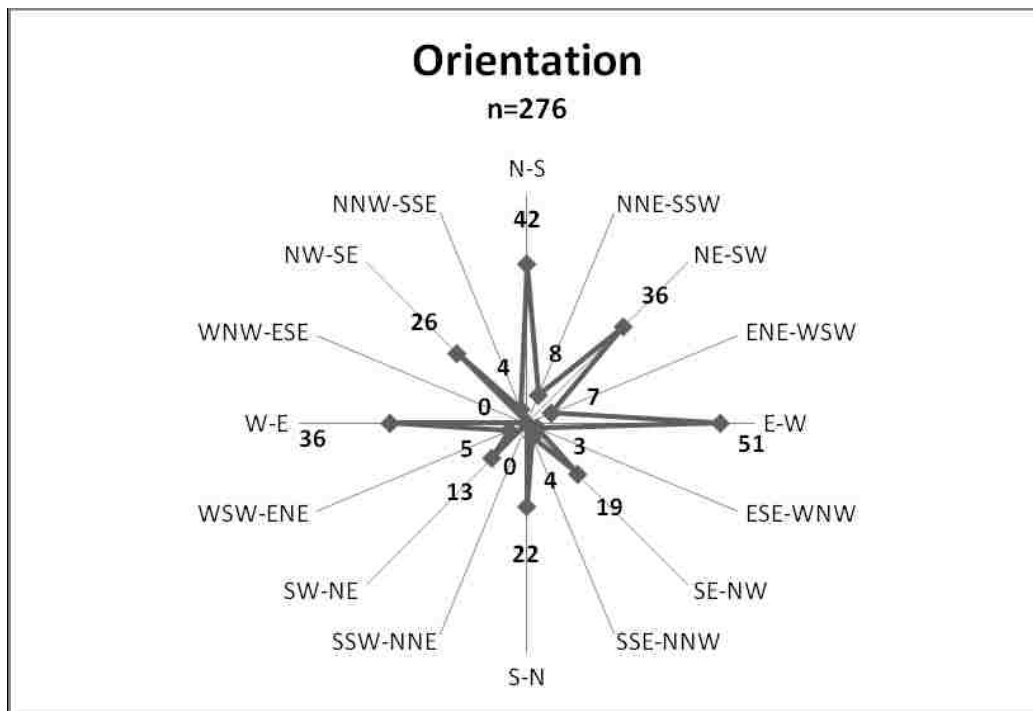


Fig. 14 Orientation of individuals; head first;
not shown: individuals with indeterminate orientation (n=42)

When observing the distribution of individuals orientated on an N-S/S-N axis a distinct pattern is equally visible. The number in Scotland and northern England is comparatively low with about ten sites. The same can be observed in eastern Yorkshire where about the same number of features with that attribute is situated. A very dense distribution, however, is visible in the south of England, especially in Wiltshire and the adjacent areas. When mapping N-S and S-N orientated graves separately the general image remains the same.

⁵⁵ IDs: 233, 244, 245, 262.

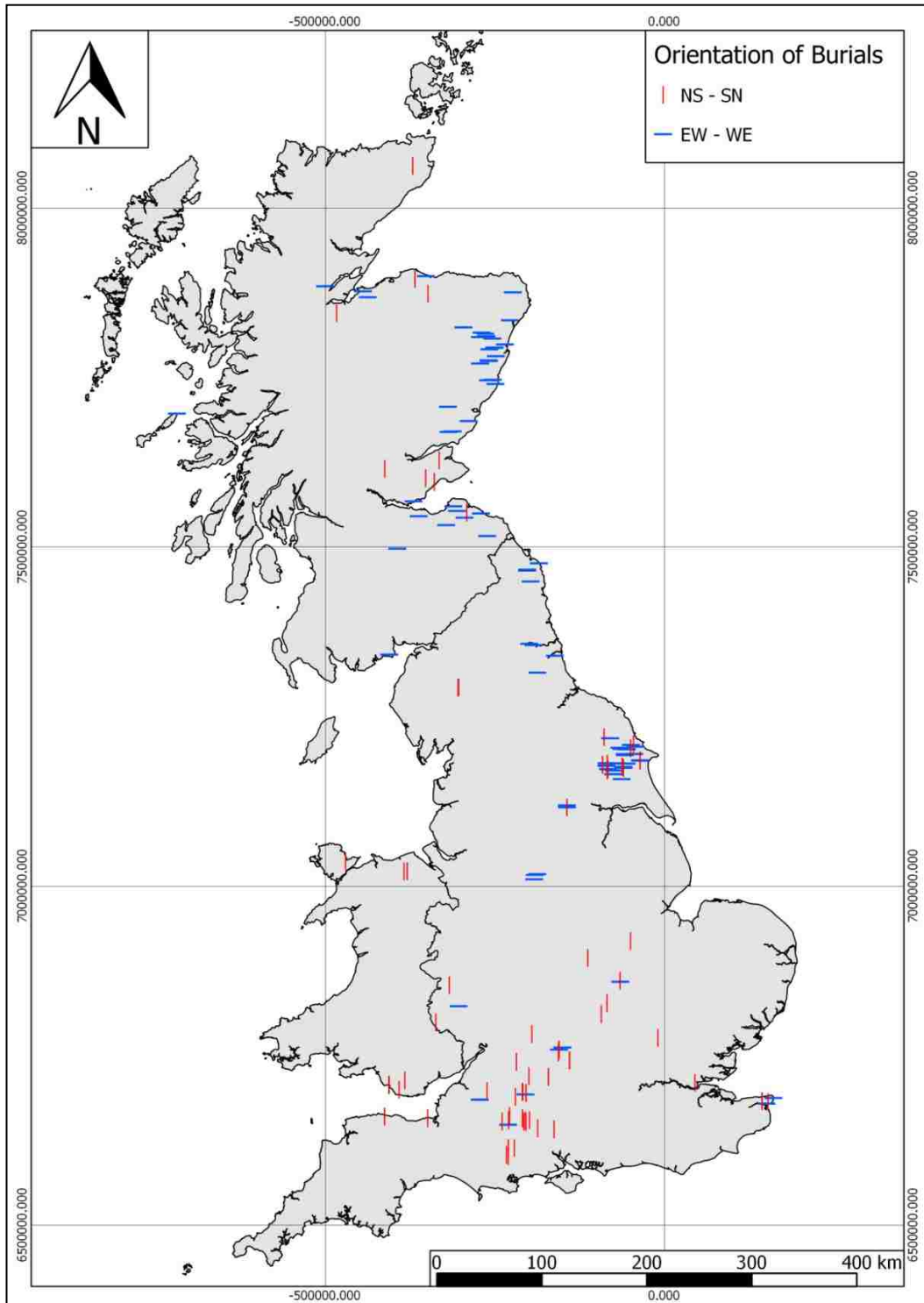


Fig. 15 Distribution of burials orientated N-S/S-N and E-W/W-E

Orientation (Head first)			
	Frequency	Percent	Valid Percent
N-S	44	13,7	13,7
NNE-SSW	9	2,8	2,8
NE-SW	36	11,2	11,2
ENE-WSW	7	2,2	2,2
E-W	52	16,1	16,1
ESE-WNW	3	,9	,9
SE-NW	19	5,9	5,9
SSE-NNW	4	1,2	1,2
S-N	22	6,8	6,8
SW-NE	13	4,0	4,0
WSW-ENE	5	1,6	1,6
W-E	36	11,2	11,2
NW-SE	26	8,1	8,1
NNW-SSE	4	1,2	1,2
Indeterminate	42	13,0	13,0
Total	322	100,0	100,0

Tab. 4 Frequencies of orientations in clockwise direction on the compass

Apart from the cardinal points, a considerable number of individuals have been orientated on the inter-cardinals (NE, SE, SW and NW) (Fig. 17). These 94 burials represent nearly 30% of the total sample. The largest fraction of these individuals was aligned NE-SW (36 burials or c. 11%), followed by 26 individuals orientated NW-SE (c. 8%) and 19 towards the SE (6%). Only 13 individuals (about 4 %) were aligned SW-NE. Generally speaking, the number of individuals with the head towards west or south is lower than towards the other directions. The distribution of bodies orientated on the intercardinal points of the compass shows an even distribution in the case of NE-SW / SW-NE orientated individuals, with high numbers along the coast of Aberdeenshire, Scotland, a small cluster in eastern Yorkshire, England, and dispersed burials that are aligned roughly on a NE-SW axis from the Wash into Wiltshire, England. Regarding the NW-SE / SE-NW aligned individuals; a much more homogenous picture arises. Again, there are a number of individuals in East Yorkshire and also two outliers further north, but the majority can be found in south to south-west England, namely Wiltshire.

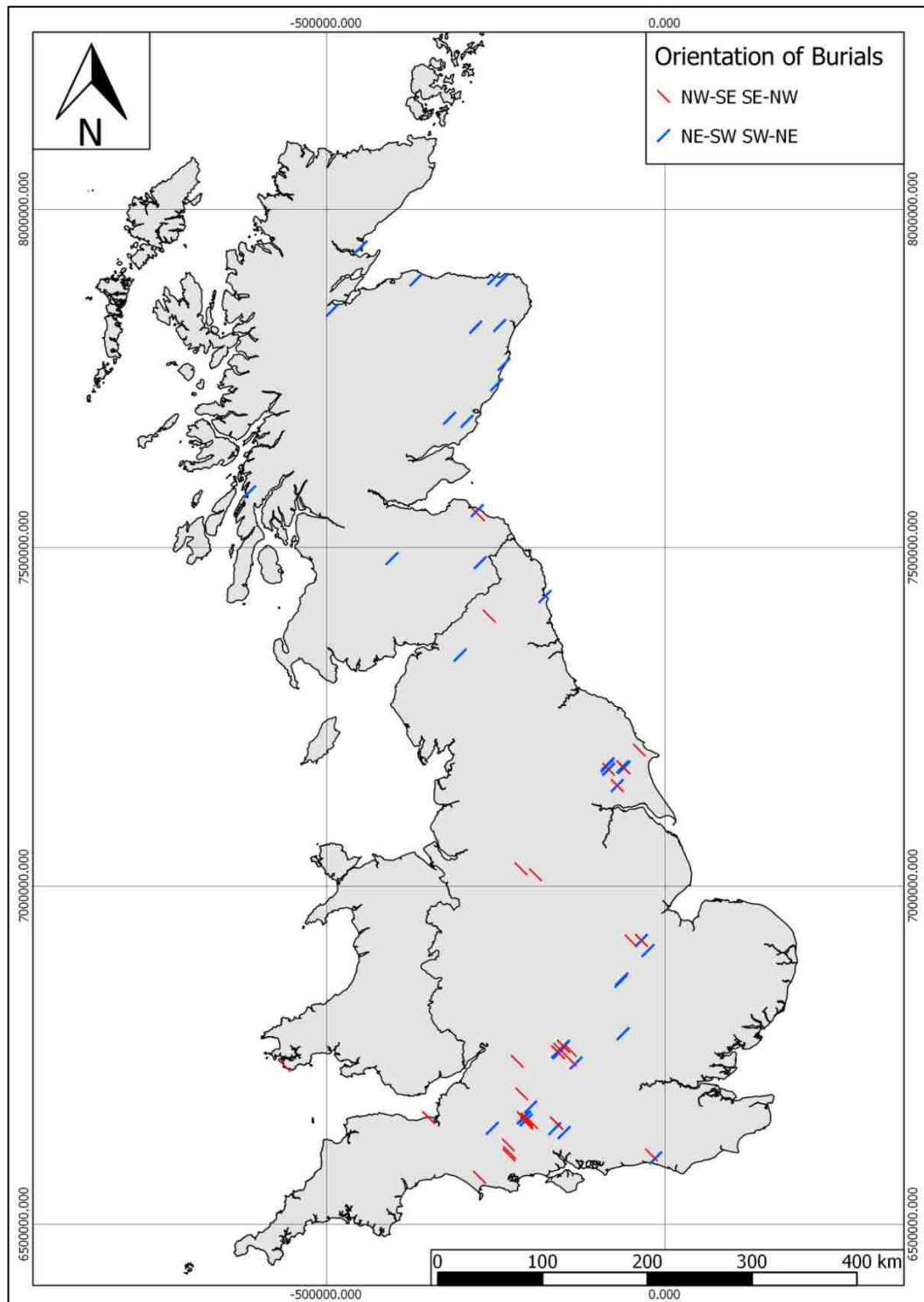


Fig. 16 Distribution of burials orientated NW-SE/SE-NW and NE-SW/SW-NE

The more numerous NW-SE orientated individuals cluster particularly densely in the south-west. Stuart Needham argued that these NW-orientated burials in the south were those of male individuals that were accompanied by a defined set of artefacts (Needham 2012, 18). This 'Association Group Ia' is representative of early Chalcolithic graves in the south and the NW orientation later shifted towards N (*ibid.*).

Another 32 individuals (c. 10% of the total) were orientated in between the inter-cardinals. It has been argued that these deviations were accidental and that the individuals were intended to be orientated on a cardinal or intercardinal point. Even allowing for this possibility it would be impossible to decide which direction was ultimately aimed for and it would be arbitrary to add individuals with a NNE orientation either to the group N-S or NE-SW orientated burials, since both directions have been documented in several instances.

It can be assumed that the orientation of the bodies followed cosmological beliefs and was directed towards celestial bodies. The universal orientation of Beaker burials (and also Corded Ware burials) in Europe seems to support this notion. The accuracy of the orientation for example of Neolithic monuments required a detailed knowledge of the movement of the sun and the moon (Edmonds 2005, 96) and the orientation of burials was not accidental. The builders of monuments that exhibit accurate orientations such as Stonehenge were specialists. However, a 'common' person most likely possessed some knowledge of the run of the celestial bodies because it was important to know certain periods of the year, e.g. when to plant crops. However, whether the precision was good enough as to aim for a direction between the inter-cardinals is debatable.

Nevertheless, there are certain tendencies, especially towards orientation on the cardinal points of the compass, and some clearly defined clusters are recognizable (Fig. 15). Generally speaking, the preferred orientation was on the compass sector between north and east. Lower numbers are orientated to the north-west sector and the southern half of the compass comprises only small numbers of individuals.

3.3.2 Position

An even more significant pattern emerges when looking at the position of the individuals (Tab. 5).

Position			
	Frequency	Percent	Valid Percent
Left Side	167	51,9	51,9
Right Side	86	26,7	26,7
Contracted / Flexed	30	9,3	9,3
Valid			
Supine Position	2	,6	,6
Sitting/Squatting Position	1	,3	,3
Indeterminate	36	11,2	11,2
Total	322	100,0	100,0

Tab. 5 Position of individuals

The vast majority of 167 skeletons or about 52% of the total number of individuals included in the sample was found buried on their left side (Fig. 18). Eightysix (about 27%) were buried on the right side and for 30 (c. 10%) there was no information as to which side they had been buried on, but it was generally stated that they had been lying on their sides. An insignificant number of individuals were buried in different postures; two individuals were found in supine position and further one in a sitting/squatting posture, together accounting for just under 1% of the total sample. A possible example of an individual buried in an extended position is known from Tring, Hertfordshire (Anonymus 1787). The individual was buried with one finished and one un-finished wrist-guard close to the feet and arrowheads between the legs. Two pottery vessels were also discovered but these “fell to pieces” (*ibid.*). It is possible that those vessels were Beakers but it cannot be said with certainty and further doubt is raised by the unusual position of the body. The position of 36 bodies (11%) is unknown. Concerning the distribution of left and right sided bodies no noticeable patterns arise. The burials are evenly distributed over the research area with the already mentioned focus areas (Fig. 19).

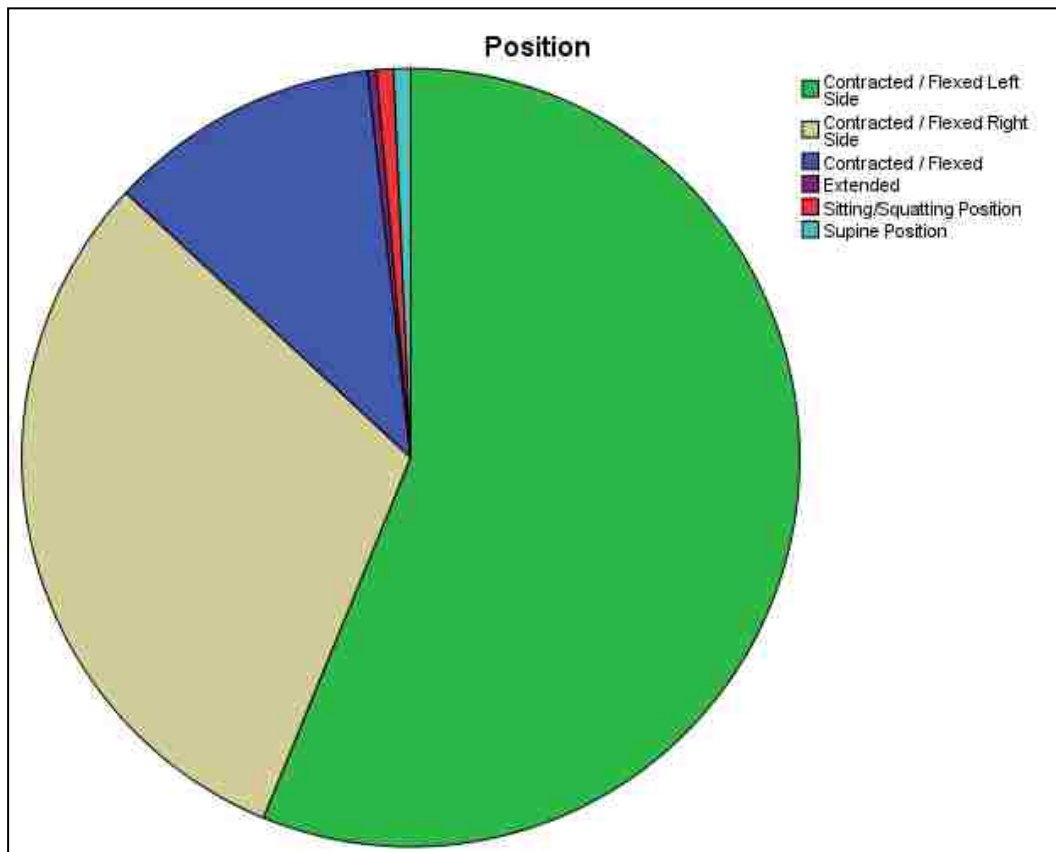


Fig. 17 Graphic illustration of the proportion of positions of 283 individuals
not shown are individuals with indeterminate position

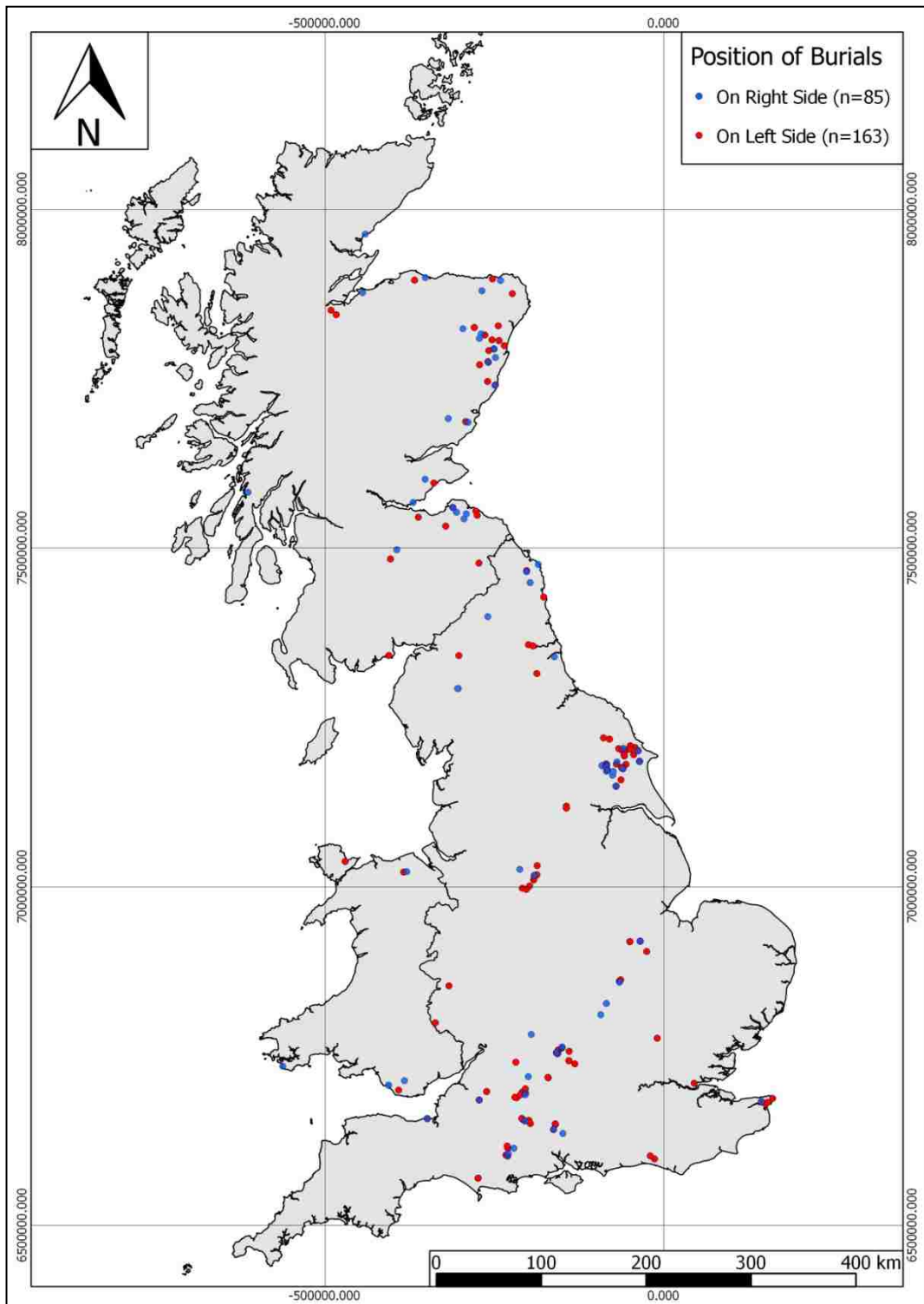


Fig. 18 Geographic distribution of the position of individuals

3.3.2.1 Position of the Limbs

The position of the upper and lower extremities has not been subject to intensive research in Britain especially due to a lack of information in older publications. Richard Colt Hoare for instance did not usually provide information apart from the orientation and occasionally the side on which the individuals were placed. As concerns the burials published by Hoare that are included in this work, he only stated in one case that the “legs were gathered up” (Hoare 1812, 103), a formulation which can be found repeatedly in other works. Also in subsequent works of some of the barrow diggers the information was scarce. Bateman’s formula of leg description was that the individuals had been found with the “knees drawn up” (1848, 1851, 1861). On plans of the burials he published, the skeleton was shown in a contracted position but it is uncertain if this was an idealized picture or in accordance with the actual excavation situation. The information Canon William Greenwell gave in his account concerning the present data set was particularly dissatisfying. He gave little information on the leg position but occasionally described the arms (1877). John R. Mortimer provided better information on limb position and additionally published plans and sections of many barrows he had excavated where he showed the position of the extremities (1905). Mortimer had possibly been influenced by the accurate work of General Pitt-Rivers, for example from the ‘Excavations in Cranborne Chase’ (1887-1898). Even though more attention was paid to the position, the available information continued to be vague and standard formulations such as “in the usual contracted position” were used but the degree of contraction was usually not specified.

Gordon Childe considered limb position to be important and distinguished between contracted, flexed and extended positions. According to Childe’s definition, the position of the individual is *contracted* when the legs are drawn up to the chin and have an angle of 90° or less with the spinal column. If the angle is more than right angle the term *flexed* should be used. A person’s position is *extended* when the legs are in line with the spinal column (Childe 1947, 346)⁵⁶. Paul Ashbee followed that division (1960, 69) as well as Ida Bognár-Kutziàn in her work on the Copper Age cemetery of Tiszapolgár, Hungary. Bognár-Kutziàn demonstrated the importance of

⁵⁶ Childe must have made that distinction shortly before, because in an excavation report he co-authored he used the formula “placed in the usual crouched position” (Childe et al. 1943-44, 106).

recording the exact position of the skeletons. She was able to show for the site of Tiszapolgár that the position of the legs had chronological value but was not sex-related. During the first phase of the cemetery the bodies were buried in a flexed position, in the second in a contracted position. As concerns the position of the arms, she was not able to identify strict patterns (1963, 358-359). In her study of burial patterns in the barrows of East Yorkshire Alexandra Tuckwell also tried to integrate the limb position in her statistical analyses. She came to the conclusion however, that the available information was too scarce and imprecise as to draw comprehensive conclusions (Tuckwell 1975, 99). That applied to both arm and leg position, but especially to leg position.

Timothy Darvill distinguished the categories formulated by Childe but added a fourth one, the *crouched* burial. Darvill gave up the clear distinction made by Childe in favour of less strict criteria. According to him a burial is crouched, if the “corpse is lying on its side with the legs brought up underneath, knees bent, as asleep” (Darvill 2008b). This category can basically be seen as a position between flexed and contracted but the boundaries are not clearly defined. Needham defined three different leg positions. 1) Flexed for slightly bent legs; 2) Contracted for knees bent at acute angle; 3) Tightly contracted for legs acutely bent and knees drawn up to the torso. He applied the term ‘crouched’ when the degree of contraction was unknown (2012, app. 1.1).

It is felt that the preservation of the skeletons or the information available in the published record in many cases does not allow such precise divisions. Therefore the above stated approach has been chosen with the categories contracted and flexed.

The position of the lower limbs is unknown in about 46% of all cases (Tab. 6).

Terms such as ‘contracted’ and ‘crouched’ are, naturally, frequent in publications on Beaker burials. Their use has not always been stringent, so that the numbers in the table have to be consumed with some reservations. Where it was stated in the literature that an individual was buried in a contracted position, this information was accepted in the majority of cases, even though in some cases suspicion as to the quality of the information seems justified. This is the case for about 20 burials (e.g. those published by Bateman, see below), so that the tendency that is suggested in Tab. 6 is still valid but weakened. Considering the geographical distribution of

contracted and flexed burials two particularities are visible. First, a cluster of 9 graves in Derbyshire and Staffordshire where all individuals were buried in a contracted position is eye-catching (Fig. 20).⁵⁷

Contracted / Flexed			
	Frequency	Percent	Valid Percent
Contracted	132	41,0	41,0
Flexed	41	12,7	12,7
N/A	149	46,3	46,3
Total	322	100,0	100,0

Tab. 6 Position of the lower limbs

A second look shows however, that all these burials have been excavated and published by Thomas Bateman (1848, 1861) and that in four cases he simply used the description ‘in the usually contracted position’, three times that the knees were ‘drawn up’, once the knees were ‘contracted’ and in only one case he specified the arm and leg position. Secondly, north of the Yorkshire Wolds only four flexed individuals were recorded, all in Scotland.⁵⁸ The remaining individuals in Scotland whose position is known were buried in a contracted position. This image cannot hide the fact that for the majority of individuals the degree of contraction is unknown. Out of 87 individuals in graves in Scotland the exact position of 60 has not been specified mostly because Scotland’s acidic soils are not favourable for the preservation of skeletal remains. Despite all these constraints, a clear preponderance of individuals in a contracted position is visible (accounting for 41% of the sample) while the number of flexed individuals (c. 13%) is much lower. In nearly 47% the position is unknown due to the above discussed problems. The information regarding the position of the arms is equally limited, so that it is difficult to analyse it in the context of social identity.

Greenwell stated that the position varied considerably but that the most frequent position was in front of the face (“hands up to the face”) (1877, 25).⁵⁹

⁵⁷ IDs: 10, 20, 58, 122, 125, 158, 170, 201, 212.

⁵⁸ IDs: 219, 240, 269, 271.

⁵⁹ Mortimer (1905, XXXVII) took over the whole paragraph and added one possible arm position.

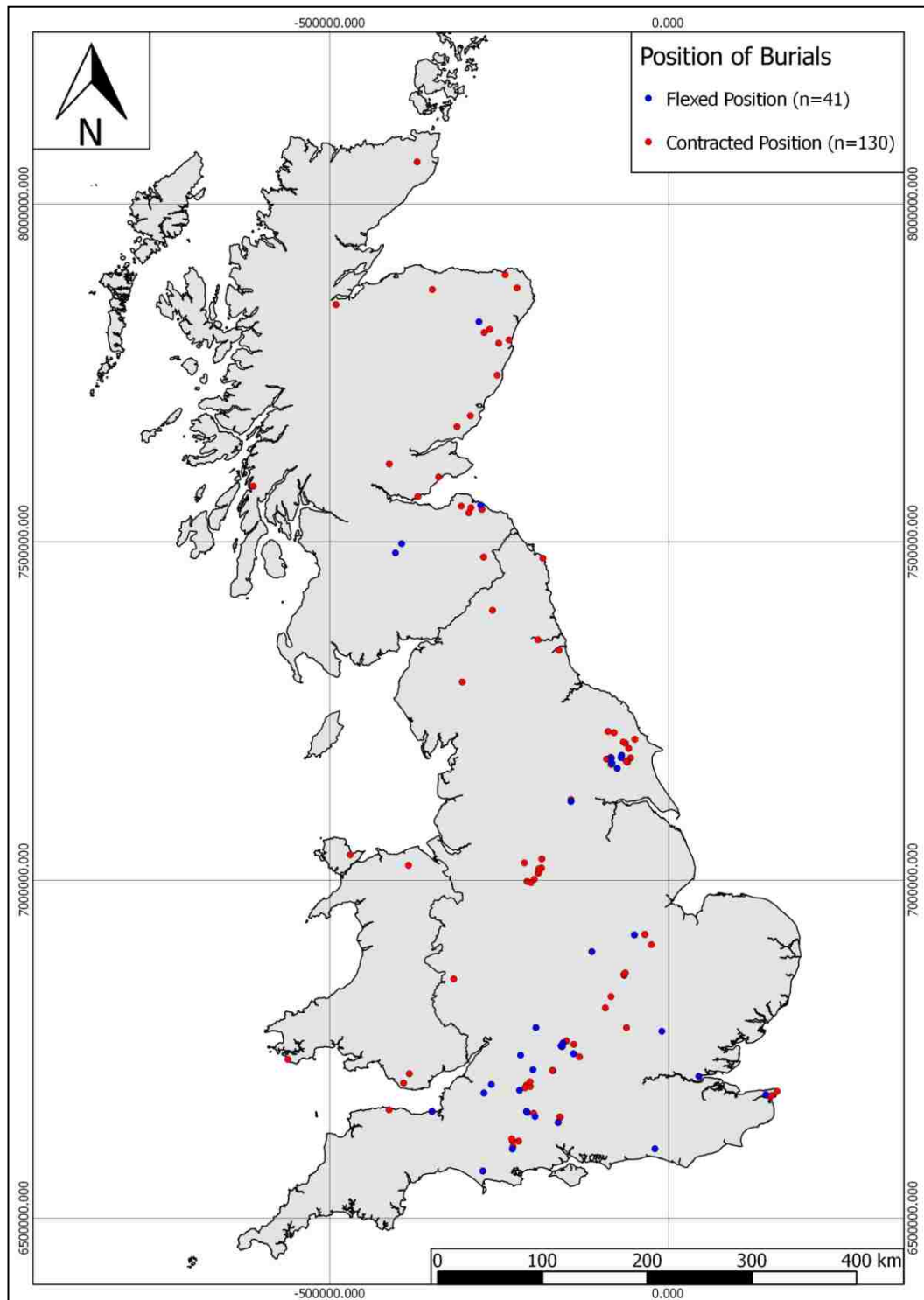


Fig. 19 Distribution of individuals with flexed and contracted position

The situation seemed to be the same in the barrows opened by Mortimer. He did not always precisely state the limb position in the text but occasionally refers to his drawings, e.g. in barrow C83 of the Riggs group (1905, 184; Fig. 461). Naturally, the same problem applies to this sample because the data Alexandra Tuckwell used has been integrated, but the results of Colt Hoare and Cunnington (1812, 1819) or Bateman (1848, 1868) have the same shortcomings. Concerning the position of the arms there are some ‘natural’ constrictions depending on the position of the individual. For bodies lying on their sides (and this applies to almost every individual in this sample) a ‘natural’ position of the arms is in front of the body or on the side of the body. The latter position, however, is very rare. The hands were usually lying in front of the face⁶⁰, which also means that the angle between lower and upper arm is smaller than 90°. There are cases where one hand was lying under the head (this coincided with the position, i.e. the left hand lay under the skull when an individual lay on the left side). Because information on upper limb position is frequently missing it is difficult to provide exact numbers. However, where information on upper limb position was available it has been integrated in the database.

3.4 Grave Types

The individuals were buried in a variety of grave types, ranging from simple and shallow earthen pits, graves comprising deep ‘shafts’, elaborate wooden constructions, large barrows, cists, etc. There are, however, three main types of graves or monuments that form the bulk of the present data set: barrows, cists and pits / flat graves. The latter term is ambiguous. A flat grave is a “burial consisting of a simple oval or rectangular pit containing an inhumed individual. The pit is infilled but not marked by a mound or any kind of upstanding earthwork” (Darvill 2008, 382). While the definition is clear, its use has been criticized. It was shown in Chapter 2 that the typical Beaker burial has for a long time been thought to be a single grave covered by a barrow. As a consequence it was argued that flat graves were merely graves that had originally been covered by a mound which was later lost due to natural processes or human activity. The possible existence of flat graves or flat-cemeteries was not generally refuted, but was regarded as unlikely (e.g. Megaw & Simpson 1970, 189), even though the flat cemeteries from Cassington and

⁶⁰ This observation has also been made by Ulrich Fischer for continental Beaker burials (Fisher 1976).

Eynsham (both Oxfordshire) had been known since the 1930s (see below). Also, in more recent accounts it has been questioned whether most of the known flat graves might have originally not been covered by a mound (e.g. Clarke 2008, 92-93). Considering the number of flat graves without barrows (68 in this sample), the notion that most of them should have been covered originally by a mound is misleading. In addition, the number of flat graves is a result of both the reduced potential of discovery of these superficially invisible features and of past research. Flat graves are often found during construction works whereas barrows are (often) clearly visible monuments.

Grave/Deposition Type			
	Frequency	Percent	Valid Percent
Barrow	5	1,6	1,6
Barrow; in mound	17	5,5	5,5
Barrow; on old land surface	8	2,6	2,6
Barrow; below old land surface	97	31,2	31,2
Cairn; on old land surface	1	,3	,3
Cairn; below natural surface	2	,6	,6
Cairn; below old land surface	1	,3	,3
Cist	94	30,2	30,2
Cist in barrow	2	,6	,6
Cist below barrow	4	1,3	1,3
Cist in cairn	1	,3	,3
Cist below cairn	3	1,0	1,0
In long barrow	4	1,3	1,3
Pit / Flat Grave	70	22,5	22,5
Indeterminate	2	,6	,6
Total	311	100,0	100,0

Tab. 7 Grave / deposition type

Some of the monument types, such as barrows and cists, have been sub-divided in order to clarify the construction technique or the position of the individual in the monument (for example 'below old land surface' or 'on the old land surface'). As can be seen in Tab. 7, this mainly applied to cists and barrows and finally led to 13 distinctive graves types. In only three cases is the type of grave unknown. In the

following section, the numerical and geographical distribution of these features will be summarized and discussed. Some features listed in Tab. 7 will be discussed in the text in more than one category; for instance a barrow that covered a cist will be mentioned twice; once under cist burials and once under burials associated with barrows. The same applies to the figures; a cist covered by a barrow will be shown on the distribution map of barrows but also of cists. The total numbers for each type can be seen in the table.

3.4.1 Cists

A total of 103 cist burials have been included in the sample (Fig. 21). The vast majority of these are situated north of the River Tees, the Yorkshire Dales and the Cumbrian Mountains (Lake District) in northern England. The density of cists increases further to the north but there are only scarce finds of cists in the Eden Valley and the Tyne and Wear Valleys. The Pennines are comparatively empty, and generally the highland areas in the north of the distribution area are not represented here. This distribution is similar for all other forms of burial comprising this sample. The impression is that elevated terrain has mostly been ignored and instead the lower areas more suitable for agriculture (and therefore living and dying) was preferred. With only a few exceptions, the same applies for burials found further to the north in Scotland. These burials mostly cluster along the east coast in the lowlands, with hardly any feature found in mountain areas. In many cases isolated cists were discovered, but small cemeteries are also known, such as Borrowstone⁶¹, City of Aberdeen (Shepherd 1977; 1980; 1984) and Lesmurdie,⁶² Moray, (Robertson 1854, 205-211), both Scotland. Occasionally, small cemeteries covered by a single barrow have been documented, for example at Barns Farm, Fife,⁶³ Scotland or at Balnabraid, Kintyre, Scotland (Galloway 1919-20, 172-191). The circumstances of discovery were often unfavourable because cists were found during ploughing or gravel extraction or some other industrial activity. The preservation of bodies in the cists and also the quality of the (often old) publications are unfortunately mediocre. In many cases the available information is of uncertain quality and incomplete. The majority of structures (94, or about 30% of all burials) were sunk into the subsoil,

⁶¹ IDs: 221-226

⁶² IDs: 258-259.

⁶³ ID: 218.

mostly consisting of sand or gravel, with no covering mound or other additional upstanding features, being preserved (so-called 'flat cists'). Whether the absence of mounds matches the prehistoric reality has been questioned, as it has been for pit graves with Beakers in parts of England. Stuart Piggott allowed for the possibility that the lack of covering mounds over cists could have been caused by ploughing, especially in areas with intensive agricultural activity, such as eastern Scotland (Piggott 1962, 82; 94). That argument was taken up by Colin Burgess, who pointed to excavation results that had shown the presence of mounds; he also referred to old field names that indicated earlier barrows no longer extant (Burgess 1980). In many cases however, cists had been constructed in natural elevations or ridges, such as the examples from Borrowstone⁶⁴, Doons Law⁶⁵ (Clarke & Hamilton 1999), Mains of Scotstown⁶⁶ (Ralston 1996) (all in Scotland) and it is likely that these places were chosen for their elevated (barrow-like?) appearance. A smaller number of cists was constructed either in the mound of existing barrows (2)⁶⁷, the cairn body (1)⁶⁸ or had been sunk into the natural surface and a mound (4)⁶⁹ or cairn (3)⁷⁰ was subsequently erected over them.

Cists usually comprise two side slabs, two slabs at the end and a cover stone.

Nevertheless, there are numerous instances where the feature had been constructed with the help of more than one slab for either side or for the cover stone and sometimes uneven heights of slabs had been levelled by smaller slabs or packing stones. The floors of cists are often paved, mostly in the form of gravel, pebbles, sand and in some instances also clay or beach shingle. Less frequent is the presence of a base slab or several smaller slabs that formed the cist floor. Occasionally, the gaps between the slabs were luted with clay and also packing stones between pit walls and slabs supporting the construction have been documented.

⁶⁴ IDs: 221-226.

⁶⁵ ID: 237.

⁶⁶ ID: 264.

⁶⁷ IDs: 54, 58.

⁶⁸ ID: 21.

⁶⁹ IDs: 60, 218, 298, 301.

⁷⁰ IDs: 22, 132, 247.

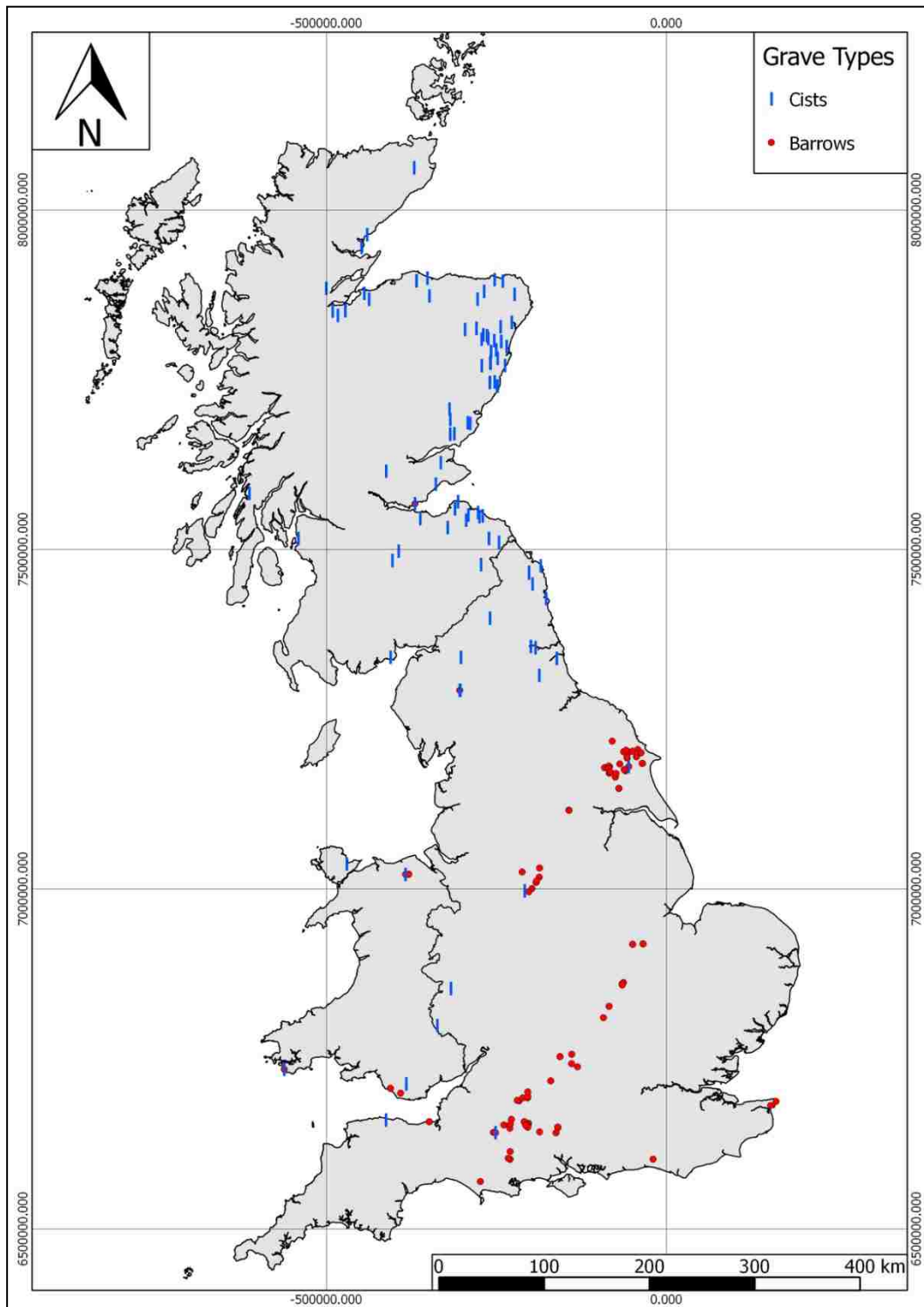


Fig. 20 Distribution of burials in barrows and cists

The sizes of cists show a high degree of variation. Broomend of Crichtie⁷¹, Scotland, is the longest cist (in this sample), measuring nearly 1.90m. It held two individuals and the size suggests that it had been intended for two individuals at the time of construction.

If this was the case, the two robust male individuals probably died at the same time. The bones did not show signs of violence. The smallest cist was found in Aberdeenshire, Scotland (Roadside of Catterline⁷²) and held the remains of a child. There is a general tendency towards children being buried in smaller cists, adults in larger. Where the size of the pit that held the cist was documented, it can be seen that they were usually built just large enough for the slabs to fit in, but also exceptions where the pit was larger have documented (Barclay 1983).

3.4.2 Barrows

Beaker-using communities constructed mounds in large numbers for funerary purposes. The largest number of burials in this sample (144) is associated with burial mounds of different types, including long barrows and cairns. The structure of the mounds is mainly related to the local geographical and geological properties, i.e. by the availability of resources such as earth and stones. Two basic forms - earthen mounds and stone cairns - have been identified, but also composite forms are known which include a variety of construction techniques, sometimes with complex monument histories (Ashbee 1960, 41; Woodward 2000; Manby *et al.* 2003, 74). Barrows with earthen mounds constitute by far the largest group in this category. The majority of these sites in this sample are distributed south of the Yorkshire Moors and Yorkshire Dales in the east of England, while the west remains nearly empty. Several areas with dense concentrations of barrows can be seen on Fig. 21, especially in East Yorkshire and on the Salisbury Plain in southern England. Another accumulation can be found in the Peak District and in a line running south-west from the Wash into Wiltshire (cf. Chapter 3.1). It has been pointed out above that this line can possibly be interpreted in terms of the geological properties of the area. From the distribution map alone it might appear that a kind of communication corridor existed

⁷¹ Ids: 229, 230.

⁷² ID: 283

that linked these areas, but it conceals the actual distribution of Beaker sites in the area. The distribution seen on map Fig. 21 presents a different picture.

As mentioned above, different types of graves in the barrows can be distinguished; the highest number of individuals has been buried in graves that were sunk below the old land surface, either into the subsoil or the underlying rock (usually soft, such as chalk or limestone) and had then been covered by a mound of earth (96 individuals). The deep pits are usually called 'shaft graves' (Grinsell 1941, 102; Ashbee 1960, 84 and see below) and can reach considerable depths - in the case of Aldro 54⁷³, North Yorkshire, nearly 4m (Mortimer 1905, 63-66). In four cases a cist had been sunk into the natural surface and had subsequently been covered by a mound. A much smaller number of eight individuals had been buried directly on the natural surface and was then covered by a mound and 17 individuals were found in the body of the mound. The latter are usually secondary burials. The concept of 'primary' and 'secondary' burials has been criticized, for example in Fred Petersen's work on the barrows on the Yorkshire Wolds (1972). He argued that 'primary' and 'secondary' had been used in the past to attribute a certain importance to a burial, so that primary did not only mean 'first' but also 'most important'. The use of this word pair here is exclusively sequential; it could be substituted by 'initial' and 'subsequent'. The archaeological data, especially from barrows, often do not allow such a straightforward distinction. If signs of disturbance are missing it is clear that a burial at the base of a grave should be the first one if all buried individuals above are undisturbed, it is less clear (or sometimes impossible to say) when individuals are buried on the natural surface below a mound, or when burials are on the periphery of the mound. The sequence of those burials can then only be deduced from the accompanying grave goods, if present and if diagnostic. Furthermore, it must be borne in mind that there is not necessarily a chronological gap between burials, so that there can be two (or theoretically several) contemporaneous burial acts and it cannot be decided which is the 'primary' burial, or 'founders burial'. Also burials in a central pit and on the natural surface might take place at the same time. In that case however, a social distinction between the individuals would have to be considered, because one of them was not eligible for a burial in a pit but 'only' on the natural

⁷³ ID: 8.

surface. Whether this modern view was of any relevance is uncertain of course.

Burials that have been found in the body of the mound are equally difficult to arrange chronologically / sequentially if they do not have a clearly visible stratigraphic succession or if they cannot be dated on the basis of diagnostic grave goods (e.g. Collared Urns, Anglo Saxon material, etc.).

The situation is further complicated by the fact that many barrows are multi-phase monuments that have been enlarged or altered. In some cases, a considerable period might have elapsed between the first burial and subsequent burial and some barrows are proper cemeteries for a group of people rather than one individual (cf. Petersen 1972) The sequence of burials is uncertain in many barrows and cairns due to continued funerary activity that witnessed interments of different kinds including inhumations, cremations and also deposits of disarticulated human remains.

Six cairns comprising seven Beaker-associated individuals have been included in the catalogue and they are distributed evenly over the research area (Fig. 22). With the exception of Charmy Down, Bath and North East Somerset⁷⁴ (Williams 1950), all cairns are old excavations and the information is unfortunately very limited. In Youlgreave, Bee Low, Derbyshire⁷⁵ the cairn had originally been investigated by Bateman who only dug parts of it (1848, 35; 1861, 71-74). It was re-excavated between 1966 and 1968 and the results helped to understand the sequence of that monument (Marsden 1970). In the case of the monument at Oare (Culbone), Somerset⁷⁶ it is uncertain whether the cist was found in a cairn. The excavator reported that the cist was found during stone quarrying, which indicates a cairn. However, he explicitly stated that no trace of a mound was visible and that the cist had been found c. 1.5m beneath the surrounding soil (Elworthy 1896). Later authors, however, meant to be able to identify the cairn in which the cist had been found (cf. Oare, Monument No. 35884 PastScape). If this latter notion is correct, and considering the depth of the cist, it had probably been sunk beneath the old land surface and had then been covered by the cairn. Two other instances of this type of burial are known from Haylee, North Ayrshire⁷⁷ (Munro 1910) and Bamburgh

⁷⁴ ID: 50.

⁷⁵ IDs: 29, 212.

⁷⁶ ID: 132.

⁷⁷ ID: 247

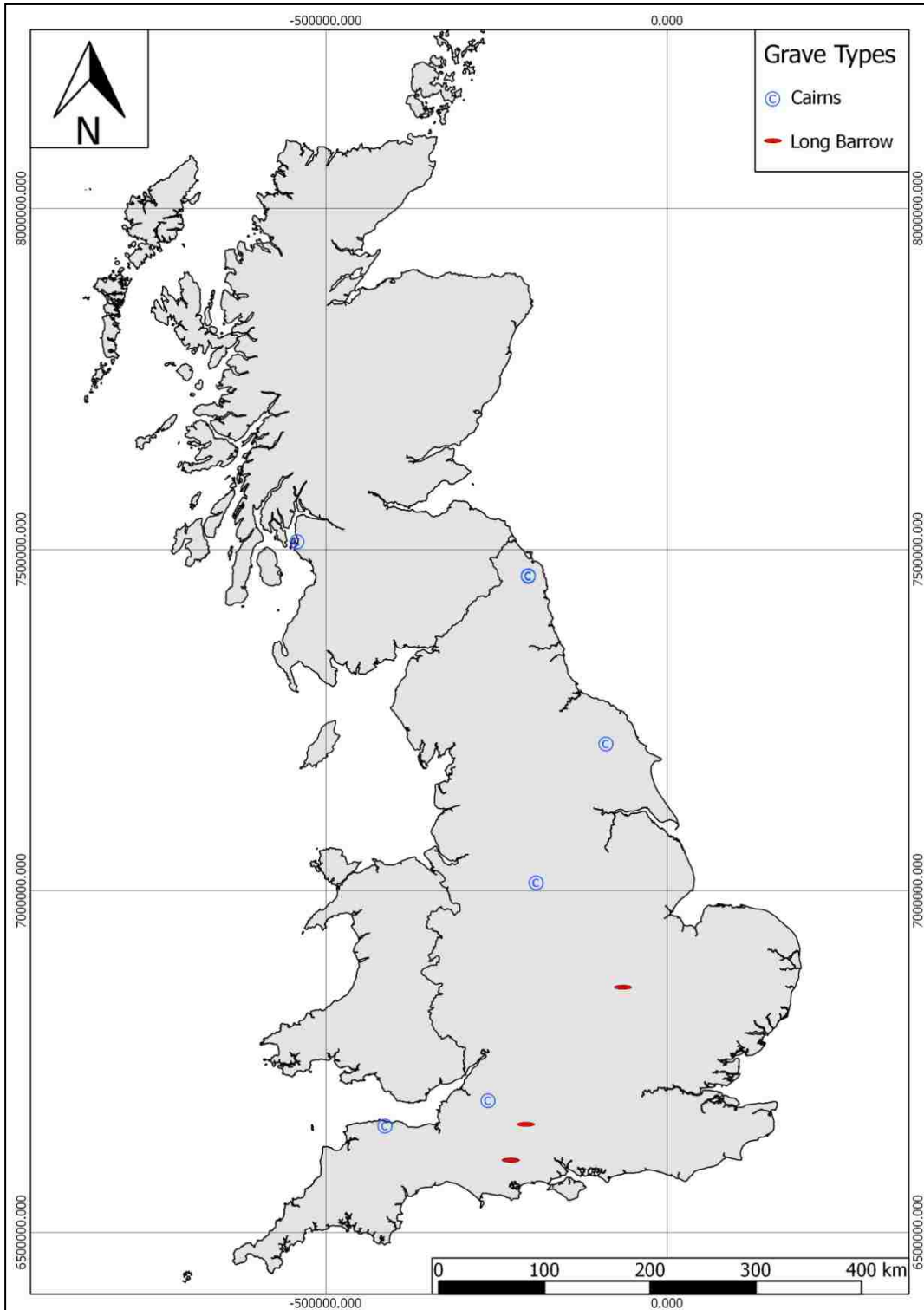


Fig. 21 Distribution of burials in cairns and long barrows

(formerly Bamborough), Northumberland⁷⁸ (Greenwell 1877, 415-417). A cist burial from a different cairn at Bamburgh⁷⁹ (Greenwell 1877, 413-414) was constructed on the old land surface and had then been covered by the cairn. Three burials in cairns were found without cists, two of which were in pits sunk into the old land surface and one on the old land surface. The example from Irthlingborough⁸⁰ may be added to this group even though in its final stage this monument was an earthen barrow and has thus been categorized in the database as a burial beneath a barrow.⁸¹ However, the first phase of the monument comprised a small cairn of local limestone that had been erected over the pit that held the primary Beaker-associated burial. Nearly 200 cattle skulls had then been piled up on top of the cairn and the feature was subsequently covered by an earthen mound (Dix 1987; Davis & Payne 1993; Healy & Harding 2004; Harding & Healy 2007, 2011). The time that had elapsed between the erection of the cairn, the deposition of the cattle skulls and the construction of the earthen mound is unclear, however.

Only four individuals from three long barrows could be included, one situated each in Dorset⁸², Wiltshire⁸³ and Northamptonshire⁸⁴ (Fig. 22). These individuals were buried in the mound of the monument. In the case of Figcheldean, Wiltshire⁸⁵, the individual was apparently buried in a state of advanced or complete decomposition because the bones were re-arranged in the grave. Long barrows are mostly found in the southern part of England with a dense concentration especially in Wiltshire (Grinsell 1957, 137-146; Atkinson 1968, Tab. 1). They are of Neolithic date and their construction pre-dates Beaker activity considerably. Not always are there clear signs for funerary activity and other functions, for example “connected to territoriality or community consciousness” have been suggested (Woodward 2000, 31). A small number of discrete Beaker burials in long barrows are known. They tend to be aligned on the long axis of the mound, usually towards the end where in the majority

⁷⁸ ID: 22.

⁷⁹ ID: 21.

⁸⁰ ID: 145.

⁸¹ This is a methodological problem because it is often impossible to say how much time elapsed between the construction of a monument and the first time it was re-shaped. The subsequent changes in the monument structure can be part of the funerary ritual and happen after a short period of time or may happen only after centuries.

⁸² IDs: 185, 186.

⁸³ ID: 78.

⁸⁴ ID: 144.

⁸⁵ ID: 78.

of cases ritual activity took place. The practice of Beaker burials in long barrows may be understood as an attempt to construct ancestry with the builders of long barrows in order to claim a certain social role or for territorial claims. The age of the long barrows, which had already been dominant monuments in the landscape for about one thousand years when the first Beakers in Britain came into use, had probably been passed down the generations, possibly in some kind of myth-building tales. This could serve as an argument for the idea that Beaker users who buried their dead in the long barrows knew of their ancestral significance and were therefore rooted in the area. The burial in an old monument with 'new' objects and 'new' ideas might thus have been a way for locals in trying to establish a different idea, 'religion', or simply legitimation by connecting old traditions with innovations. This theory would especially make sense at the beginning of the Beaker currency in Britain and the two individuals that were buried in Thickthorn Down, Long Barrow 163a can be argued to be representative of this early phase. An adult female and child were buried in a typical SE-NW orientation (see below and also Needham 2012, 18). Both were accompanied by Low-Carinated Maritime Derived Beakers that stand at the beginning of Beaker development according to the different Beaker typology schemes (cf. Needham 2005). The idea of re-using existing monuments was not restricted to users of Beaker pottery, however. In the Lambourn long barrow one interment was dated to 3300-2885 cal BC, i.e. considerably after the construction of the barrow but also considerably before Beaker use started in Britain. This could indicate that the importance or the initial purpose / meaning of the monument was passed down the generations. However, it is assumed here that the actual history or meaning of long barrows was a distant point in the past (Schulting 2002, 28) that had been forgotten when they were re-used. Their story was possibly passed on as parts of myths and doubtless they were experienced as special places connected to the ancestors. Whether their precise original meaning – apart from being places for the dead - was still understood seems doubtful, but their significance had been 'translated' into the ideas and needs of the time.

3.4.3 Pits / Flat Graves

The last 'main' grave type is represented by burials in pits or flat graves. These terms summarize a variety of features, ranging from shallow scoops in which the body had

been placed to elaborate and deep constructions, sometimes with wooden chambers or coffins (Fig. 23). No distinction has been made here between excavations made in soil or rocky surfaces, such as chalk. A special form of pit grave comprising very deep excavations have sometimes been called ‘shaft graves’; this distinction has also been made here. The effort that has been invested in the construction of shaft-graves implies that they had a special meaning or function. A pit 3m deep requires more effort and possibly more skill than a shallow pit of 40cm. The Concise Dictionary of Archaeology defines a shaft tomb as a “*distinctive type of burial monument characterized by a deep narrow shaft running down into the ground*” (Darvill 2012, “shaft tomb”). It appears that features with a depth greater than 170cm have been defined as shaft graves in the past, although this rule was not strictly followed. This rather arbitrary demarcation has been used for the present data set as well. Eleven graves comprising deep pits or ‘shafts’ with fourteen Beaker-accompanied burials have been integrated in the catalogue. A group of seven features graves in East Yorkshire⁸⁶, two in the Amesbury area at Shrewton⁸⁷ (Green & Rollo-Smith 1984) and Wilsford⁸⁸ (Hoare 1812, 205) in Wiltshire and one example with a ‘rich’ Beaker grave group is known from a deep pit at Barnack, Peterborough⁸⁹ (Donaldson 1973; 1977). These ten features were all covered by barrows, in the case of Barnack by a multi-period monument. The only example that did not include a covering mound was on the south coast in Brighton, Brighton & Hove, which held the burials of an adult⁹⁰ and a child⁹¹ (Curwen & Curwen 1935). Considering the other features of this type with their covering mounds it could be argued in this case that the mound had been lost. The grave was situated in a chalk pit and any upstanding feature could have been lost without being noticed. These features were probably not planned only for one individual but could have been “intended for repetitive lineage burial” (Clarke 1970, 258). They could be seen as ‘vertical cemeteries’. Shaft graves were not a novel feature in the Yorkshire barrows that appeared in the connection with Beakers. They were already constructed during the Neolithic, for instance at

⁸⁶ IDs: 1, 8, 83, 88, 96+97, 153, 205.

⁸⁷ IDs: 167, 168.

⁸⁸ ID: 206.

⁸⁹ ID: 23.

⁹⁰ ID: 39.

⁹¹ ID:40.

Duggleby Howe (Kinnes et al. 1984), and it has been argued that they can be understood as a continuation of the “chamber tradition” with deposition of discrete bodies as well as individual artefact association (Kinnes et al. 2002, 95). The question of continuity between Neolithic and Chalcolithic/Early Bronze Age burial practices has been touched on in the discussion of the single burial tradition, which may have been the stimulus for the practice of Beaker single burials. It is still difficult to bridge the chronological gap, here attested by the radiocarbon chronology (cf. Healy 2012 for English inhumations), but it should be noted that single burial and shaft graves are a feature both in Neolithic and Chalcolithic contexts in an area that shows a dense Beaker concentration. This chronological gap could simply be a methodological problem, also discussed above. Unaccompanied crouched burials have too hastily been termed “Bronze Age” burials. Another problem one is faced here is the lack of a large series of radiocarbon dates, especially for the region of Yorkshire. Frances Healy has shown how the activity in radiocarbon dating differs from region to region, and the east and northeast of England is, without doubt, underrepresented (ibid., 147, fig. 10.2).

As shortly outlined above, the rest of the individuals were found in pits of differing sizes and shapes ranging from small pits of 90cm in length and 60cm in width, e.g. at Avebury⁹² (Cunnington 1912, 200-203; Cunnington 1913-14, 1-11; Cunnington 1930-32, 313-314) to massive excavations, ranging from 2.50m to 2.75m in length and up to 2m in width. A connection between size of the pits and the age of the individuals is difficult to establish because the number of young individuals in the sample is small. One child of 6-7 years of age has been buried in a very large grave of 2.38 by 1.98m.⁹³ The individual’s sex is uncertain, but it was accompanied by a high quality S1 / Step 6 / LN Later Ser Beaker which contained a flint blade, and was in addition associated with a V-perforated button and an ox bone, possibly the remains of a food offering. This burial is of interest because the child was cannot have been able to acquire artefacts of this quality and number during his or her lifetime. Individual burials of children have also been found in the Beaker East Group, and it was argued that the funerary assemblages and the large graves indicate the high status of the individuals involved (Heyd 2007, 352).

⁹² IDs: 17, 18.

⁹³ ID: 202, Wetwang Slack.

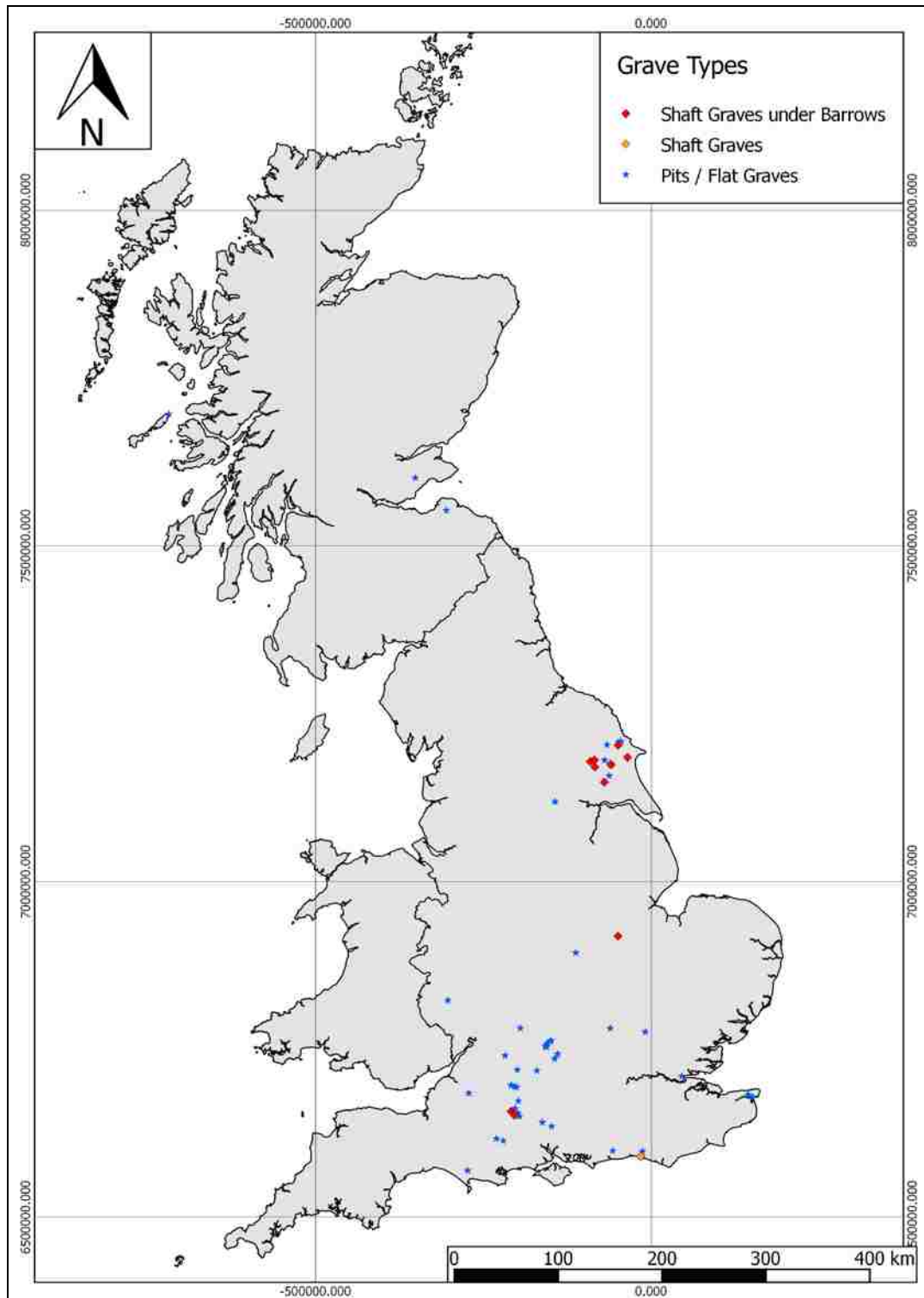


Fig. 22 Distribution of burials in pits / flat graves and shaft graves

This would mean that status was not (exclusively) gained by personal actions but that it was possibly inherited.

The size of the pits shows a gender-specific difference. Concerning the length of the pits for example, there is a statistically significant difference between males and females ($p=.014$) in that pits for males were longer than for females. In general, there is a biologically determined difference in body size between the sexes, but the sizes of grave pits go beyond this difference. Some grave pits for males were exceptionally large and it appears as if underlying factors, possibly social differences, can be indicated through this variations.

ANOVA

LengthOfPit(m)

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1,903	1	1,903	6,457	,014
Within Groups	17,976	61	,295		
Total	19,878	62			

Tab. 8 One-Way Anova

showing statistically significance between group means (length of grave pits of males and females)

Pits are usually found in isolation but a few cemeteries are also known, e.g. the 'flat' cemeteries at Cassington⁹⁴ (Leeds 1934) and Eynsham⁹⁵ (Leeds 1938), both in Oxfordshire. Cassington produced 11 graves (possibly 12; one pit did not contain human remains) which produced 8 Beakers (2 more Beakers were found previously, possibly originally from graves) and in Eynsham 18 burials were found that produced 8 Beakers. Especially at Eynsham and to a lesser degree also at Cassington, the graves were roughly lined up in a row. For the site of Cassington there seems to be a slight discrepancy between the published descriptions of the graves and the plan of the site (Fig. 24) because the north arrow and / or the alignment of the some graves were drawn incorrectly. The north arrow is correct in relation to the Oxford Northern Bypass shown on the plan but not in relation to the 'hut' on the same map (cf. Fig. 24 and Leeds 1934, 269). The outline of some of the graves seems to be in

⁹⁴ IDs: 45-48.

⁹⁵ IDs: 67-71.

accordance with the description, while others differ from the descriptions. It seems that the plan was orientated to the north than to the north-west as suggested by north arrow and the course of the road. That would mean that the Beaker-associated graves and the above mentioned hut were drawn correctly, but most other graves were not. Considering that the description was correct rather than the north arrow, the graves were aligned on an N-S axis while the majority of the described individuals (7) were aligned on a NE-SW (or vice versa) axis; only the individual in grave 12 was found S-N orientated and a Beaker sherd was found in the grave fill. The orientation of the all individuals, with or without Beaker, oscillates between NW-NE for males and SW-SE for females, i.e. a general preference for the northern 90° of the compass for males or the southern 90° for females respectively. Two of the Beaker burials were orientated SE-NW and were identified as a female individual and a child of unknown sex. The two males that were accompanied by Beakers had their heads towards the NW and NE, respectively.

Only one female individual was identified and one child with indeterminate sex. These were lying with the head to the SE. The males with Beakers were orientated NE or NW, so a pattern can be seen that fits into the southern British record. The male individuals without Beakers were orientated NE in four cases and SW and S in one case each. The only surviving grave good was one pig bone in one grave. Admittedly, the sample is very small but it is interesting to see that non-Beaker burials of males were not only orientated towards the north but also towards the south.

None of the individuals has been radiocarbon dated, so there is potentially a chronological gap between the graves. However, this gap cannot be too great since none of the graves has been cut by another, indicating that they were probably still visible on the surface. It is also notable that the group consisted of relatively old individuals and that only one female individual (with Beaker) was amongst the dead. A clear sex-related position could not be observed; men were lying on the left as well as on the right. The only female and the child were found on their right side. One feature at Cassington differed strongly from those discussed above. It consisted of a “flat bench” that measured about 1m in a north-south direction and had a depth of c. 40cm below the ‘present’ surface (in 1933) and had been cut just below the

original surface of the gravel. To the north and south of that bench one pit each was discovered. On the small bench excavators found the remains of six individuals, four of them children, with a sherd of Grooved Ware lying amongst the bones. In the northern pit disarticulated human remains were excavated, but on the pit floor an articulated femur and tibia indicated a crouched individual.

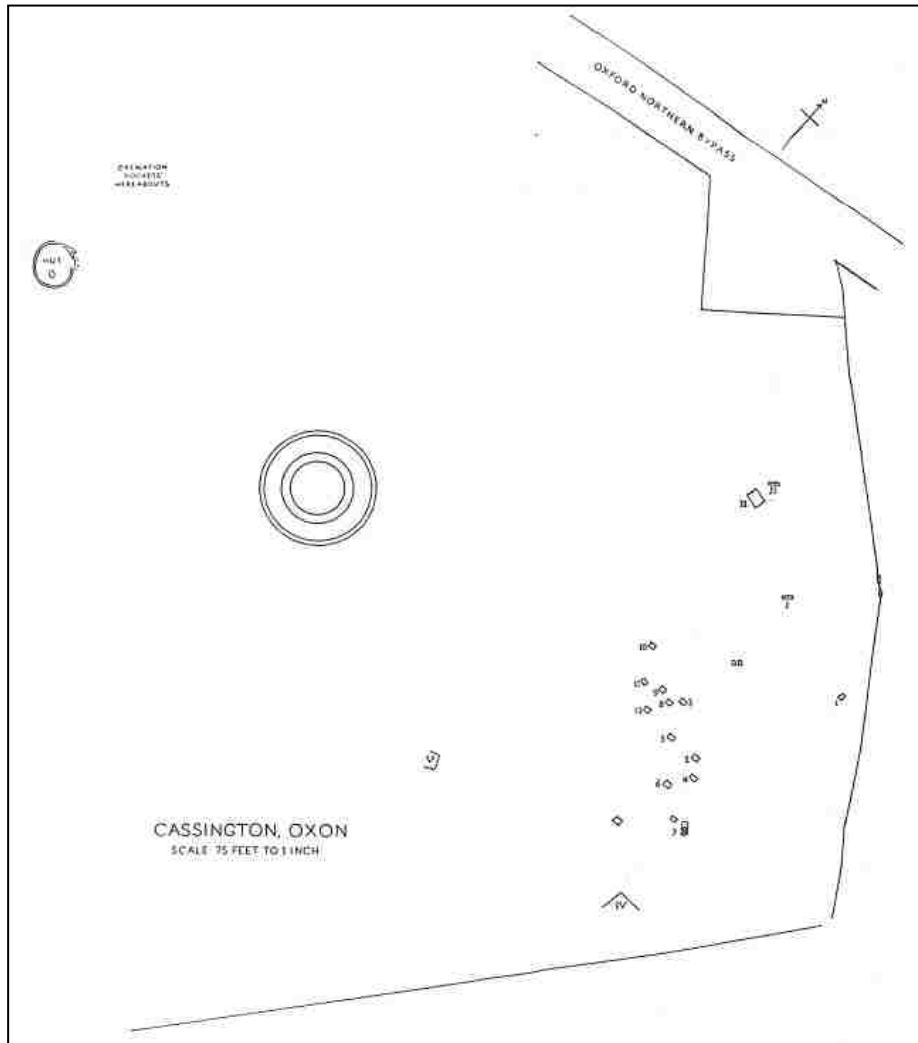


Fig. 23 Cassington, Oxfordshire

Plan of the cemetery with Beaker associated graves nos. 1, 5, 10, 11 (Latin letters identify Anglo-Saxon graves; plan probably aligned N-S and north arrow drawn wrongly)
(after Leeds 1934, pl. 32)

The bones appeared to belong to the individuals deposited on the 'bench'. This feature formed the southernmost part of the row of burials but still seemed to be a part of it. This funerary practice was unique to the site, as was the Grooved Ware sherd. Whether the latter was a deliberate deposition in the grave or if it entered the

pit when it was refilled was not clear to the excavator. Also the young age of the individuals included in this deposit was striking, and it is tempting to think that these are the 'missing' children from the Beaker cemetery who were buried in a different method.

The graves at the cemetery from Eynsham (Fig. 25) exhibit different characteristics. While at Cassington some individuals had been buried on the left, some on the right side, at Eynsham the majority were lying on the left side with the exception of two women that were found lying on the right side. Of the seven Beaker associated burials, five were securely found on the left side, one possibly and the position of one individual was unknown. The orientation was quite uniform with a preference for the northern sector of the compass (four N-S, one NW-SE orientated bodies) and was thus comparable to Cassington. Only one individual was E-W orientated (as was one empty grave in the vicinity) and the position of a child is unknown. The position of the Beakers proved also to be interesting. At Eynsham the Beakers were found behind the pelvis in three cases and in front of the pelvis in one case, in all cases these were males. One female individual was also accompanied by a bronze awl that lay on the body and here the Beaker was lying at the feet (grave no. 18). That fact is quite interesting because at Cassington something similar can be observed. Here, the 'regular' position of the Beakers was in front of the upper torso or the face, close to the hands. Only in the case of a female individual who was also accompanied by an awl was the Beaker pot placed at the feet (grave no. 10). These numbers are not sufficient yet, but it would appear that the position of the Beaker was gender specific. Another possibility is that the Beaker had to move from the normal position (normal considering the specific burying community) as soon as another 'valuable' object took its place, in this case awls for female individuals. Only with the body in grave 9a at Cassington pieces of pork had been deposited. No other grave good other than Beakers had been preserved either at Cassington or at Eynsham (excluding the Grooved Ware sherd that is difficult to connect with the rest of the features). These two cemeteries have been discussed here in detail because specific patterns were noticeable on the sites, such as a preference for position and orientation, position of grave goods, arrangement of graves broadly in rows and relatively old individuals. This is even more interesting because the sites were only some 4km apart. As briefly

discussed above no radiocarbon dates are available, either for Cassington or Eynsham. However, considering the horizontal stratigraphy of the sites, it appears as if most of the burials took place without large chronological gaps; no grave was cut by a subsequent grave, indicating that the spot was marked superficially or was remembered in a different way by the burying community. The typology of Beaker pots that were found in the graves on both sites indicates that Cassington and Eynsham were in use at a similar moment of Beaker currency in the Oxford area because the vessels were without exception typologically late, according to the old schemes of Clarke (1970) (S4, SH2, SH4, FN) and Lanting & van der Waals (1972) (Step 7). According to Needham's (2005) model they can be identified as Mid-Carinated (MC)⁹⁶, Handled and Collared types. MC Beakers from funerary contexts have been dated to approximately 2200-1900 BC and Needham has suggested on grounds of the quality of vessel and decoration that they might have a "*common background in everyday pottery*" (2005, 188-191). A skeleton buried with a MC Beaker from Shorncote Quarry, Grave 1007⁹⁷ (Barclay & Glass 1995) was radiocarbon dated to 1980-1670 cal BC and was also associated with a tin-bronze bracelet. The bracelet has a tin proportion of 11-12% which, according to Peter Northover, is a common value for southern Britain in the first half of the second millennium (1995, 45-46). The composition of the bracelet is not diagnostic of a particular origin because generally there was a wide range of variation that was probably owed to the use of scrap metal of various compositions (*ibid.*). Needham connected the bracelet from Shorncote with contacts to the continent, namely Aunjetitz (2005, 189). The riveted dagger from Eynsham also dates to the period between 2200 and 1950 cal BC, according to Needham (*ibid.*). Handled and Collared Beakers are not very frequent types and are both dated to a later stage in the Beaker currency.

⁹⁶ Mid-Carinated (MC) is a term Needham introduced in 2012 in order to replace his Weak-Carinated (WC) Beaker that he defined in 2005. According to Needham 'Mid-Carinated' better describes the bulk of this type of Beaker pottery (2012, 23).

⁹⁷ ID: 162

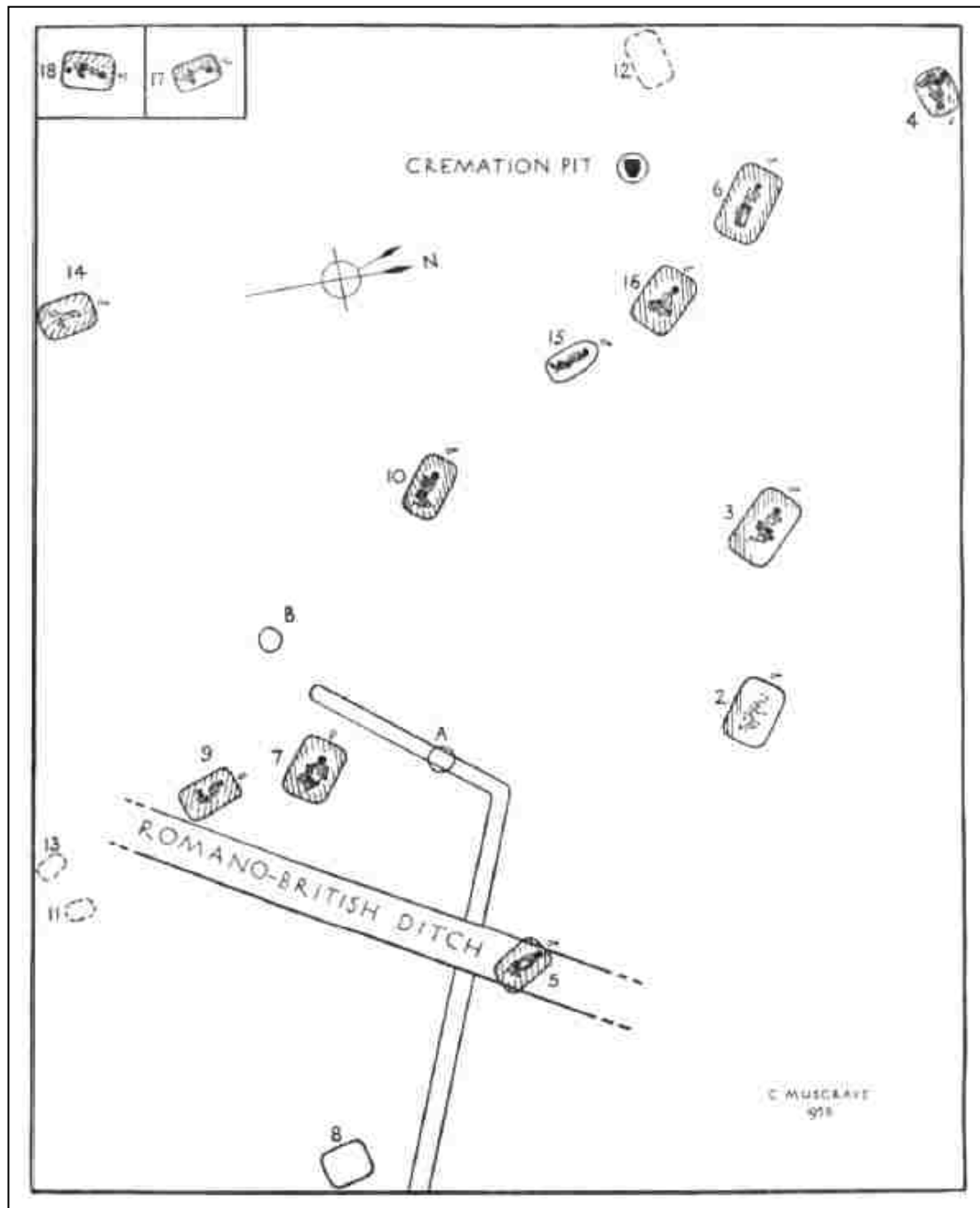


Fig. 24 Eynsham, Oxfordshire
 Plan of the cemetery with Beaker associated graves nos. 3, 4, 8?, 14, 15, 18
 (after Leeds 1938, 24; Fig. 5)

The two radiocarbon dates for handled Beakers in this sample have both been found with skeletons have been dated to 2130-1880 cal BC (OxA-13215 : 3605±37 BP) at Balfarg, Fife⁹⁸ (Mercer *et al.* 1981) and to 2180-1950 cal BC (UB-3123 : 3666±35 BP) at Gravelly Guy, Oxfordshire⁹⁹ (Barclay, Gray & Halpin 1995). Another radiocarbon date on human bones from a disturbed inhumation at “The Wig” plantation, Ablington Down, Wiltshire indirectly dates the associated handled Beaker to 1950-1680 cal BC (BM-2644 : 3500± 50 BP) (Ambers & Bowman 1994, 97). The burial had been disturbed and had apparently also been accompanied by an unspecified bronze and flint object (Kinnes *et al.* 1991, 52). As mentioned for MC Beakers above, handled and collared types have been found accompanied by supposedly late artefact associations (see below), such as flat riveted daggers and stone axes, e.g. at Durrington, Wiltshire¹⁰⁰ (Cunnington 1929). That would date the two grave groups of Eynsham and Cassington broadly to the last quarter of the third millennium and reaching into the first century of the second millennium.

3.4.4 Constructive Elements

In addition, many graves included the remains of installations, such as plank built coffins, tree trunk coffins or wooden chambers. These have been preserved as dark discolorations or thin layers of charred wood. In some cases no organic remains were preserved but features in the grave indicated the former presence of those installations. In the graves of the ‘Amesbury Archer’, Wiltshire¹⁰¹ (Fitzpatrick 2011) and at Chilbolton, Hampshire¹⁰² (Russel 1990) the outer grave fill was tightly packed or rammed, was steep sided and clearly differed from the less compact inner grave fill. In the case of Chilbolton, additionally a thin layer of dark soil was running along that ‘wall’. It can be assumed that a wooden chamber had been built in the pit and subsequently the space between pit wall and chamber had been re-filled and compacted. After the wood of the chamber had decayed, soil collapsed into the chamber and this contrast between the rammed fill and the loose soil was clearly distinguishable during excavation. Another example for a wooden chamber has been

⁹⁸ ID: 217.

⁹⁹ ID: 100.

¹⁰⁰ ID: 62.

¹⁰¹ ID: 15.

¹⁰² ID: 51.

excavated at the above mentioned site of Irthlingborough, Northamptonshire¹⁰³ (Dix 1987; Davis & Payne 1993; Healy & Harding 2004, 2007, 2011). These three features not only included wooden constructions but the buried individuals had very elaborate and 'rich' grave goods, including copper and/or flint daggers and a variety of other objects that are thought to identify important persons. More regularly than chambers, coffins have been documented, e.g. Gravelly Guy X, 6, Oxfordshire¹⁰⁴ (Barclay, Gray & Lambrick 1995), Hemp Knoll, Wiltshire¹⁰⁵ (Robertson-Mackay 1980) or Ferry Fryston, West Yorkshire¹⁰⁶ (Brown *et al.* 2007). Many of the graves with coffins or chambers were not only special in terms of grave construction, but also in terms of associated artefacts that are often rare objects and of high quality. For other constructions related to the grave only indirect evidence has been documented. That is especially the case for grave markers but it can hardly be doubted for various reasons that graves had been marked superficially. In several instances postholes have been excavated near graves that indicate that a post or a stele once marked the spot. The relation to the grave is not always certain however, and postholes may also pre- or postdate the grave. In grave 10, Etton A15 Bypass, Barrow 1, Peterborough¹⁰⁷, several post holes had been excavated some of which pre-date the grave and some which seem to be contemporary with the grave. They could have formed some kind of structure over or around the grave (French 2005, 105-106). Also on some sites it is clear that grave markers almost certainly existed. Here, evidence indicating the presence of structure such as postholes is lacking but the location of the graves or of the individuals clearly indicates that the position of previous graves was known, possibly simply by the heaped up soil from the grave. This has been argued above for the cemeteries at Cassington and Eynsham but it can also be seen at other sites, such as at graves 6371 and 537 at Monkton – Minster, Kent¹⁰⁸, where a grave had been dug directly next to an earlier grave without disturbing it (Fig. 26). Both contained Beaker associated individuals; in addition, an unaccompanied and undisturbed skeleton was found in grave 6371 that appeared to

¹⁰³ ID: 145.

¹⁰⁴ ID: 99.

¹⁰⁵ ID: 108.

¹⁰⁶ ID: 74.

¹⁰⁷ ID: 66.

¹⁰⁸ ID: 127.

be earlier than the Beaker burial, even though no cut for a supposed secondary burial could be documented. The chronological distance between the graves is uncertain, but the cut for grave 6371 did not disturb the earlier grave 537. The features were only separated by a ridge of chalk subsoil between them (Bennet *et al.* 2008, 16-17; Fig. 1/9). That situation suggests that only a short time elapsed between the burials or that grave 537 was clearly marked superficially (or that both possibilities coincided).

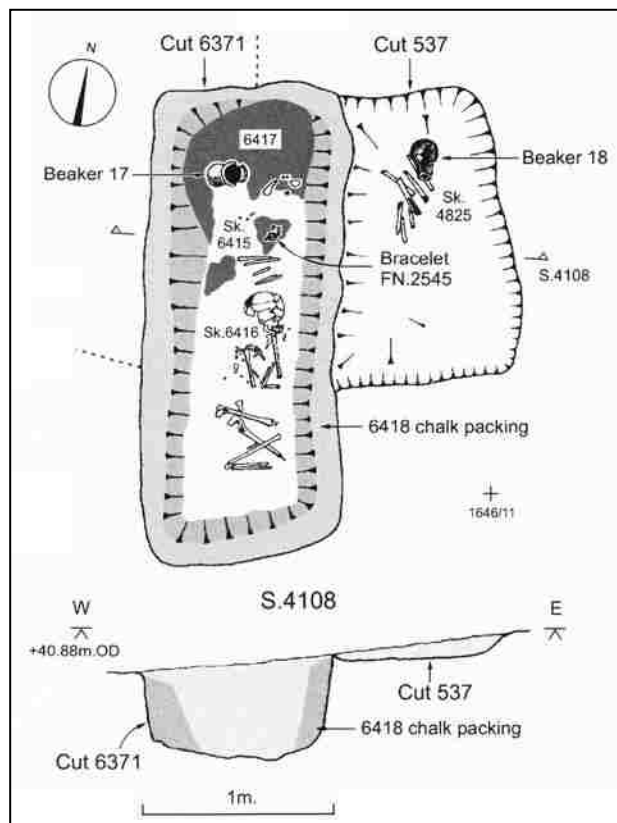


Fig. 25 Monkton – Minster, Kent
Beaker graves 6371 and 537
(after Bennet *et al.* 2008, 19; Fig. 1/9)

A comparable situation was found about 1km to the west on the same site and also in connection with Beaker pottery. Cuts 3035 and 3033 were found directly next to each other (Fig. 27); while in the latter feature the remains of a contracted skeleton accompanied by necklace consisting of 217 annular jet beads were found, in cut 3035 no human remains could be recovered but a complete Beaker pot and a copper alloy bracelet strongly suggest its function as a grave. About 1.5m south-west of these cuts a pit was excavated. Its relation to the burials was not clear, but it was interpreted as

a pit for a possible grave marker (*ibid.* 18-21; Fig. 1/11). No traces of a post were found, however. The stratigraphic relation of the graves was uncertain but the shape of 3035 (with Beaker) would suggest that it was dug after 3033. At Acklam Wold 124,¹⁰⁹ Aldro 54,¹¹⁰ (both in North Yorkshire), or Garton Slack 75, East Riding of Yorkshire¹¹¹ the individuals were buried subsequently in the central shaft, whose position must therefore have been known. All three graves were covered by barrows but it could not be clarified whether the barrow had been erected after the primary inhumation, or after the last inhumation; no cut in the mound material was observed. In either case, the exact position of the preceding burial was apparently known at the time the secondary burials were inserted.

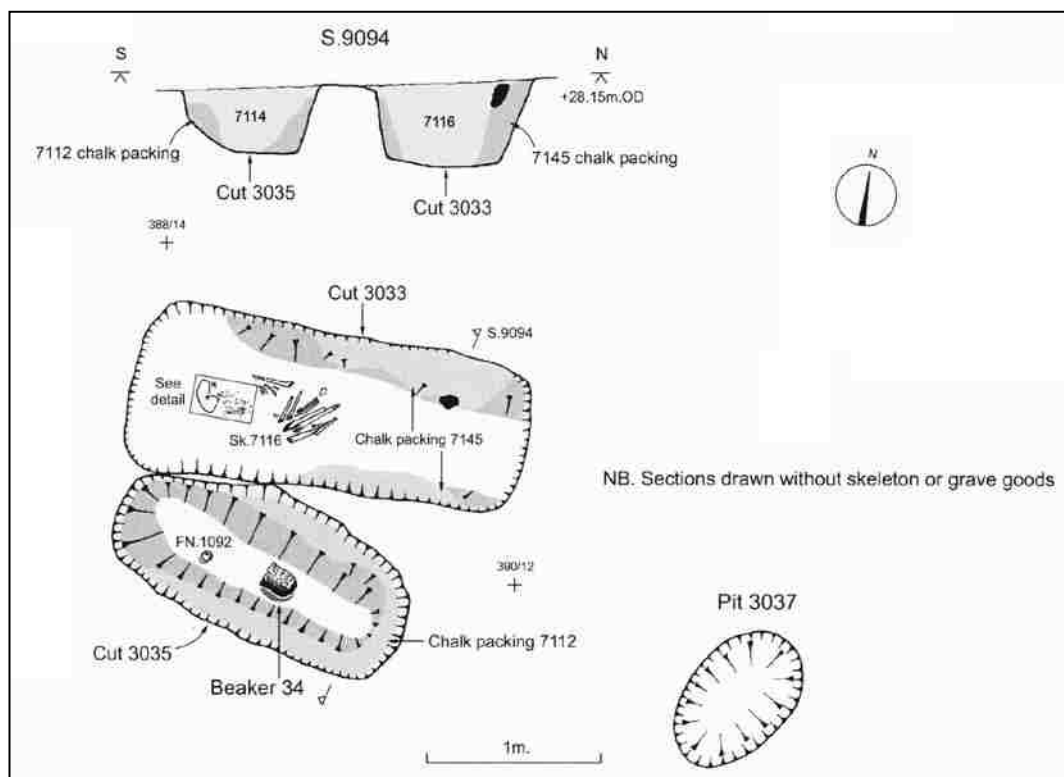


Fig. 26 Monkton – Minster, Kent
Beaker grave 3035 and grave 3033
(after Bennet *et al.* 2008, 22; Fig. 1/11)

¹⁰⁹ ID: 1.

¹¹⁰ ID: 8.

¹¹¹ ID: 88.

That was also visible at Gravelly Guy, Oxfordshire¹¹² (Barclay, Gray & Lambrick 1995, 90-93) where five burial events had taken place subsequently centrally within a ring ditch that was part of a possible barrow cemetery. One grave that contained a coffin with a rich Beaker grave group had been cut through the primary grave. A second Beaker-associated individual had then been buried on top of the 'rich' first burial without disturbing it. It was lying in a slight depression that had formed when the coffin below collapsed, showing that the two events had a relatively short time gap. This notion is supported by the radiocarbon determinations on the human bones.

Two pits that contained cremation deposits and disarticulated bones were then cut into the top of the grave. A radiocarbon date on the cremated bones placed these deposits close to the Beaker associated burials. Again here, the location of the burials was known by the members of the burying community. It is difficult to say whether or how the grave may have been marked, however. Several features indicate that a revetted barrow was erected after the first Beaker burial took place (*ibid.*).

Other types of installations include stone settings or stake / post holes. The latter are confined to barrows and have mostly been documented underneath the mound or in the surrounding ditches and have been recognized as early as the mid-19th century in Britain, for example by John Mortimer. He discovered a double circle of stake holes surrounding a pit that held a Food Vessel-accompanied inhumation under barrow 23 on Calais Wold (Fig. 28) and which he interpreted as the remains of a circular mortuary hut (Mortimer 1905, 153-156). Similar features had also been excavated in other parts of Europe, especially in the Netherlands, and it became clear that they were part of a similar tradition of grave construction. The idea that these constructions served as mortuary houses was eventually refuted and it was suggested that the stake holes, or rather the stakes themselves, were connected to the funerary rituals. It could also be shown through excavation that stakes were usually removed before the mound was built (summarized by Glasbergen 1954, 1-12 and Ashbee 1960, 60-65).

¹¹² IDs: 99 & 100.

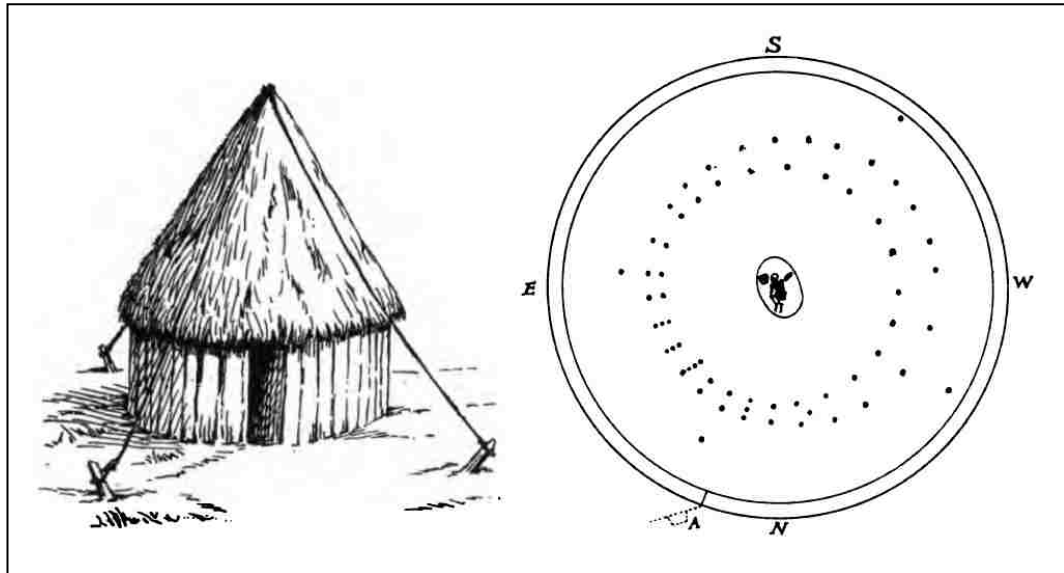


Fig. 27 Calais Wold 24, East Riding of Yorkshire
Plan of the barrow with double stake-hole circles (right) and reconstruction of the structure (left)
(after Mortimer 1905, 155; Fig. 397 & 400)

At Barnack, Peterborough¹¹³ the remains of a barrow with three concentric ring ditches were excavated in the late 1970s (Fig. 29). A double circle of stake holes that was eccentric to the ring ditches had been partially documented on the outside of the inner ditch but it was interpreted to be subsequent to the primary Beaker accompanied burial. The stakes had apparently been sunk into the already eroded mound. That would mean that some time had elapsed between the primary Beaker burial and the stake setting (Donaldson 1977).

At the linear barrow cemetery at Shrewton, Wiltshire, three of the excavated barrows included stake holes (barrow 5a¹¹⁴, 5c and 5d), but due to weather conditions features of the same nature may have been overlooked at the rest of the barrows under excavation (Green & Rollo-Smith 1984). In all cases they were situated on the platform of the barrow but only at 5d, where the stake holes were arranged in concentric circles around the grave a structure was recognizable.

¹¹³ ID: 23.

¹¹⁴ ID: 165.

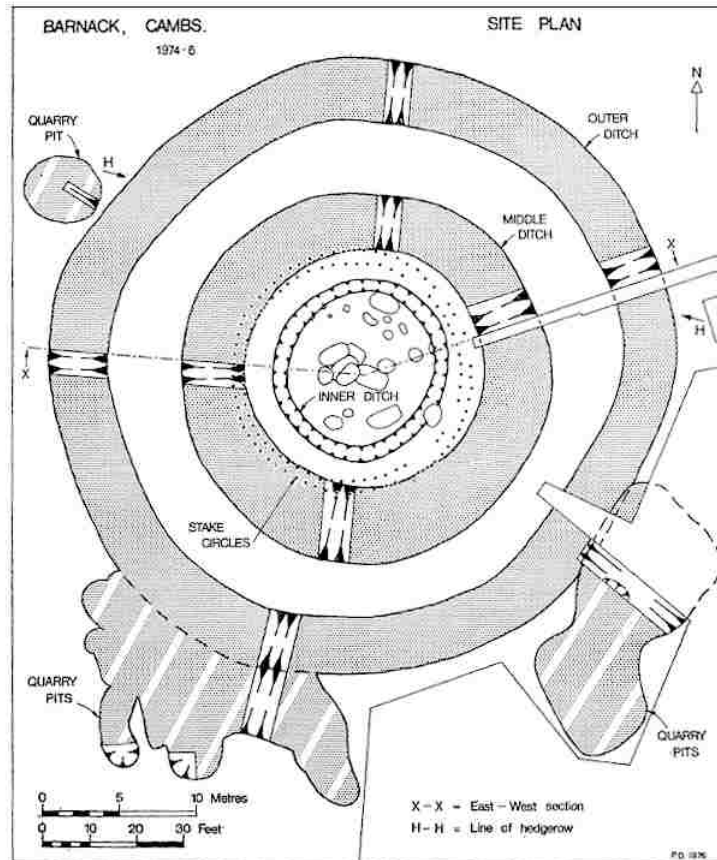


Fig. 28 Barnack, Peterborough
Plan of barrow with double stake circle on the outside of the inner ditch
(after Donaldson 1977, 200; Fig. 2)

A second, smaller circle surrounded a find-free, sterile pit to the east of the barrow centre and more stake holes, apparently without any structure. In barrow 5a and 5d the stake holes had no apparent alignment, even though Green & Rollo-Smith suggested that radiating lines were discernible. The stake holes were 5-7cm wide and 7-10cm deep and the stakes had been removed before the construction of the mound or the ditch. The possibility was raised that the stakes were purely functional and served simply as markers for the builders where to “dump the turves” (*ibid.*). Parallels between British and Dutch features have long been recognized in different parts of the research area. The examples discussed so far have mostly been found in southern England but Dutch connections have also been postulated in Scotland. At Upper Largie Quarry, Argyll & Bute, a ring-ditch that surrounded a pit which contained three typologically early Beaker pots was found in 2005 (Sheridan 2008a). No traces of human bone survived, but the remains of a probable coffin suggested

that the feature was a grave. Additionally, the pit was covered by layers of stones whose position indicated that the feature was originally covered by a small cairn. In the ditch 15 post holes were documented that lay between 0.10 – 0.90m apart. The posts that stood in the holes originally measured between 0.2 – 0.5m across. Four larger post holes measured between 0.46 – 0.90m but whether they were directly related to the primary grave could not be established. Sheridan argued that the Beakers (two Maritime variants and one AOC) strongly resembled Dutch Beaker types and moreover constructional parallels between the Upper Largie grave and Dutch features existed and she consequently labelled the Upper Largie feature a “Dutch-style Beaker grave” of a Dutch immigrant (Sheridan 2008a).¹¹⁵ That theory was challenged by Harry Fokkens who argued that there were Dutch “*comparanda*” (his emphasis) for the Scottish Beakers and that there were parallels but also differences in grave construction (Fokkens 2012). He also argued in favour of contacts that existed between Scotland and the Netherlands but rather than immigration he suggested that innovations could as well have been communicated by travellers either from Dutch people that went to Scotland or *vice versa* (ibid.). It becomes clear that several explanations are possible for stake holes, reaching from purely functional to the ritual sphere. It seems possible that stake circles surrounding burials symbolized the soon-to-be erected mound and it could be argued that it was a delimited space that was reserved for the dead. The construction of the mound might then have taken place considerably after the burial. This idea cannot simply be applied to some of the examples above, where stakes had been set after the erection of the mound. In these cases, however, the stakes could have defined a space for one of the documented subsequent burials.

Summing up, the discussed grave types can be reduced to the three initially mentioned main deposition types (barrows, cists, pits). A clear distributional pattern becomes visible in that they exhibit a very strict north – south division (Fig. 21, Fig. 22, Fig. 23)¹¹⁶. This finding is not new and has already been discussed, for example by Stuart Piggott (1962, 82-83) but the preferences for a certain grave type are

¹¹⁵ This grave type pre-dates Beaker burials in the Netherlands and has first been documented in SGC contexts but its use continued into the Beaker period (Drenth & Lohof 2005, Fig. 19; Lanting & van der Waals 1976).

¹¹⁶ In the different distribution maps sites may be displayed twice. Cist burials for example that have been found covered by a mound have been mapped as „cist“ and also as „barrow“ graves.

striking nevertheless. In Scotland and the north of England individuals have almost exclusively been buried in cist graves. The boundary for this funerary tradition is running in a south-westerly direction from the mouth of the Tees in the east, following the River Tees through the Pennines until it reaches Morecambe Bay in the west. South of this line, the number of cist graves decreases rapidly and they are mostly confined to the south-western part of the area of research (roughly modern Wales). The preferred type of burial in the south took place in barrows and in pit graves. It can be seen in figs. 3 and 4 that the distribution of these latter burial forms is broadly congruent. Also the remaining forms of burial were almost exclusively found in England, with the exception of one individual that was found in a cist covered by a cairn in Haylee¹¹⁷, North Ayrshire in Scotland. The low number of graves with deep pits or shafts stem with two exceptions from East Yorkshire. The accumulation of these graves there seems to indicate some sort of a local tradition. Generally speaking, the types of graves included in this sample show regional preferences, especially when looking at cists, barrows and pit graves. The preference for stone lined cist graves was not the result of the lack of wood: wooden structures were known and there are examples where wood-working had been imitated at the stone slabs of cists. Vertical grooves had been cut into the end of side slabs to allow for the end slabs to be inserted. The number of these features is restricted in Britain; the highest density has been documented in Kilmartin Valley, Argyll & Bute. There, however, they occur not with Beakers but have been found for example with a Food Vessel or a jet necklace (RCAHMS 1999, 10).

3.5 Analyses of Correlations between Position, Orientation and Sex

The above section was intended to highlight the frequency and distribution of some central aspects of Beaker mortuary practices. These aspects were discussed rather isolated, so in the following section they are set in relation to each other in order to identify and confirm possible patterns.

Two large regions that followed different funerary traditions can be distinguished in 'Beaker Britain'. These traditions have a northern and a southern focus with a dividing line broadly along the River Tees and they are characterized by the use of

¹¹⁷ ID: 247.

different grave architecture and by different main orientations of the individuals. In addition to these these architectural and orientation differences there are also gender differentiated burial practices can be observed.

It was shown in earlier works that position, orientation and sex of Beaker associated burials are specific to some parts of Europe (e.g. Lanting & van der Waals 1976; Müller 1998). The same can be demonstrated for regions in Britain such as north-east Scotland and Yorkshire (Tuckwell 1975; Shepherd 2012). The following section focuses on the evidence for Britain, and it will show is discussed and it will show whether the established views regarding burial patterns can be confirmed or need further reviewing.

The majority of individuals were buried on their left side. Unfortunately, the sex of a high percentage of these individuals is unknown (32%) or uncertain (c. 10% probably males and females) (Tab. 9). Nevertheless, the remaining individuals reveal a significant correlation between burial position and sex that is valid for the entire research area. About half of individuals lying on the left side were males (84), accounting for 75% of all male individuals. Only 12 females were buried on the left side, representing c. 7% of all left-sided individuals in the dataset, or 30% of all females. When adding the 13 uncertain cases of probably male individuals and the two probably female individual in this category, the proportions basically remain the same (Tab. 9). Considering individuals found on the right side, a trend is also visible though these numbers have to be treated more cautiously (cf. Tab. 9). Of 86 individuals c. 45% are of indeterminate sex and 11.5% of uncertain sex (i.e. probably females and probably males). Only 16 male individuals were lying on the right side, representing c. 19% of all right-sided burials and only c. 14% of all male individuals. Amongst females, 52.5% were lying on the right side. This high percentage only accounts for 21 individuals, however, and must be viewed in the context of the overall low number of female individuals (only 40) included in the sample. Even though there is a tendency towards females being buried on their right side, it must be borne in mind that just a small number of new finds can quickly change this trend.

Sex * Position Crosstabulation									
			Position					Total	
			Left Side	Right Side	Contr. / Flexed	Sitting / Squatting Pos.	Supine Pos.		Indet.
Sex	Female	Count	12	21	5	1	0	1	40
		% within Sex	30,0%	52,5%	12,5%	2,5%	0,0%	2,5%	100,0%
		% within Pos.	7,2%	24,4%	16,7%	100,0%	0,0%	2,8%	12,4%
		% of Total	3,7%	6,5%	1,6%	0,3%	0,0%	0,3%	12,4%
	Prob. Female	Count	2	7	0	0	0	4	13
		% within Sex	15,4%	53,8%	0,0%	0,0%	0,0%	30,8%	100,0%
		% within Pos.	1,2%	8,1%	0,0%	0,0%	0,0%	11,1%	4,0%
		% of Total	0,6%	2,2%	0,0%	0,0%	0,0%	1,2%	4,0%
	Male	Count	84	16	6	0	1	5	112
		% within Sex	75,0%	14,3%	5,4%	0,0%	0,9%	4,5%	100,0%
		% within Pos.	50,3%	18,6%	20,0%	0,0%	50,0%	13,9%	34,8%
		% of Total	26,1%	5,0%	1,9%	0,0%	0,3%	1,6%	34,8%
	Prob. Male	Count	15	3	3	0	1	2	24
		% within Sex	62,5%	12,5%	12,5%	0,0%	4,2%	8,3%	100,0%
		% within Pos.	9,0%	3,5%	10,0%	0,0%	50,0%	5,6%	7,5%
		% of Total	4,7%	0,9%	0,9%	0,0%	0,3%	0,6%	7,5%
	Indet.	Count	54	39	16	0	0	24	133
		% within Sex	40,6%	29,3%	12,0%	0,0%	0,0%	18,0%	100,0%
		% within Pos.	32,3%	45,3%	53,3%	0,0%	0,0%	66,7%	41,3%
		% of Total	16,8%	12,1%	5,0%	0,0%	0,0%	7,5%	41,3%
Total	Count	167	86	30	1	2	36	322	
	% within Sex	51,9%	26,7%	9,3%	0,3%	0,6%	11,2%	100,0%	
	% within Pos.	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%	
	% of Total	51,9%	26,7%	9,3%	0,3%	0,6%	11,2%	100,0%	

Tab. 9 Crosstabulation of sex and position of all individuals
(Abbreviation: Indet.: Indeterminate; Contr.: Contracted; Pos.: Position)

Bearing in mind the patterning of male and female burial position, the individual's orientation within the grave can be added to the equation. Out of 94 males that were buried on the left side, 84 were orientated between 315° and 90°, i.e. with a strong focus on the northern to north-eastern sectors of the compass (Fig. 30, Fig. 31, Tab. 10). The highest percentage of this group lay with the head towards the east, accounting for 30 individuals (plus four males with indeterminate position) including

those that are likely to be males. Another 11 skeletons of indeterminate sex were lying on the left side with E-W orientation.

The number of males lying on the left side with a N-S, NE-SW and NW-SE orientation was smaller, representing 13, 16 and 14 individuals respectively (also including skeletons that are likely to be males). This demonstrates that there was no single ‘appropriate’ orientation, but instead there were several equally suitable alternatives.

Orientation (Head first) * Position Crosstabulation

Count		Position					Total
		Left Side	Right Side	Contr. / Flexed	Supine Pos.	Indet.	
Orientation	N-S	13	2	2	0	1	18
	NNE-SSW	8	0	0	0	0	8
	NE-SW	16	2	0	2	1	21
	E-W	30	1	0	0	2	33
	SE-NW	2	1	0	0	1	4
	SSE-NNW	1	1	0	0	0	2
	S-N	2	5	0	0	0	7
	SW-NE	3	0	0	0	0	3
	WSW-ENE	1	1	0	0	0	2
	W-E	1	4	1	0	0	6
	NW-SE	14	1	0	0	0	15
	NNW-SSE	3	1	0	0	0	4
	Indeterminate	5	0	6	0	2	13
	Total	99	19	9	2	7	136

Tab. 10 Orientation and position of male and probably male individuals
(Abbreviation: Indet.: Indeterminate; Contr.: Contracted; Pos.: Position)

Males lying on the right side are far less frequent with only 19 examples represented. In relation to the ‘male sector’ of the compass that was just mentioned (NW over N to E), only five individuals of the 19 fall into this category. Only one was lying with their head to the east, two to north-west, one to north-north-west and another two to

the north. A small cluster of five burials were orientated to the south; four of them were located in the north of the research area.

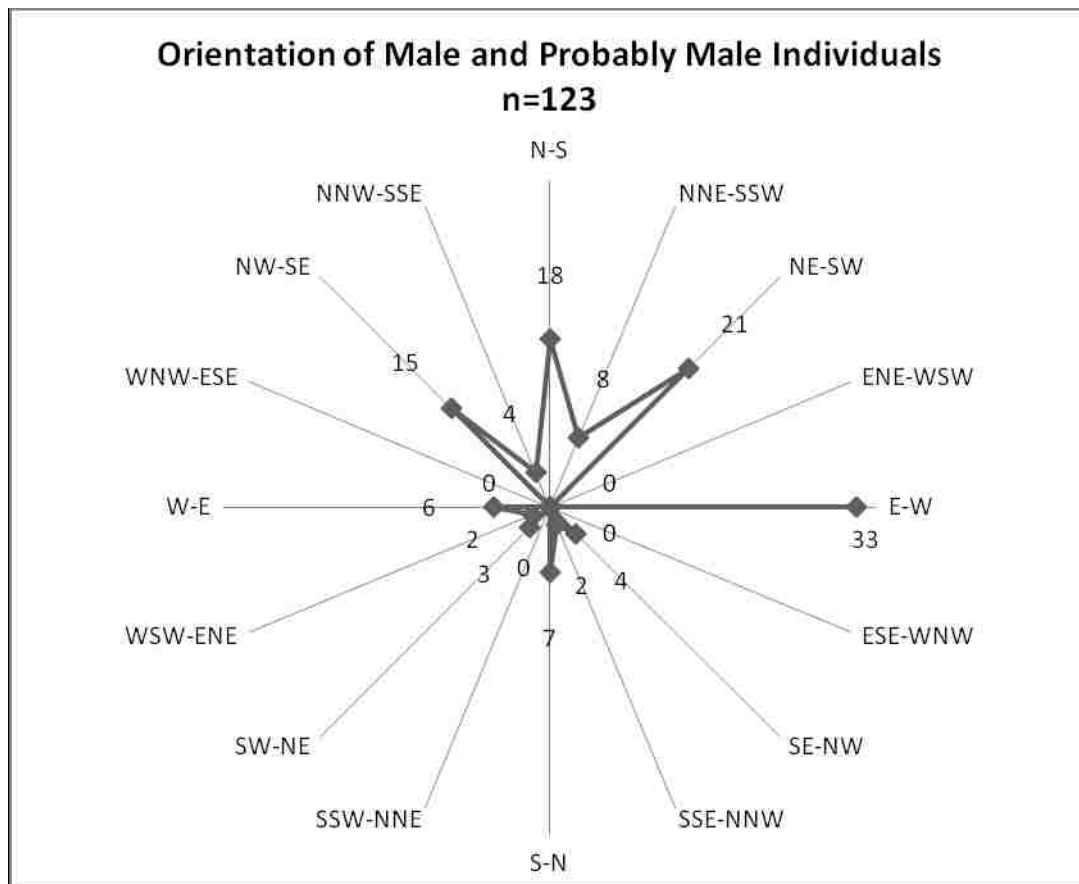


Fig. 29 Orientation of males and probably male individuals for the entire research area

A second cluster to the west consisted of four individuals, again located in the north of the research area). It is striking that no male individuals lying on the left side were orientated in these directions. Considering the relatively high number of male individuals lying on the left side with the head to the east, it suggests that there is a 'male pattern'. The orientations of males are regionally significant and support the notion of Clarke (1970) and Lanting & van der Waals (1972) of a north - south division of mortuary practices. This division was already visible on the distribution map of grave types (cf. Fig. 21) but becomes even stronger when the orientation of males is mapped. Males lying on the left side orientated to the east have a markedly northern distribution (Fig. 32); clusters are especially visible in Yorkshire and north-east Scotland. These regions have been studied by Alexandra Shepherd, and for this

clear male pattern she formulated her 'LESM' (left, east, south, male) pattern (Tuckwell 1975; Shepherd 2012). Another clear pattern that can be seen is in the southern part of the research area (Fig. 33).

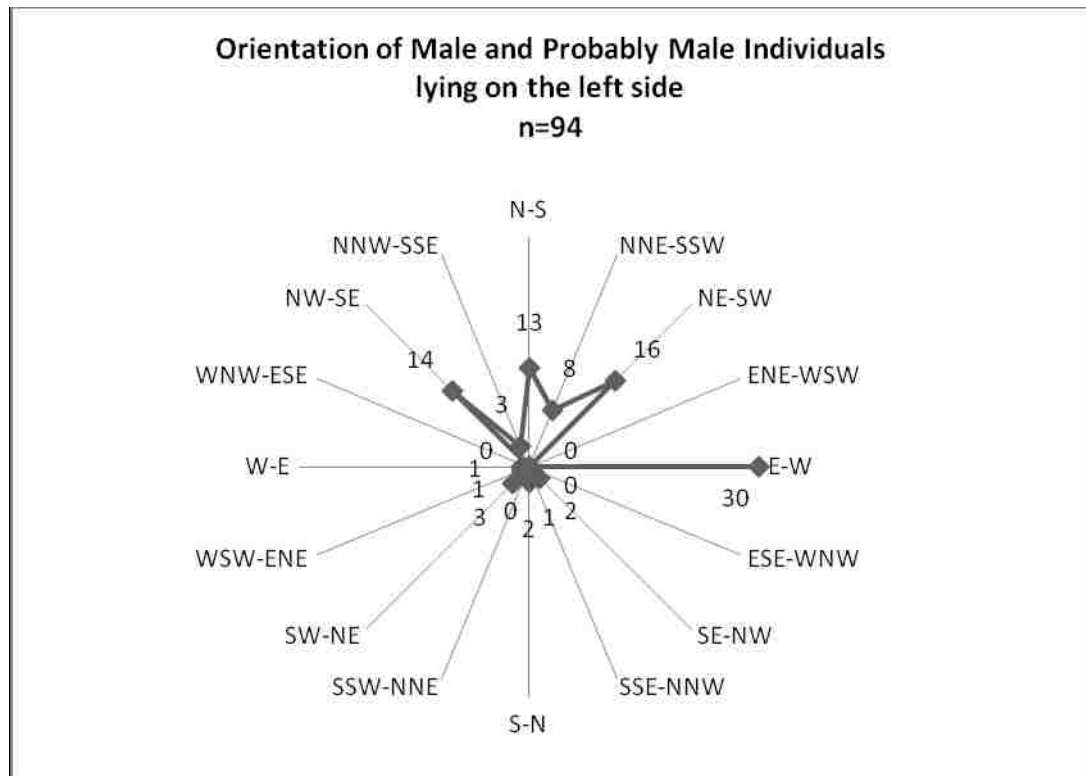


Fig. 30 Orientation of males and probably male individuals lying on the left side for the entire research area

Here male individuals were predominately buried on the left side with their head towards the northern sector of the compass. It was briefly mentioned above that Stuart Needham regarded the NW-SE burials as a feature of the beginning of the British Chalcolithic (Needham 2012). According to Needham, this NE-SW orientation changed towards a northern orientation later (ibid.). A comparison of the grave goods from left sided male burials with NW-SE and N-S orientation from this sample shows that the former group contains a larger number of typologically early Beaker pots, according to Needham's scheme (2005). Some early Beakers can also be found in the group of northern orientation, but generally they are later types (cf. Needham 2005).

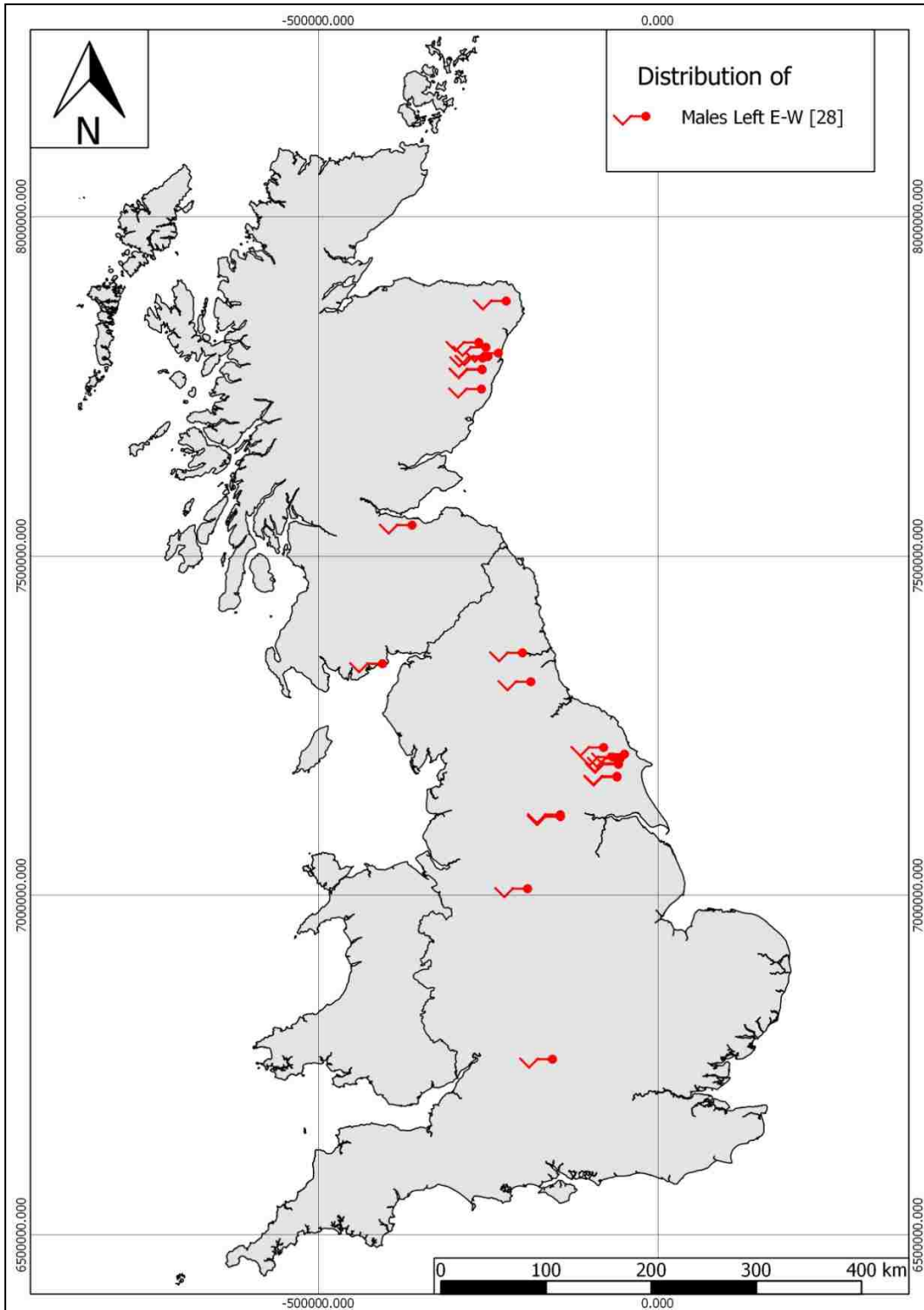


Fig. 31 Distribution of males lying on the left side with E-W orientation

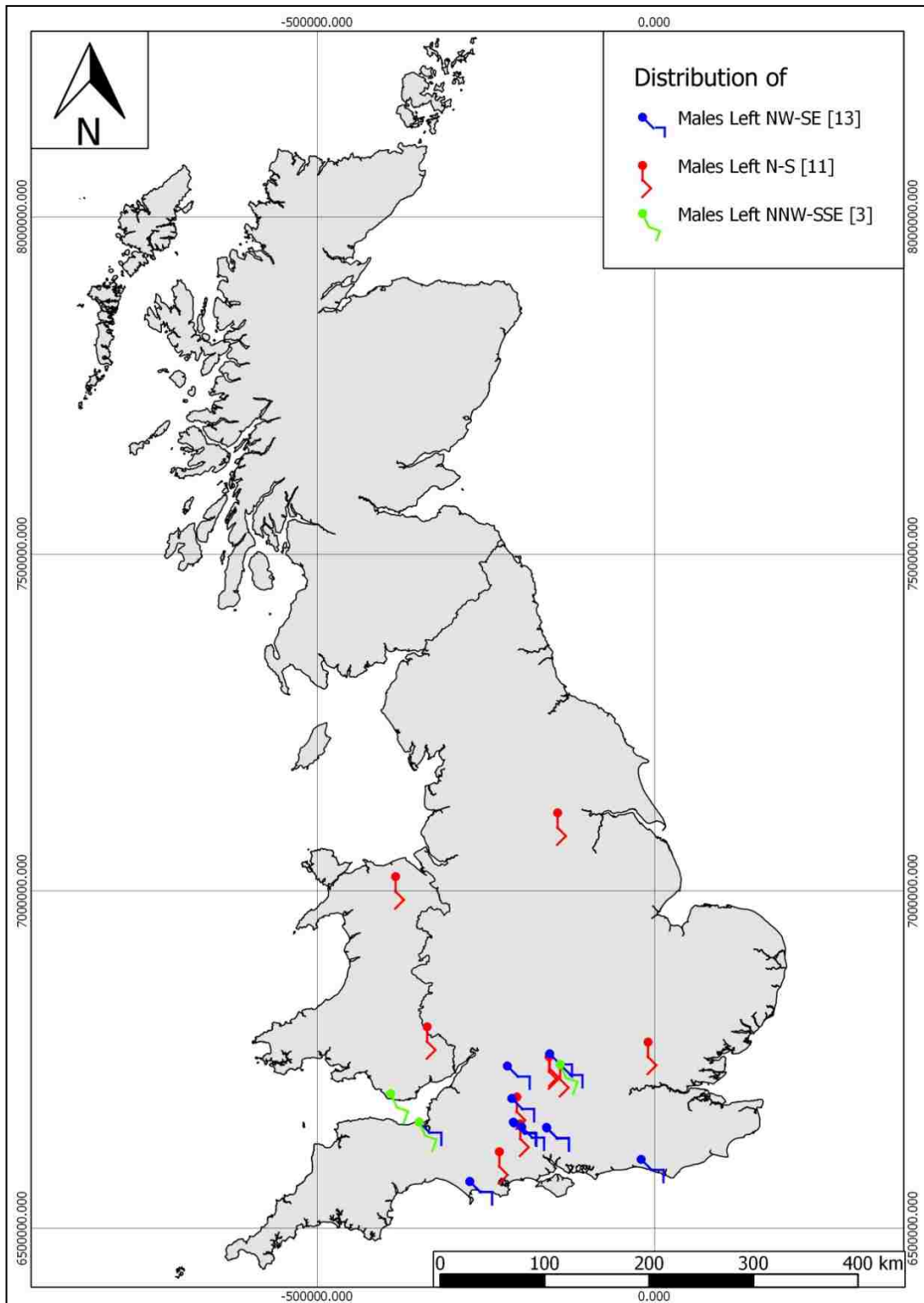


Fig. 32 Distribution of males lying on the left side with NW-SE, NNW-SSE and N-S orientation

There is also a third group of male individuals that were orientated to the NE (and NNE in three cases) (Fig. 34). In contrast to the groups discussed above with their clearly defined distributions, the group of male NE burials is more difficult to integrate with the larger geographical patterning as the NE burials are distributed over the entirety of Britain. In terms of Beaker typology or artefact associations, however, these do not exhibit any group-specific characteristics. Rather than arguing in favour of a coherent group it is assumed that these burials ‘simply’ depart from the local setting and exhibit a scenario in which burial practices were not as strictly interpreted as in central Europe for example. For northern Britain that means that the NE orientation is a deviation from the general E-W alignment of individuals, and in the south it deviates from the general NW or N orientation by about 45°. Alexandra Shepherd has argued that this deviation could be the result of burials taking place at different times of the year (2012, 263). As outlined above, the number of female individuals in the sample is considerably lower than that of males and it follows that the conclusions that can be drawn are less clear. However, in the north of the distribution area there is a visible pattern for females that Tuckwell dubbed ‘RWSF’ (females lying on the right side, orientated to the west and facing south) (Tuckwell 1975; Shepherd 2012). This position echoes the pattern of male individuals in the area to which it is diametrically opposed. The orientation of these burials generally follows a direction towards the western sector of the compass, roughly between 225° and 315°. In Scotland this western orientation was practiced rather strictly (Fig. 35). The positioning of the females on the right side was strictly respected as well; only one female just south of the Firth of Forth, Scotland lay on her left side¹¹⁸. The situation further south is more heterogeneous both in terms of the position and orientation of female individuals. Because of the distribution north of the River Tees and in other regions of Europe, it was expected that women would be lying on the right side. There is, in fact, a group of burials with these characteristics in the sample; these individuals were predominately orientated towards the southern sector (Fig. 36). However, a considerable number were found on their left side with an orientation towards the northern sector of the compass (the 90° between NW and

¹¹⁸ ID 291.

NE) (Fig. 37). In the style of Tuckwell (1975) it is possible to formulate burial patterns for southern Britain. For males this is quite straightforward with an LNEM pattern (males lying on the left side, orientated to the north with eastern line of sight). In the case of females it has been shown that two patterns possibly existed in the south; an RSEF pattern that mirrors male practices as well as an LNEF pattern that is essentially identical to the male pattern. It remains to be seen if these patterns also have chronological implications. However, these female 'patterns' should be regarded as a working hypothesis. The data for female burials is not complete enough to postulate statistically sound patterns.

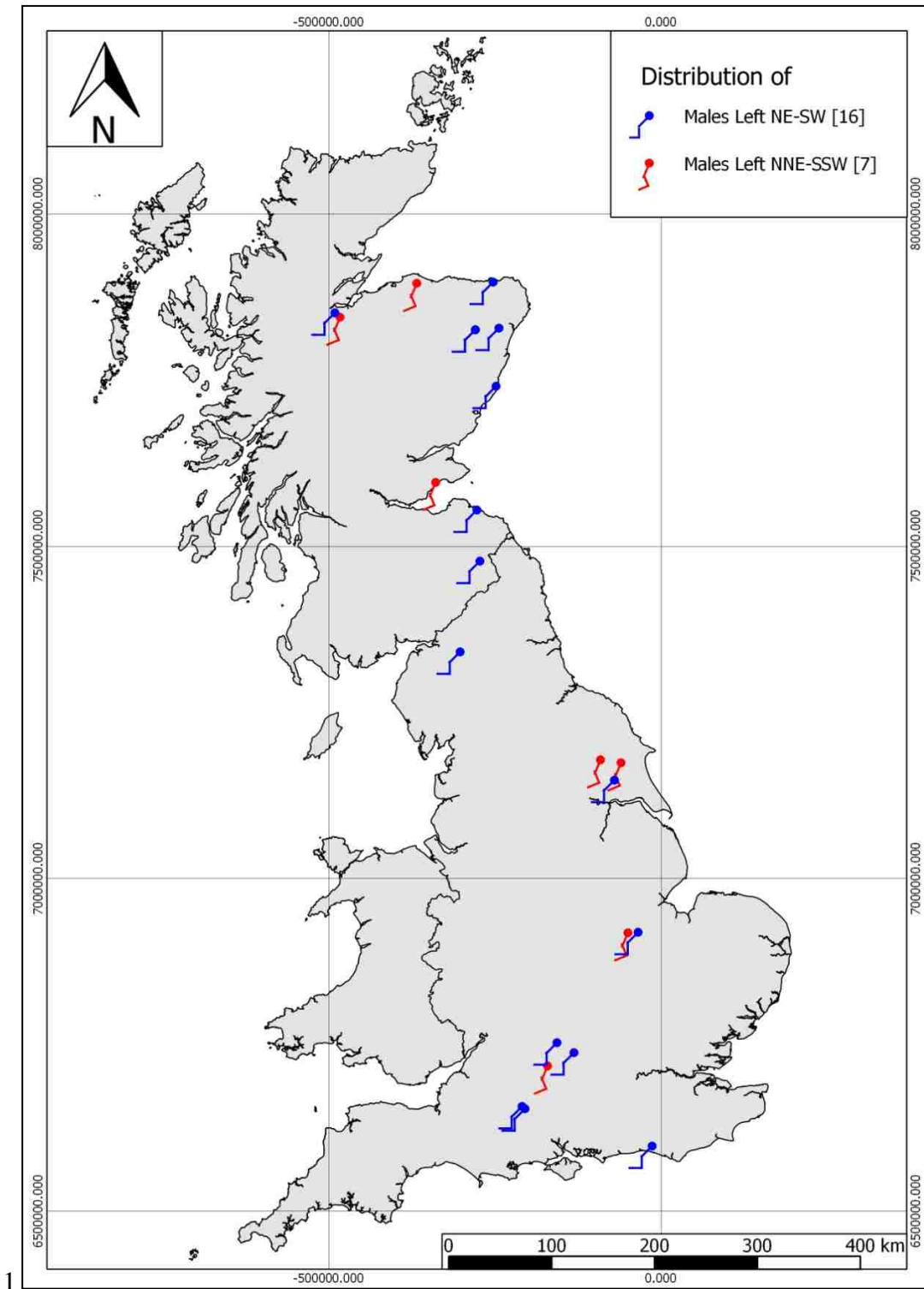


Fig. 33 Distribution of males lying on the left side with NE-SW and NNE-SSW orientation

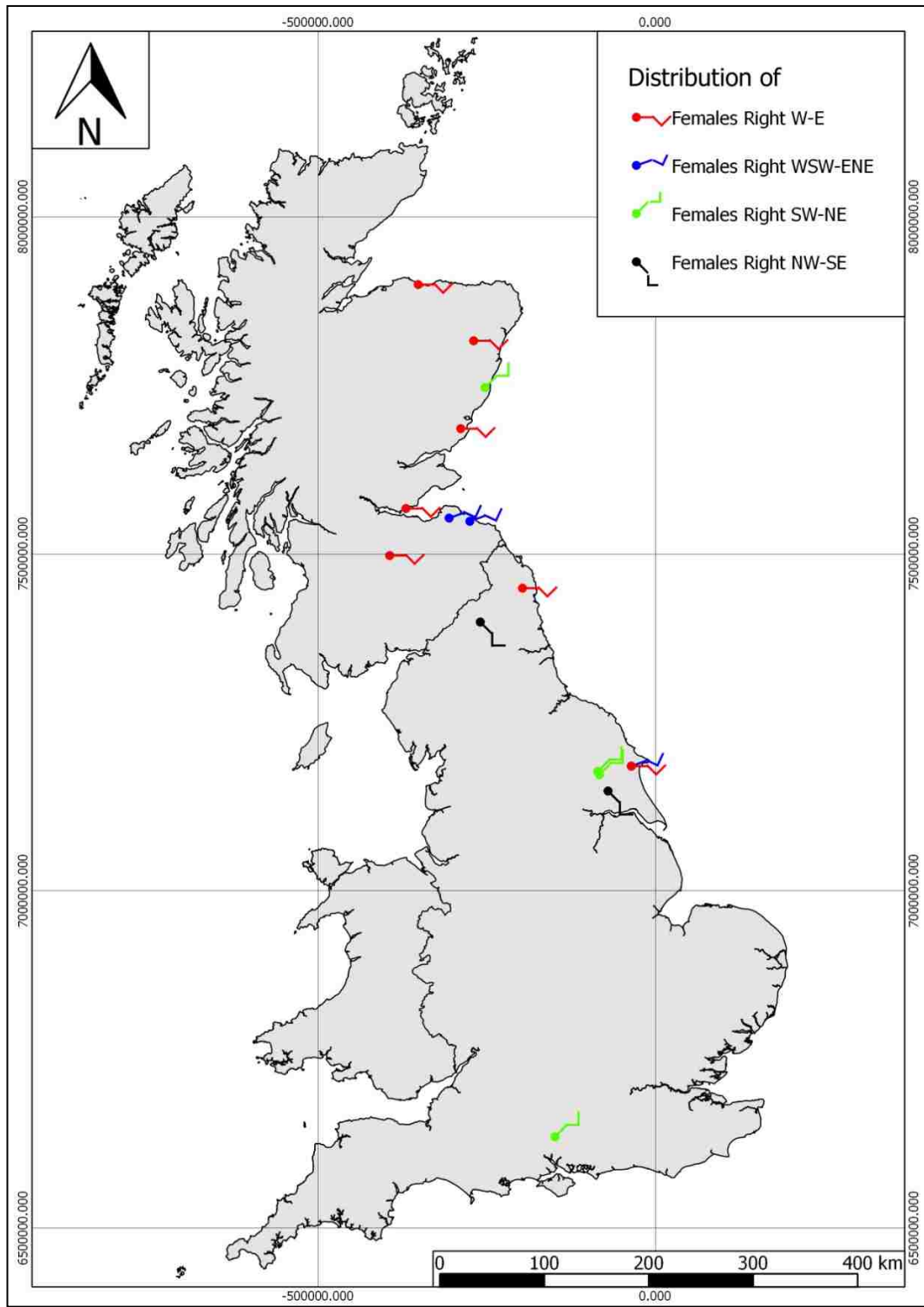


Fig. 34 Distribution of females lying on the right side with W-E, WSW-ENE, NW-SE and NE-SW orientation

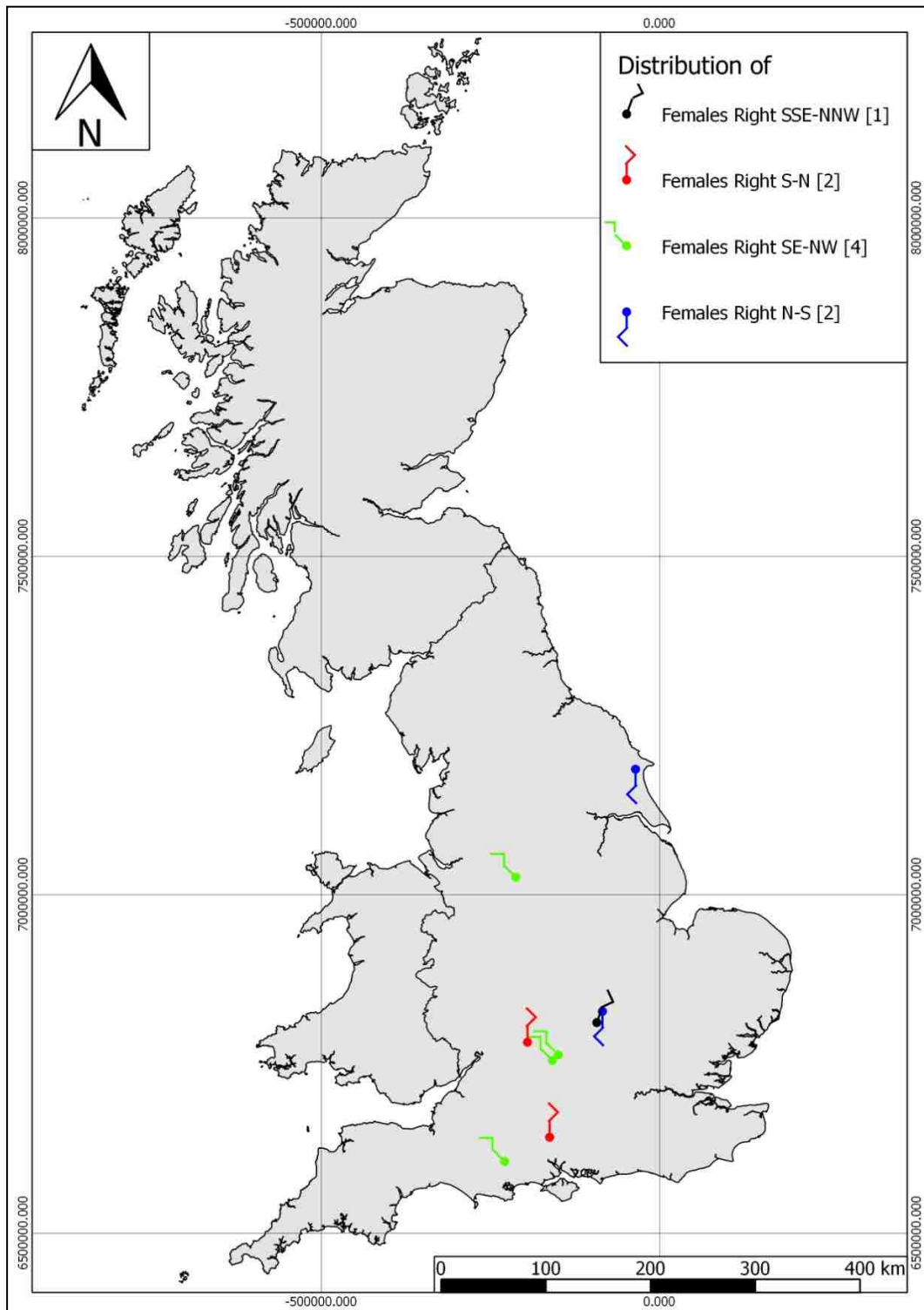


Fig. 35 Distribution of females lying on the right side with N-S, S-N, SSE-NNW and SE-NW orientation

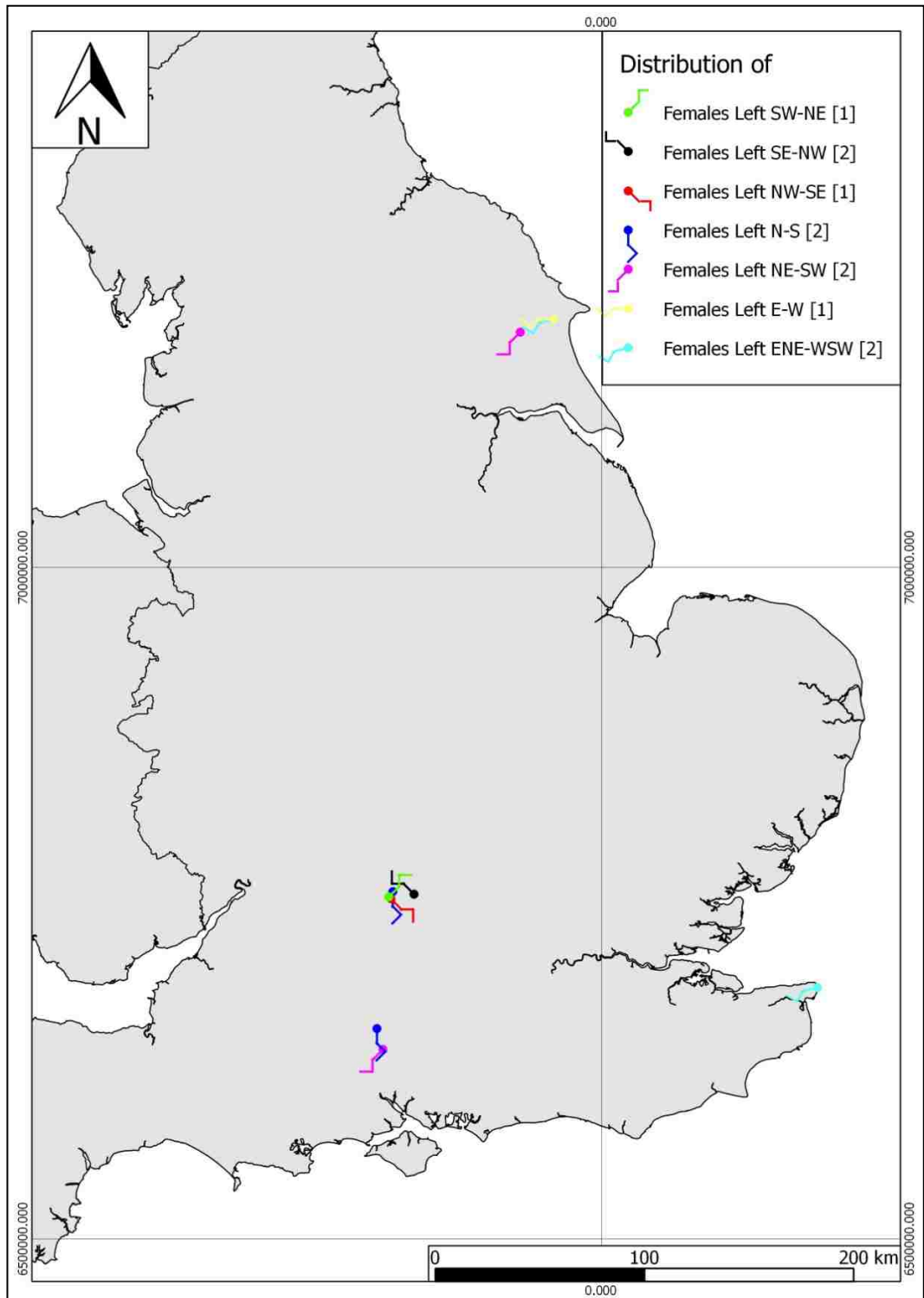


Fig. 36 Distribution of females lying on the left side with SW-NE, SE-NW, NW-SE, N-S, NE-SW, E-W and ENE-WSW orientation

Orientation (Head first) * Position Crosstabulation

Count

		Position					Total
		Left Side	Right Side	Contr. / Flexed	Sitting/ Squatting Pos.	Indet.	
Orientation	N-S	2	2	0	0	1	5
	NE-SW	2	1	0	0	0	3
	ENE-WSW	2	0	0	0	0	2
	E-W	1	0	1	0	0	2
	SE-NW	2	4	0	0	0	6
	SSE-NNW	0	1	0	0	0	1
	S-N	0	2	0	0	0	2
	SW-NE	1	4	0	0	0	5
	WSW-ENE	0	3	0	0	0	3
	W-E	0	7	0	0	3	10
	NW-SE	1	2	0	0	0	3
	Indeterminate	3	2	4	1	1	11
	Total	14	28	5	1	5	53

Tab. 11 Orientation and position of female and prob. female individuals
(Abbreviation: Indet.: Indeterminate; Contr.: Contracted; Pos.: Position)

4 Dating of the British Beaker Phenomenon

Beakers were in use in Britain for a considerable period of time, spanning roughly 700-750 years. The first Beaker contexts have been dated to around the mid-3rd millennium and Beakers ceased to be circulating around 1800-1750 cal BC. These dates represent the results of major radiocarbon dating programmes and are widely accepted (e.g., Kinnes et al. 1991). Not all regions of Britain are represented equally, however, and southern England and northeast Scotland display the highest density of dated contexts. This imbalance is, on the one hand, caused by dating activity and, on the other hand, by the availability of relevant dating material. The Beaker concentration in East Anglia, for instance, is under-dated (Healy 2012, 148). Characteristic for the British Beaker Phenomenon are funerary contexts with the numerous discrete burials. These are particularly suitable for radiocarbon dating because human bone and other short-lived sample material from graves permit accurate dating. In addition, individual burials are closed finds, i.e., the associated artefacts have been deposited at the same time as the body,¹¹⁹ thus permitting comprehensive chronological analyses on Beaker pottery and associated artefacts that have led to a better understanding of the Beaker Phenomenon (e.g., Needham 2005, Sheridan 2007b). This better understanding is also a result of the critical assessment of the quality of radiocarbon samples, i.e., of the chemical treatment of samples in radiocarbon laboratories, the quality of sample material (short-lived materials, such as bone or seeds vs. potentially long-life materials, such as charcoal (old wood effect)) and security of association between sample and the context that is to be dated (Brindley 2007, 23).¹²⁰

In addition, the last decade has witnessed an increase in the application of Bayesian modelling for the interpretation of archaeological chronologies. Despite the shape of the radiocarbon calibration curve for the 3rd millennium and beginning of the 2nd millennium with its several plateaus that cause wide probability ranges for individual calibrated dates, it was thus possible to achieve chronologies with higher precisions.

¹¹⁹ The contemporaneity of the burial and of the artefact deposition gives no indication as to the manufacture date or the date when objects were started to being used. As will be shown in the next section (Chapter 5), items may have been curated over longer periods, thus predating the burial. However, also items that are only indirectly datable may already have longer histories when finally deposited. This can certainly be the case with stone objects, but is also a possibility for pottery.

¹²⁰ Cf. Sheridan 2007, who has formulated a quality standard for the use of radiocarbon dates.

4.1 Bayesian Modelling

Bayesian statistical analysis is a quantitative method that was first applied in archaeology in the 1990s but has begun to gain importance, particularly in the last decade (Buck 1996, Bayliss & Bronk Ramsey 2004; Bayliss *et al.* 2007a). It has become a standard tool for the interpretation of radiocarbon dates in prehistoric archaeology in Britain. The theory behind Bayesian analyses, and its application in archaeology, has been described in detail by Bayliss *et al.* (2007b) and was discussed recently in the context of British Beakers by Frances Healy (2012).

Bayesian modelling is a means for the interpretation of radiocarbon dates and can be used to achieve higher precision chronologies for archaeological events. The basic idea is that, by acquiring new data, for instance radiocarbon determinations, it is possible to combine these new data with current knowledge and generate new results. This current knowledge can, for example, be a stratigraphical sequence, or it can be the assumption that the events concerned belong to a bounded phase with a start and an ending point.

In the case of this thesis, the events are the burials, and it is further assumed that the radiocarbon samples for these events are randomly distributed within this bounded phase. Due to the errors inherent in radiocarbon dates, some of the probability distributions of calibrated radiocarbon dates scatter and will lie outside (earlier or later) of the calendar age of the actual span of that phase. If this statistical scatter is not taken into account, the phase in question may appear to have started earlier, ended later, and, therefore, to have lasted longer than it actually did. Bayesian modelling calculates this scatter and produces posterior density estimates of each sample (that, according to international convention, is given in *italics*) that occupy only a part of the calibrated probability distribution, i.e., it produces estimates of the true span of the phase in question. In archaeology the most commonly used software to run these analyses is OxCal, which is comparably easy to handle and offers a set of queries that aid further interpretation of the models. As the name Bayesian modelling indicates, it is a model that is produced, and it is not to be mistaken for an absolute truth. As Alison Sheridan (2008, 62) has stressed, a model is only as good as the sets of dates to which it is applied, and it is likely to change if new data are added.

4.2 Models for Burials and Beakers

In a recent study Frances Healy modelled radiocarbon dates for articulated inhumations from the 4th, 3rd and 2nd millennia in England and for contexts containing Beaker pottery in Britain. The sample material for the models strongly varied. Samples from burial contexts were mostly from human bone, i.e., from short-lived material. Many of the dates for the Beaker pottery model, on the contrary, were measured on bulk samples (Healy 2012).

The model for articulated inhumations was based on 135 burials from England and indicates the beginning of Beaker deposition in graves between 2510-2350 cal BC (95% probability) and an end of Beaker associated inhumations in England between 1810-1780 cal BC (3% probability) or 1770-1610 cal BC (95% probability) (Fig. 38). These results are in accordance with those from earlier, conventional studies (cf. Needham 2005; Sheridan 2007b) and also confirm the results of the model from Bayliss et al (2007, 50).

Group	Start cal BC	End cal BC
Early Neolithic articulated	3740–3630 (85% probability); 3620–3550 (10% probability); 3700–3640 (68% probability)	3500–3310 (95% probability); 3480–3340 (68% probability)
Non-classic Neolithic articulated	3670–3380 (95% probability); 3540–3390 (68% probability)	2900–2620 (95% probability); 2890–2750 (68% probability)
Beaker and related articulated	2510–2350 (95% probability); 2480–2390 (68% probability)	1810–1780 (3% probability); 1770–1610 (92% probability); 1840–1640 (68% probability)
Other articulated	2220–2040 (95% probability); 2170–2080 (68% probability)	Continuing beyond arbitrary cut-off at end of 2nd millennium

Fig. 37 Results of a model of 135 dates for articulated inhumations from the 4th-2nd millennium cal BC in England (after Healy 2012, 150, tab. 10.1)

In addition, a gap is visible between the non-classic Neolithic-articulated inhumations and Beaker and Beaker-related¹²¹ inhumations. This gap could have lasted 170-510 years (95% probability) between 2900-2620 cal BC (95% probability) and 2510-2350 cal BC (95% probability). It means that in these 170-510 years, the practice of single burial is almost not visible in the burial record. Healy

¹²¹ Healy (2012, 149) included Beaker-related inhumations, i.e., those with artefacts that are usually associated with Beakers, such as bracers or basket-shaped ornaments.

argued for this reason that the increase in the practice of individual inhumation, starting roughly in the 25th century cal BC, was a result of its introduction to Britain by Beaker users, and not a revival of older traditions (Healy 2012, 149). This point is further discussed in Chapter 6.

Source	Start Beakers cal BC	Fission horizon cal BC	End Beakers cal BC	Duration
Kinnes <i>et al.</i> 1991 (Britain)	c. 2600		c. 1800	c. 800 years
Needham 2005 (Britain)	c. 2500	c. 2250–2150	c. 1750	c. 750 years
Bayliss <i>et al.</i> 2007b (England)	2475–2315 (95% probability) 2425–2350 (68% probability)			
This paper Beaker model 1 (England)	2490–2370 (95% probability) 2450–2370 (68% probability)		1800–1620 (95% probability) 1740–1670 (68% probability)	580–800 years (95% probability) 640–740 years (68% probability)
This paper Beaker model 2 (England)	2490–2340 (95% probability) 2450–2360 (68% probability)		1880–1740 (95% probability) 1870–1800 (68% probability)	480–670 years (95% probability) 510–610 years (68% probability)
Sheridan 2007 (Scotland)	c. 2500	c. 2350	c. 1800	c. 700 years
Bayliss <i>et al.</i> 2007b (Scotland)	2385–2235 (95% probability) 2345–2270 (68% probability)			
This paper Beaker model 1 (Scotland)	2350–2230 (95% probability) 2320–2260 (68% probability)		2130–2010 (95% probability) 2120–2050 (68% probability)	up to 300 years (95% probability) 150–250 years (68% probability)
This paper Beaker model 2 (Scotland)	2350–2240 (95% probability) 2320–2260 (68% probability)		2130–2030 (95% probability) 2130–2080 (68% probability)	120–290 years (95% probability) 140–230 years (68% probability)

Fig. 38 Comparison of models for the start, end and duration Beaker use (after Healy 2012, 153, tab. 10.2)

In a second model Healy examined the chronology of Beaker pottery in Britain, incorporating Needham's Beaker classification (2005; 2012) that is also used in the following discussion on Beaker artefacts (Chapter 5). The dates for Scotland and England were modelled separately. This procedure was based on the differences in the archaeological record between northern and southern Britain, which have long

been recognized (and have been discussed above; cf., e.g., Fig. 21). These include burial practices but also Beaker typology.

There is, however, a marked imbalance between the estimated beginning, end and duration of Beaker deposition in Scotland and England (cf. Fig. 39, Model 2).

	Start cal BC	Model 2 End cal BC	Duration in years
<i>England</i>			
Low - carinated	2470–2330 (95%)	2210–2030 (95%)	170–400 (95%)
	2430–2350 (68%)	2180–2120 (32%) or 2090–2040 (36%)	220–350 (68%)
Mid- carinated	2440–2220 (95%)	1990–1780 (95%)	310–590 (95%)
	2400–23270 (8%) or 2360–2270 (60%)	1920–1830 (68%)	380–520 (68%)
Long- necked	2340–2320 (1%) or 2310–2120 (94%)	1940–1790 (95%) 1900–1830 (68%)	250–490 (95%) 300–410 (68%)
	2280–2250 (19%) or 2230–2220 (2%) or 2210–2160 (47%)		
S-profile	2440–2290 (95%) 2410–2310 (68%)	1920–1770 (95%) 1890–1830 (68%)	420–620 (95%) 450–560 (68%)
<i>Scotland</i>			
Low- carinated	2330–2210 (95%) 2320–2230 (68%)	2190–2060 (95%) 2150–2090 (68%)	70–250 (95%) 110–200 (68%)
Short- necked	2340–2230 (95%) 2320–2250 (68%)	2150–2040 (95%) 2140–2090 (68%)	110–270 (95%) 130–220 (68%)
S-profile	2340–2240 (95%) 2320–2250 (68%)	2200–2060 (95%) 2160–2090 (68%)	40–210 (95%), 80–170 (68%)

Fig. 39 Results of a model for Beaker pottery in England and Scotland (modified after Healy 2012, 159, tab. 10.3)

Healy suggested that the reason for this could be that most radiocarbon samples from Scotland were for short-necked Beakers, and that the result of the model was representative due to the dominant position of this Beaker type in the archaeological record in Scotland (2012, 156 and cf. Fig. 40). However, in response to Bayliss *et al.* (2007), whose model for the beginning of Scottish Beakers agrees with Healy's results, Alison Sheridan pointed out that it is the early Beaker contexts which have

not been radiocarbon dated in Scotland and that consequentially have not been modelled. According to Sheridan, an earlier beginning of Beaker deposition in Scotland is probable, especially considering Beaker typology, grave architecture and conventional radiocarbon dates (2007a, 96-98; 2008, 62).

If accepting Healy's results, the relatively short duration of Beaker deposition in Scotland, might be seen in the context of a competing pottery tradition, the Food Vessels. These are far more numerous in the north and may have added to an earlier end of the Beaker tradition. In this context, Healy's explanation for the numerical domination of short-necked Beakers over other Beaker types is therefore convincing. Given the short period of Beaker deposition in Scotland, a diversification process of pottery types, which is clear in the English Beaker record, may not have taken place further north.

The results of Bayesian modelling have added to the better understanding of chronology in prehistoric times, be it of stratigraphies of single sites, or phenomena such as Beakers. It is crucial, however, to assess quality of the samples.

In the following section on Beaker associated artefacts radiocarbon dates are modelled exemplarily for daggers. These artefact groups are represented by a sufficient number of radiocarbon dates that help to tighten artefact chronologies.

5 Beaker Associated Artefacts

Beakers and the associated artefacts have naturally played an important role from the beginning of the research and it was recognized that certain artefacts were frequently recurring. Some objects have been found with Beakers in the entire Beaker distribution area; these are daggers (or knives) of copper, wrist guards (or bracers) of stone and flint arrowheads. These are part of the pan-European Beaker 'set' or 'package' (cf. Chapter 1). Additionally, regional differences have been observed: on the Iberian Peninsula and in western France, for example, copper Palmela¹²² points are frequently found in the graves and seem to take the place of the arrowheads that have been found elsewhere. In east-central Europe, bow-shaped pendants are a typical Beaker associated form. When looking at the present data set, it becomes clear that the overall number of associated grave goods is quite low. That is a general feature of British Beaker burial as has been shown by, e.g. David Clarke (1970). A few graves, however, display a great wealth in grave goods and show well-known artefact combinations (Case 2004, Clarke 1970, Needham 2012, Piggott 1963). These graves probably represent a sort of elite, be it political, religious or economical. A strict separation of these spheres is unlikely and it is possible that leaders or important persons in communities also held a monopoly on religious practices. In the following section, artefacts with a direct Beaker association in graves in Britain will be discussed in an attempt to show their variations and chronology, and possibly their function. A discussion of the overall artefact associations and their possible relation to orientations of individuals, grave type, etc. will also be discussed in the following section. Some types of artefacts require more detailed discussion because they are chronologically relevant and cross dating for other types of artefacts is possible. The order in which the artefacts are discussed does not follow strict criteria, such as order by material (metal, stone, bone, etc.). Instead, artefacts were grouped according to their supposed function, such as tools or ornaments.

¹²² Named after the site Quinta do Anjo (Palmela), where they had first been discovered between 1876 and 1878.

5.1 Metal Daggers / Knives

The terminology for metal blades in Beaker contexts is not always stringent, so some remarks are necessary. Depending on their size and technological properties, blades are summarized under terms such as dagger, knife or knife-dagger. Dagger and knife both imply a function, i.e. stabbing and cutting, respectively. According to the Oxford Dictionaries, a knife is an implement for cutting or is used as a weapon, whereas a dagger is a short knife-form that comprises a pointed and edged blade and is also used as a weapon (retrieved December 3, 2013, from <http://www.oxforddictionaries.com/definition/english/dagger?q=dagger>). However, in the archaeological literature the major criteria for distinction is the object size, i.e. a small, two-edged, pointed blade is usually called knife, but not dagger. The archaeological nomenclature is therefore more an interpretation of the artefact than a definition of its appearance.¹²³ The term knife-dagger lies somewhere in between and implies that the items' potential function might have been the one or the other. The latter objects have furthermore been described as types that comprised rivets and that showed hafting marks that were different from those of daggers (Gerloff 1975, 159). Humphrey Case also argued for the use of the term knife on grounds of size because he regarded the blades as unfit for stabbing (cf. Case 2004 and Sheridan 2008b, 65). At least one example can be named where one function of a dagger becomes clear. At the Grotte de Foissac, France, the tip of a copper dagger had penetrated a human vertebra. It was a perimortem injury, as signs of healing were missing (Gallay 1981, 32 no. 73, Table 4, 73). This French example is not from a Beaker context but generally from the Early Copper Age.

Also Needham (e.g. 2011, 2012) made the distinction between knife and dagger because of their size. However, when arguing on grounds of size, it is quite arbitrary what qualifies a dagger or a knife because an accepted definition is lacking, not to mention how the perception of the object was in prehistoric times. In addition, blades were subject to repeated sharpening. The wavy blade of the dagger from Chilbolton has been interpreted in this direction (Russel 1990, 162-163), and Clarke (1970, 260) attested that many blades he had examined showed signs of whetting. That means that a dagger might in its later 'life' have become a knife, at least according to the

¹²³ The distinction, e.g. in German language is quite clear in that a knife is a one-edged cutting implement and that the dagger is a knife-form, which is two-edged and a stabbing implement.

above terminology.¹²⁴ It is questionable if that shift in shape or size also resulted in a shift of meaning. The contrary might even be the case: the longer a blade was in use and curated, the higher its symbolic value might have been; its function as knife or dagger was of little concern because both could be equally used in a particular context. A blade need not have been used necessarily exclusively by one individual. It may have been passed over as an heirloom; this has been suggested for several other artefacts in Beaker contexts (e.g. Woodward 2002 or Harding & Healy 2011). For the sake of clarity, the term dagger has been used throughout the work to describe copper or bronze blades without carrying functional implications. Amongst the metal objects, daggers form the largest group in the dataset. They have been found associated with 22 individuals (Fig. 38); the metal fragments from Tavelty Farm, Aberdeenshire¹²⁵ (Ralston & Watt 1983; Ralston 1996), possibly represent a 23rd example. Most of them were found in the southern part of the distribution area and only one blade from Scotland could be included (and possibly the one from Tavelty Farm).¹²⁶ This seems to be less a matter of discovery potential, but of deposition patterns in Scotland, where the practice of burying the body with pottery vessel and dagger was less pronounced than further south. In Scotland daggers have been found in numerous burials without pottery association, and the tanged forms (see below) are virtually missing. However, there are a number of daggers that were found with Beakers but the bones have not been preserved, such as at Linlathen (Cairn Greg), City of Dundee. Beaker and dagger had been found in a cist beneath a cairn. No human remains were recorded (Stuart 1866). Since the publication of Sabine Gerloff's work on British Bronze Age blades (1975), which has become a standard work, the number of daggers has considerably increased. The number of tanged daggers alone has increased from 17 (*ibid.*, pl. 1-2) (these are all the objects she put into her tanged dagger group) to 37 from 34 sites (Needham 2012, 14-15, Tab. 1.4). Daggers have traditionally been divided into

¹²⁴ This could for example have been the case with the knife (ON 6620) in the grave of the Amesbury Archer (Needham 2011, 126; fig. 42). The tang of that object in relation to the blade seems over-dimensionated and would speak for a dagger rather than a knife.

¹²⁵ ID: 289.

¹²⁶ The actual number of daggers is higher but many objects come from unknown or non-funerary contexts. Further examples have been found in graves that did not provide information on the skeletons and could therefore not be included for the initially defined restrictions. For a wider list of tanged daggers, see Needham (2012, Tab. 1.4) and for daggers in Britain in general, the distribution maps published by Gerloff (1975) and Needham (2004).

tanged and riveted forms (Fig. 39). The tanged forms belong to the beginning of the metallurgical development in Britain, thus comparable to the continental Copper Age and that the riveted forms are later and belong in the Early Bronze Age.¹²⁷ In his discussion on the Copper Age in Britain, Needham (2012, 11-12, Fig. 1.1) recently suggested a different typology, in which he re-classified the daggers according to tang shape, the presence or absence of rivets and the metallurgical properties, i.e. whether they were made of copper or bronze. He identified “association groups” and arranged the tanged daggers into three groups; the first of which (his group Ia) comprised copper daggers with a simple tang without rivets and the second (group Ib) comprised tanged copper daggers that had a rivet in the tang. In particular the latter objects have been classified differently in the past. David Clarke had established more refined types and split up the daggers in his type (i) that represented tanged daggers, type (ii) comprising single-rivet daggers and his type (iii) that contained the rhomboidal single rivet daggers, for example the objects from Shrewton 5k (primary), Wiltshire¹²⁸, or Driffield (Kellythorpe), Yorkshire¹²⁹. His typology was based on typological comparisons with the Dutch daggers and their Beaker associations (Clarke 1970, 260-261). For the riveted daggers, Clarke used the typology proposed by Piggott (1963, 71-86). Gerloff defined broader categories and grouped the tanged daggers with and without rivets together and additionally added some examples to her knife-dagger group, the type that matched Clarke’s type (iii) (Gerloff 1975, 27-40, 159-160). Finally, Needham’s third group (Ic) contained daggers with rivets in the shoulder. It is between his groups Ib and Ic that he saw the transition between a pure copper metallurgy and the beginning of bronze metallurgy. Some of the supposedly late copper daggers (group Ib) comprised bronze rivets, whereas some daggers with rivets in the shoulder (group Ic) were made of a bronze with a low tin proportion and probably mark the initial stage of bronze dagger production in Britain. Butt-riveted daggers then mark the proper bronze daggers (his Series 2 Blades) (*ibid.*). This grouping of Needham (2012) will be used here.

¹²⁷ For a detailed research history on daggers see Gerloff 1975, 12-17.

¹²⁸ ID: 167.

¹²⁹ ID: 60.

5.1.1 Tanged Daggers without Rivets

This type can be considered an integral part of the pan-European Beaker 'package'.¹³⁰ They belong to the earliest metallurgy in northwestern Europe that began around the mid-3rd millennium, and they generally pre-date the flat-riveted daggers. The metallurgical composition of tanged daggers is copper with impurities but without intentional addition of other metals such as tin. The origin of the copper has been connected to central European sources in the past, but metal analyses showed that the metal composition of the British tanged daggers has its closest parallels in the Netherlands, Brittany, the Iberian Peninsula and Ireland (Gerloff 1975, 36). The length of tanged daggers varies between 5cm to 30cm, with linguette to triangular blade shapes (Needham 2011, 123). The tangs often comprise notches or dentations as a result of hammering, in order to allow the hilt to be secured, probably by a cord. Other examples comprise flanges, in order to attach the hilt. 13 tanged daggers from 11 burials have been included here and their distribution is restricted to the southern part of England (Fig. 38).

Usually, only one example has been found in the grave with the exception of the burial of a male individual from Dorchester, Oxfordshire¹³¹ (Hawkes 1955) that was accompanied by one tanged dagger and one riveted dagger and the burial of the 'Amesbury Archer', Wiltshire¹³² (Fitzpatrick 2002; 2011), whose grave produced three tanged copper daggers. The items of the latter grave have been discussed in detail and their metal composition, as well as their typology, set them in a wider European context. While the metal composition points to an origin in Atlantic Europe, the closest typological parallels can be found in the Netherlands, France and on the Iberian Peninsula. The daggers can be roughly dated to 2450-2300 BC (Needham 2011); also the associated artefacts and a radiocarbon date of 2470-2280 cal BC (OxA-13541: 3895±32 BP) on human bone, also identifies this burial as one of the earliest dated Beaker burials in Britain.

¹³⁰ IDs: 15, 23, 27, 51, 59, 124, 142, 149, 188, 198, 211.

¹³¹ ID: 59.

¹³² ID: 15.

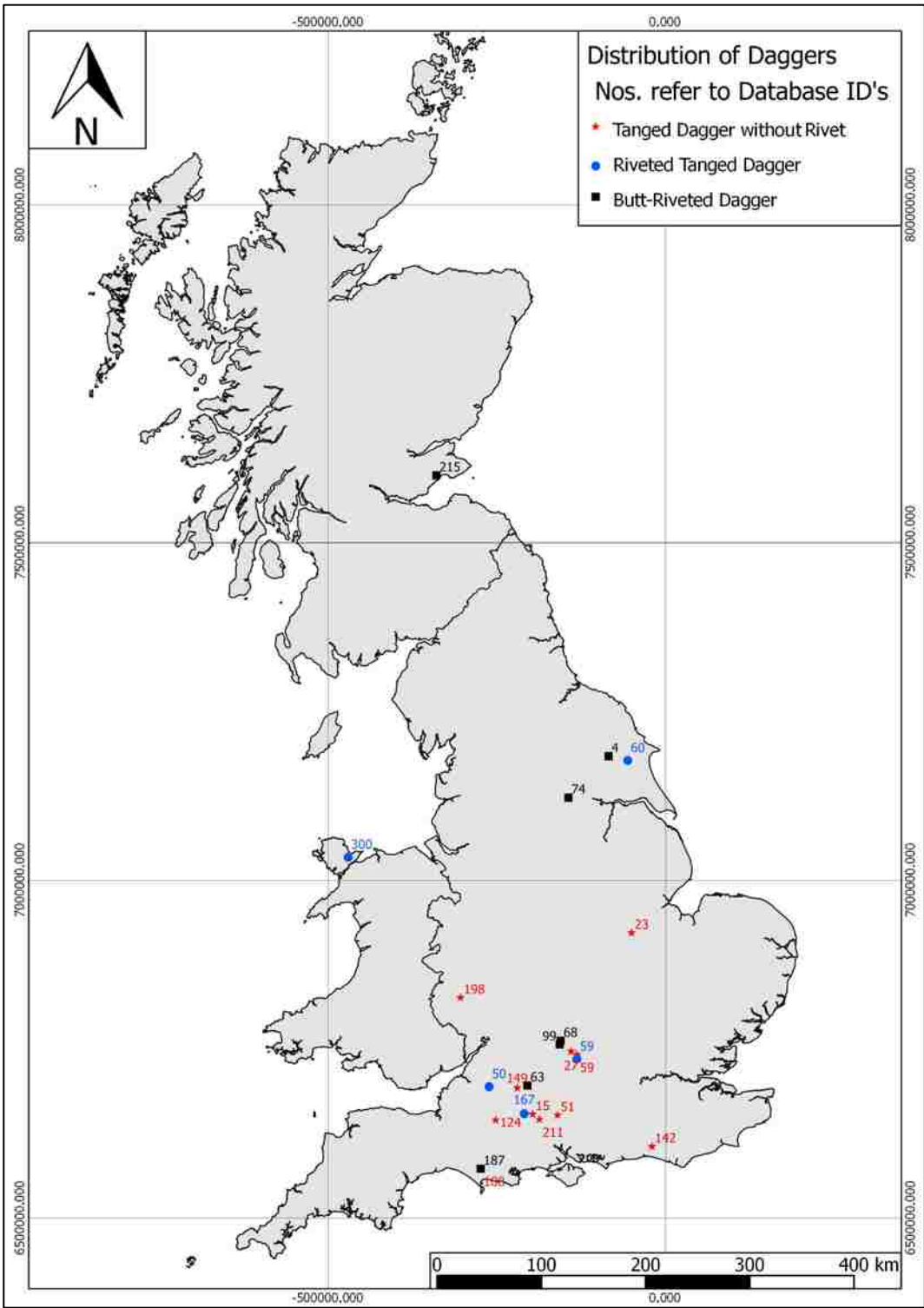


Fig. 40 Distribution of daggers

The metal of the Chilbolton, Hampshire, dagger probably has also a continental European origin, based on the metal composition¹³³ that would place it in the Breton-Dutch group of SAM 2 (Junghans, Sangmeister & Schröder 1968, Tab. 1). The exact source of the metal is unknown but it could originate in central Europe, the Alps and also western-central France (Russel 1990, 163).

The daggers from the grave at Dorchester are very interesting, due to the association of two different types. One simple tanged copper dagger with a rather unusual tang does not have direct parallels in Britain. Hawkes (1955, GB1) suggested the daggers from Mere¹³⁴ and Roundway¹³⁵ both in Wiltshire as parallels, but these examples are not convincing. Typologically, the closest parallel might be found on the Iberian Peninsula (cf. Brandherm 2003, Taf. 14) but that seems a too far-fetched parallel. The second small tanged dagger comprises three bronze rivets and can be regarded as a tie between late copper and early bronze metallurgy. Also, the Beaker would suggest a similar date for the grave, possibly around 2300 or 2200 (cf. Needham 2005, 188, Tab. 2). The other examples of tanged daggers without rivets have pottery/artefact associations that are traditionally regarded as early types as well (W/MR; AOCComb; European¹³⁶ / Step 2; Step 3¹³⁷ / LC; TMC¹³⁸). The available radiocarbon dates confirm this: they show a range from c. 2400-2000 cal BC. The radiocarbon date from Barrow Hills, Radley, Oxfordshire, Grave 4660 is quite late and puts the grave in a bracket from c. 2200-1900 cal BC (BM-2704: 3650±50 BP)¹³⁹. Eight of the dagger-accompanied individuals were males, plus one probably male. In no case has a dagger been found with a female individual. A tendency can be observed that older individuals were accompanied by tanged daggers. Two old adults¹⁴⁰ and three middle adults had such objects in the grave and additionally two probably adult and one adult individual, whose age could not be specified, had one. Three younger individuals (adolescent to young adult) were also accompanied by a

¹³³ Cu: 97.2%; As: 0.58%; Sb: 0.43%; Ni: 0.174%; Ag: 0.072%; Pb: 0.02%; Sn: <0.18%; Zn: <0.01%; Bi: <0.073%; Fe: 0.018%; Mn: <0.0006%; Cd: <0.0009%; Co: <0.004%; Au: <0.006%

¹³⁴ ID: 124.

¹³⁵ ID: 149.

¹³⁶ After Clarke

¹³⁷ After Lanting & van der Waals

¹³⁸ After Needham

¹³⁹ ID: 27.

¹⁴⁰ The age of the individual from Roundway G8 (ID: 149) was estimated to 70-80 years. It was shown above that the possibilities of age determination are less accurate. If that estimation is correct the man had outlived two generations.

tanged dagger, the youngest of them between 15-21 years. There was also a pattern visible concerning the position of the blade in relation to the body. Most daggers were found in the upper part of the body in front of the chest or the face and seemed to have been held in the hand when the individual was buried. In several cases the dagger pointed towards the feet. Only twice was the blade lying behind the body. This pattern concerning the position of the blade was also visible with the rest of the daggers that are discussed below. The predominant grave type was burial in a barrow below the old land surface (8 cases); three burials took place in a simple pit. The grave cuts were of large dimensions, including one deep shaft¹⁴¹ and four individuals had been buried in coffins¹⁴².

5.1.2 Tanged Daggers with Rivets

This second group consists of five examples¹⁴³ that were mainly located in the southern part of Britain, where also the majority of the previously described examples had been found. The exception is one dagger from Driffield 138, East Riding of Yorkshire¹⁴⁴ (Lord Londesborough 1852) (cf. Fig. 39 no. 4) and a second one from Pentraeth, Merddyn Gwyn, Anglesey¹⁴⁵ in Wales (Hughes 1908). Some of the daggers do not differ greatly from the simple tanged daggers in terms of shape, but they comprise a rivet or rivet hole in the tang indicating a new technique of hafting. This includes, for example, the objects from Shrewton, Wiltshire¹⁴⁶ (Green & Rollo-Smith 1984) (cf. Fig. 39, no. 3) and the blade from Sittingbourne, Kent. The latter was found with an adult individual, lying in a contracted position on its left side and with the head to the south. Additionally, the grave contained a 2-holed wrist-guard and a bone belt ring and has therefore all features typical for Beaker contexts – apart from the Beaker pot (Payne 1885, 29-30).

¹⁴¹ ID: 23.

¹⁴² ID: 15, 51, 59, 142.

¹⁴³ IDs: 50, 59, 60, 167, 300.

¹⁴⁴ ID: 60.

¹⁴⁵ ID: 300.

¹⁴⁶ ID: 167.

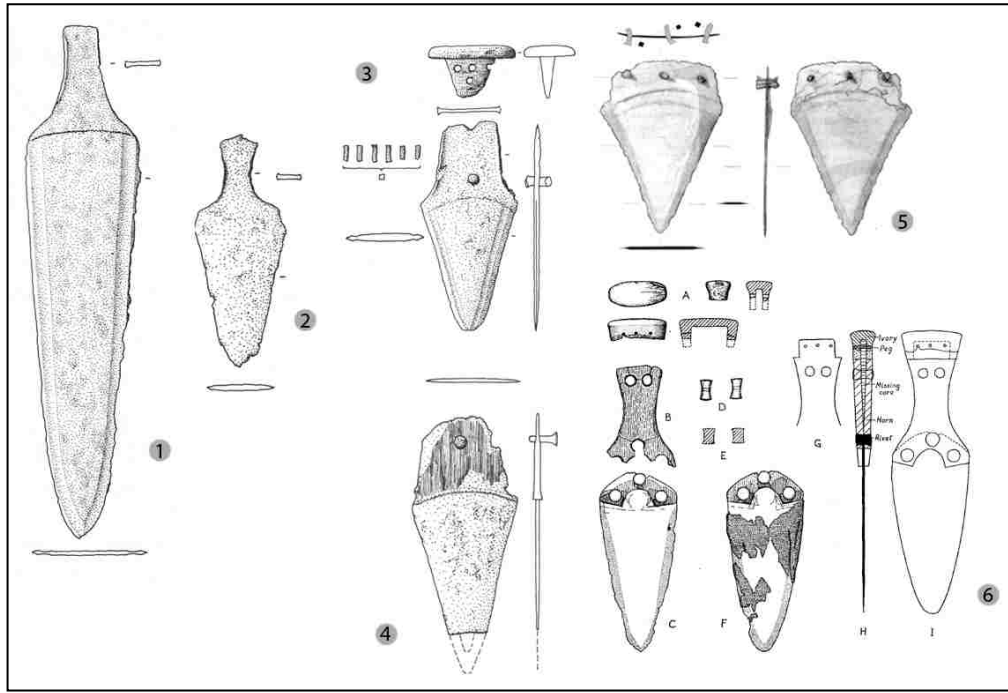


Fig. 41 Dagger types

Tanged Copper Dagger: 1. Roundway, Wiltshire (length: 25cm) 2. Dorchester-on-Thames, Oxfordshire (length: 9.1cm); Single Riveted Tanged Dagger: 3. Shrewton, Wiltshire (length: 10cm) 4. Drifffield, East Riding of Yorkshire (length: 8.7cm) Butt/Flat-Riveted Dagger: 5. Thomas Hardy School, Grave 1605 (length: 6cm) 6. Ashgrove, Methilhill, Fife (length of blade: 13.6cm; A: ivory pommel, B: horn hilt-plate, C: bronze blade, D: rivets from top of hilt-plate, E: sections through side and central rivets in blade, F: opposite side of blade with remains of sheath, G: plan of missing core of hilt, H-I: reconstruction of section and plan of the dagger)
 - 3. after Gerloff 1975, pl. 1; 4. after Gerloff 1975, pl. 23; 5 after Gardiner *et al.* 2007, Fig. 11; 6. after Henshall 1963, Fig. 5)

The find circumstances were problematical due to quarrying works, but it appears as if the grave goods could be secured so that a loss of the pot seems unlikely. Considering that all three objects in the grave were rare (no direct parallel for the belt ring is known), it is unlikely that a less rare Beaker pot could not be acquired. It poses the question then if it was a conscious decision not to take part in the Beaker game or if the person was not able to take part. This period seems to face an important stage in the development of metallurgy because other objects in this group already comprise bronze rivets but the blades are still made of copper, e.g. the dagger from Dorchester, Amey's Pit, XII, Oxfordshire (Hawkes 1955)¹⁴⁷. For reasons of metal composition and typological considerations, it has been argued that this dagger originated in southern Germany (Piggott 1963, 82; Case 1965, 220). Additionally,

¹⁴⁷ The composition of one rivet is: Cu: 90%; Sn: 6.6%; Pb: 0.21%; Ag: 0.085%; Ni: 0.51%; As: 1.4%; Sb: 0.21%; Bi: 0.31%; Fe: 0.053%.

the fact that similar artefact combinations like that one from Dorchester have been found in southern Germany furthermore underlined that assumption (Woodward & Hunter 2011, 114).

The individual's ages are interesting in so far as no old persons were found with these kinds of daggers, other than with the simple tanged forms and the riveted daggers (see below). The age range lies between adolescent and young / middle adult. As with tanged daggers without rivets, only men (3) have been documented and additionally the sex of three more individuals was indeterminate. One radiocarbon date for the burial at Shrewton, Wiltshire¹⁴⁸ indirectly dates the blade between 2480-2210 cal BC (dated twice: BM-3017: 3900±40 BP; OxA-V-2232-37: 3871±30 BP) and thus early in the Beaker period. These dates illustrate very well that types, which for reasons of artefact technology and typology would suggest a date later than the simple tanged forms, are actually contemporary, at least with the current dating precision. It must be remembered, however, that these radiocarbon dates cover a span of c. 300 calendar years! It would not be surprising to find a variety of types that evolved in a period of that length.

5.1.3 Flat Riveted Daggers

Flat riveted daggers¹⁴⁹ are represented by six objects but the distribution differs slightly from the aforementioned daggers. Four have been found in the south of England¹⁵⁰ like the majority of blades; two were discovered in Yorkshire¹⁵¹ and the only dagger from Fife, Scotland¹⁵² (cf. Fig. 39, no. 6) belongs to this group. These blades are regarded as belonging to the late phase of Beaker currency in Britain, i.e. to the Early Bronze Age. The daggers are mostly composed of bronze, but rivets can still be made of copper, in this sample this is, for example, the blade from East Kennet, Wiltshire¹⁵³ (Merewether 1848, 110). These riveted daggers often also occur in contexts without pottery association (as discussed above; cf. Annable & Simpson

¹⁴⁸ ID: 167.

¹⁴⁹ IDs: 4, 63, 68, 74, 99, 187, 215.

¹⁵⁰ IDs: 63, 68, 99, 187. The dagger from Thomas Hardy School, Grave 1605 (Gardiner 2007) has been added to the butt-riveted daggers here. Needham regarded this blade as transitional between his daggers of association group 'c' and the Series 2 blades (2012, 12, fig. 1.1).

¹⁵¹ IDs: 4, 74.

¹⁵² ID: 215.

¹⁵³ ID: 63. Blade (BBA20): Cu: 84.5%; Sn: 14.4%; As: 1.0%; Sb: 0.5%; Ag: 0.2%; Rivet (BBA23): Cu: 98%; Sn: nd; As: 2.0% (Kinnes 1985, 10).

1964, 16). At Etton, Hampshire, the three-riveted dagger was the only grave good in an inhumation burial, but the grave belonged to a small Beaker / Early Bronze Age cemetery that was covered by a barrow (French & Pryor 2005). At Perio, Cambridgeshire, the direct association of Beaker and dagger was not certain. A sherd that belongs to Clarke's Southern group was found in the upper grave fill. The dagger was buried with an adult individual in a crouched position and lying on the left side, originally in a coffin or similar structure. The dagger was found close to the hands (Hadman 1973). The chronological bracket for these daggers is relatively well established with three radiocarbon dates for the burial from Ferry Fryston, Context 2245, West Yorkshire¹⁵⁴ (Brown *et al.* 2007), Gravelly Guy, X, 6 (1), Oxfordshire¹⁵⁵ (Barclay, Gray & Lambrick 1995) and Thomas Hardye School, Grave 1605, Dorset¹⁵⁶ (Gardiner *et al.* 2007). They range roughly between 2300-2000 cal BC. Here, they belong predominantly to adult men. All sexed individuals were male and all but one were lying on their left side. There is again a preference of orientation towards the northern part of the compass visible (5 of 7 skeletons), including the probably male man from Methilhill, Fife¹⁵⁷ (Henshall 1963). The latter skeleton was also radiocarbon dated, but the determination had to be rejected for its anomalously late date. The sample of mixed organic material was taken from the chest area (Sheridan 2007, 123). The individual from East Kennet 1c, Wiltshire is of interest. This individual was found lying on the right side with the head to the W and was therefore strongly differing from the other individuals in southern England. The blade was of tin-bronze alloy (Cu: 84.5%, Sn: 14.4%, As: 1%), the rivet was of a low-arsenic copper (Cu: 98%, As: 2%). The Beaker dates to a late moment in the Beaker currency (S3 / Step 6 / LN) and the association of a stone axe also underlines the late position of the ensemble. It could be suggested that at the end of the Beaker period at the beginning of the Bronze Age, a typical pattern concerning orientation and position of the deceased that could be seen at the other dagger accompanied individuals is not practised strictly anymore. It will be shown below if this

¹⁵⁴ ID: 74. Sample from bone. KIA-25326: 3732±27 BP = 2210 - 2030 cal BC

¹⁵⁵ ID: 99. Sample from skeleton. UB-3122 : 3709±35BP = 2280 - 1980 cal BC

¹⁵⁶ ID: 187. Sample from left femur. NZA-23746 : 3789±30 BP = 2320 - 2040 cal BC

¹⁵⁷ ID: 215.

assumption is strengthened when the pottery and the individuals with similar grave goods are discussed.

5.1.4 Dating Daggers

In order to achieve a more precise chronology, radiocarbon dates for Beaker associated daggers were modelled in a Bayesian environment. The samples are from short-lived materials from burials, i.e., in all cases human.

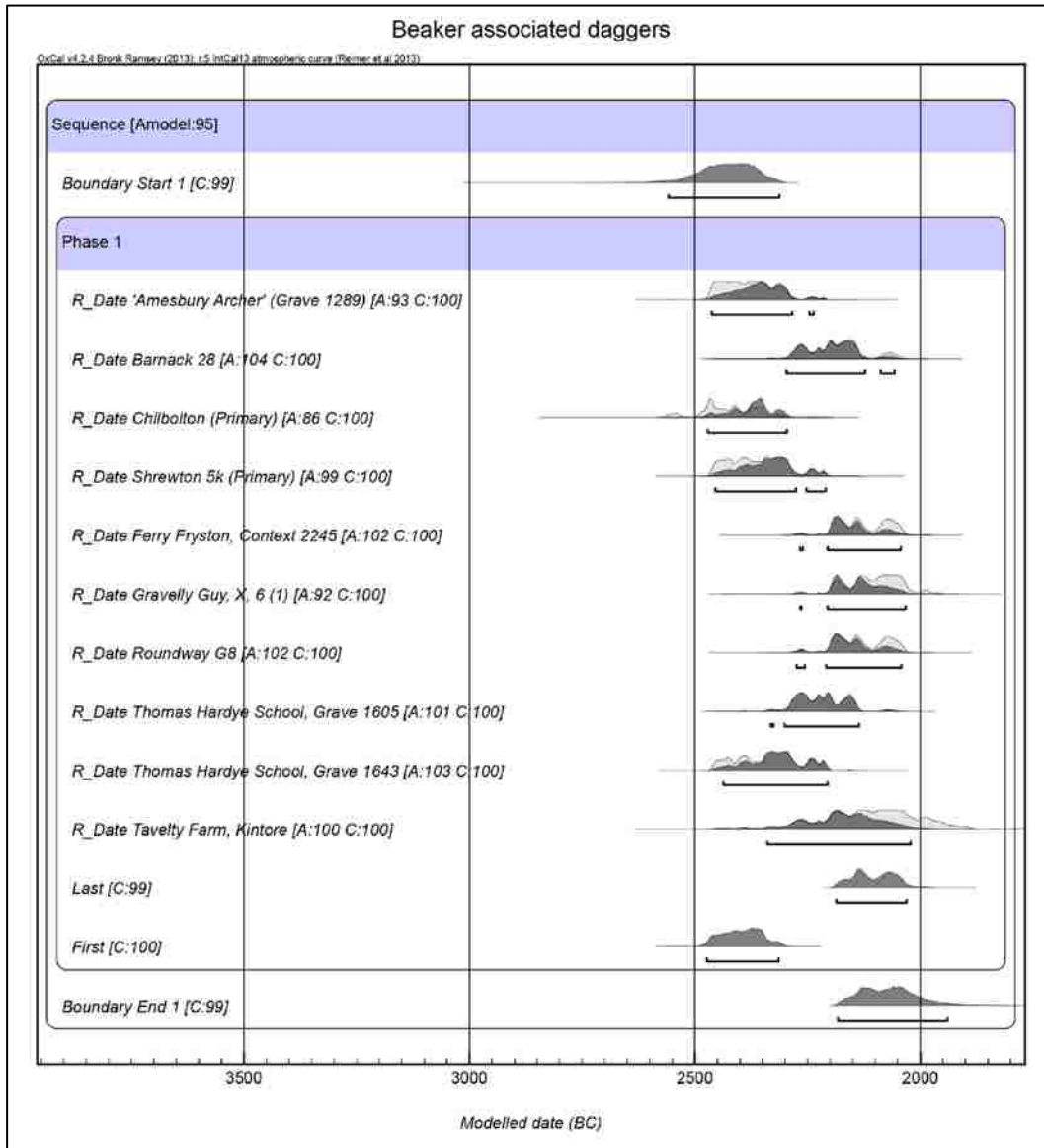


Fig. 42 Modelled distribution of dates for daggers with modelled start and end dates

The quality of the dates has been discussed by Needham (2005, 2012), Sheridan (2007b) and Healy (2012). The sampled dates are treated as belonging to one single phase of activity, with unknown chronological sequence.

According to Needham's scheme, the sample of ten dated daggers is dominated by typologically early daggers, (2012, fig. 1.1).¹⁵⁸ This imbalance must be regarded in the context of changing deposition patterns between Chalcolithic and Early Bronze Age (see above in this chapter). While the simple daggers are a typical Beaker associated form, the more complex types are frequently deposited without pottery association (the 'dagger burials'). This sample is, therefore, argued to be representative of Beaker associated dagger forms.

With 95.4% confidence, deposition of daggers in graves started between 2560–2310 cal BC¹⁵⁹ and ended between 2185–1940 cal BC (Fig. 43). In addition, OxCal provides the tool "First" and "Last", which gives estimates of the earliest use of daggers being between 2475–2310 cal BC and latest between 2190–2030 cal BC. These dates are in accordance with the models for low-carinated Beakers that are the earliest association of copper daggers in England (cf. Healy 2012, tab. 10.3). The earliest dated feature in this context is the burial of the 'Amesbury Archer',¹⁶⁰ with three copper daggers. The end of dagger deposition with Beakers, which is indicated by the result of the model, confirms the change of deposition practices. This change goes hand in hand with a diversification of burial practices. Some typical artefacts lost their importance in the grave, while others, such as flint daggers, became more important.

5.2 Stone Battle-Axes

Axes do not play a big role in Beaker contexts; in fact, they are typically not associated with Beaker pottery (Needham 2005, 200–201, fig. 11). They enter the Beaker funerary record in the last quarter of the 3rd millennium. Case argued that axe associations probably dated to the turn of the 3rd and 2nd millennia and that they were contemporary to his style 3 or long necked Beakers (1993, 259). The typical association with LN Beakers had already been noted before (e.g. Piggott 1962, 84;

¹⁵⁸ ID's: 15, 23, 51, 74, 99, 149, 167, 187, 188, 289. The date from Barrow Hills, Radley, Grave 4660, Oxfordshire (ID: 27) was considered too late by Needham (2005, 185).

¹⁵⁹ Posterior density estimates are always cited in Italics.

¹⁶⁰ ID: 15.

Clarke 1970, 448, App. 3). Based on a larger number of radiocarbon dates, Needham argued that axe associations belonged to his *fission horizon*, i.e. from c. 2250 – 2150 cal BC onwards (*ibid.* 205). Axe-heads are known from Beaker contexts in the Netherlands (e.g. Lanting & van der Waals 1976), and it is possible that the re-introduction of axe-heads in the burial record was inspired by this practice in the Netherlands.

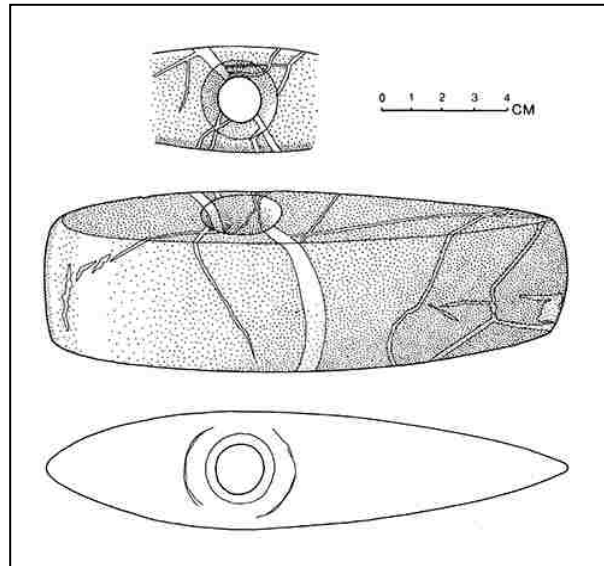


Fig. 43 Stone shaft-hole axe from East Kennet 1c, Wiltshire (after Kinnes 1985, 9)

Out of the small number of four burials with axes in this sample, two were associated with LN Beakers¹⁶¹, one with a Collared Beaker¹⁶² and the fourth from Bractullo, Perth & Kinross¹⁶³ with an S-profile high bellied Beaker with protruding foot. This latter example is problematic because the grave contained the butt of a polished axe-head which could be a re-used object that was already old when it entered the grave. This feature is also the only one of the four that has been radiocarbon dated. The wide span of c. 400 years between 2460 – 2020 cal BC (BM-2515: 3780±60 BP) (Kinnes *et al.* 1991, 52) is of no help for a more exact dating.

¹⁶¹ ID: 63, 87.

¹⁶² ID: 62.

¹⁶³ ID: 228.

Typical associations are difficult to identify, considering the low number of features. However, the flat riveted bronze dagger from East Kennet 1c¹⁶⁴ and the flint dagger from Garton Slack 37¹⁶⁵ underline the late date for these burials.

Clarke listed stone battle-axes as a male association, but he was only able to list one individual (1970, 448, App. 3.3). This individual from Woodhenge¹⁶⁶ (cf. Clarke 1970, 454) is also the only securely identified male in the four burials that were integrated here. The individual at Garton Slack¹⁶⁷ has been identified as probably male and the association with flint dagger and fire making kit supports that. The sex of the individuals from East Kennet 1 c and Bractullo¹⁶⁸ are indeterminate and in the latter case it is also hard to draw parallels on the basis of other artefacts. Apart from the fragmented axe head the individual was associated by a disc-pebble polisher or burnisher, a plano-convex knife, a second knife, two scrapers and several miscellaneous and not further described flint objects. The knives are typically considered as male associations. Also, the orientation ENE-WSW is not diagnostic. In Scotland this orientation has only been documented at Bractullo. In other areas, ENE-WSW orientated individuals have been documented in five additional cases, but three of these are in the south of England and are difficult to compare. Two individuals from the East Riding of Yorkshire, however, have the same orientation, and it has been shown above that this region and Scotland exhibit common patterns. The individual from Rudstone Barrow 62¹⁶⁹ was a woman lying on her left side. That relates her to the unsexed individual from Painsthorpe Wold Barrow 83¹⁷⁰, who also lay on the left side. Individuals in Scotland with a NE-SW and E-W orientation, i.e. broadly the same orientation, were almost exclusively men, however. In short: it cannot be decided whether the individual was male or female. The remaining body with indeterminate sex from East Kennet 1c was associated with a flat riveted bronze dagger; by analogy it should be a male individual, even though the orientation (W-E) and the position on the right side would rather speak in favour of a female. The orientation is unusual in Wiltshire in the first place, but concerning the late date of

¹⁶⁴ ID: 63.

¹⁶⁵ ID: 87.

¹⁶⁶ ID: 62.

¹⁶⁷ ID: 87.

¹⁶⁸ ID: 228.

¹⁶⁹ IDs: 151.

¹⁷⁰ ID: 139.

the burial and the fact that at that point funerary patterns were already less strict and changing the individual should still be regarded as a man.

5.3 Bracers / Wrist-Guards

Another artefact group that has a close connection to Beakers and has a Europe-wide distribution is the wrist-guard, or bracer. They have been regarded as a part of archery equipment and the nomenclature already implies its presumed function. Fragmented pieces occur in domestic contexts but the predominant context for wrist-guards in Britain is in graves where they have frequently been found close to the forearm of the buried individual. Based on this, the interpretation that they “*served the purpose of a brace or shield to protect the left arm of the wearer against the rap of the string in shooting with the bow*” was first expressed by Arthur Winnington Ingram (1867, 109-110). This idea was accepted throughout most of the history of Beaker research but has also been challenged time and again (e.g. Case 2004, 26-28; Butler & Fokkens 2005, 391-392, Fig. 17.18 and below). Different terms have been used to describe this artefact,¹⁷¹ but ‘wrist-guard’ and ‘bracer’ are probably the most commonly used and have been applied throughout this work.

Wrist-guards are thin, well-executed products made of finely-grained rock. Their colour ranges from red and green, over grey tones to black. They are mostly rectangular and comprise perforations on the narrow ends. Most pieces have two or four drillings but more are possible, for instance in the exceptional example from Barnack, Cambridgeshire¹⁷² (Donaldson 1973; 1977) that comprises 18 perforations and gold studs (Fig. 41). Bracers appear in pre-Beaker Copper Age contexts, e.g. on the Iberian Peninsula where they run through to the Middle Bronze Age (Brandherm 2003, 51-52). That means that they were not genuinely a ‘Beaker’ artefact. However, they gained great importance in many parts of the Beaker distribution area, e.g. in Ireland and Britain, where large numbers of these artefacts have been found. In Ireland at least 112 bracers have been counted (Carlin 2011, 251), in England 68 and in Scotland 24 wrist-guards have been recorded (Smith 2006 cited in Carlin 2011, 251). While in Britain they have been found predominantly in graves and then

¹⁷¹ For example arm-guard, archer’s guard, wrist-band, bow-guard, wrist-protector, armlets, wristlets, gauntlets, bracelets (Fokkens et al. 2008, 110).

¹⁷² ID: 23.

always with males, in Ireland they are almost entirely single finds, and furthermore only “one or two” have been found in Beaker contexts (Carlin 2011, 251-256).

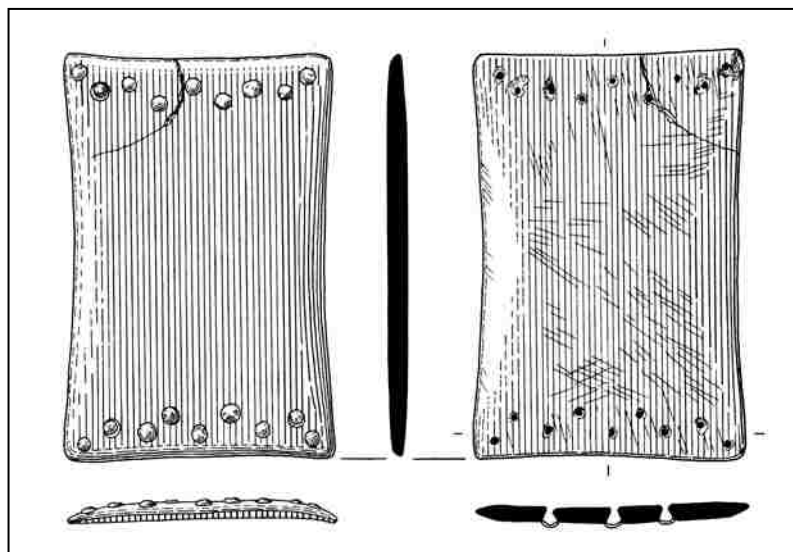


Fig. 44 Barnack 28, Cambridgeshire
Wrist-guard with 18 perforations and gold studs
(after Kinnes 1985, 3)

The first comprehensive works on wrist-guards in Continental Europe was an article by Edward Sangmeister (1964, 93, 95), in which he distinguished the ‘narrow’ and the ‘broad’ wrist-guards. He could show that the narrow types occurred in all European Beaker regions whereas the broad ones had a focus in east-central Europe. He addressed the wrist-guards again in 1974 and provided stricter criteria for their definition, because he thought that in his first approach, his criteria were rather arbitrary (Sangmeister 1974, 112).

In Britain the first work of this kind was the bracer typology of R. J. C. Atkinson¹⁷³ that was based on shape and the number of perforations. Atkinson distinguished three types with subgroups. His Type A1 comprised 2-holed bracers with convex long sides and rounded ends that had a flat bi-convex section. Type A2 only differed from A1 in that it had a plano-convex section. Type B1 was rectangular in plan with flat or slightly bi-convex cross-section and two holes. Type B2 and B3 had the same characteristics as B1, except that they comprised four in the former and six or more in the latter case.

¹⁷³ Atkinson had established his typology already in 1960 but had not published it.

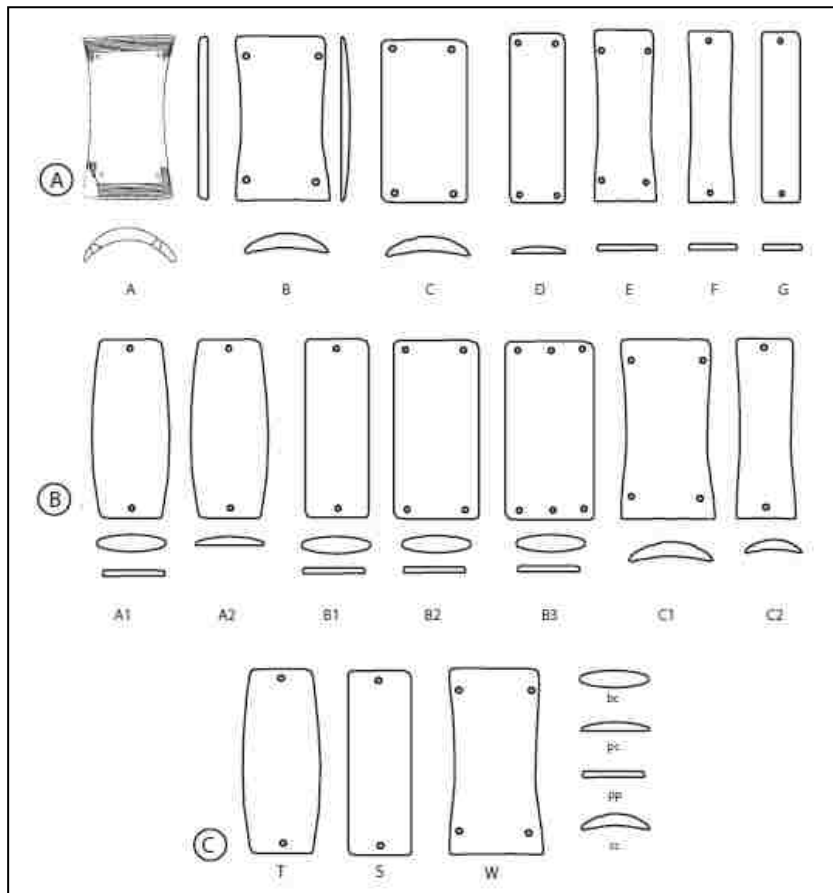


Fig. 45 Typological wrist-guard schemes
 A: Sangmeister 1974; B: Atkinson (Clarke 1970); C: modified scheme after Smith 2006
 (after Fokkens *et al.* 2008)

Type C1 was waisted in plan and had straight sides. It was concavo-convex in cross section and convexo-concave in longitudinal section and had four holes. Type C2 had the same shape but comprised v-perforations through the end and had only two holes (Fig. 42). Atkinson's scheme had not been published but was made available to and by Clarke (1970, 570, note 39), and it had been in use for almost 40 years but recently new classification systems have been suggested. In his re-appraisal on the function and meaning of wrist-guards, Smith criticized that Atkinson's system was not "immediately descriptive" and imposed a code-system that took the total number of perforations, the shape in plan and the transverse cross section into account, thus coming to a three-symbol identifier of the artefact.¹⁷⁴ Moreover, he reviewed the

¹⁷⁴ 1) No. of perforations: described by a number; 2) Shape in plan: Waisted with narrow mid section; Tapered (with narrow ends); Straight-sided (rectangular in plan); 3) Shape in transverse cross-section: Curved (crescent shaped in cross-section); Plano-Convex (D-shaped); Flat (flat or slightly bi-convex). For the example from Barnack, Cambs. (Fig. 41) the code would thus be: 18WC.

contexts in which bracers had been found and could show that they were mostly not found “in position”, i.e. on the inside of the wrist where they were expected if they had a functional purpose (Smith 2006). In the same year, a study on a sample of 26 British wrist-guards was published also with the aim of re-evaluating the traditional perceptions (Woodward 2006; a comprehensive study following on that article was published by Woodward & Hunter in 2011). In addition to simple morphological aspects, analyses on colour, production, wear and fragmentation were carried out. Furthermore, petrographic and chemical analyses showed that two groups of artefacts clustered closely together, one of which could be related to the Great Langdale source. It was also possible to show that these rock types could be correlated with certain bracer types; the crescent shaped bracers were mostly made of Langdale tuff, while the provenience of the amphibole-rich examples, of which many flat bracers were made, was more difficult to establish. Possible sources could be located in the Scottish Highlands or in the south-west, in Wales or Cornwall. However, it could be shown that most of the items were not made of locally available rocks but came from sources further away (Woodward et. al. 2006; Woodward & Hunter 2011, 29, 37-45, 116). Because some types of wrist-guards occurred exclusively on the Continent or in Britain and could only be described within the respective typological schemes of Sangmeister or Atkinson, Fokkens *et al.* adopted and adapted the system from Smith for the continental bracers in order to arrive at a terminology that was applicable to all artefacts of that type (Fokkens *et al.* 2008, 112).¹⁷⁵ Based on the comparison of the distribution of two-holed and four-holed wrist-guards, they identified two further distinct “style-regions”: the bracer with two holes has an Atlantic-Mediterranean distribution, while the four holed bracer has a focus on central Europe. The variant with four holes also dominates in Britain, while Ireland has almost exclusively the bracers with two holes (*ibid.*). It was furthermore possible to show that there had been preferences concerning the colour. The predominant colours of wrist-guards in Britain were light grey and green tones (Woodward & Hunter 2011, 47). A strong contrast was visible in comparison to Irish and central European examples. The

¹⁷⁵ They took over Smith’s Waisted, Straight, Tapered but replaced his Curved, Plano-Convex, Flat by cc (concavo-convex), pc (plano-convex) and pp (plano-plano). For the example from Barnack, Cambs. (Fig. 41) the code would thus be: 18Wcc.

majority of Irish bracers were red and in central Europe most bracers are red or grey (Woodward *et al.* 2006, 534). Another aspect that was investigated by Fokkens *et al.* was the position of the bracer in relation to the arm. It has shortly been discussed above that bracers were primarily regarded as functional objects. It could be shown however that about 60% of the wrist-guards had probably been worn on the outside of the arm, thus rendering the traditional functional explanation invalid and confirming the results from Smith (2006, 13) (Fokkens *et al.* 2008, 116). These results only make sense because wrist-guards are very costly (in terms of fabrication time, required skill and in some cases material) and often elaborate pieces, sometimes comprising copper/bronze or gold studs. It would therefore be surprising had they been 'hidden' on the inside of the arm. Generally, it is slightly surprising that wrist-guards have been considered functional items for over a century. If tied to the inside of the wrist, they must have protruded from the arm, thus being a risk for the bow string to get stuck under the edge. That effect would have been even worse for the pieces with metal studs.

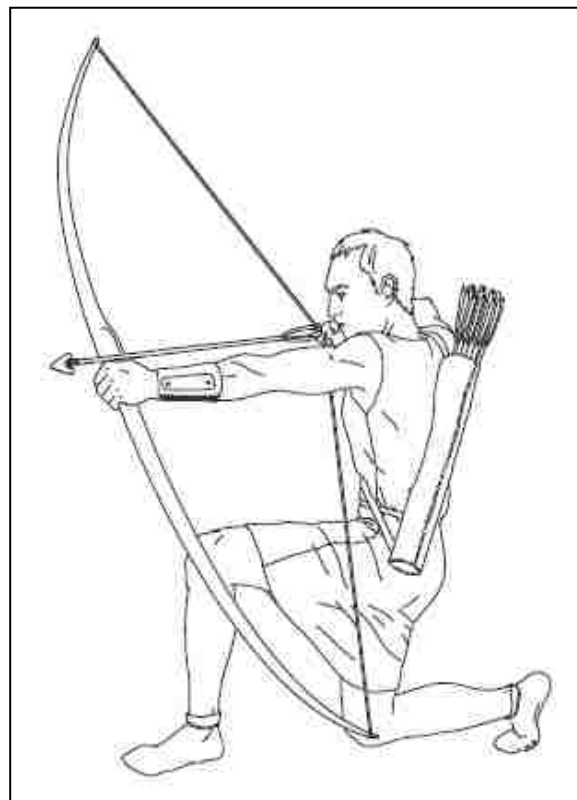


Fig. 46 Reconstruction of a possible way of wearing a wrist-guard (after Butler & Fokkens 2005, 391, Fig. 17.18)

Following Fokkens *et al.*, it is suggested that they were rather attached to organic material, probably leather, and were exhibited on the outside of the arm, so that they were not *the* wrist-guard but *part* of the wrist-guard. Nevertheless, when engaging in archery, functional pieces were required and the simplest solution was possibly leather patches were attached to the arm. There are also rare bone examples, but these have not been found directly associated to Beakers in Britain. A strayfind from Norfolk is of some interest here. The piece had been made from the long bone of an animal and both faces are ground. It strongly resembles the stone bracers. Unfortunately, no date is available for the find, and the only thing that can be said is that there are little post-bronze age finds in the area (Healy 1996, 157).

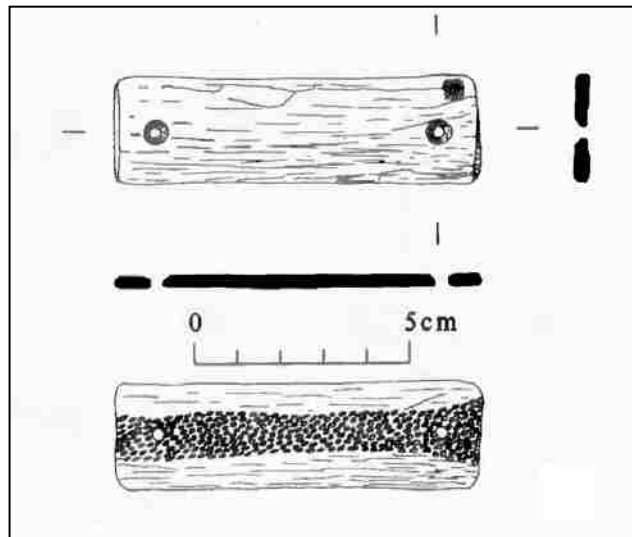


Fig. 47 Bone wrist-guard
Strayfind from Norfolk; made from the long-bone of an animal; both faces ground
(after Healy 1996, 160; Fig. 108)

A variety of ethnographic parallels have been listed, showing that wrist-guards were a common item in many societies and could be made of bone or other organic material, such as wood or plants (following Fokkens *et al.* 2008).

Even though it is not suggested that bracers were worn on an everyday functional basis, wear analyses showed that they were used (Woodward *et al.* 2006; Woodward & Hunter 2011, 78-85). It is thought that stone bracers were used or worn on certain occasions only, possibly during rituals or gatherings of some kind. Nevertheless, it

must be mentioned that modern tests have also shown that bracers can be worn and used as traditional interpretations had suggested (van der Vaart 2009, Appendix 5). Wrist-guards or rather all items of the 'Beaker Set', are often considered prestige items. Fokkens *et al.* suggested a different model in which the archery equipment or symbolical representations of archery equipment, such as bracers, bow-shaped pendants (in the east group) and arrowshaft smoothers which are regularly found in Beaker graves (and possibly also bows), were the material representation of a cosmology or ideology that the European Beaker communities had in common. According to the authors, archery was part of a martial ideology-laden activity that incorporated special values such as strength, accuracy or bravery.¹⁷⁶ They illustrated that with several examples of legends and stories set in different times (from 1500 BC to 1500 AD) and regions (America, Asia and Europe) that expressed the importance and position of archery in some societies. Archery could become an ideology or life-style, playing a major part in the construction of identity (Fokkens *et al.* 2008). The material sources for wrist-guards were often far away from their final place of deposition. Consequently, it was suggested that the idea of acquiring things over larger distances would make them special and "charge objects and their owners cosmologically" (Fokkens *et al.* 2008). That could also be the case for the bracers from the grave of the Amesbury Archer¹⁷⁷. For reasons of manufacture style, the black wrist-guard has been argued to be a continental export, while the red one is similar to Irish examples, and it has been argued that it could have been imported from there. The same applies for the red bracer from Dornoch Nursery¹⁷⁸ (Fitzpatrick 2011; Woodward & Hunter 2011, 86, 118). This theory is interesting and might also be applied to the above discussed copper daggers, e.g. those of the Amesbury Archer. The daggers had possibly also been imports to Britain; that was at least indicated by the objects' typology and their metal composition.

The most recent work on bracers was the detailed study from Woodward & Hunter (2011), which massively expanded the study by Woodward *et al.* from 2006 (see

¹⁷⁶ Accepting that these activities represented a cosmology, ideology or part of an ideology-laden activity, they were still carried out by a certain minority of the society (taking into account the small numbers of finds). In that way, it may have been both: representing an ideology and at the same time increasing the status of those engaging in these activities.

¹⁷⁷ ID: 15.

¹⁷⁸ ID: 238.

above). They confirmed and strengthened their arguments concerning different rock-types that were being used to produce different types of bracers, i.e. that flat rectangular bracer types were predominately made of Amphibolites, whereas the more elaborated dark green waisted, concavo-convex pieces were made of Langdale tuff (Group VI¹⁷⁹ bracers). The third group (“Miscellaneous”) consisted of objects whose morphological characteristics were highly variable; some of the earliest bracers, such as the black and red examples from the Amesbury Archer¹⁸⁰ belong to this group (Woodward & Hunter 2011).

None of the existing classification schemes had been used to describe the bracers there, because a ‘fresh start’ was sought. However, it is thought here that it is useful and necessary to have a classificatory, descriptive system within which can be argued. The systems developed by Smith (2006) and tweaked by Fokkens *et al.* (2008) fulfil that demand.

Woodward & Hunter (2011) came to alternative interpretations for the use of wrist-guards. They also regarded them as valuable and special objects but other than Fokkens *et al.* (see above), they argued it was a status item. They suggested that bracers might be connected to falconry, an activity that in the past was more than a sport, but also “a means of acquiring meat for food” (Woodward & Hunter 2011, 126). It was also an activity that was probably limited to a certain part of society with high status (*ibid.*). The main argument for that interpretation was the association of the skull of a bird of prey with a Group VI bracer in the grave at Driffield 138¹⁸¹ and they were able to name more examples (*ibid.*, 126). Whether falconry was practiced in prehistoric times in Europe is uncertain, but literary sources and images suggest that it existed in the Near East from the second Millennium BC (*ibid.*, 127). The finds of the bones of birds of prey in graves indicates that these birds were valued, but it is impossible to say if they were trained. It has been argued that the lack of arrowheads in many graves that contained bracers would speak against archery equipment. The same could be said for interpretation of bracers as falconry equipment; in only one Beaker grave have the remains of a hawk been found. While

¹⁷⁹ The term goes back to the Implement Petrology Group (IPG) that defined this group for Neolithic axes that were made from the same material (Keiller *et al.* 1941).

¹⁸⁰ ID: 238.

¹⁸¹ ID: 60.

the idea is fascinating, it is thought here that the evidence so far speaks for the connection of bracers to archery, rather than falconry.

The results from Woodward & Hunter also confirm and greatly add to the results from earlier, purely morphology-based systems. The discovery of a preference for certain rock types for particular types of bracers is significant.

Bracers were present from the beginning of Beaker currency in Britain. That has first been suggested on grounds of the association of wristguards with typologically early Beakers. Furthermore, it was recognized that the simpler bracer forms of Atkinson A and B were found with early Beakers and the more elaborate Atkinson C forms with later Beakers (cf. Fig. 42) (Clarke 1970, 448, Appendix 3.2). Radiocarbon dates for bracers suggests their use in the second half of the 3rd millennium. It is also clear that the assumption of an early date of the 'simpler' forms is confirmed by the radiocarbon dates which lie between 2450-2200 cal BC for the Amesbury Archer, Wiltshire¹⁸² and the individual from Dornoch Nursery, Highland¹⁸³. The group of amphibolite bracers also has early dates; that has been shown with the dates for the graves from Thomas Hardye School¹⁸⁴ and Sewell¹⁸⁵ (Fig. 42). The image for the waisted and concavo-convex bracers from Langdale tuff (Group VI) is more complicated. The assumption that they belong to a later stage of Beaker currency is not sustainable anymore. In fact, the dates, for example from Barnack¹⁸⁶ and Raunds Barrow 1¹⁸⁷ fall in the period between 2200 – 2000 cal BC, but they are by no means confined to this period.¹⁸⁸ There are three early radiocarbon dates that indirectly date the Group VI bracers from Hemp Knoll, Wiltshire¹⁸⁹ and Borrowstone, Newhills, Cist 6, City of Aberdeen¹⁹⁰ between 2400-2200 cal BC and thus slightly later than the amphibolites bracers, which have a range from the 25th the 22nd. It shows however, that the elaborated forms have also been in use from an early moment, although they are unlikely to date to the immediate beginnings of Beaker use in

¹⁸² ID: 15.

¹⁸³ ID: 238.

¹⁸⁴ ID: 74.

¹⁸⁵ ID: 160.

¹⁸⁶ IDs: 23.

¹⁸⁷ ID: 145.

¹⁸⁸ Also the the grave from Ferry Fryston (ID: 74) dates to this period but this seems to be a special case and will be discussed below.

¹⁸⁹ ID: 108.

¹⁹⁰ ID: 226.

Britain (Fig. 45). As concerns wrist-guards with rivets/studs, only three examples are known, two of which are part of this sample. These are the wrist-guards from Barnack and from Borrowstone. The third piece had been found with an inhumation in a cist at Culduthel, Scotland and comprised four gold-capped copper rivets. It was found associated with a SN Beaker, eight arrowheads, a bone toggle and an amber bead. These three bracers are made of Langdale tuff (Group VI) (C1 – 4/18Wcc). Concerning pottery associations, the above drawn image can be confirmed. The generally earlier amphibolite bracers tend to be associated predominately with early Beaker pots (LC, MC), whereas the Group VI bracers tend to be associated with later Beaker forms (TMC, SN, LN, SP) (cf. Woodward & Hunter 2011, Table 7.3). Again, it would be too simple if it worked out that neatly; the grave group from Barnack¹⁹¹ contained the extraordinary bracer shown above (Fig. 41), a bone toggle and a W/MR - TMC Beaker. The individual was dated to 2300 - 2040 cal BC (BM-2956: 3770±35 BP). The vessel from Barnack can be compared to a recently found Beaker, that in fact, is very similar to the example from Barnack. It was found in the grave of a young adult male at Wilsford G1, Wiltshire, together with a bone belt-ring (Leivers & Moore 2008, 26-28, Fig. 15). A radiocarbon date on the human bones revealed a date of 2460-2290 cal BC (NZA 29534: 3878±20 BP) and indicates that the TMC series probably evolved prior to the 23rd century. That would mean that TMC Beakers developed quite early and that would also be in accordance with some of the radiocarbon dates that indicate a date for the Group VI bracers, possibly already from around 2400 BC. A shift from the preferred bracer material amphibolite to the Langdale sources and along with this, a shift in bracer shape, therefore already occurred at an early stage. A difference in the distribution of amphibolite, Group VI and bracers of miscellaneous rock is also visible. The former strongly cluster in the south of Britain with the northernmost example north of the Wash. The distribution pattern of the Langdale tuff bracers is also striking. They are usually not found in close vicinity to the source in the Lake District; in fact the closest was found in a distance of about 100km.

¹⁹¹ ID: 23.

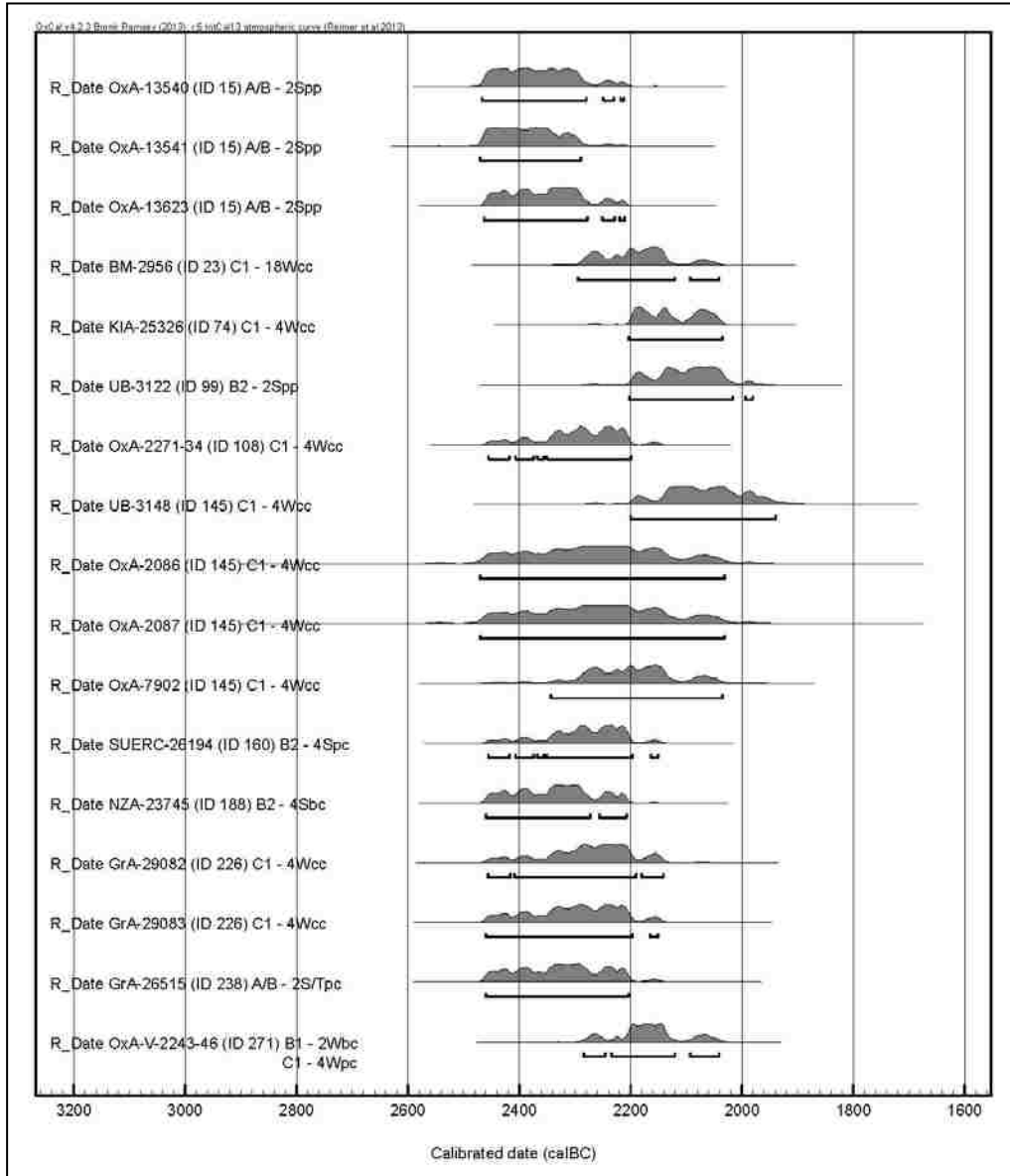


Fig. 48 Radiocarbon dates for burials associated with bracers sorted by ID including Atkinson's and Fokkens *et al.* typology

ID 15: Amesbury Archer – sample from human bones and boar's tusks ; ID 23: Barnack 28 – sample from human bone; ID 74: Ferry Fryston: sample from human bone; ID 99: Gravelly Guy – sample from human bone; ID 108: Hemp Knoll – samples from NW corner of coffin; HAR-2998 unusually late; NPL-139 with large standard deviation; both dates from Hemp Knoll should be disregarded; ID 145: Raunds Barrow 1 –sample from human bone; ID 188: Thomas Hardye School – sample from human bone; ID 238: Dornoch Nursery – sample from cremated remains of elderly adult male; probably contemporary with Beaker inhumation; ID 271: Newlands, Oyne – sample from human bone

Several pieces are known from Scotland and also from Yorkshire further down to the south. So far, none has been found south of a line Bristol – London, which is remarkable because the Salisbury Plain with the abundant Beaker finds and the

important monuments is basically free of the elaborated Group VI (C1 – 4Wcc) bracers. The examples of miscellaneous rock types have been found all over Britain, with a preference in the western parts. The Midlands and Yorkshire are virtually blank spots on the map (Woodward & Hunter 2011, 120, Fig. 10.2).

A total of 39 beakers associated with 33 wrist-guards have been recorded in Britain (Woodward & Hunter 2011, 87, Fig. 7.2). 26 burials with bracers were accompanied by Beakers (*ibid.*, 99). 19 of these¹⁹² were (amongst other items), associated with wrist-guards and are included in the sample. Usually, only one bracer was deposited in the grave, but the Amesbury Archer¹⁹³ and the man from Newlands, Oyne (2)¹⁹⁴ were each equipped with two.

The position of the bracers in this sample is variable: five were found on the outside of the left forearm¹⁹⁵, one on the outside of the right forearm¹⁹⁶ and two on the inside of the left forearm¹⁹⁷. The bracer from Roundway¹⁹⁸ was found between the chest and the bones of the forearm and was possibly lying on the inside of the arm. At Pyecombe¹⁹⁹ the bracer lay close to the right lower arm and was parallel to it. The object from Sutton Veny²⁰⁰ was lying under the right hand and close to the chest and it was originally interpreted as a pendant. The position of the bracer from Winterslow²⁰¹ was under the right arm where it was found together with the dagger. Also at Wellington Quarry²⁰² the bracer and the dagger were found together; here they were found approximately at the waist. Also in other instances bracers were not found close to the arms. One of the wrist-guards of the Amesbury Archer²⁰³ was found in front of his knees and at Mere²⁰⁴ it was only reported to have been on the left side of the body. At Ferry Fryston²⁰⁵, Irthlingborough²⁰⁶ and Gravelly Guy²⁰⁷,

¹⁹² IDs: 15, 23, 59, 60, 74, 99, 108, 124, 142, 145, 149, 160, 182, 198, 211, 226, 238, 271.

¹⁹³ ID: 15.

¹⁹⁴ ID: 271.

¹⁹⁵ IDs: 15, 23, 59, 108, 188.

¹⁹⁶ ID: 60.

¹⁹⁷ ID: 160, 226

¹⁹⁸ ID: 149.

¹⁹⁹ ID: 142.

²⁰⁰ ID: 182.

²⁰¹ ID: 211.

²⁰² ID: 198.

²⁰³ ID: 15.

²⁰⁴ ID: 124.

²⁰⁵ ID: 74.

²⁰⁶ ID: 145.

the bracers were found at the feet where they were grouped together with other grave goods. The position of the bracers from Dornoch Nursery²⁰⁸ and Newlands²⁰⁹ were not reported.

The majority of the bracers in this sample are associated with early Beakers of Needham's LC types (or AOC - W/MR – Step 2). These include four maritime derived (MD) vessels²¹⁰ and five AOC(omb) Beakers, the latter all from the grave of the Amesbury Archer and additionally the LC vessel from Dornoch Nursery²¹¹. The bracers of the last two graves belong to Woodward & Hunter's "miscellaneous", "red/black" group, (A1 - 2T/Spp) (cf. Fig. 42). All other identified bracers are amphibolites (B1 or B2 or 2/4S) and strongly support Woodward & Hunters (2011, 89-90) finding of an early date of these types. The pottery association for the bracer from Sutton Veny²¹² is uncertain. The pot was lost, but Clarke supposed that it was a W/MR Beaker (Clarke 1970, 503, Appendix 6) that could best be correlated with Needham's TMC Beakers. The Sutton Veny bracer is made of amphibolites (B3 – 6S), such as two other bracers from Pyecombe²¹³ (B2 – 4Spc) and Winterslow Hut 3²¹⁴ (B3 – 6Spp). These correlations had already been noted by Clarke (1970, 448, Appendix 3.2). The two remaining bracers with TMC vessels were associated with Group VI wrist-guards. They are represented by the gold-studded example from Barnack 28²¹⁵ (C1 – 18Wcc) and the piece from Dorchester, Site XII²¹⁶.

The remaining eight bracers (from seven graves) in this sample were associated with short-necked (SN) and long-necked (LN) Beakers. They form a quite coherent group in that five are represented by Langdale tuff bracers (C1 – 4Wcc)²¹⁷ the example from Borrowstone additionally comprised bronze rivets²¹⁸. The individual from Newlands, Oyne²¹⁹ was accompanied by two bracers, one of Langdale tuff, the other

²⁰⁷ ID: 99.

²⁰⁸ ID: 238.

²⁰⁹ ID: 271.

²¹⁰ IDs: 124, 149, 160, 198.

²¹¹ ID: 238.

²¹² ID: 182.

²¹³ ID: 142.

²¹⁴ ID: 211.

²¹⁵ ID: 23.

²¹⁶ ID: 59.

²¹⁷ IDs: 60, 74, 108, 145.

²¹⁸ ID: 226.

²¹⁹ ID: 271.

belonged to the group of miscellaneous rocks types, and both examples were unusual. The former example was a B2 – 2Spc bracer, which is a rare type amongst the Langdale examples. It was suggested that this piece was re-worked and might possibly have had a different shape originally (Woodward & Hunter 2011, 80). The latter was a C1 – 4Wpc that comprised grooves on the lower side possibly for thongs to attach the bracer.

Additionally, one early amphibolite wrist-guard (B2 – 4Spp) from Gravelly Guy, X, 6²²⁰ seems quite out of place because of the association of the late LN Beaker, and also the riveted-bronze dagger. The last example that deserves some comments is the fragmented Langdale tuff (C1 – 4Wcc) bracer from Raunds Barrow 1²²¹, of which only about one third of the original object was preserved, and its label ‘bracer’ is questionable, at least in the context it was found (Fig. 46). The ‘richly’ furnished grave contained artefacts that would place the feature into a later stage of Beaker use in Britain (cf. Needham 2005, 205, Fig. 12). That is confirmed by the radiocarbon determination for the individual that places the burial between 2200 - 1900 cal BC (UB-3148 : 3681±47 BP). As shown above for the Langdale (C1 – 4Wcc) bracers, these may have been produced from around 2400 BC. That means that the broken bracer at Raunds was probably already of considerable age when deposited in the grave. When it entered the grave, its function had possibly changed, and it was no longer considered a bracer (if it ever was considered one in the first place). One perforation was so close to the edge that the piece may already have broken during manufacture. It was also suggested that after it had broken in the middle, it was subsequently used as a burnishing or polishing tool. Fine striations on the broken side furthermore suggest “prolonged contact with a resilient material containing minute abrasive grits, such as hide.” Similar signs of wear were found on the ‘sponge finger’ that was also found in the grave (see Chapter 4.9). Additionally, lateral chips on the underside indicate hafting during the secondary use (Healy & Harding 2004; Williams, Humble & Healy 2011, 416-417; Woodward & Hunter 2011, 81).

²²⁰ ID: 99.

²²¹ ID: 145.

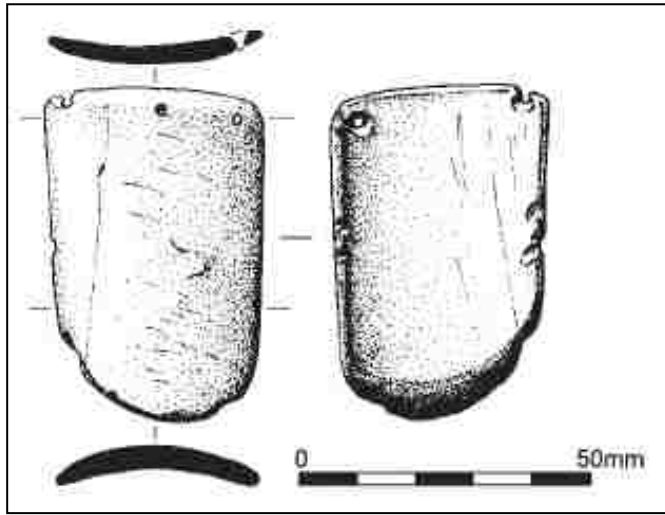


Fig. 49 Fragmented wristguard from Raunds Barrow 1; Grave F30426
(after Harding & Healy 2004, 252)

It seems clear that at the time of burial, the item had lost its original function; if it also had lost its original meaning is doubtful since it entered the grave together with an array of special objects. In the case of this artefact, it seems quite obvious that the item had been old when deposited (Healy & Harding 2004, 185). It has been suggested that fragmented bracers which were included in graves were possibly heirlooms or relics (Woodward 2002). This was suggested for the piece from Wellington Quarry, Herefordshire²²², where the breaks of the bracer were still and not re-worked (Woodward & Hunter 2011, 81). It is also possible that the item was deliberately broken prior to burial, or that it simply broke during use.

Nevertheless, it should be borne in mind that bracers - and artefacts in general - can be items that have a long life, i.e. the context in which they are found and the associated artefacts do not necessarily reflect the primary association pattern (Woodward & Hunter 2011, 86).

However, if it is also accepted that bracers are a genuine component of early Beaker associations in Britain starting around 2450-2400 BC, then the indirectly radiocarbon-dated bracers indicate that they have been deposited shortly after their production, and possibly with their primary associations.

In terms of associations, some typical patterns have been recognised (Clarke 1970, Needham 2005, Woodward & Hunter 2011). The most common associations of

²²² ID: 198.

bracers are daggers and arrowheads that have been found in 12 and eight graves, respectively. The combination of all three together occurred in five graves.²²³ Four of these graves comprised low-carinated Beakers (LC) and one a TMC pot; the radiocarbon dates place the graves at the beginning of the Beaker period. Further associations are variable and include several different types of artefacts, such as bone toggles,²²⁴ spatula,²²⁵ pins,²²⁶ sponge fingers,²²⁷ bone belt-rings,²²⁸ ornaments,²²⁹ boar's tusks,²³⁰ two possible sets of strike-a-lights²³¹ and the exceptional find of the cushion-stone with the Amesbury Archer²³². Additionally, a variety of flint tools, such as flakes, knives or borers were found in eight graves. These associations have also been mapped by Needham (2005, Fig. 11).

All individuals whose sex could be determined were males (12), plus two which are probably males. Five individuals were of indeterminate sex. Apart from children, all age classes were represented in the sample, with a focus on middle adult individuals with six men. Additionally, there were two adolescents and three young adults. The position of the individuals is striking (Tab. 12). 12 individuals were found on the left side, none on the right. This image confirms the pattern discerned above. For three individuals, it was only possible to say that they had been buried in a flexed or contracted position, two were of indeterminate position and only one young male was found in a supine position. The orientation of the individuals broadly follows the pattern described above, in that the orientation towards the eastern sector of the compass is more common in the north, while a preference for a northerly orientation is more common in the south (Tab. 13). Concerning the degree of flexion, no connection between orientation and position are visible. Twelve of the nineteen burials were associated with barrows or ring-ditches. Ten of these had been buried in barrows beneath the old ground surface²³³ and 8 were the primary burials.

²²³ IDs: 15, 149, 188, 198.

²²⁴ IDs: 23, 160, 188.

²²⁵ IDs: 15, 99, 124, 145.

²²⁶ IDs: 15, 149, 160.

²²⁷ IDs: 99, 145.

²²⁸ IDs: 15, 74, 108, 226.

²²⁹ IDs: 15, 60, 145.

²³⁰ ID: 15, 145, 182.

²³¹ IDs: 15, 238.

²³² ID: 15.

²³³ IDs: 23, 59, 99, 108, 124, 145, 149, 188, 211.

ID	Site	Sex	Orientation	Position	Flexion	WristguardType
15	'Amesbury Archer' (Grave 1289)	Male	NW-SE	Left Side	Flexed	1) Black A/B - 2Spp 2) Red A/B 2Spp
23	Barnack 28	Male	NNE-SSW	Left Side	Flexed	Group VI C1 - 18Wcc
59	Dorchester-on-Thames; Amey's Pit, Site XII	Male	NE-SW	Left Side	Contracted	Group VI C1 - 4Wc
60	Driffield 138, Kellythorpe	Indeterminate	E-W	Left Side	Contracted	Group VI C1 - 4Wc
74	Ferry Fryston, Context 2245	Male	E-W	Left Side	Contracted	Group VI C1 - 4Wcc
99	Gravelly Guy, X, 6 (1)	Male	NE-SW	Left Side	Contracted	Amphibolite B2 - 4Spp
108	Hemp Knoll, (Bishop's Cannings 81)	Male	NW-SE	Left Side	Contracted	C1 - 4Wcc
124	Mere Down, 6a	Male	Indeterminate	Contracted / Flexed	N/A	B1 - 2Spp
142	Pyecombe	Male	NW-SE	Left Side	Flexed	B2 - 4Spc
145	Raunds Barrow 1; Grave F30426 (Irthlingborough)	Probably Male	SSE-NNW	Left Side	Contracted	C1 - 4Wcc
149	Roundway G8	Indeterminate	N-S	Left Side	Flexed	B2 - 4Spp
160	Sewell, Houghton Regis	Male	NE-SW	Supine Position	Contracted	B2 - 4Spc
182	Sutton Veny (11a)	Indeterminate	N-S	Contracted / Flexed	N/A	B3 - 6S
188	Thomas Hardy School, Grave 1643	Male	NW-SE	Left Side	Flexed	B2 - 4Sbc
198	Wellington Quarry, Marden	Indeterminate	ENE-WSW	Indeterminate	N/A	?B1 - 2Spp?
211	Winterslow Hut 3	Probably Male	N-S	Contracted / Flexed	N/A	B3 - 6Spp
226	Borrowstone, Newhills, Cist 6	Male	E-W	Left Side	Contracted	C1 - 4Wcc
238	Dornoch Nursery	Indeterminate	SW-NE	Indeterminate	N/A	A/B - 2S/Tpc
271	Newlands, Oyne (2)	Male	NE-SW	Left Side	Flexed	1) Group VI A/B - 2S/Tpc 2) Misc. C1 - 4Wpc

Tab. 12 Sex, orientation, position of individuals with bracers

At Sutton Veny²³⁴ the position in the barrow was uncertain and at Driffield²³⁵ the individual was buried in a cist. Three more cist burials were recorded for Scotland²³⁶. Four individuals had been buried in pits of large dimensions that measured between 1.80-2.45m in length, 1.2-1.77m in width and were up to 80cm deep.²³⁷

Location * Orientation (Head first) Crosstabulation

Count

	Orientation (Head first)									Total
	E-W	ENE-WS W	N-S	NE-SW	NNE-SSW	NW-SE	SSE-NNW	SW-NE	Indet.	
Highland	0	0	0	0	0	0	0	1	0	1
Aberdeenshire	0	0	0	1	0	0	0	0	0	1
City of Aberdeen	1	0	0	0	0	0	0	0	0	1
ER of Yorks.	1	0	0	0	0	0	0	0	0	1
West Yorks.	1	0	0	0	0	0	0	0	0	1
Peterborough	0	0	0	0	1	0	0	0	0	1
Northants.	0	0	0	0	0	0	1	0	0	1
Bedfordshire	0	0	0	1	0	0	0	0	0	1
Herefordshire	0	1	0	0	0	0	0	0	0	1
Oxfordshire	0	0	0	2	0	0	0	0	0	2
Wiltshire	0	0	3	0	0	2	0	0	1	6
West Sussex	0	0	0	0	0	1	0	0	0	1
Dorset	0	0	0	0	0	1	0	0	0	1
Total	3	1	3	4	1	4	1	1	1	19

Tab. 13 Orientation of individuals
accompanied by bracers from north to south
(Abbreviations: Indet.: Indeterminate; ER of Yorks.: East Riding of Yorkshire)

5.4 Flint

Flint objects are a usual component of burials all over the Beaker distribution area. In Britain they are the most common artefact type in Beaker graves and include the products of highly skilled craftsmen, such as arrowheads and daggers, although they are predominately found as more mundane and rather functional and objects, such as flakes or knives. As has been outlined above, artefacts could have different functions in the grave. They could be personal belongings of the buried person or were in some cases made especially for the deposition in the grave. This might be the case in burials where flints were deposited in mint condition. They might even have been the

²³⁴ ID: 182.

²³⁵ ID: 60.

²³⁶ IDs: 226, 238, 271.

²³⁷ IDs: 15, 74, 160, 198.

cause of death, as surmised about the arrowheads found in graves 203²³⁸ and 4460²³⁹ from Barrow Hills, Radley, Oxfordshire (Bradley 1999, 223). However, the position of the arrowhead in grave 4660 indicated that it was unlikely to have been the cause of death (cf. Barclay & Halpin 1999, 64, Fig. 4.22).

Bi-facially retouched flint daggers are an exclusively British type that has mostly been found with typologically late Beakers, but there are at least two instances where they were associated with an LC and a TMC vessel (cf. Clarke 1970, 303, Figs. 177, 179).

By far the biggest group of flint artefacts is represented by objects such as scrapers, knives or flakes and blades, rather than fancy daggers or arrowheads. Even though they are the most numerous artefact types, they are at the same time the least intensively studied. The reason for that is possibly the often Beaker-unspecific appearance of flints. Some types, such as 'thumbnail scrapers' are considered a Beaker specific type (e.g. Bradley 1999, 220) but in general, scrapers, knives and flakes are not diagnostic Beaker artefacts but form part of an industry that already had a long tradition (Edmonds 2005, 155). Although it has been claimed that the production of blades decreased by the 3rd millennium BC, it could also be argued that blades continued to be part of Beaker funerary equipment (Clarke 1970, 448, App. 3.2; Harding 2011, 36).

It has also been argued that flints were generally deposited with males (Clarke 1970, 448, App. 3.3). While this is true in general terms it must not be overlooked that women were also quite regularly equipped with flints. Undoubtedly, elaborate flint objects such as daggers or arrowheads were deposited only with males, whereas flakes, knives and scrapers have been deposited with both sexes. Brodie showed for 83 males and 38 females from English Beaker graves that men and women were proportionally nearly equally equipped with flakes and scrapers (♀: c. 16%; ♂: c. 19%) and with flake knives (♀: c. 18%; ♂: c. 17%) (Brodie 2001, 489, fig. 2). It is unclear, whether Brodie listed the same burial twice if both flake/scrapper and knife were present, thus increasing the number of individuals, so there is an element of confusion about these statistics. The combination of both has been documented in several male and female graves. However, the proportions he worked out agree with

²³⁸ ID:26.

²³⁹ ID: 27.

the figures that have been obtained in the sample used for this thesis. Of the female and probably female individuals in this sample (52 individuals in total), 19 were buried with between one and 11 flints²⁴⁰, accounting for 36% of the females. Of the 133 male and probably male burials, 58 were associated with scrapers, knives, blades, flakes, and fabricators, accounting for 43%. Several of the male individuals were additionally associated by daggers and / or arrowheads. Adding those burials that had only daggers or arrowheads, but no other flint objects the number of males or probably males with flint increases to 75 individuals, then accounting for c. 56% and thus being identical to Brodie's figures.

Usually graves contained one flint item and rarely exceeded three or four flints. 57 graves produced one flint object mostly of the above mentioned un-diagnostic objects and without a gender specific distribution. It seems significant however, that proportionally more individuals that were accompanied by only one or two flint artefacts were of young age, i.e. children or adolescents. There were only 21 individuals that were accompanied by 5 or more flint artefacts. Three of those were females, 11 males and the rest was indeterminate. Given the proportion outlined above of 36% of females that were associated with flints, as opposed to over 43% of males with flints, men were equipped with larger number of objects proportionally more often.

The number of flint artefacts does not necessarily provide information about the general 'richness' of the burial. The graves of two females from Bellingham²⁴¹ and Gene Function Barrow, Grave 204²⁴² contained seven (2 scrapers, the rest "waste flakes") and eight flints (5 flakes, one blade, one denticulate), respectively. Apart from the Beakers (SN and WC), no other objects were preserved. The image for male burials is different. Here the burials that were equipped with large sets of flint artefacts (excluding daggers and arrowheads) were usually 'rich' graves, the outstanding feature here being again the Amesbury Archer²⁴³ with more than 120 flint artefacts (Fitzpatrick 2011). Also, grave 203 from Barrow Hills²⁴⁴, the primary

²⁴⁰ Covering scrapers, knives and flakes.

²⁴¹ ID: 31.

²⁴² ID: 94.

²⁴³ ID: 15.

²⁴⁴ ID: 26.

burial from Chilbolton²⁴⁵, the man from Newlands, Oyne (2)²⁴⁶ or Alsop Moor, Green Low²⁴⁷ were richly furnished, to name just a few. Additionally, the radiocarbon dates show that there is no chronological momentum involved in how many or what kind of flint was included. This is also supported by the artefact associations that ranged from typically early to late artefact assemblages. Since flints are associated with men and women in all parts of Britain throughout the Beaker period there is no preference regarding orientation or position of the bodies. Concerning the position of the flint artefacts however, certain preferences are visible even though flints were found basically in every position around the body. Remembering the figures given for male and female graves with flints the numbers below apply especially for burials of men and burials where the sex of the individual was indeterminate. The numbers for women are too low as to allow for further conclusions.

Firstly, the position of the flints was often not regarded an important information in publications, so that it was frequently just stated that flint was present or the area where the flint was found was only broadly defined. That was not only the case during early excavations in the 19th century but also until recently. Secondly, no strict deposition pattern can be discerned and divisions were 'floating' so that it seems appropriate to talk in broad categories, such as "at feet", "close to the head" etc. Concentrations of flints can be observed in front of the torso and also in front of the lower legs. Other concentrations have been observed at the feet, behind the pelvis, behind the shoulders and close to the head. Arguably, these divisions are merely artificial since 'behind the shoulders' is basically the same position as 'close to the head'.

Flints sometimes seem to have been in use prior to deposition in the grave but can also have the appearance of being freshly knapped. An example for this can be found in the Beaker graves at Raunds, where some of the flints were freshly knapped, whilst others were also in a fresh state but showed slight signs of wear. This finding has been interpreted in different ways. While it is possible that the flint objects had been in use prior to burial and were part of the belongings of the deceased (Ballin

²⁴⁵ ID: 51.

²⁴⁶ ID: 271.

²⁴⁷ ID: 10.

2011, 467), they could also have been intentionally produced for certain works or activities connected to the funeral ritual (Grace 2011, 424). Furthermore, from other Beaker associated burials flint material was present that might have been used in the funerary practices (Barclay & Halpin 1999, 63, 139-140). Again at Raunds, refitting flakes were found together in the ditch of one of the barrows (Harding & Healy 2007, 250). Similar instances have been reported from other sites, e.g. from Chippenham, Cambridgeshire, where joining flint flakes from the fill indicated that they had been knapped on the site (Martin 1976, 5). Also in Chilbolton, Hampshire²⁴⁸, two flint flakes could be joined together. One of these pieces was found directly associated with the body while the second was found with three other flakes in a different area of the grave (Russel 1990, 156).

5.5 Arrowheads

Arrowheads are typical in Beaker funerary contexts all over the distribution area. Together with Beaker, copper daggers and wrist-guards they have been regarded as an integral part of a widespread Beaker Set and traditionally form an important aspect in the interpretation of the Beaker phenomenon. It has been suggested that these artefacts identify a male warrior elite (e.g. Strahm 2004; Shennan & Burgess; Case 2004; Burgess 1974, 176). While in central and east-central Europe hollow-based arrowheads are common, in western and north-western Europe, barbed-and-tanged or tanged forms are the predominant types. Triangular types have also been found albeit in lesser numbers, and these have occasionally been interpreted as blanks for barbed-and-tanged arrowheads (see below). Barbed-and-tanged arrowheads were probably introduced into Britain with Beaker pottery (Green 1980, 191-192; Savory 1980, 35). The classification adopted throughout this work was developed by Stephen Green (1980) in his work on flint arrowheads in Britain. Naturally, the types that are of interest in this study are those usually associated with Beaker pottery in funerary contexts. These mostly barbed-and-tanged arrowheads comprise Green's types Ballyclare (a-c)²⁴⁹, Sutton (a-c), Conygar Hill and Green Low. Green's distribution maps (which did not include Scotland) showed that these types had distinct distributions. His Sutton types – especially Sutton b – were found

²⁴⁸ ID: 51.

²⁴⁹ Ballyclare arrowheads are large and occur only rarely.

all over the distribution area, while the Green Low Type was a predominantly southern type and also the Conygar Hill form occurred rarely in the Scotland (Green 1980, 118-119). Green suggested that the diverging distributions of arrowheads could possibly be paralleled with the distribution of different Beaker styles, namely Clarke's Northern and Southern styles and possibly also with the change in burial traditions between flat graves²⁵⁰ and barrows in the Tyne and Tees area (*ibid.* 120; 129-130). This 'demarcation line' is illustrated in Fig. 21 with the distribution of Barrows and Cists. Generally, it has been argued that arrowheads were artefacts that found their way into the grave in southern England rather than further to the north (Case 1977, 81). This idea is generally confirmed by the data of this sample (Fig. 48; Tab. 14). Furthermore, the association with certain Beaker types also indicated the chronology of arrowheads. Green Low arrowheads, for example, have been argued to be almost exclusively associated with late Beakers of Clarke's Southern group or Lanting & van der Waals Steps 4 - 7 (mostly 5 & 6)²⁵¹ (*ibid.*, 130; 246, Tables VI.8, VI.9). Barbed-and-tanged arrowheads have been found both in domestic²⁵² and in funerary contexts, even though the number from settlements is lower (e.g. Green 1980, 120). Furthermore, examples from funerary contexts tend to be made of higher quality flint and also attest highly skilled flint workers (Clarke, Cowie & Foxon 1985, 174).

29 burials that contained arrowheads have been included here. These produced a total of 107 arrowheads of different types, which were distributed amongst the types of Sutton b (45 plus 2 possible), Green Low (16), Conygar Hill (13 plus 1 possible), unspecified Sutton (11), Sutton a (6), Sutton c (4), possible blanks (3 plus one possible), Ballyclare (2), one triangular and one leaf shaped arrowhead, and a further six whose type was unknown. These arrowheads are often not found in homogeneous groups but different types are often found together in the grave, i.e. type Sutton can be associated with type Green Low. The number of artefacts per feature varies between one and a maximum of 18 arrowheads in the 'richly' furnished grave of the

²⁵⁰ Green was probably referring northern 'flat' cist burials.

²⁵¹ Corresponding to Needham's Long Necked Beakers.

²⁵² In domestic contexts also other types of arrowheads were found (Green 1980, 191).

Amesbury Archer²⁵³. However, there is no direct correlation between the number of arrowheads and the relative 'richness' of a grave.

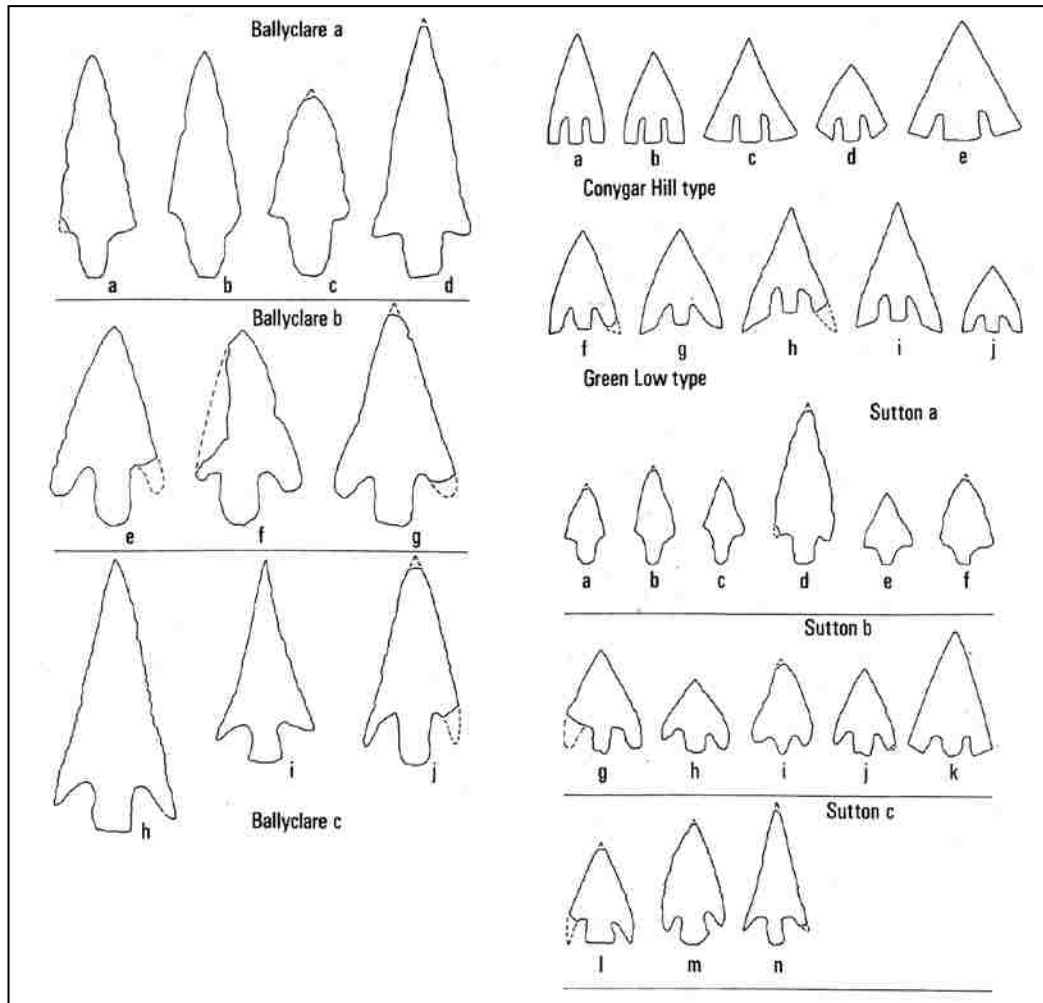


Fig. 50 Arrowhead types
(scale 1:2,4)
(after Green 1980, 121-123, figs. 44-46)

In Mucking, in Grave 137,²⁵⁴ eleven arrowheads were found, representing the only preserved grave goods. Furthermore, the burial from Stanton Harcourt²⁵⁵ containing 7 arrowheads, produced apart from the Beaker, only one shanked bone belt ring. On the other hand, the 'rich' burial from Raunds Barrow 1, burial F30426,²⁵⁶ that

²⁵³ ID: 15.

²⁵⁴ ID: 129.

²⁵⁵ ID: 173.

²⁵⁶ ID: 145.

produced a variety of rare artefacts, contained just one arrowhead. In this last case, however, the arrowhead was a triangular, bifacially flaked arrowhead and not one of the more common barbed-and-tanged arrowheads. It has been argued that this piece could have been an unfinished blank (Harding & Healy 2011). The reason for the unequal equipment is difficult to interpret, but it does not seem to be a matter of regional preferences. Possibly, the number of arrowheads has a chronological value. Nine graves contained five or more arrowheads²⁵⁷. Four of these graves have been radiocarbon dated and three²⁵⁸ produced dates between 2460-2200 cal BC. The fourth date for grave 203 from Barrow Hills, Radley²⁵⁹ has been dated to 1770-1520 cal BC (BM-2700: 3360 ± 50 BP) and would contradict that idea. However, six of the nine graves also contained typologically early Beaker pottery (LC and SN forms) and other artefacts that belong to the primary Beaker funerary components. In the larger group of burials that was associated with three or less arrowheads²⁶⁰ a greater variety is visible. According to the radiocarbon dates and the associated artefacts both early and late burials can be seen in this second group. The available data is too scarce here, but it may be argued that in the course of the second half of the third millennium and the first quarter of the second millennium the importance and status of arrowheads in funerary contexts lost significance resulting in a decreasing number of pieces in the grave.

Concerning the association between arrowheads and Beakers an interesting pattern can be seen. As briefly stated above, it was observed that Green Low arrowheads were predominately found with Southern Beakers / Step 5 & 6 Beakers / LN Beakers. Stuart Piggott compared arrowheads in dagger graves in Brittany to arrowheads that had been found in Britain with long-necked Beakers, and thought that the British examples were inspired by the French examples. For that reason he argued that the British graves could chronologically be paralleled with the Early Bronze Age of northern France (Piggott 1938). Green, on the other hand, objected to this idea because of the lack of either imported or stylistically identical arrowheads

²⁵⁷ IDs: 15, 26, 129, 173, 198, 225, 238, 288, 305.

²⁵⁸ IDs: 15, 225, 238.

²⁵⁹ ID: 26.

²⁶⁰ IDs: 10, 20, 25, 27, 62, 73, 76, 133, 143, 145, 149, 188, 209, 211, 248, 271, 277, 289.

and argued that Green Low arrowheads possibly pre-dated the suspected connection with Brittany by some centuries (Green 1980, 5).

This sample contains six burials with LN Beakers that were associated with arrowheads. In one case the type of arrowhead is not known²⁶¹ and at Raunds Barrow 1, burial F30426,²⁶² it was the above mentioned triangular arrowhead. Three of the other four individuals were associated exclusively with Green Low arrowheads²⁶³, at Deepdale,²⁶⁴ Mouse Low and, in addition to three Green Low examples, one Sutton c arrowhead was excavated. A further two burials had Green Low associations. One of these was the Amesbury Archer, which is amongst the earliest British Beaker burials, and the other one is from Barrow Hills, Radley, Grave 4660²⁶⁵. The latter has been dated to 2190-1890 cal BC (BM-2704: 3650 ± 50 BP) and together with the graves with LN Beakers supports the argument that Green Low types were included in the grave mostly at a later stage even though they had already been in use, possibly for some centuries. Conygar arrowheads were a component of the earliest Beaker grave assemblages (cf. Green 1980, Tab. VI.8, VI.9). The five or possibly six²⁶⁶ burials with Conygar Hill arrowheads mostly contained typologically early Beakers and also two radiocarbon dates show the early inclusion of that type in graves from c. 2450 cal BC.²⁶⁷ Later on, this type does not seem to be part of the grave repertoire. However, Conygar Hill examples were also found with pottery that appeared when Beakers had already been in use and which runs temporarily parallel to Beakers, such as Food Vessels or Collared Urns (cf. Green 1980, 247-259, Tab. VI. 10 – VI. 14 and Sheridan 2007, 172, Fig. 14.7). A similar image can be drawn for Sutton arrowheads. In 17 graves Sutton arrowheads have been found, either as the only type or associated with other types. In this sample only one was associated with a LN Beaker²⁶⁸ and also Green was able to list just two that had been associated with Clarke's Southern Beakers which broadly correspond to Needham's LN vessels.

²⁶¹ ID: 20.

²⁶² ID: 145.

²⁶³ IDs: 10, 26, 76.

²⁶⁴ ID: 58.

²⁶⁵ ID: 27.

²⁶⁶ IDs: 15, 129, 173, 198, 225. It is uncertain if the arrowhead from Olchon Valley (ID: 133) was of Conygar Hill type.

²⁶⁷ ID 15: Amesbury Archer (OxA-13541: 3895±32 BP = 2470 - 2280 cal BC) and ID 225:

Borrowstone, Newhills, Cist 5 (OxA-V-2243-49: 3834±29 BP = 2460 -2200 cal BC).

²⁶⁸ ID: 58.

Green listed a further 11 Sutton arrowheads that were associated with Lanting & van der Waals Steps 5 and 6. In the typology of the last mentioned authors, these steps also contained short necked (SN) Beakers and it can generally be said that Sutton arrowheads and Long Neck Beakers are a rare association. Regarding the radiocarbon dates, potentially early features such as the burials from QEQM Hospital Margate, Grave 1²⁶⁹ (Wk-18733 = 2460 - 2200 cal BC, no raw date published) or Thomas Hardye School, Grave 1643²⁷⁰ (NZA-23745: 3856±30 BP = 2460 - 2190 cal BC) have been documented, but also later Beaker graves such as the example from Barrow Hills, Radley, Grave 4660²⁷¹ occur. The largely missing Sutton arrowheads in graves with LN Beakers therefore do not seem to have chronological implications. However, this finding may also have other, culturally determined, reasons that yet remain unexplained.

Typical associations with arrowheads were, apart from miscellaneous flint artefacts, copper or copper alloy daggers, which were documented in seven cases.²⁷² In five cases these were found in combination with wrist-guards²⁷³, including the fragmented example from Wellington Quarry, Marden²⁷⁴ that possibly represents an heirloom. Another fragmented bracer from Raunds Barrow 1, burial F30426²⁷⁵ has been interpreted similarly. It was associated with a single triangular, bifacially flaked arrowhead that was found at the feet of the individual with several other grave goods. These included a bifacially flaked flint dagger. Two more flint daggers have been found at Alsop Moor, Green Low²⁷⁶ and Ferrybridge, Barrow 154, SK19²⁷⁷ with three Green Low arrowheads, each underlining an advanced date for Green Low arrowheads. The latter two individuals were also accompanied by bone pins and spatulae. This combination of spatulae, pin and Green Low arrowheads has also been documented in two other graves²⁷⁸ and seems to be significant.

²⁶⁹ ID: 143.

²⁷⁰ ID: 188.

²⁷¹ ID: 27.

²⁷² IDs: 15, 27, 149, 188, 198 211, 289.

²⁷³ IDs: 15, 149, 198, 188, 211

²⁷⁴ ID: 198.

²⁷⁵ ID: 145.

²⁷⁶ ID: 10.

²⁷⁷ ID: 76.

²⁷⁸ IDs: 26, 27.

17 individuals were identified as men, another seven were probably male and five were of indeterminate sex (Tab. 14). However, two or possibly three of the latter were probably also male for reasons of their association of daggers, wrist-guards of strike-a-lights. Furthermore, the individual from Mucking, Grave 137²⁷⁹ that was associated by 11 arrowheads was found in a position (N-S, left side) that has been shown to be a typical male pattern in that area. The same applies for most burials in this group. They follow the above discussed pattern according to the region in which they are situated. In conclusion it can be said, that arrowheads were a typical male grave good.

As discussed above, arrowheads have mostly been considered as interpersonal weapons rather than hunting equipment, since evidence for actual hunting is missing (e.g. Harding & Healy 2007, 247). Again, it would probably be too simple to reduce their function to weapons of warfare and it is hard to imagine that bow and arrow should not have been used in hunting. However, hunting was not a major part of subsistence strategies and only rarely have arrowheads been documented in animal bones. On the other hand, arrowheads were the cause of death of several individuals that have been excavated in Beaker contexts. These include the examples from Barrow Hills, Grave 203,²⁸⁰ where an arrowhead with impact fracture was found close to the spine of the young adult male. The discovery of a second young adult male in the ditch of Stonehenge who had been killed by three arrows that had been shot from short distance is more dramatic (Evans 1984). The tips of the two arrowheads were still embedded in some rib bones and it is probably not polemical to talk of a sort of execution. The narrow bracer and the radiocarbon date of 2340-1910 cal BC (BM-1582: 3715±70 BP) probably identify him as a member of a Beaker-affine community.

As concerns the position of arrowheads in relation to the body it was argued that they were usually located behind the body (e.g. Fitzpatrick 2012, 36). In most cases this is true but also other locations have been documented (Tab. 14). Some graves comprised larger sets of points which were sometimes grouped together and also pointing in the same direction, thus giving reason to assume they had been deposited

²⁷⁹ ID: 129.

²⁸⁰ ID: 26.

in a quiver. That could have been the case at Barrow Hills, Radley, Grave 203²⁸¹ or at Mucking, Grave 137²⁸² where five of the 11 pieces were lying undisturbed behind the back with the points towards the feet. The same might have been the case at Dairsie²⁸³ or Alsop Moor, Green Low²⁸⁴ where three arrowheads were found behind the back. For cist 5 from Dornoch Nursery²⁸⁵, Ian Shepherd discussed the possibility of the arrowheads having been deposited in a pouch (1986, 23). In cases in which ‘only’ one arrowhead was deposited, it might have been a token, standing for a quiverful of arrows. In two graves other deposition forms are probable, namely in the case of the Amesbury Archer²⁸⁶ and possibly at Barrow Hills, Radley 4A²⁸⁷. Especially in the former example, the position of the 14 arrowheads above the lower part of the skeleton suggested that arrows had been placed on top of the body, possibly by persons attending the burial. They belonged to two distinct groups: nine were found loosely grouped in front of the knees and lower legs (also the triangular arrowhead was located there) and another five overlay the pelvis and legs (Harding 2011, 90 and 74, Fig. 29). At Radley 4A three arrowheads were found in the layers above the skeleton and could be interpreted in the same way.

²⁸¹ ID: 26.

²⁸² ID: 129.

²⁸³ ID: 236.

²⁸⁴ ID: 10.

²⁸⁵ ID: 238.

²⁸⁶ ID: 15.

²⁸⁷ ID: 25.

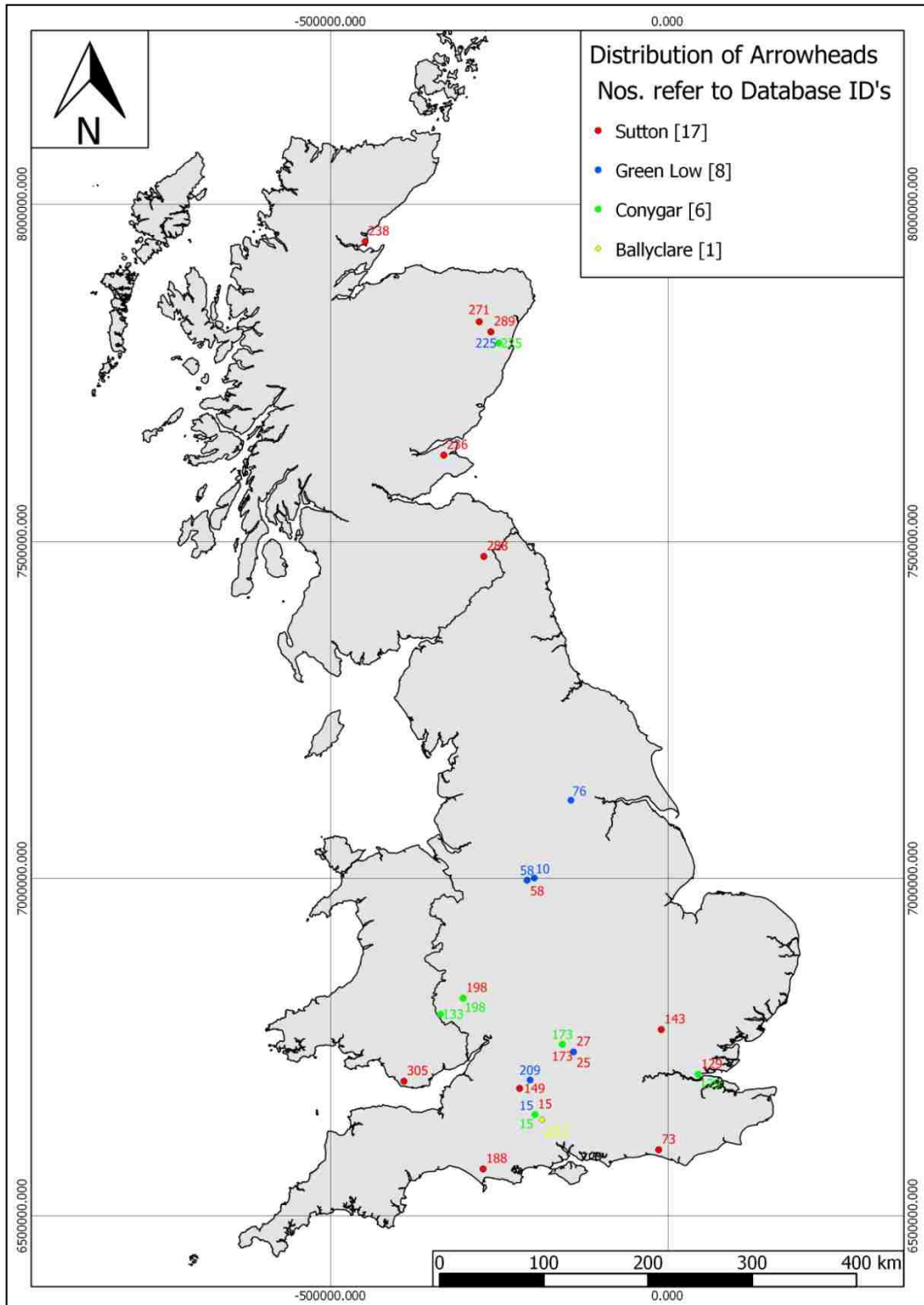


Fig. 51 Distribution of arrowhead types Sutton, Green Low, Conygar and Ballyclare

ID	Site	Sex	Orientation	Position	Flexion	Type	Pos. in grave
10	Alsop Moor, Green Low	Male	Indet.	Left Side	Contracted	Green Low (3)	Behind back
15	'Amesbury Archer' (Grave 1289)	Male	NW-SE	Left Side	Flexed	Sutton b (12), Sutton c (2), Conygar Hill (2), Green Low (1); Triangular (1) (2 out of 18 found in grave fill)	1) 15 arrowh. were scattered on top of lower part of the body. 2) 1 arrowh. in front of body with other objects 3) 2 arrowh. In grave fill
20	Bakewell, Haddon Field	Male	WSW-ENE	Left Side	Contracted	n/a (1)	At lower back
25	Barrow Hills, Radley 4A	Male	NW-SE	Left Side	Contracted	Sutton c (3)	In the grave fill immediately above skeleton
26	Barrow Hills, Radley, Grave 203	Male	NNW-SSE	Left Side	Flexed	Green Low (5)	Behind the right foot, grouped together, pointing 'downwards'
27	Barrow Hills, Radley, Grave 4660	Male	N-S	Left Side	Contracted	Sutton b (1), Green Low (1)	1 at the feet, 1 in the angle between upper and lower legs
58	Deepdale, Mouse Low	Male	Indet.	Left Side	Contracted	Green Low (3), Sutton c (1)	2 in the vessel which was close to the head, 2 outside
62	Durrington, Woodhenge, Circle 1	Male	N-S	Left Side	Contracted	Leaf shaped (1) (association uncertain)	Grave fill
73	Falmer, Ditchling Road	Male	NE-SW	Left Side	n/a	Sutton c (1)	Underneath Skull
76	Ferrybridge, Barrow 154, SK19	Male	E-W	Left Side	Contracted	Green Low (3)	Behind hip
129	Mucking, Grave 137	Indet.	N-S	Left Side	Flexed	Sutton b (11), Conygar (2)	5 undisturbed behind back pointing towards feet; position of rest not given
133	Olchon Valley	Male	N-S	Left Side	n/a	Conygar? (1)	Found on "bottom of the cist".
143	QEQM Hospital Margate, Grave 1	Male	N-S	Left Side	Flexed	Sutton b (3)	Behind lower back
145	Raunds Barrow 1; burial F30426 (Irlthingborough)	Prob. Male	SSE-NNW	Left Side	Contracted	Triangular (1) (blank?)	At the feet
149	Roundway G8	Prob. Male	N-S	Left Side	Flexed	Sutton b (1)	In front of face
173	Stanton Harcourt, Linch Hill	Male	N-S	Left Side	Flexed	Sutton b (3), Conygar (2), not classified (2)	Behind / below pelvis
188	Thomas Hardye School, Grave 1643	Male	NW-SE	Left Side	Flexed	Sutton (3)	Behind the feet
198	Wellington Quarry, Marden	Indet.	ENE-WSW	Indet.	n/a	Sutton a (1), Sutton b (2), Conygar (1), blanks (3)	Different locations in the grave
209	Winterbourne Monkton (10)	Indet.	Indet.	Left Side	Contracted	Green Low (1)	At the right foot
211	Winterslow Hut 3	Prob. Male	N-S	Contracted / Flexed	n/a	Ballyclare (2)	Beneath the Beaker which stood inverted between knees and feet.
225	Borrowstone, Newhills, Cist 5	Prob. Male	E-W	Indet.	n/a	Conygar (6), Green Low (1)	Possibly close to feet
236	Dairsie	Indet.	S-N	Indet.	n/a	Sutton b (2), Sutton (2)	Near the feet, pointing N
238	Dornoch Nursery	Indet.	SW-NE	Indet.	n/a	Sutton (5)	Prob. close to feet
248	Holm Mains Farm (1)	Prob. Male	Indet.	Contracted / Flexed	n/a	n/a	n/a
271	Newlands, Oyne (2)	Male	NE-SW	Left Side	Flexed	Sutton b? (1)	n/a
277	Park Quarry 3	Male	E-W	Left Side	n/a	n/a	In front of pelvis
288	Springwood, Kelso	Prob. Male	NE-SW	Left Side	Contracted	Sutton a (1), Sutton b (3), Sutton (1)	Located under Beaker sherds behind lower back
289	Tavelty Farm, Kintore	Prob. Male	E-W	Indet.	n/a	Sutton b (2)	Exact position unknown
305	Sutton '268'; Llandow	Male	NNW-SSE	Left Side	Contracted	Sutton a (4), Sutton b (2), Sutton b? (1)	1) 1 close to skull 2) 2 close to forearm 3) 4 beyond the feet

Tab. 14 Sex, orientation, position and degree of flexion of individuals associated with arrowheads (Abbreviations: Indet.: Indeterminate; Prob.: Probably)

5.6 Flint Daggers

From a modern aesthetical point of view flint daggers probably belong to the most elaborate expressions of Beaker period flint craftsmanship. That they must have had a special value in Beaker times is suggested by the investment of time and care that must have been spent in their production. Daggers are bifacially pressure-flaked objects that measure between c. 130mm-180mm, but usually around 150mm in length and generally have a lanceolate shape. The tang is often less carefully worked than the blade and in some cases comprises notches for the hafting of the handle. They became part of the funerary equipment in an advanced stage of Beaker use in Britain in the centuries around the turn of the 3rd and 2nd millennia (Bradley 1995, 44), or Needham's fission horizon (2005, 205). Their distribution has first been mapped by Grimes (1931, 343, fig. 2) and the image has not greatly changed since. He counted 145 flint daggers but only 26 of them had diagnostic associations and of those only 16 were found to be securely or probably associated with Beaker pottery. Grimes could show an eastern concentration for daggers especially in East Yorkshire, East Anglia, the Derbyshire Peak District, the Wiltshire/Berkshire Downs and the South Downs. He also suggested that flint daggers were introduced by Beaker users and that the prototypes had to be sought in the Scandinavian dagger series (1931; Case 1993, 259; Shennan 1976). They were a common feature of that period in north and northwest Europe, but the types that have been found in Britain were an insular development. The manufacture of these fancy flint artefacts in an environment that had known metal artefacts, possibly already for some centuries, is curious. Flint daggers are probably imitations of the metal prototypes (e.g. Gerloff 1975; Harrison 1980, 103) and it has been argued that their production could be related to a shortage of metal supply or with changing routes of distribution (Edmonds 2005, 168). As concerns the function, no clear evidence arises. Edmonds was of the opinion, that some daggers "*were never intended to use*", such as the example from Garton Slack, East Riding of Yorkshire (2005, 166). Equally, the dagger from Ffair Rhos, Ceredigion did not exhibit signs of wear, even though it comprised notches for hafting a handle (Green, Houlder & Keeley 1982). In contrast, micro-wear analyses on the flint daggers from barrows at Irthlingborough²⁸⁸ and

²⁸⁸ ID: 145.

West Cotton²⁸⁹ showed that the items were not in fresh condition but had striations probably caused by repeated sheathing (Harding & Healy 2011). Hafting or binding traces were recorded on the flint dagger from Shorncote Quarry, Grave 121²⁹⁰, which also comprised notches (Bradley 1995, 25).

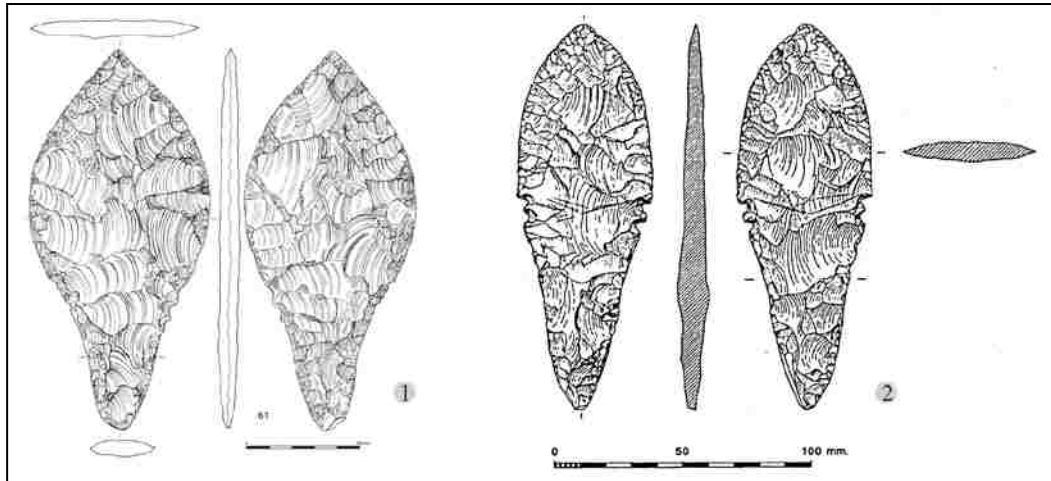


Fig. 52 Flint dagger

1. Raunds Barrow Barrow 6, West Cotton, North Hampshire; 2. Shorncote Quarry, Grave 121, Gloucestershire

(1. after Harding & Healy 2011, 489, fig. SS3.43; 2. after Barclay & Glass 1995, 27, fig. 4)

Thus, a varied picture of flint dagger use can be seen. It has been argued that, while sheathed, it would not have been possible to distinguish between a ‘real’ metal dagger and a ‘fake’ flint dagger. That is certainly true, but it does not explain the amount of time invested in the production of a flint dagger. Consequently, a shortage of metal could be an explanation, but it is also possible that the use of flint can be understood as a form of ‘retro-design’ and was the expression of a form of conservatism.

In Beaker contexts flint daggers are generally associated with LN Beakers; Clarke listed two examples where typologically earlier pottery was found with flint daggers (1970). While the association at Fakenham, Suffolk, was uncertain (Clarke 1970, 439, 497, 303, fig. 177) at Overton, West Lockeridge²⁹¹, the dagger was found with a LC Maritime Derived vessel and illustrates again the wide overlap between distinct

²⁸⁹ ID: 146.

²⁹⁰ ID: 163.

²⁹¹ ID: 134.

Beaker types. LC Maritime Derived Beakers have a range between 2500-2100 cal BC, while the LN type came in at around the 2200 cal BC (Needham 2005). Of the 12 individuals accompanied by flint daggers, 11 were male or probably male.²⁹² The sex of the individual from Amesbury G54²⁹³ was indeterminate but considering the apparently 'normal' association of flint dagger with males and the N-S orientation of the individual which has been shown to be a predominately male feature it is probable that a man was also buried here. Six out of 12 were young adults and only the man from Overton, West Lockeridge²⁹⁴ was about 50 years old, i.e. middle adult or old adult. The other individuals have been identified as generally adult. As concerns the orientation and position of the bodies the above described pattern is also visible here. Only the two individuals from Raunds, Northamptonshire²⁹⁵ departed from that pattern. Both men were lying on the left side, i.e. in a typical posture, but were orientated to the SSE-NNW and SW-NE, respectively. These orientations occurred throughout the area of research but were quite rare, with a total of four²⁹⁶ individuals for the former orientation and 12²⁹⁷ for the latter. Additionally, the number of female individuals in this group is higher. Regarding the radiocarbon date they tend to date between 2200 and 1900 cal BC and thus indicate that the relatively strict pattern from the beginning of the Beaker currency is lessened.

As discussed above, LN Beakers were usually associated with flint daggers. This was the case in 10 of the 12 burials here. One burial from Overton, West Lockeridge²⁹⁸ contained the above mentioned LC Maritime Derived Beaker and at Shorcote Quarry, Grave 121 a WC Beaker had been excavated.

The most common association with flint daggers was other flint tools (Fig. 50), in particular flint knives. They were found in seven burials that contained flint daggers²⁹⁹. Strike-a-lights have been found in four cases³⁰⁰ and their combination

²⁹² IDs: 1, 120, 76, 77, 87, 126, 134, 145, 146, 163, 178.

²⁹³ ID: 12.

²⁹⁴ ID: 134.

²⁹⁵ ID: 145 & 146.

²⁹⁶ ID: 121, 128, 136, 145.

²⁹⁷ ID: 11, 105, 135, 137, 146, 171, 197, 212, 238, 258, 268, 282.

²⁹⁸ ID: 162.

²⁹⁹ ID: 1, 10, 76, 145, 146, 163, 178.

³⁰⁰ ID: 1, 10, 87, 126.

with V-perforated buttons in three cases is notable³⁰¹. Additionally, it is noteworthy that in one of the latter graves, at Garton Slack 37, 6,³⁰² a stone axe was found.

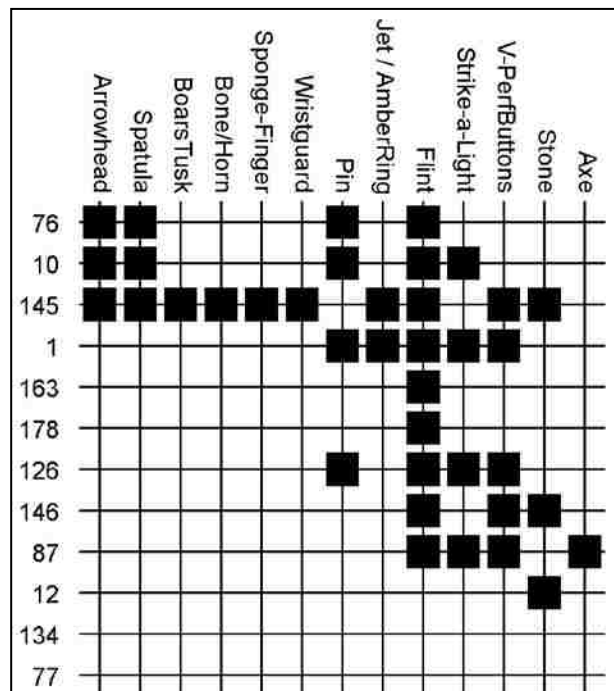


Fig. 53 Artefact combinations with flint daggers
Numbers refer to ID's. The ordering does not have chronological implications

Two additional burials with recognisable V-perforated buttons were found in Raunds, Northamptonshire.³⁰³ The grave group from barrow 1 at Irthlingborough is particularly worth mentioning because of its extraordinary set of grave goods. The man was also accompanied by an arrowhead and a spatula. This combination of LN Beaker, flint dagger, arrowhead, spatula and flint tools seems to be significant as it has been documented in two additional burials from Alsop Moor, Green Low³⁰⁴ and Ferrybridge, Barrow 154, SK19³⁰⁵. Bone pins were also identified from the two last mentioned features and have additionally been excavated at Acklam Wold 124³⁰⁶ and

³⁰¹ As footnote 248, excluding ID: 10.

³⁰² ID: 87.

³⁰³ ID: 145, 146.

³⁰⁴ ID: 10.

³⁰⁵ ID: 76.

³⁰⁶ ID: 1.

Middleton-on-the-Wolds³⁰⁷ where they were combined with strike-a-lights and V-perforated buttons.

ID	Site	Sex	Orientation	Position	Flexion
1	Acklam Wold 124, 4	Male	NNE-SSW	Right Side	N/A
10	Alsop Moor, Green Low	Male	Indet.	Left Side	Contr.
12	Amesbury G54, 'Stonehenge' barrow 39	Indet.	N-S	Indet.	N/A
76	Ferrybridge, Barrow 154, SK19	Male	E-W	Left Side	Contr.
77	Ferrybridge, Barrow 154, SK26	Male	E-W	Left Side	Contr.
87	Garton Slack 37, 6	Prob. Male	NE-SW	Supine Pos.	N/A
126	Middleton-on-the-Wolds	Prob. Male	E-W	Left Side	N/A
134	Overton, West Lockeridge	Male	Indet.	Contr. / Flexed	N/A
145	Raunds Barrow 1; burial F30426 (Irthlingborough)	Prob. Male	SSE-NNW	Left Side	Contr.
146	Raunds Barrow 6, burial F3259 (West Cotton)	Male	SW-NE	Left Side	Contr.
163	Shorncliffe Quarry, Grave 121	Male	NW-SE	Left Side	N/A
178	Stogursey, Wick barrow (Pixies Mound), No. 2	Male	NNW-SSE	Left Side	Contr.

Tab. 15 Sex, orientation, position and degree of flexion of individuals associated with flint daggers (Abbreviations: Indet.: Indeterminate; Prob.: Probably; Contr.: Contracted; N/A:)

5.7 Strike-a-Lights / Fire Kits

Strike-a-lights, also called fabricators, are flint tools often with strongly worn ends that in combination with minerals such as iron pyrites or iron ores are commonly interpreted as fire making kits. In most cases only one kit was placed in the grave, although in the case of the Amesbury Archer³⁰⁸ it had possibly been three, judging by the number of fabricators (Harding 2011, 95-96). Additionally, several pieces of iron pyrites had been found in the grave and two of the fabricators showed traces of iron staining at the tip (*ibid.*). Clarke showed that strike-a-lights were associated with Beakers starting with his N3 Beakers (1970, 448, App. 3.2), i.e. at an already advanced phase of Beaker currency, but newly excavated material shows that they were deposited in Beaker graves much earlier. Needham identified them as a part of

³⁰⁷ ID: 126.

³⁰⁸ ID: 15.

his “primary Beaker package” but with a long currency into the last quarter of the 3rd millennium where fire kits gained greater importance and then were found with different artefact associations (2005, 204-205, Fig. 11, 12). This picture can also be gained from the ten graves with fire kits from the present sample.³⁰⁹ The grave from Berwick St. John³¹⁰ has not been included here. Even though it produced a typologically early Beaker (AOCComb) and a piece of iron pyrites that lay close to the feet, no fabricator or other flint tools were found.

Three of the graves were associated with early Low Carinated Beakers (LC and LC AOCComb). The assemblages of the Amesbury Archer³¹¹ and the individual from Dornoch Nursery³¹² both have radiocarbon dates between c. 2450 – 2200 cal BC. The date for the skeleton from Chilbolton³¹³ has a wider span of about 450 years between c. 2450 - 2000 cal BC but the comparison with other features with similar grave goods that have been dated probably points to a date no later than 2300 cal BC. The radiocarbon date for Borrowstone³¹⁴ also falls between 2450 – 2200 cal BC. A short necked (SN) Beaker was found with the individual. This date supplements the early dates for the individuals with SN Beakers from Broomend³¹⁵ and strongly suggests that the onset of the SN series was not long after the LC forms. However, the majority of dates are later and put the main use of SN Beakers as grave pottery in the two centuries before the turn of the millennium (Needham 2005, 191). The remaining five burials³¹⁶ produced LN Beakers that date to around the 23rd or 22nd until the 19th centuries BC. The artefact associations support these dates since: the ‘early’ graves comprised tanged copper daggers, A/B – 2S/T wristguards and basket shaped ornaments, arrowheads of different types and red deer antler spatulae. Important associations for the later graves with fire kits were flint daggers (in four cases), the stone axe from Garton Slack,³¹⁷ and three individuals were accompanied by V-perforated buttons. Sponge finger stones (Chapter 4.9) were found in two graves and were also part of later Beaker associations (Smith & Simpson 1966, 139;

³⁰⁹ IDs: 1, 10, 15, 51, 55, 87, 126, 200, 225, 238.

³¹⁰ ID: 32.

³¹¹ ID: 15.

³¹² ID: 238.

³¹³ ID: 51.

³¹⁴ ID: 225.

³¹⁵ IDs: 231, 232.

³¹⁶ IDs: 1, 55, 87, 126, 200.

³¹⁷ ID: 87.

Clarke 1970, 448, App. 3; Needham 2005, Fig. 12). Brodie's finding that fire-making kits were never found with metal daggers or wrist-guards (2001, 490) is thus not supported by the present data, even though there was a tendency towards 'late' associations.

It was only at Dornoch Nursery that the sex of the individual could not be determined due to the poor preservation of the skeleton. The comparison with other individuals that were accompanied with bracer and arrowheads probably identifies the individual as male, however. In the remaining seven graves four men and three probably male persons were buried. No infants or children were found with fire kits but all other age classes were represented. The orientation again broadly follows the known scheme of a northerly direction in the south and an easterly direction further north. The individuals from Acklam Wold³¹⁸ and Garton Slack³¹⁹ however, were aligned NE-SW and NNE-SSW which is not very common in that area. The position does also show some deviations from the 'norm'. Men were mostly buried on their left side. That applied for three individuals here, but the position of the rest was more diverse, for instance at Corston,³²⁰ where the man was lying on his right side with the head to the E. A tendency might be visible here for changing orientation – position patterns in the Beaker period. The above outlined early graves follow a rather strict pattern, whereas the bodies in the supposedly later graves had also been buried in different ways. Regarding the grave type no patterns can be recognized.

Strike-a-lights were also identified from the burials from Newmill, Perthshire and from Culduthel, Highlands, where the different quality of the flint was stressed by the authors. While the arrowheads were well executed, the strike-a-light was rather an everyday tool that showed signs of repeated use (Clarke, Howie, Foxon 1985, 174).

5.8 Spatulae

Spatulae, or *lissoirs* are strips of bone or of red deer or roe deer antler, sometimes reaching a length of 30cm, a width of 2cm and often had rounded ends (Fig. 51).³²¹

Bone spatulae are curved, following the natural shape of the raw material. In some

³¹⁸ ID: 1.

³¹⁹ ID: 87.

³²⁰ ID: 55.

³²¹ For lists of spatulae in Beaker contexts see Smith & Simpson (1966, 147-148) and Russel (1990, 167).

cases they are curved to a considerable degree, such as the longitudinally split ribs at Raunds, Barrow 1³²², though antler spatulae are less bent (Foxon 2011, 401, Fig. SS3.14).

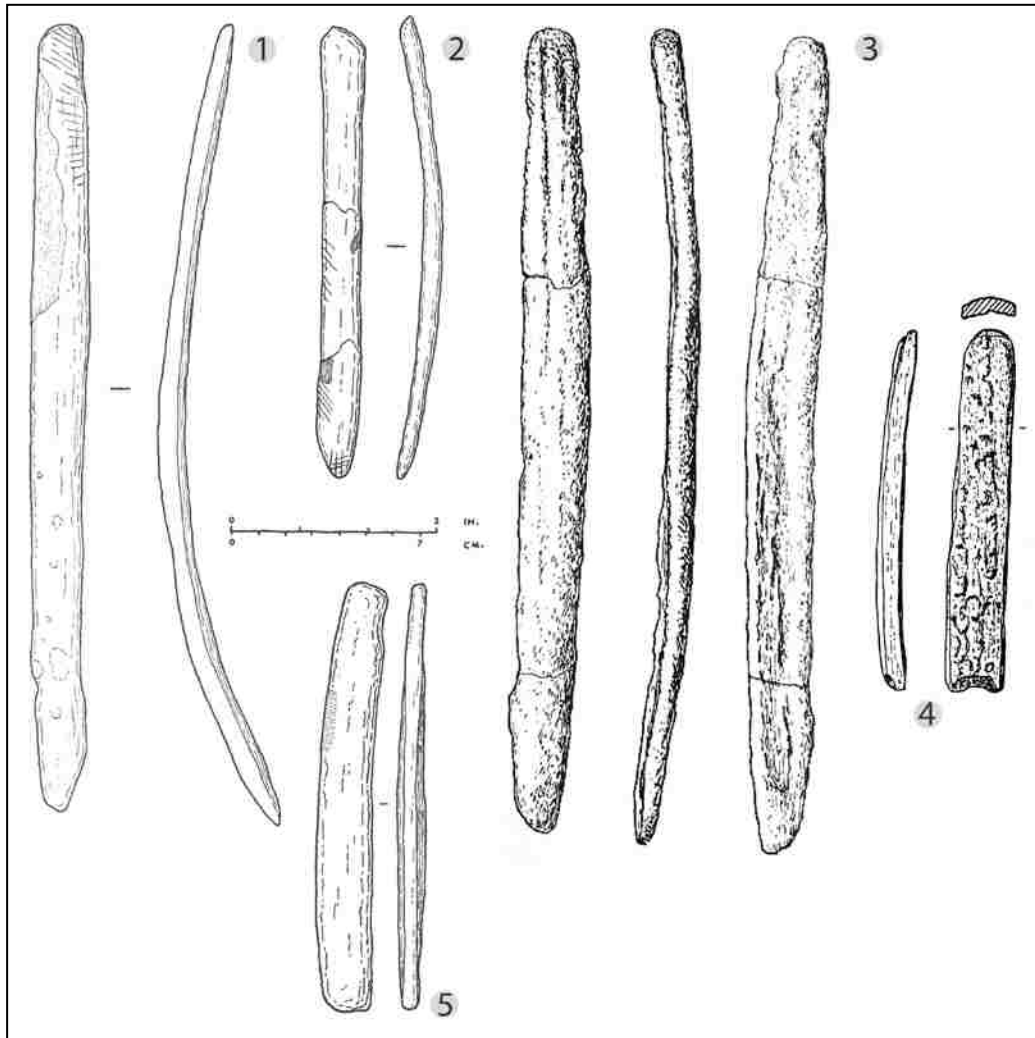


Fig. 54 Spatulae

1. Smerril Moor, Derbyshire; bone spatula 2. Green Low, Derbyshire; bone spatula (a total of 3 bone spatulae was found in that grave); 3. Stedten, Kr. Eisleben, Germany; bone spatula (length: 19cm); 4. Warmstorf, Sachsen-Anhalt, Germany; bone spatula (length: 12,8cm); 5. Haddon Field, Derbyshire; antler spatula (stipple denotes copper stain)

(Scale for nos. 1, 2, 5)

(nos. 1, 2 & 5 after Smith & Simpson 1966, 137, Fig. 5; no. 3 & 4 after Zimmermann 2007, 94, 101, Abb. 60, 64)

³²² ID: 15.

When made of bone, they are likely from the ribs of cattle. However, bone and antler examples are usually subsumed under the same heading even though it is uncertain if they had the same function. Spatulae have mostly been found associated with Beakers in burials, but are also known as stray finds from barrows (Smith & Simpson 1966, 138-139). A variety of functions have been suggested for spatulae in Beaker contexts, including mesh-rules for netting or tools used in potting (Bateman 1848, 60). They have also been interpreted as parts of composite bows, also for reasons of associations with arrowheads and wrist-guards (Ashbee 1960, 105). Clark has shown from Siberian finds that antler pieces have been used as bow stiffeners (1963, 51, Fig. 1). A further interpretation put forward by Ashbee (1978, 40), was the use as leather-working tools. This was based on the find interpreted as 'board and beater' (Smith & Simpson 1966, 134-135).³²³ The use of spatulae as parts of composite bows has been discussed again recently; however, despite being resilient and thus fit for attachment to a bow, no traces of notching for the string has been found, making it unlikely that they were parts of bows (Foxon 2011, 401-402). Furthermore, bows from the Neolithic or Bronze Age in Europe have been made of single pieces and no composite bows have yet been found (cf. Clark 1963). In a recent article bone spatulae, or *lissoirs* as they are also called, have been shown to have a very long history as specialized bone tools in Europe. The first of these objects are known from Upper Palaeolithic and Neanderthal contexts and show the same patterns of micro-wear that have been found on modern *lissoirs*. These micro-wear patterns are usually associated with leather working, namely to produce "supple, lustrous, and more impermeable hides" (Soressi *et al.* 2013a). The authors were recycling an interpretation that had originally been formulated by S. A. Semenov in 1964 (175-179). Though they come from different periods and regions, the similarities between the later *lissoirs* and the much earlier artefacts from the Upper Palaeolithic and Neanderthal contexts are striking. The conclusion here is that the Beaker period *bone* spatulae had the leather-working function Semenov proposed, but the *antler* objects were used for different tasks. Thirteen graves that contained spatulae are included in

³²³ Ashbee published the 1960 excavation of Amesbury 51 in 1978 but had communicated his interpretation to Smith & Simpson before.

the catalogue. Eight of those only contained antler spatulae³²⁴ while four only had bone spatulae.

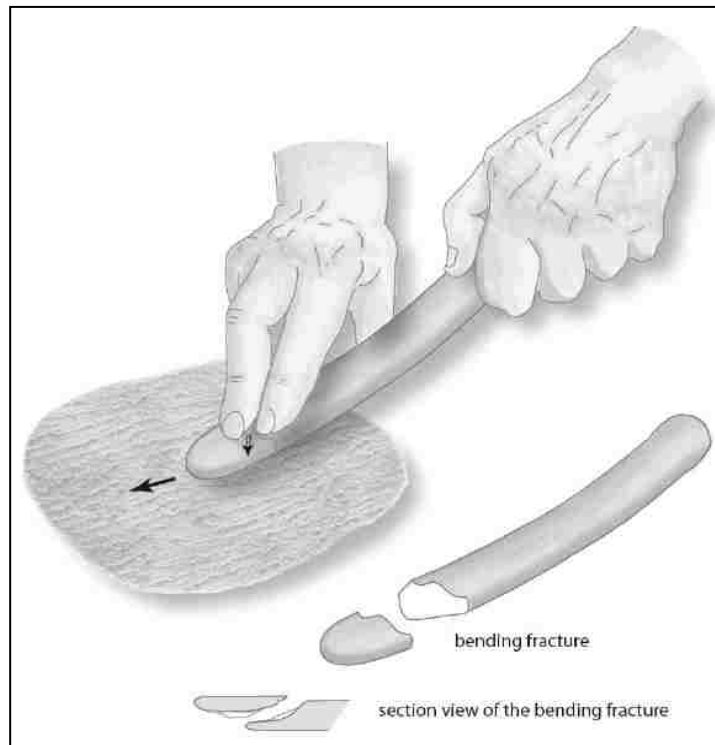


Fig. 55 Reconstruction of possible use of spatulae on grounds of use-wear analyses of pieces found at Abri Peyrony and Pech I (after Soressi *et al.* 2012b, 54, Fig. S24)

One individual at Ferrybridge³²⁵ was possibly accompanied by one bone and one antler spatula. This grave formed an interesting exception in that it had spatulae of different materials and was the only grave where the antler spatula was associated with a second one. All other graves containing antler spatula had only one of these objects. The Amesbury Archer was accompanied by an antler spatulae and two antler strips. However, these did not resemble other antler spatulae and their function is still uncertain (Fitzpatrick 2011, 160-161).

Three bone spatulae were found in two burials,³²⁶ one burial produced two bone spatulae³²⁷ and one unique large bone spatula was found in the grave at Middleton,

³²⁴ IDs: 13, 15, 20, 26, 27, 51, 99, 200.

³²⁵ ID: 76.

³²⁶ IDs: 10, 145.

³²⁷ ID: 58.

Smerrill Moor.³²⁸ The difference concerning the number of items in the graves is likely significant.

In contrast to the possible use of bone spatulae in leather working, antler spatulae possibly had a function connected to pressure laking flint working, a theory that has been suggested by several authors (summarized in Fitzpatrick 2012, 158-159). Of the nine graves with antler spatula, each was connected to flint working. These graves contained arrowheads, a flint dagger, or other flint objects such as scrapers or flakes or parts of strike-a-lights. In general, the graves contained a variety and large quantity of rare grave goods. Five copper awls were found in graves with antler spatulae, as well as one bone tool that was interpreted as an awl. Additionally, three bone pins and two sponge-finger stones were found. These can all be interpreted as specialized tools that possibly identify the occupation of the buried individual, or they may be items to construct a certain identity.

This collection of items brings the ‘craftsmen’ grave to mind, following the idea of “metal worker’s” graves in the Netherlands as described by Butler & van der Waals (1966). These authors argued that because of ethnographic parallels, the stone tools (cushion stones) that were found in Beaker graves in the Netherlands were used by people engaging in metallurgy (ibid). No spatulae have been found in the Netherlands, but this might have to do with the poor preservation of bone there.

However, graves with cushion stones and spatulae are known from other areas of Europe during the Beaker period, e.g. from Germany. The individual found in a cist at Stedten, Kr. Eisleben was lying on the left side with the head to the N (Matthias 1964) (Fig. 51) and was accompanied by an undecorated Beaker, three tanged arrowheads, a cushion stone, two spatulae, one boars tusk, and the bone of a pig.

A parallel for a similar grave can be seen in the burial of the Amesbury Archer who was equipped with a cushion stone and other objects that are typically related to metal work. The Amesbury Archer is an exceptional example, and it is not argued here that he was primarily a smith; but one of the roles or identities that were portrayed in his grave can be interpreted as that of a craftsmen. He was also accompanied by flint objects and antler spatula, further suggesting a connection to other ‘richly’ furnished graves with spatulae. Four individuals were also

³²⁸ ID: 125.

accompanied by daggers, two by wrist-guards and two by basket-shaped ornaments in addition to the already mentioned artefacts.

Equally, the graves with bone spatulae included a rich array of grave goods that have similar artefact combinations. However, instead of metal daggers, in three cases flint daggers were found and in one case a Langdale tuff (C1 – 4Wcc) bracer. All graves contained several flint artefacts, such as scrapers, knives, with four graves also containing arrowheads. Whether the bifacially flaked flint piece at Raunds, Barrow 1 was the blank for an arrowhead is unclear, however. Pins and awls were less common in this group with only one bone pin at Green Low³²⁹ and a bone tool made from a longitudinally split bone that was interpreted as an awl. Only at Raunds, Barrow 1³³⁰, a burial that produced a large number of high quality artefacts, was a sponge finger and a possible replica of a sponge finger excavated.

The associated Beaker pottery falls in Needham's class of Long Necked Beakers (LN earlier and later series), apart from three exceptions. This type of Beakers has a long currency; available radiocarbon dates indicate a start date of around the 23rd century BC. The early date of 2500 BC from Wetwang Slack dates the coffin and therefore must be regarded as a *terminus post quem* for the burial (Needham 2005, 195-196). The three remaining pots are Low Carinated (LC) examples that are considered the earliest Beaker pottery in funerary contexts in Britain. The evolved forms of LC vessels, such as the example from Barrow Hills, Grave 4660,³³¹ are a later LC form (Needham 2005, 183-186).

All eight radiocarbon dates for the graves with spatulae in this sample have been considered by Needham (2005). Both bone and antler spatulae are early occurrences in Beaker contexts as can be demonstrated by the early radiocarbon dates for the Amesbury Archer³³² (antler) and Chilbolton³³³ (bone). The date for Chilbolton has a wide range between 2500 – 2000 cal BC, but the associated Beaker, dagger and basket shaped ornaments speak for a date possibly slightly later than that of the Amesbury Archer though still at an early stage (see above). However, the majority of spatulae seem to belong to the centuries between 2300 – 2000 cal BC. These also

³²⁹ ID: 10.

³³⁰ ID: 145.

³³¹ ID: 27.

³³² ID: 15.

³³³ ID: 51.

confirm the traditional view that the SN Beakers and the flint daggers are of rather late date.

The distribution of spatulae shows a concentration in Derbyshire and another in the south - broadly in Hampshire, Oxfordshire and Wiltshire (Fig. 53). The concentration in Derbyshire especially stands out and possibly indicates that Thomas Bateman paid attention to these artefacts while others working in the area overlooked them (the four graves with spatula in Derbyshire were all excavated by Bateman). Furthermore, it is striking that no spatulae were deposited in graves further north, though the unfavourable preservation conditions for organic material might be responsible for this under-representation. All of the individuals with spatula were male (one probably), most of whom were adults. Of the non-adult population, one was an adolescent, another was adolescent/young adult, and for two individuals it was only possible to say that they were adults without a more specific age attribution. Young adults (4 individuals) and middle adults (5 individuals) were the largest population. One of the individuals with a number of high quality artefacts was still comparably young, with an estimated age of 20-30 years (Chilbolton, Primary³³⁴). All of the males were lying on their left side and nearly all of the deceased were buried in a contracted position (10 out of 13). As discussed earlier the typical orientation for men in the southern region is towards the northern 45° of the compass. Outliers from this trend include two individuals each orientated to the N, NW and NE and an additional skeleton found in NNW-SSE direction. Further north the alignment tends to be less 'regulated'; two men were found in an E-W direction, one each was orientated WSW-ENE and SSE-NNW, and two instances where the orientation was unknown. These individuals were mostly found associated with late Beaker types even though examples of an early association are known, e.g. the Amesbury Archer, the primary burial at Chilbolton and also Grave 4660 at Barrow Hills. In all other instances they were found with long necked Beaker (LN, LN Earlier Series, LN Later Series). This association indicates that spatulae were used relatively early, but became part of the funerary equipment only later on (also cf. Needham 2005, Fig. 12).

³³⁴ ID: 51.

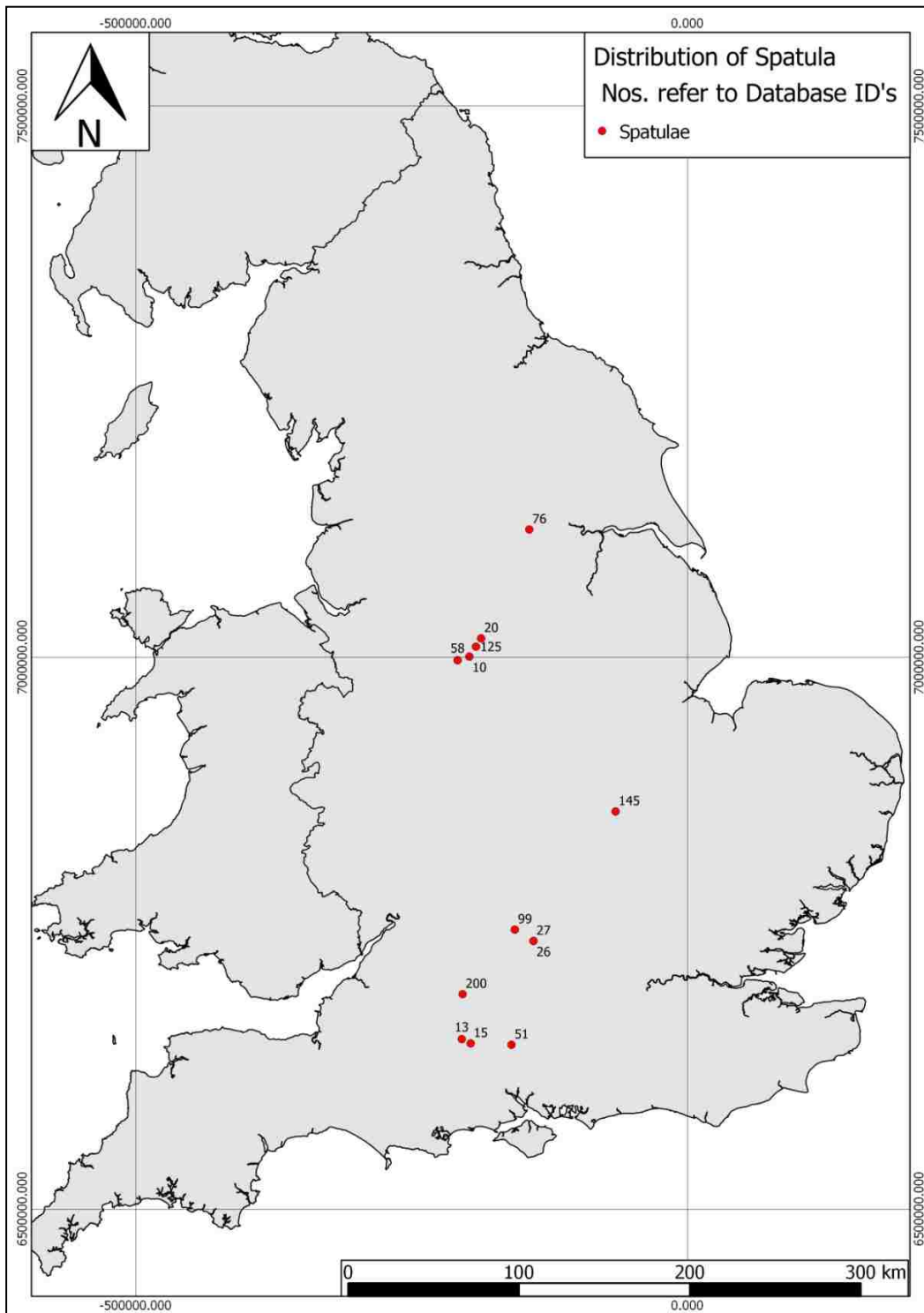


Fig. 56 Distribution of bone and antler spatula

ID	Site	Sex	Orientation	Position	Flexion
10	Alsop Moor, Green Low	Male	Indeterminate	Left Side	Contracted
13	Amesbury 51, Burial A (1960)	Male	NE-SW	Left Side	N/A
15	'Amesbury Archer' (Grave 1289)	Male	NW-SE	Left Side	Flexed
20	Bakewell, Haddon Field	Male	WSW-ENE	Left Side	Contracted
26	Barrow Hills, Radley, Grave 203	Male	NNW-SSE	Left Side	Flexed
27	Barrow Hills, Radley, Grave 4660	Male	N-S	Left Side	Contracted
51	Chilbolton (Primary)	Male	NW-SE	Left Side	Contracted
58	Deepdale, Mouse Low	Male	Indeterminate	Left Side	Contracted
76	Ferrybridge, Barrow 154, SK19	Male	E-W	Left Side	Contracted
99	Gravelly Guy, X, 6 (1)	Male	NE-SW	Left Side	Contracted
125	Middleton, Smerrill Moor	Male	E-W	Left Side	Contracted
145	Raunds Barrow 1; Grave F30426 (Irthlingborough)	Probably Male	SSE-NNW	Left Side	Contracted
200	West Overton (Hill), G.6.b	Male	N-S	Left Side	Contracted

Tab. 16 Sex, orientation, position and degree of flexion of individuals accompanied by spatulae

5.9 Sponge Fingers

Sponge fingers are elongated, flat, polished stone tools with rounded, thinning ends up to c. 15cm in length, 2.5cm in width and usually not more than 0.5cm in thickness (Fig. 54). The shape in section is rectangular to concavo-convex. The first comprehensive account on sponge fingers was published by Smith & Simpson

(1966). The name was seemingly ‘invented’ by Piggott (*ibid.*, 139), but actually goes back to Thurnam who described these artefacts for reasons of their shape to be “like finger-biscuits” (Thurnam 1871, 426). Sponge fingers often show signs of wear in the form of striations at their ends, and it has been argued that they were used in leather working – namely to “rubbing in fat and applying the final burnish” (Smith & Simpson 1966, 134). Other forms of wear, such as scratches along the sides or notches have also been documented and might indicate that these artefacts were used for other functions (Woodward *et al.* 2005, 38-39). For example, it was suggested that the pieces from Corston³³⁵ and the pair from Winterbourne Monkton were whetstones (Clarke 1970, 219).

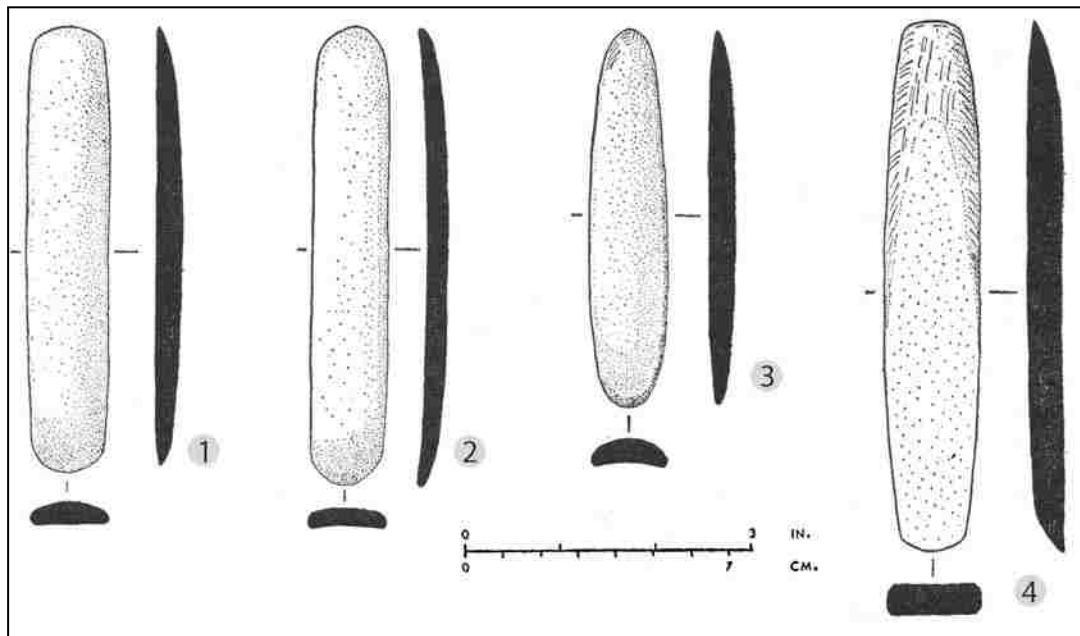


Fig. 57 Sponge finger stones

1, 2. Winterborne Stoke G54, Wiltshire; 3. Rudstone, East Riding of Yorkshire; 4. Corston, Bath and North East Somerset (after Smith & Simpson 1966, 140, Fig. 6).

An argument in favour of a use in leather working may be suggested by the inclusion of a sponge finger in a rich barrow grave assemblage at Irthlingborough, Northamptonshire³³⁶. This example had fine microscopic striations on the bevelled ends that were comparable to those found on a fragmented bracer from the same

³³⁵ ID: 55.

³³⁶ ID: 145.

grave and which “are consistent with prolonged contact with a resilient material containing minute abrasive grits, such as hide, [...]” (Harding & Healy 2004, 252-253). However, doubts have been raised if the sponge fingers were actually used for “mundane and utilitarian tasks” since they were made from stones that are exotic to the regions where they were found. Also, the care and quality of manufacture could speak against their utilitarian use since bone or wooden tools could also have performed the same tasks (Harding & Healy 2011, 417). A definite decision as to their function is not currently possible, but some further points need to be emphasised. Sponge fingers were functional items and were also very likely to have been of some significance based on their use in graves, e.g. at West Overton Hill³³⁷ or Winterbourne Stoke 54, Wiltshire (Hoare 1812, 118; Annable & Simpson 1964, 38; 88; Smith & Simpson 1964 & 1966). Furthermore at Raunds, Barrow 1 (Irthlingborough)³³⁸ a soft white chalk object that can be interpreted as the non-functional replica of a sponge finger (it could also have been the replica of a spatula or a strike-a-light) was found. It was found along with the other grave goods at the feet of the skeleton. It was “carefully carved, ground, and smoothed to a slender, elongated form so fragile that it broke in antiquity” (Healy & Harding 2004, 184, Harding & Healy 2011, 162, 417, Fig. SS3.22). Chalk objects, including other replica artefacts occasionally occur in Beaker contexts.

Another argument for the connection to leather working is seen in the association of sponge fingers with spatulae which have also been interpreted as leather working tools (see above). Considering the pottery association, sponge fingers have been found with long necked Beakers (LN) that have been dated to a later phase of the Beaker period (Clarke 1970, 217; Lanting & van der Waals 1972). There are also early radiocarbon dates from around 2300 cal BC with an emphasis in the last two centuries of the millennium (Needham 2005, 195-196, Tab. 5). Spatulae are also found regularly with LN Beakers even though they also are associated to earlier Beaker styles. Sponge fingers and spatulae have been found together in several instances and have similar associations with other artefacts, such as flint and metal daggers (both in Beaker and non-Beaker contexts) (Smith & Simpson 1966, 149, App. VI). Other typical associations are with jet (pulley) rings and V-perforated

³³⁷ ID: 200.

³³⁸ ID: 145.

buttons (Thurnam 1871, 426; Woodward 2005, 38-39), as well as flint flakes and knives and strike-a-lights.

There are four individuals that were equipped with sponge fingers included in the dataset. Three of whom were also accompanied with spatulae and were discussed above. The fourth individual from Corston³³⁹ was a middle adult male, lying on the right side with the head to the E. In contrast to the graves with spatulae or both spatulae and sponge fingers, the grave showed some differences. Firstly, the display of the individual in the grave was different. Secondly, graves with sponge fingers and spatulae were generally equipped with multiple or high quality objects. The individual at Corston had 'only' been furnished with the sponge finger and a fire kit.

5.10 Awls

Seventeen burials in this sample contained awls made of copper or copper alloy³⁴⁰, though the example from Gravelly Guy, X, 6 (1)³⁴¹ is fragmentary and may not be an awl. After daggers, awls are the most common metal artefact type in this sample. They are also generally found in Beaker contexts as single pieces or more rarely in pairs, such as at Rudstone Barrow 62³⁴² (Needham 1999, 188). British Beaker contexts feature double tapered awls with a round or square central section (Clarke 1970, 261) and this applies also to the current data set. A single function for awls is unlikely, and males and females may have used awls for different tasks, such as the decoration of materials or when piercing materials, e.g. in leather working (Needham 1999, 192). In the case of males accompanied by awls, it was suggested that these individuals engaged in leather working based on associations, similar to the spatula examples above (here in 4 cases) which were likely used for leather working. Concerning the sex of the individuals, awls were in the past predominantly connected to women (Clarke 1970, 449, App. 3; Needham 1999, 192). Here the ratio is nearly balanced; seven females (and one probably female individual) and six men were accompanied by awls. However, in three additional cases the sex was indeterminate. These three individuals from Aldro Barrow 116³⁴³, Launceston Down 17³⁴⁴ and

³³⁹ ID: 55.

³⁴⁰ IDs: 3, 13, 20, 26, 46, 69, 99, 100, 118, 120, 121, 148, 151, 169, 176, 200, 237.

³⁴¹ ID: 99.

³⁴² ID: 151.

³⁴³ ID: 3.

³⁴⁴ ID: 120.

Smeeton Westerby³⁴⁵ could be argued to be female based on their position on the right side and orientation to the south of the Launceston Down 17 and Smeeton Westerby skeletons. The age of the males was young or middle adult while females were mostly adults with the exception of one child / adolescent at Aldro Barrow 116³⁴⁶.

The orientation and position was more consistent amongst males, and the typical pattern for the south is visible again with the position on the left site and a predominate orientation towards the northern sector of the compass (cf. Tab. 17). The man from Bakewell, Haddon Field³⁴⁷ lay on his left side and was aligned WSW-ENE. Orientation to the WSW or W for men is not a common feature and when present these individuals were predominately buried on their left side.³⁴⁸ Females display a greater variety regarding position and orientation. In the southern part of the research area five women with awls were lying with the head in a southern or south-eastern direction and were, with the exception of the woman from Smeeton Westerby whose position is indeterminate, lying on the right side. A further three women showed orientations broadly to the north — two were lying on the left and one on the right side. This combination of northern orientation with the position on the left side is a typical male feature but, as can be seen here, not exclusively. At Gravelly Guy, X, 6, (2),³⁴⁹ the orientation and position of the female individual possibly is a site-specific feature and might be related to the primary burial of a male individual who was buried with a similar position and orientation.³⁵⁰ Yorkshire has been shown to be a region of overlap between north and south in terms of position and orientation of skeletons.

Based on pottery association, it has been argued that awls were a late addition to the Beaker funerary repertoire (Clarke 1970, 448, App. 3.2; Needham 1999, 192). The associated Beakers are mostly of later SN and LN forms, but also feature WC, Collared and Handled types that are dated to an advanced stage of Beaker currency (Needham 2005). The vessel from Doons Law, Whitsome is of Needham's S-profile

³⁴⁵ ID: 169.

³⁴⁶ ID: 3.

³⁴⁷ ID: 20.

³⁴⁸ Cf. IDs: 20, 88, 107, 114, 242, 251, 262, 263.

³⁴⁹ ID: 100.

³⁵⁰ ID: 99.

type which is dated to between 2300 and 1900 cal BC (Needham 2005, 198-202, Tab. 6). This correlates with Doons Law burial which is dated to 2210-1820 cal BC (AA-29066: 3645±65 BP), though the second individual with S-profile from Smeeton Westerby has a very late date of between 1875-1690 cal BC (BM-2521: 3440±50 BP). In total nine burials with awls from this sample have been radiocarbon dated. The two dates for Ravenstone³⁵¹ and Amesbury 51³⁵² are both from charcoal and have a range of c. 500 years between c. 2450 and 1950 and are thus of limited help. The starting date suggested by the four radiocarbon dates should lie between 2300 – 2200 cal BC, though there are some very late dates, e.g. from Barrow Hills, Radley, Grave 203³⁵³ and Lambourn.³⁵⁴ (BM-2700 and BM-264: 3360 ± 50 BP). The determinations from the two last mentioned sites, however, are considered too recent by Needham (2005).

Spatulae are a recurrent association of awls³⁵⁵, sponge fingers were found in two graves³⁵⁶ as well as antler rods³⁵⁷ and arrowheads³⁵⁸. In only one case was a wrist-guard and a dagger found in the same grave at Gravelly Guy, X, 6 (1),³⁵⁹ and V-perforated buttons are similarly rare with on one occurrence³⁶⁰. In contrast, the most frequent finds are flint knives, flakes, scrapers, and other flint objects. There is no apparent difference in terms of artefact association between the earlier and later graves; spatulae were found both in early and late graves.

³⁵¹ID: 148; HAR-3000: 3760±90 = 2465 - 1960 cal BC.

³⁵²ID: 13; BM-287 : 3740±60 BP = 2455 - 1970 cal BC.

³⁵³ID: 26.

³⁵⁴ID: 118.

³⁵⁵IDs: 13, 20, 26, 99, 200.

³⁵⁶IDs: 99, 200.

³⁵⁷IDs: 3, 13.

³⁵⁸IDs: 20, 26.

³⁵⁹ID: 99.

³⁶⁰ID: 148.

ID	Site	Sex	Orientation	Position	Flexion
3	Aldro Barrow 116, 1	Indeterminate	NNE-SSW	Right Side	Contracted
13	Amesbury 51, Burial A (1960)	Male	NE-SW	Left Side	N/A
20	Bakewell, Haddon Field	Male	WSW-ENE	Left Side	Contracted
26	Barrow Hills, Radley, Grave 203	Male	NNW-SSE	Left Side	Flexed
46	Cassington, Grave 10	Female	SE-NW	Right Side	N/A
69	Eynsham, 18	Female	N-S	Left Side	Contracted
99	Gravelly Guy, X, 6 (1)	Male	NE-SW	Left Side	Contracted
100	Gravelly Guy, X, 6 (2)	Female	NW-SE	Left Side	Contracted
118	Lambourn, Seven Barrows Stables	Male	NNE-SSW	Left Side	Contracted
120	Launceston Down 17 (Grinsell: Tarrant Launceston 8)	Indeterminate	S-N	Right Side	Contracted
121	Little Pond Ground, Milton Keynes (MK 24)	Female	SSE-NNW	Right Side	Contracted
148	Ravenstone	Female	N-S	Right Side	Contracted
151	Rudstone Barrow 62, 1	Female	ENE-WSW	Left Side	Contracted
169	Smeeton Westerby	Indeterminate	S-N	Indeterminate	Flexed
176	Stockbridge Down, no.1	Female	S-N	Right Side	Flexed
200	West Overton (Hill), G.6.b	Male	N-S	Left Side	Contracted
237	Doons Law, Whitsome	Probably Female	Indeterminate	Left Side	N/A

Tab. 17 Sex, orientation, position and degree of flexion of individuals accompanied by awls

5.11 Cushion Stones

The term ‘cushion stone’ was introduced by Jan J. Butler and J. Diderik van der Waals in their analyses of Beaker graves in the Netherlands (1966, 63). Cushion stones are small stone blocks usually “of regular shape, with some or all surfaces polished to different degrees.” (*ibid.*) (Fig. 55). Ethnographic parallels led Lanting & van der Waals to interpret the Dutch finds as anvils for metalworking and thus the individuals found with them as metal-workers (*ibid.* 63-75). That was also backed up by the presence of stone hammers or axes that were associated with cushion stones because Lanting & van der Waals argued that hammering played an important role in

Beaker metallurgy (for example sheet-gold objects) (*ibid.* 69). However, they were not able to prove that assumption.

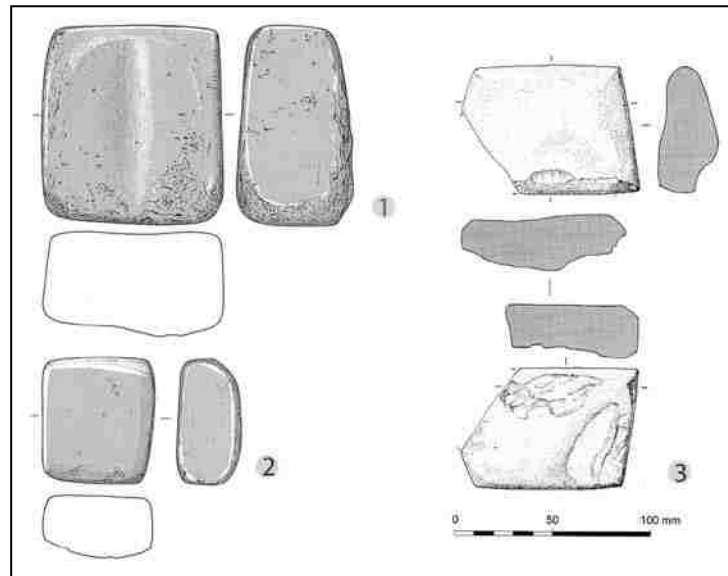


Fig. 58 Cushion Stones

1. Lunteren, Netherlands; length: 15cm, width: 13.5cm, thickness: 7.8cm; 2. Lunteren, Netherlands; length: 9.6cm, width: 8.3cm, thickness: 4.5cm; 3. Amesbury Archer, Wiltshire (1, 2 after Lanting & van der Waals 1966, 66, Fig. 13a; 3 after Fitzpatrick 2011, 114, Fig. 38)

There is limited evidence from both Beaker and non-Beaker contexts for hammering, with the best example outlined by Bertemes & Heyd (2002, 216-217), as the 'rich' Beaker burial from Künzing, Grab 9³⁶¹ where traces of copper and gold with a ratio of 25 % to 75% were detected (*ibid.*). Cushion stones are almost exclusively known from graves or unknown contexts in central Europe and their overall number is still small. Bertemes & Heyd counted about 25 contexts (mostly Beaker) with stone-workers tools (2002, 217, Abb. 12) but Brandherm was able to add to these numbers. He provided a comprehensive map of metal-working tools for Europe, which showed that in Iberia the image was quite different; cushion stones and hammers are largely known from settlement contexts there (Brandherm 2009, 172-173, Fig. 1). In light of the recent find of a cushion stone in the grave of the Amesbury Archer,³⁶² the

³⁶¹ The individual in that grave was buried in a contracted position on the left side with the head to NNW. Apart from the axe and a number of stone tools the grave produced two Beakers, one bracer, one copper awl, two flint tools and two flint arrowheads (Schmotz 1992).

³⁶² ID: 15.

evidence concerning metal- working tools and the role of metallurgy in Britain has been discussed in detail (Needham 2011a, 113-117; Fitzpatrick 2011, 212-221) and there is no need to reproduce it at length here. However, some further remarks are necessary. Cushion stones comparable to those in the Netherlands or Germany are rare in Britain and a securely datable example has only been found in the grave of the Amesbury Archer.

Other tools that have been interpreted as metal-working tools exist, however. These objects range from carefully worked to those that required less modification. Due to this lack of standardized or regular forms it is difficult to tell their function. They could have been used as anvils, hammer-stones, polishers, grinders, and other objects that were potentially connected to metal-working. They have been found in Britain in Chalcolithic and Early Bronze Age contexts, though most of these are not directly associated with burials but were instead discovered in the barrow mound or as stray finds (Needham 2011a, 113-114). Nevertheless, stones that could be interpreted as hammer or whet-stones are associated with Beaker pottery at Winterbourne Monkton, Wiltshire (Clarke 1970, 389, Fig. 898) and Amesbury G54³⁶³, Wiltshire (Clarke 1970, 388, Fig. 890). In the final example the association is curious because a tool supposedly used in metal-working was found with the Beaker and a flint dagger. The latter is not usually found in association with metalwork (Needham 2011a, 115). It can be argued that the 'whet-stone' had a different function; a parallel can be drawn to the briefly discussed burial at Raunds, Barrow 1³⁶⁴ where the boar's tusk may have been used to create a link to its past significance in metal working (see Chapter 4.19).

Tools used in metalworking, such as the types described by Clarke (1970, 573-574, Footnote 56), were found in 'richly' furnished graves and only then exclusively with his Developed Southern Beakers or Needham's LN Beakers.

Metal-workers tools do not necessarily identify a person engaged in metal-working but could also identify a person who has political control over metal working or metal sources (Bartelheim 2007, 88). These two spheres were not necessarily separated, however, and both could be the case. This may apply to the Amesbury Archer who was portrayed in the grave in at least two functions or roles. On the one

³⁶³ ID: 12.

³⁶⁴ ID: 145.

hand he was the hunter / warrior with arrowheads, wristguards and daggers, on the other hand he was the smith / metalworker.

Only the extraordinary burial of the Amesbury Archer from this sample produced a cushion stone (Fig. 55). It had a smoothly polished surface and was originally a trapezoidal block; one corner seems to be missing though the fracture had been ground smooth. It lay behind the individuals back and this position together with the location close to the feet or behind the legs has been shown to be a regular feature in other areas (Fitzpatrick 2011, 221).

5.12 Bracelets and Rings

Bracelets with Beaker associations are a rare occurrence in Britain; in fact, they are mostly known from non-Beaker contexts. When found with Beakers, these are usually typologically late vessels. The pieces that are discussed here are made of metal with one exception. The pieces that were analysed were all made of bronze and, according to Needham (2004, 234), represent the earliest stage of proper bronze working (especially in the north) and belong to a late stage of Beaker use in Britain. As the name implies, the objects were ornaments that were worn on the arm. That assumption is evidenced by the position in which the bronze bracelets have been found in the graves. At Shorncote Quarry, Grave 1007, Gloucestershire³⁶⁵, the position of the bracelet was indicated by a copper corrosion stain on the right lower arm (Barclay & Glass 1995, 45-46; Britton 1963, 280). This object was made of sheet metal and featured grooves and ribs that were decorated by vertically punched lines (Fig. 56, no. 1). It is composed of c. 11-12% tin and was probably cold-worked and then annealed at a temperature at about 600-700°C (Barclay, Glass & Parry 1995, 45-46). The individual in this case was a 14-16 year old adolescent buried in a flexed/contracted position with an S-N orientation. A radiocarbon sample gave a late date for the burial of 1980-1670 cal BC (BM-2892: 3480±60 BP; sample from long bone and skull). The find from Shorncote is unique, but it was suggested that the closest parallels are the two armlets in the Migdale hoard³⁶⁶ (*ibid.* 45). Another similar object comes from a cist at Williamston, Perth & Kinross but it lacks associated pottery (Callander 1919, 15-19). The three latter objects, however, were

³⁶⁵ ID: 162.

³⁶⁶ Piggot & Stewart 1958, GB. 26, no. 3, 4.

not made from sheet bronze but rather solid strips. It was also argued that continental connections are likely and should be sought for the object from Shorncliffe, namely in the Aunjetitz sphere (Needham 2004, 234). Nevertheless, other bracelets of sheet metal in association with Beakers are known in Britain, e.g. at Knipton, Leicestershire. A funerary context was suggested for this find but no human bones had been found (Smith 1935, 59-61). This object was decorated in herringbone fashion, a typical Beaker motive.³⁶⁷ The second bracelet in this sample was found with a secondary burial in grave 6371 at Monkton – Minster, Kent³⁶⁸ (Bennet *et al.* 2008, 15-21; 82-84). The copper alloy ‘snake head’-type bracelet is roughly circular in section and was found on the wrist of a child of c. 6 years of age. The child was lying in a flexed position on the left side with the head to the N, thus facing E (Fig. 56, no. 3). Also the primary burial in grave 6371 belonged to a young, probably female individual of 12-14 years.

A second copper alloy bracelet (rectangular in section with tapering ends) that is also associated with a Beaker was found on the same site at a distance of less than 1 km (Fig. 56, no. 2). No human traces were found in the latter pit but the shape and its close association with a burial suggest it was also a grave. Direct parallels for the objects from Kent are not known though similar pieces have been found in different parts of Britain. Four armlets that have been published by Henshall (1964, 426-429) resemble the Monkton-Minster examples in shape. The former have been decorated, however. The three ring ornaments that have been found at Barrow Hills, Radley, Grave 919, Oxfordshire³⁶⁹, are even rarer finds (Barclay & Halpin 1999, 56-57, Fig. 4.14). They likely pre-date the armlets and have been argued to represent the earliest metal finds in Britain (Northover 1999, 192). Unfortunately, the radiocarbon date for the individual has a very high standard deviation and a broad range from 2830-2150 cal BC (OxA-1874: 3930 ± 80 BP). The Beaker styles contrarily point towards the 23rd or 22nd century. One ring was made of a simple penannular wire, one of a coiled ring of thin wire and the third was of sheet metal with overlapping ends (Fig. 57, 1-3). The rings are between 17-21mm in diameter and were made of copper. Material analyses point to the same metal source for these bracelets; however, the origin of

³⁶⁷ For an overview see Britton 1963, 258-325.

³⁶⁸ ID: 127.

³⁶⁹ ID: 28.

which could not be located. A central European origin was suggested though British sources are also possible while Irish sources can be excluded (Northover 1999, 192-193).

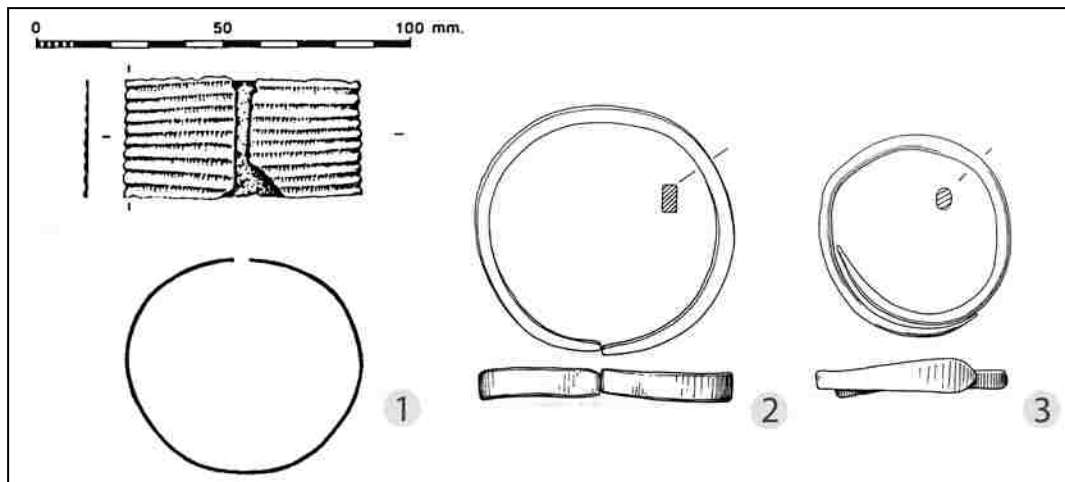


Fig. 59 Bracelets

1. Shorncote Quarry, Grave 1007, Gloucestershire (after Barclay & Glass 1995, 30, Fig. 6);
2. Monkton – Minster, Kent, ‘Grave’ 3035 (external diam. 54.44mm; internal diam. 45.7mm);
3. Monkton – Minster, Kent, Grave 6371 (external diam. 42.41mm; internal diam. 32.53mm) (2. and 3. after Bennet *et al.* 2008, 83, Fig. 1/61)

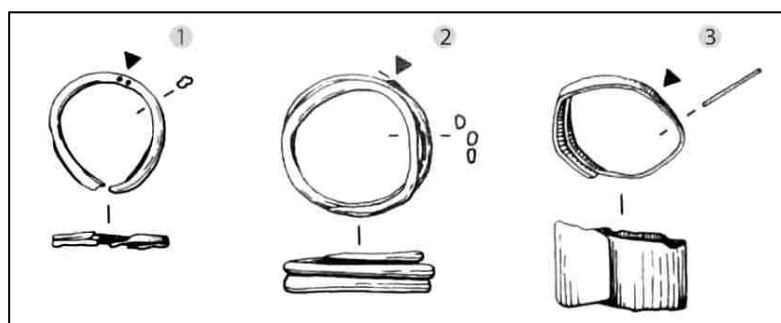


Fig. 60 Copper rings from Barrow Hills, Radley, Oxfordshire, Grave 919 (after Barclay & Halpin 1999, 57, Fig. 4.14)

The function of the objects can be deduced from their position relative to the body. The sheet metal ring was lying in front of the chest and the other two were found behind the shoulders or upper back. The pieces could have been ornaments that were attached to clothing, but they may also have been worn in long hair. The deceased was a 4-5 year old child of indeterminate sex who was laying on the left side with the head to the N. The child also had a centrally perforated bone disc that was lying in front of the stomach.

At Hunmanby, North Yorkshire³⁷⁰, one individual was buried in a barrow with a thin penannular ring placed above the hips. The ring was about 4cm in diameter and had overlapping ends. This grave is problematic however; the pottery has been lost and the excavator stated that “a piece” of a Beaker pot had been found close to the feet (Greenwell 1890, 18-21). It is not clear how large the sherd was and if it can be considered as a grave good at all or if it entered the grave with the backfill. The other objects associated with the body were 20 small, conical V-perforated jet buttons. The number and types of the V-perforated buttons speak against a Beaker grave. All secure associations of metal armlets or rings with Beakers in burials (3 individuals here) were of young people (two children and one adolescent). The shale bracelet or armlet from the Long Barrow at Redlands Farm, burial F131 Northamptonshire³⁷¹, is the only one of its type published so far. Its decoration consists of two parallel grooves and can be compared to similar objects in bronze from the Migdale hoard. It was found on the arm just above the elbow (Bradley 2011, 400) of a middle adult female who was lying on the right side in a contracted position and orientated NE-SW. She was also accompanied by a long necked Beaker (LN) and a copper alloy basket shaped ornament that was found on the left-hand side of the skull. A circular green stain on the right side indicates that a second basket shaped ornament once existed (see Chapter 4.15).

5.13 Metal Pins

Copper or bronze pins generally are a rare occurrence in British and continental European Beaker contexts. Kinnes (1985, 14) noted that only two pins were known in British Beaker contexts that are also part of the present data set. One metal pin could be added but unfortunately virtually nothing is known about that object. It was found in a grave underneath a barrow at Etton, Peterborough³⁷² with the inhumation of an adult of indeterminate sex. The body was lying contracted on the left side with the head to the NW. A long necked (LN) Beaker and possibly a flint flake were found with the body. The latter is not certain: it was not specifically discussed in the report and a direct association did not become clear. A radiocarbon determination from charcoal for a non-Beaker inhumation in the barrow produced a date of 1880 -

³⁷⁰ ID: 114.

³⁷¹ ID: 144.

³⁷² ID: 64.

1610 cal BC (Q-3098 = 3395±40 BP). The date describes a later phase of funerary activity on the site and merely gives a *terminus ante quem* for the Beaker inhumation. It is peculiar that the pin was not further described in the excavation report but it was explicitly stated that it was a “bronze pin” (French & Pryor 2005, 106).

The two other objects of this kind are the copper racquet pin from Roundway G8, Wiltshire³⁷³ (Cunnington 1857) and the copper (double) spiral-headed pin from Sewell, Bedfordshire³⁷⁴ (Matthews 1969) (Fig. 22, 1-2). The former type has been well documented in south-central Europe, in Hesse and Rhine-Hesse, for example in the Oppenheim-Dexheim, hoard 2 in Rhineland-Palatinate (Fig. 58) (Gerloff 1975). They have been dated to the Early Bronze Age there (Bz A1, c. 2200-2000 BC) and have been synchronised with the Adlerberg Group (Kubach 1977, 16-17, 52-55, pl. 1). They also occur further south in Germany and also in Switzerland where they have been dated to the same phase of the Early Bronze Age (David-Elbiali 2000, 141-143), although, they have not been found in Beaker contexts there. The assemblage from Roundway, comprising a typologically early pot, dagger and bracer probably dates earlier, however, and possibly can be dated to the 23rd or 22nd century BC.

A connection for the the pin from Sewell is harder to find. It does have parallels neither in Britain nor have pieces of this type been found in in continental Europe. Its metal composition suggested a continental source for the object and it probably reached Britain as an import or was carried by someone who had obtained it on the continent. Kinnes (1985, 14) gave some continental examples, but these date to the Middle Bronze Age (“Hügelgräberkultur” / “Tumulus Culture”). Also, the examples from the Balkan (“Brillennadeln” / “Spectacle-headed pin”) are of Middle Bronze Age date (Vasić 2003) and cannot be seen as archetypes for the Sewell pin. The spiral motive is certainly known to have existed on the Danube in the Early Bronze Age and its appearance was summarized by Irenäus Matuschik (1996) in a diachronic study. However, he did not discuss needles but “spectacle spiral pendants” and “spirals with hook”, which are also found in central Europe and in the southern Alpine region (Matuschik 1996). The spiral motive was more widespread of

³⁷³ ID: 149.

³⁷⁴ ID: 160.

course and had an important function in the iconography of the time, especially in connection to Neolithic funerary monuments. It has been found as motive on rock carvings, e.g., in Ireland at Newgrange, Co. Meath, on the Orkney Islands or in the Bretagne in France and in Kilmartin Valley, Argyll & Bute (cf. RCAHMS 1999; Clarke, Cowie & Foxon 1985, 51-52, figs. 3.12-3.14). The problem with rock art is the difficulty of 'exact' dating, which in most cases is uncertain.

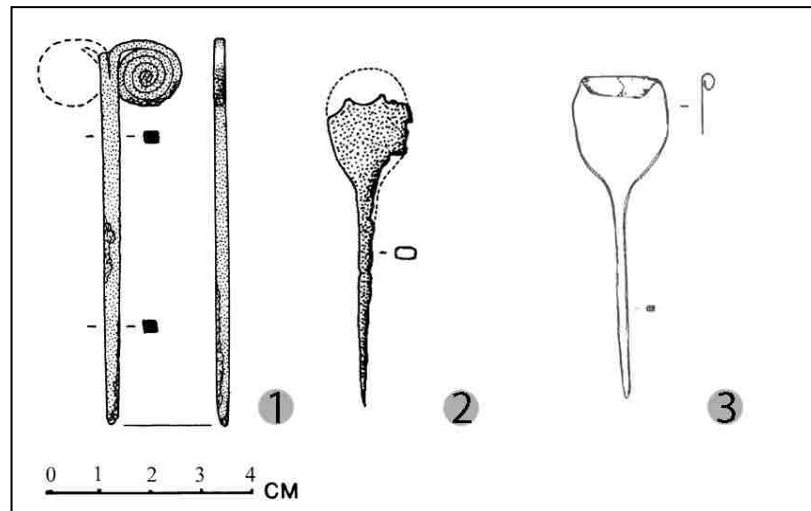


Fig. 61 Metal pins

1. Spiral-headed pin from Sewell, Bedfordshire; 2. Racquet pin from Roundway G8, Wiltshire (length: 6.3cm); 3. Racquet pin from Oppenheim-Dexheim, Rhineland-Palatinate, Germany (without scale)

(1. after Kinnes 1985, 13; 2. after Gerloff 1975, Taf. 1, A2; 3. after Gerloff 2007, 131, Fig. 13.6)

An alternative was suggested recently for the pins from Sewell and Roundway. It was argued that they might not follow central European archetypes at all, but that they could genuinely be British forms (O'Connor 2010). On the other hand, the metal composition of the pin from Sewell does point to a central European origin of the artefact (Woodward & Hunter 2011, 93, 103, 114).

The artefact associations, and the objects from Roundway and Sewell, stand in contrast to those for the above described pin from Etton. The former graves produced comparably early low carinated (LC Maritime Derived) Beakers and the amphibolite B2 – 4Spp/pc wrist-guards also point to an early date. The dagger from Roundway and the bone toggle from Sewell (see below) also fit into the image. A radiocarbon

date from bone from the skeleton for Sewell furthermore places the assemblage between 2460 – 2150 cal BC (SUERC-26194: 3830±30 BP).

Concerning the individuals, no apparent pattern was visible. Two were buried on their left side and the individual from Sewell was found in a supine position. The individuals were a young adult and an old adult, and in the case of the badly preserved remains from Etton, it was only possible to identify an adult individual. The two ‘early’ graves were probably males, thus confirming the connection between male burials and daggers / wrist-guards. The individuals all had a broadly northern orientation in common, one NW-SE, one N-S and one NE-SW. A preference for the northern sector of the compass for the southern area of research has been discussed above.

5.14 Organic Pins and Points

Generally, a pin is a functional ornament that was, for example, worn in the hair or fastened a cloth, whereas points or awls are objects with which activities, such as leather working, were carried out. Barclay, Serjeantson & Wallis defined awls as “points made from longitudinal bone splinters in which the articular end is retained as a handle” and which are minimally modified and where occasionally the medullary cavity is removed (1999, 235). (Bone) pins on the other hand “are made from splinters and are distinguished from awls by the removal of the articular end and by the fact that the pin shaft and not just the point is often finished by grinding and polishing” (*ibid.*).

5.14.1 Pins

The number of pins that have been recovered from Beaker contexts is very low (Needham 1999, 236), and only three pins have been included here. These are the antler or bone pin found with the Amesbury Archer³⁷⁵, the bone pin from Barrow Hills, Radley, Grave 4660³⁷⁶ and the simple bone pin from Wetwang Slack 4, Grave 3³⁷⁷. According to the radiocarbon dates, the earliest of these is the wing-headed or T-shaped pin from the burial of the Amesbury Archer (Fig. 59, no. 1). It measured 138mm in length and 3-5mm in cross section. One of the wings had been broken in

³⁷⁵ ID: 15.

³⁷⁶ ID: 27.

³⁷⁷ ID: 204.

antiquity. It was found parallel to the black wrist-guard on the forearm with the point towards the face. It was suggested that it was “tucked under the hide or cord bindings that fastened the bracer to a hide or sleeve or backing rather than being worn” and could originally have been used in order to fasten a piece of clothing (Fitzpatrick 2011, 157). The wing-headed pin from Barrow Hills, Radley, Grave 4660 is the only comparable find in Britain (Fig. 59, no. 2). The tip was broken off, and the remaining length of the pin was 145mm. It was found above the skull of the man and was possibly part of the headdress or might have secured a hood. Pins of the Boscombe Down and Radley type are known from several parts of continental Europe and in different materials, such as bone, antler, copper and silver. They are probably of general Late Neolithic and Chalcolithic / Early Bronze Age date (Fitzpatrick 2011, 157; Needham 1999, 236).

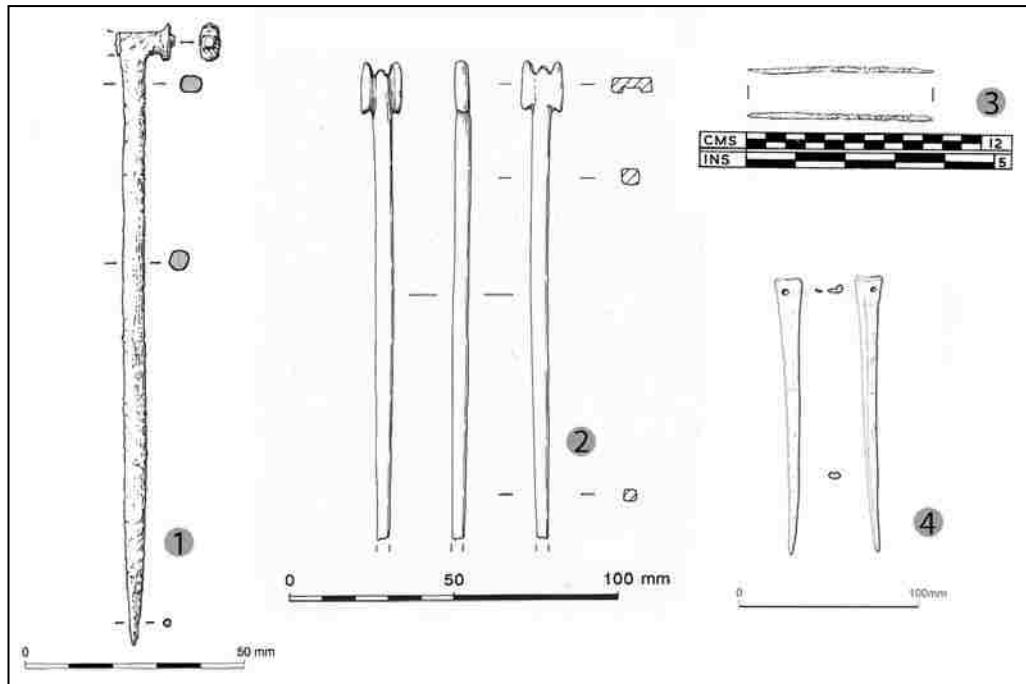


Fig. 62 Organic pins

1. Wing-headed bone / antler pin from Boscombe Down, Wiltshire; 2. Wing-headed bone pin from Barrow Hills, Radley, Grave 4660, Oxfordshire; 3. Bone pin from Wetwang Slack 4, Grave 3, East Riding of Yorkshire; 4. Bone point from Ferrybridge, Barrow 154, SK19, West Yorkshire (1. after Fitzpatrick 2011, 157, fig. 52; 2. after Barclay & Halpin 1999, 65, fig. 4.23; 3. after Brewster 1980, fig. 491; 4. after Roberts 2005, 164, fig. 119)

A close parallel to the pin found with the Amesbury Archer is known from Switzerland from Corded Ware contexts. Bearing in mind the probable origin of the

man, it could theoretically be possibly that the pin from Boscombe Down was inspired by an Alpine prototype, but Fitzpatrick emphasised that this was just one option (2011, 158). Regarding the chronology of these two pins, he argued that they should be “relatively close in date”, with the Amesbury Archer being the older burial, based on artefact typo-chronology (*ibid.*, 157). However, considering the radiocarbon dates of the buried individuals, they were probably not that close and might have been separated by a century or more (Fig. 60).

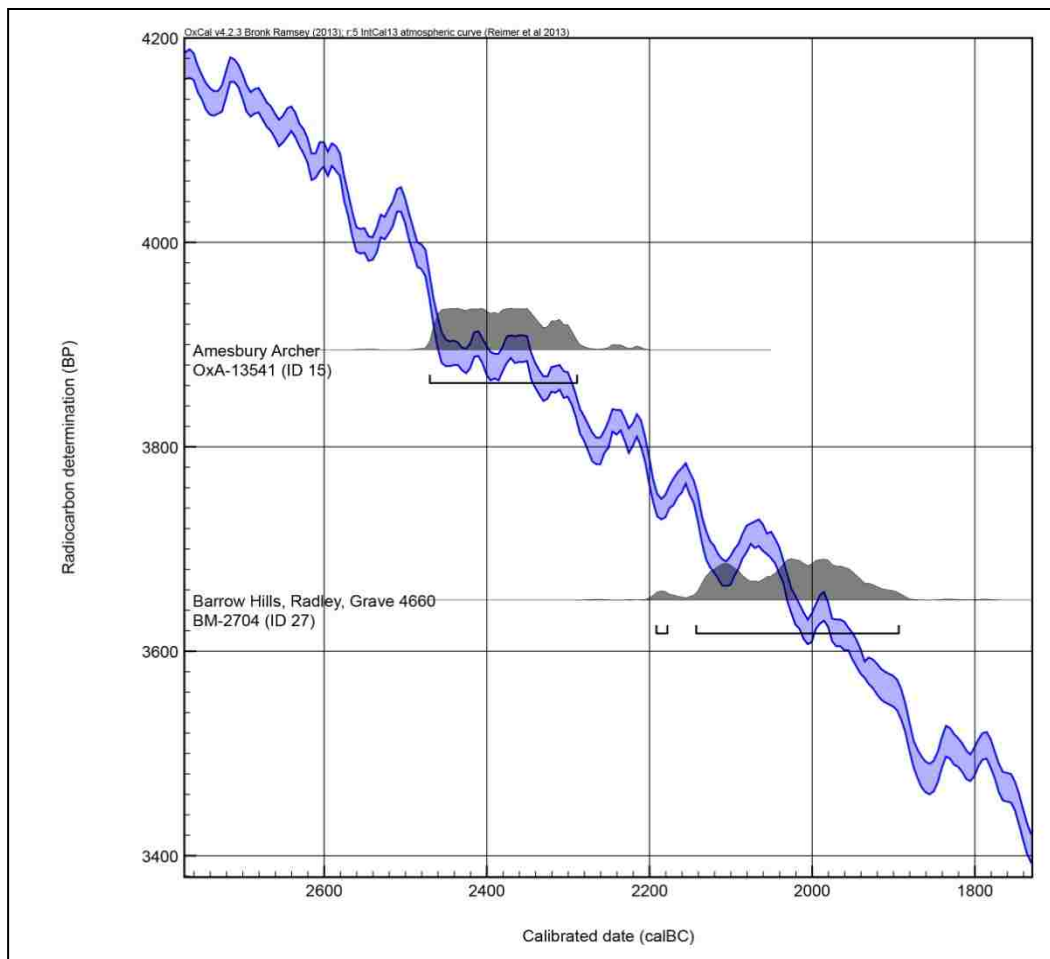


Fig. 63 Radiocarbon dates for the Amesbury Archer and the individual from Barrow Hills, Radley, Grave 4660

As shared artefact associations the two graves contained LC Beakers. In the case of Barrow Hills Radley, Grave 4660 it was a LC evolved Maritime-derived Beaker and these vessels have been argued to have a long currency until the 21st century (Needham 2005, 183). Additionally, they contained early copper daggers, barbed-

and-tanged arrowheads, antler spatulae / strips and flint tools. However, the grave from Boscombe Down is without comparison and was unlike 'richer' furnished. The third pin was found at the feet of the male individual who was buried in the barrow Wetwang Slack 4 (Grave 3) (Fig. 59, no. 3). The thin, plain object was about 10cm long and was located under the right foot. The man was accompanied by a LN Beaker of Needham's earlier series which had a starting date "during the 22nd century BC and perhaps earlier" (2005, 195).

The three pins were deposited with males and all were lying on their left side. The two burials discussed initially were situated in Oxfordshire (Barrow Hills) and Wiltshire (Amesbury Archer), and the individuals were orientated N-S and NW-SE, respectively. The middle adult men were therefore buried according to regional practices. The adolescent from Wetwang Slack, East Riding of Yorkshire was lying with the head towards S. This orientation has been recorded in several cases, predominately north of the Humber, but generally was not a common feature, especially not with the position on the left side.

When looking at the individuals with metal pins (see above), the image is confirmed that pins in general were exclusively (at least in this sample) buried with grown men of all age classes, aligned broadly in a N-S direction, with the exception of the adolescent individual from Wetwang Slack that was lying with the head southwards.

5.14.2 Awls / Points

David Clarke argued that bone awls or points were tools for leatherworking, rather "than pins in the accepted sense" (1970, 124). He had recognized that awls / points were predominately associated with males (1970, 448, app. 3.3). Seven objects that Clarke had included in his count were also included here, four of which were almost certainly awls.³⁷⁸ In three other cases,³⁷⁹ Clarke's data could not be verified, for a lack of published drawings. The original publications described these objects as pins, but it does not become clear if they are preserved, nor if Clarke saw them. Two additional awls from more recent excavations from Barrow Hills, Radley³⁸⁰ and Ferrybridge³⁸¹ could be added. These were also associated with men. Two

³⁷⁸ IDs: 1, 10, 107, 233.

³⁷⁹ IDs: 54, 93, 126.

³⁸⁰ ID: 26.

³⁸¹ ID: 76.

individuals were unsexed; the individual from Clifton, Cist 1 was of indeterminate sex, but Clarke indicated that it could have been a woman (1970, 442) without specifying his argument. The young adult was orientated S-N and was lying on the right side; considering general trends in orientation and position, it was rather a woman than a man, but a clear decision cannot be made. At Cawdor Castle³⁸² the body was orientated to the west and the position was uncertain. W-E orientation is a northern feature and is predominately associated with women, but again the sex cannot be assessed solely from the available information. The individual was associated with three bone tools: two points or awls from longitudinally split bones with emptied medullary cavity and one peculiar tool that has only been documented once. It has been described as a bone 'chisel', but further information was not available. The remaining objects were found in graves that were located towards the north of the area of research, i.e., north of the Humber, and follow the above outlined patterns of orientation and position, i.e., men lying predominately on the left side with an easterly orientation.

The position of the tools in five graves had not been reported or did not appear to be diagnostic. However, in three, possibly four, of the nine graves, the objects were found in the pelvic area, namely in Alsop Moor, Green Low³⁸³, Barrow Hills, Radley, Grave 20³⁸⁴ and Ferrybridge, Barrow 154, SK19³⁸⁵. At Acklam Wold³⁸⁶ the point was lying on top of what appeared to be a wooden board between knees and pelvis, but the exact position was not specified (Mortimer 1905, 92). At Barrow Hills, Radley, Grave 20 and Ferrybridge, Barrow 154, SK19, the pins were found behind the pelvis together with spatulae and flint artefacts and at Alsop Moor, Green Low the point lay across the pelvis and three spatulae, three barbed-and-tanged arrowheads, four scarpers and two flakes were found behind the back. These positions suggest that the artefacts had been placed together, possibly in a bag that was worn on a belt. However, at Acklam Wold this is not certain: the objects could have been displaced, or the awl had possibly been tucked in a belt.

³⁸² ID: 233.

³⁸³ ID: 10.

³⁸⁴ ID: 26.

³⁸⁵ ID: 76.

³⁸⁶ ID: 1.

In addition to this apparently significant combination of spatula, flint arrowheads and flint objects, flint daggers³⁸⁷ and fire making kits³⁸⁸ were found in three of the graves. They had all been associated with LN Beakers, as were the burials from Garton Slack Barrow C.63, 2³⁸⁹ and Middleton-on-the-Wolds³⁹⁰. The latter also contained a strike-a-light and a V-perforated button, which had also been found at Acklam Wold.

The Beaker and artefact combination in the discussed graves exhibit a change from the “primary package” and illustrate a stage of “diversification in grave groups” that Needham dated to 2250 – 2150 cal BC and which he labelled the fission horizon (2005, 205). This diversification could have started already slightly earlier, considering the radiocarbon dates for the individual from Acklam Wold and Ferrybridge that lie between 2340 – 2000 cal BC.³⁹¹

5.15 Basket-Shaped Ornaments

Basket-shaped ornaments are rare objects and are made of gold and of copper alloy. Particularly, the former are considered some of the more spectacular Beaker artefacts, representing the oldest goldwork in Britain (Fig. 61); the copper alloy objects came into use at a later stage (Taylor 1980, 24; Clarke, Cowie & Foxon 1985, 187; Sherratt 1986; Needham 1999, 186, Tab. 7.8). They have been found as stray finds and they occur in burials, mostly in pairs. Due to the position in the grave where basket ornaments have mostly been found, close to the skull or in contact with the skull, a function as earrings was suggested in the past (first by Greenwell 1877, 324-325). This idea was challenged by Andrew Sherratt, who argued that functionally the ornaments rather resembled central European forms, such as the *Locken-* and *Noppenringe* of the Early Bronze Age and should have to be considered as hair ornaments (Sherratt 1986). In his discussion of the two pairs of basket ornaments from Chilbolton, Hampshire³⁹², Andrew Russel argued on grounds of use-wear analyses carried out on the pieces that they had actually been worn as earrings

³⁸⁷ ID: 1, 10, 76.

³⁸⁸ ID: 1, 20, 26.

³⁸⁹ ID: 93.

³⁹⁰ ID: 126.

³⁹¹ Acklam Wold (ID: 1) OxA-V-2197-50 S-EVA 2155: 3774±36 BP= 2333-2014 cal ; Ferrybridge (ID: 76): AA-54300: 3745±55 BP = 2340-1960 cal BC.

³⁹² ID: 51.

(1990, 166). Again, that interpretation has been challenged recently by Needham, who proposed a third possibility: he thought, re-interpreting the use wear analyses from Russel, that the ornaments could have been attached to a removable headdress or collar (2011, 137). It is agreed here with Needham that gold basket ornaments were not worn permanently; it is rather thought that they were part of a ritual or ceremonial outfit. Sherratt's assumption of hair ornaments is preferred, however. Another issue that has been raised frequently is that of the origin of the basket shaped ornaments. Sherratt regarded the origin of the British pieces in central European Corded Ware contexts, which itself would have been influenced by earlier eastern European metalwork (1986). It had already been suggested in 1980 that the 'basket-shaped earring' was an entirely British innovation (Taylor 1980, 24). Also, Russel argued that the lack of directly comparable items on the continent would speak in favour of an indigenous British development (1990, 166). In reviewing the evidence, O'Connor came to the conclusion that for chronological and typological reasons, the sources for British basket ornaments could not be found in eastern Europe (similar objects in this location post-date the British examples), but that the 'earrings' from Britain, Ireland, France and Portugal seemed to be related both stylistically and chronologically (O'Connor 2004, 208-210).

In a recent account, Stuart Needham discussed British basket shaped ornaments at length (Needham 2011; for an up-to-date list of the expanding number of British and in general 'Atlantic' examples see his table 22). He argued that basket-shaped ornaments originated in Britain and were in use there for about "two or more centuries" until they were then imitated in other parts of the Atlantic zone; these imitations were stylistically different (*ibid.*, 133). He established five groups (A-D) of Atlantic zone basket-shaped ornaments based on width / depth ratios and on decoration. This stylistic grouping "may have chronological and geographical significance" (*ibid.*, 134). While geographical preferences are apparent in his scheme, the chronological relevance cannot be comprehended here. The radiocarbon dates do not suffice to establish a chronological sequence³⁹³ of the finds, and Needham's chronology is ultimately based on typological arguments, i.e., objects are

³⁹³ The radiocarbon dates of Barrow Hills, Radley, 4a and Chilbolton (Primary), are relatively imprecise and cover the period from 2650-2000 cal BC.

ordered from simple to elaborate. He argued that “*simplicity of design and execution would tend to be early in an emergent phase of metalworking*” (*ibid.*, 136).

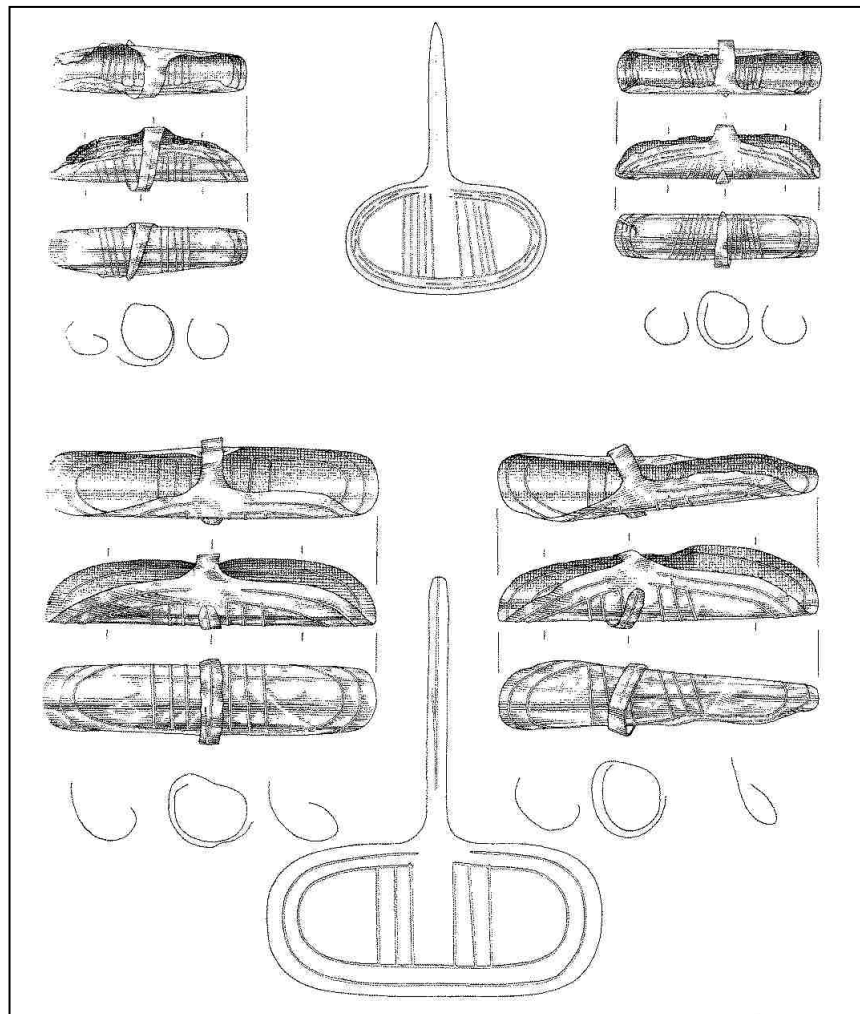


Fig. 64 Golden basket-shaped ornaments from Chilbolton, Hampshire (after Russel 1990, Fig. 7)

The dimensions of gold basket ornaments vary widely. The biggest of them is certainly the piece from Orbliston, Moray that measures 135mm on the long axis³⁹⁴ (Paton 1868-70; Taylor 1980, 93, pl. 3f; O’Connor 2004, 207-208). However, this object was found without pottery association but probably with a gold lunula. Similar sizes have only been documented in Ireland (cf. Needham 2011, Tab. 22). Usually the ornaments are of smaller size with the smallest from the graves of the Amesbury Archer and the Companion (cf. O’Conner 2004 and IDs: 15, 25 & 51).

³⁹⁴ Originally it was a pair of ornaments that had been found in a cist without pottery association.

Three individuals from this sample were accompanied by gold basket-shaped ornaments. At Barrow Hills, Radley, Oxfordshire³⁹⁵ (Williams 1948; Barclay & Halpin 1999, 154-155) the pair was found near the head. The same applied for the four examples from Chilbolton, Hampshire. One of the two large ornaments was found on one side of the head each, and the smaller ones had been found during sieving in soil from “round the body” (Russel 1990, 156). The position of the earrings in the grave of the Amesbury Archer, Wiltshire³⁹⁶ was unusual: they were found in front of the knees. Also in the case of the Companion that was excavated nearby, the gold ornaments were not lying next to the head (Fitzpatrick 2012, 130). What is striking, however is, that in all three cases, the basket-shaped ornaments were buried with adult men that were lying on their left side with the head to the NW. The Amesbury Archer and the man from Chilbolton were additionally buried with numerous high quality artefacts. In all three burials, typologically early Beaker pottery was associated with the body (Clarke: AOC variants, European Style, W/MR; Lanting & van der Waals: Step 1/2; Needham: LC variants). Other sites also produced early Beaker pottery with gold basket-shaped ornaments, such as the probable burial under a barrow at Kirkhaugh I, Northumberland. There, a crushed AOC vessel was associated with a basket-shaped ornament, a ‘rubber’ or ‘whetstone’ and several flint objects including one barbed and tanged arrowhead (Maryon 1936, 211-212).

An interesting contrast arises when comparing the gold basket ornaments and copper alloy basket ornaments. It is accepted that the latter developed after their gold siblings, and also the radiocarbon dates confirm that assumption (Harding & Healy 2011, 388-389). The object at Redlands Farm, Stanwick, Long Barrow, Grave F131, Northamptonshire³⁹⁷ has been indirectly dated to 1890-1630 cal BC (BM-2833: 3450±45 BP; sample from collagen from human femur and tibia). Also, the copper alloy variant has usually been found in pairs, e.g. at Stakor Hill, Buxton, Derbyshire³⁹⁸ (Bateman 1861, 80-81; for an extensive list for copper alloy basket ornaments see Harding & Healy 2011, 389, Tab. SS3.2). It has been shown that the

³⁹⁵ ID: 25.

³⁹⁶ ID: 15.

³⁹⁷ ID: 144.

³⁹⁸ ID: 170.

individuals with the gold variant were all men, and that they were buried in remarkably similar fashion. The copper alloy variant, on the other hand, has been found to be exclusively associated with females.³⁹⁹ This applies not only to the two individuals in this work that were both buried on their right side but with different orientations (NE-SW and SE-NW), but also to the examples where the sex of the individual could be determined (see reference above). Concerning the function, however, there seems to be continuity. Also, in the case of the copper alloy objects, their position in the grave or their position on the skull as seen by copper corrosion stains indicates a function as some kind of ornament worn on or at the head. In a recent publication, some new light was shed on that matter. In the above mentioned burial at Redlands Farm, Northamptonshire, analyses of the ornament identified what was probably human hair on the outer surface of the object (Harding & Healy 2011, 388-390), thus confirming the here favoured interpretation. Individuals with copper alloy 'earrings' have been found with typologically late Beaker pottery, such as the two examples from Redlands Farm (S1 / Step 5 / LN) and Stakor Hill, Buxton, Derbyshire (FP / LN) or from a disturbed funerary context at Tallington, Lincolnshire, with possibly two adults and three children that were associated with an S4 Beaker according to Clarke's terminology (Simpson 1976).

Regardless of whether the group of basket-shaped ornaments was worn in the hair, the ear or was attached to a form of headdress, the early gold forms must have been of particularly great material and social value. They were clearly visible, shiny objects and, apart from an impressive look, their rare existence must have bestowed its wearer a prominent status. The richly equipped burials of males with gold ornaments, which probably represent one of the first generations of Beaker users in Britain, can be seen as representatives of a male dominated community. The practice of equipping females with bronze basket-shaped ornaments started later, suggesting a shifting in the meaning of the objects. The status of these objects was doubtless high since bronze products were still rare objects and they still identified a person of high social status.

³⁹⁹ It has to be borne in mind, especially in old reports, that the sexing is not always reliable. At Cowlam, East Riding of Yorkshire, Greenwell stated that he had found "a body, probably that of a woman, but the bones were so much decayed that nothing more, with respect to their position, could be made out than that the body had been placed in the usual contracted form" (1877, 223). The sexing of this body is completely based on the associated artefacts.

5.16 Toggles

Two general types of toggles can be distinguished: tubular toggles and straight-sided toggles. Both occur rarely in Beaker contexts but when they are there, tend to be found in 'richly' furnished graves. The first type to be described comprises tubular objects that have been cut from the longbone of medium-sized mammals and comprise a circular lateral perforation, probably in order to attach a cord (cf. Fig. 62, no. 4). Only two of these have to the authors knowledge been found in secure Beaker contexts. The example from Sewell, Bedfordshire⁴⁰⁰ measured 2.8cm in length and was made from the bone of a "caprovine-size" animal and was lying on the sternum just below the right ulna of a young adult man who was also accompanied by a LC Maritime Derived Beaker, an amphibolite bracer (B2 – 4Spc) and the only double-spiral headed copper pin in a British Beaker context (Matthews 1969; Kinnes 1985, 12). The bone toggle from Thomas Hardye School, Grave 1643, Dorset⁴⁰¹ was found by the left arm and measured approximately 4cm in length. The remaining grave goods were a LC Beaker, a tanged dagger, an amphibolite bracer (B2 – 4Sbc) and three barbed and tanged arrowheads. Also in this case, it was a male individual aged between 15 and 21 years at death. The individual from Sewell was found in a supine position with the head to the NE and also the man from Thomas Hardye School was aligned in a northerly direction; he had been found lying on his left side with the head to the NW. For both individuals radiocarbon dates are available that produced nearly identical determinations between 2460-2150 cal BC⁴⁰². The similarity of the two discussed graves, either in terms of grave goods as in terms of orientation and age of the individuals is striking. Other toggles have been found in Scottish Collared Urn contexts (e.g. Callander 1922-23, 156, Fig. 14; Longworth 1984, 301, Pl. 89; 303, Pl. 232; 313, Pl. 51). Stylistically, they differ from the Beaker objects because they are more elaborated. Functionally, they could have served the same purpose. Concerning the second group of toggles, there is no unanimity as to the function and the same object may be called toggle by one and pendant by the next author, depending on the respective interpretation as fasteners for clothing or as ornaments (cf. Fig. 62, nos. 1-3). They are bone or antler objects with straight sides, a central

⁴⁰⁰ ID: 160.

⁴⁰¹ ID: 188.

⁴⁰² Sewell: SUERC-26194 : 3830±30 BP = 2460 - 2150 cal BC; Thomas Hardye School, Grave 1643: NZA-23745 : 3856±30 BP = 2460 - 2190 cal BC

perforation sometimes with a loop, or a central waisting to allow a cord to be attached. Some examples additionally comprise terminal swellings (Fitzpatrick 2011, 59).

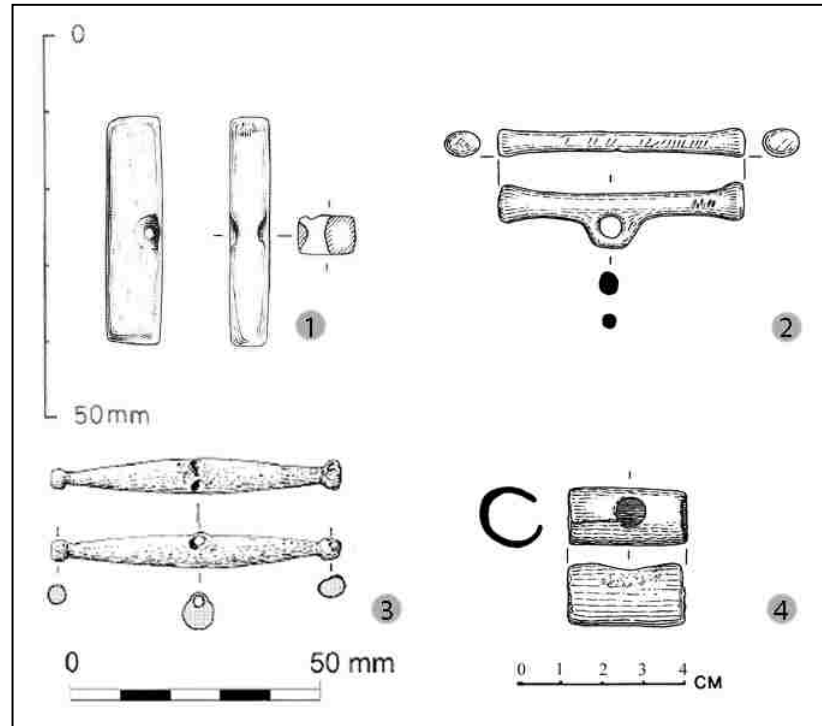


Fig. 65 Pendants / Toggles

1. Etton, Peterborough, Grave 10; 2. Barnack, Cambridgeshire, Grave 28 (length: 65mm); 3. Boscombe Down, Wiltshire, 'Boscombe Bowmen'; 4. Sewell, Bedfordshire (1. after French & Pryor 2005, 132, Fig. 74; 2. after Donaldson 1977, 211, Fig. 4; 3. after Fitzpatrick 2011, 59, Fig. 20; 4. after Kinnes 1985, 13)

At present three examples are known from Beaker contexts; these are the bone objects from Barnack, Cambridgeshire⁴⁰³ and Etton, Peterborough, Grave 10⁴⁰⁴ and the antler toggle from the grave of the Boscombe Bowmen at Boscombe Down, Wiltshire (Fitzpatrick 2011). While the toggle from Barnack was found at the man's elbow, the object from Etton was found in the grave fill. The position in the third grave did not allow associating it securely to the articulated skeleton. It was found

⁴⁰³ ID: 23.

⁴⁰⁴ ID: 66.

under the arm bones of the articulated individual,⁴⁰⁵ but within disarticulated human bones⁴⁰⁶ to which it might belong as well (*ibid.*, 17-18, 59, Figs. 6 & 11).

The individuals at Barnack and Etton were both males lying on the left side. The former was middle adult (35-45) and orientated NNE-SSW, the latter was a young adult in his 20s and he was aligned NE-SW. The individual from Boscombe Down was also lying on the left side but with the head to the NW (Fitzpatrick 2011, 16); as stated above the association with the toggle was not certain.

The individual from Barnack was equipped with a number of relatively early Beaker artefacts, including a TMC Beaker, which place this grave slightly after the two above mentioned graves. The grave from Etton produced a Long Necked Beaker (LN earlier series) and a Bos skull in the pelvis region. Both skeletons were radiocarbon dated and while the individual from Barnack produced a date between 2300-2040 cal BC (BM-2956: 3770±35 BP); the radiocarbon date for the individual from Etton places it a couple of hundred years later between 1880-1610 (Q-3098 = 3395±40 BP). Even though the decor and vessel shape from Etton are quite unusual for such a late date, some long necked Beakers have been dated similarly (Needham 2005, 195-198). The human remains of the two individuals, to which the toggle from Boscombe Down was potentially associated, have been dated to 2470 – 2200 cal BC (Fitzpatrick 2011, 16-17).

The radiocarbon determination, the reduced artefact equipment of the Etton burial and also the style of the toggle that differs from the early examples from Barnack and the Boscombe Bowmen possibly illustrate changing deposition practices over time (cf. Fig. 62). Toggles that, in terms of shape can be correlated to the example from Etton, are also known from Food Vessel contexts, e.g. the object from Drifffield C.38⁴⁰⁷, East Riding of Yorkshire that accompanied an adult individual was found amongst the hand bones (Lord Londesborough 1852, 253-254, Fig. 2). Another toggle was found at Garton Slack C. 62 on the side of the skull a child that also was accompanied by a Food Vessel (Mortimer 1905, 213, Fig. 528, 531). A toggle, pins and a boar's tusk from Letham Quarry, Angus have been repeatedly mentioned, e.g. by Callander (1923-1923, 131, 154, Fig. 15), Gerloff (1975, 166, No. 291) or

⁴⁰⁵ Burial 25004.

⁴⁰⁶ Context 25008, containing two adult males, a 15-18 year old and one possibly juvenile.

⁴⁰⁷ ID: 60.

Donaldson (1977, 215). Callander had noticed that the objects were not mentioned in the original account by Coles (1896-1897). Coles, however, explicitly stated that no artefacts other than the dagger had been found (while he was present) with the badly preserved skeleton in the short cist at Letham Quarry (1896-1897, 183). Armstrong-Hall stated that “only one object of interest” (the dagger) was discovered in the cist (1898, cxxxiii), and also Coates made no mention of the toggles (1919). It thus seems that the artefacts mentioned by Callander had been excavated at a different site.

Three of the four toggles from the dataset were found in ‘richly’ furnished graves, containing for example dagger, bracers or arrowheads (Barnack 28, Sewell, Thomas Hardye School). As could be shown above, these have only been found with males. Also the individual from Etton was male, and all four had been buried with the head orientated between NE to NW. Three were lying on the left side; the man from Sewell lay in supine position.

The question whether the objects in question should be regarded as toggles or pendants has been addressed briefly at the beginning of this section, and it is based on the comparison between the British objects with central perforation and terminal thickening, such as from Barnack and Boscombe Down and some very similar straight toggles/pendants that have been found in parts of central Europe, e.g. at Flomborn, Lkr. Alzey (Köster 1965-66, Taf. 20), Weimar, Lkr. Weimar (Gall & Feustel 1962, 224)⁴⁰⁸ or in Erfurt-Gispersleben, Kr. Erfurt (Lippmann & Müller 1981, Taf. 37c)⁴⁰⁹, all in Germany. By comparing the Beaker pottery that was found at Flomborn with the dated Beaker pottery from a burial from Bad Nauheim, the toggles at Flomborn can broadly be dated to 2500-2300 BC (Sheridan & Davis 2011, 59).

The continental straight toggles have been compared to the bow-shaped pendants that are found in Beaker burials in central Europe and that have been defined as part of the Beaker package of the Beaker East Group (Strahm 2004). They have been

⁴⁰⁸ The object was found in the grave of a strongly contracted individual, lying on the left side, head N. The hands were in front of the face, the femora and lower legs were parallel to the axis of the body. Apart from the toggle, sherds of a Beaker and a wrist-guard were found. Toggle on the hip, bracer amongst the ribs, pottery between feet and waist. Heavily disturbed during construction works.

⁴⁰⁹ Toggle with pointed ends and thus slightly different in appearance. Found in grave with male individual (20-30 years at death), lying on his left, head NNW-SSE, with hand under skull. Associated grave goods were Beaker (behind the shoulder), bracer (on wrist below left arm), 3 arrowheads, all pointing S, and a toggle that was found in front of the waist together with retouched flint flake.

interpreted as miniature composite bows or quivers, thus symbolizing archery (Piggott 1971; Heyd 2007, 351; Fitzpatrick 2011, 60-61). These bow-shaped forms are more numerous than the straight ones and have been found in bone, antler, boar's tusks and also metal, whereas the latter material was a later addition (Hajek 1939; Piggott 1971; Fitzpatrick 2011).

While Hájek (1939) argued that the straight toggles had to be interpreted as belt-toggles, an alternative suggestion was put forward that a use as pendants was more likely (Piggott 1971, 83). That was based on the position in the grave where they have been found predominately in the neck or chest region or behind the back (Heyd 2000, 286), and Fitzpatrick named several examples that were found near the shoulder and could have been ornaments that were attached to the clothing or possibly to a quiver (2011, 61). Structurally, bow-shaped pendants and straight toggles pendants show some similarities, mainly the terminal thickening and the central perforation. Fitzpatrick argued in favour of a common theme for bow-shaped pendants and straight toggles/pendants (2011, 60). While it is possible that a common principle existed, the position in the grave suggests a distinct function. Bow-shaped pendants are mostly found in the neck area, the above mentioned straight toggles from Germany have been found in the waist area and for the British straight toggles the evidence is too scarce as to come to general conclusions. However, regarding the initially discussed tubular toggles, a wear pattern can be postulated. The appearance of tubular toggles and the toggles/pendants is different but the location on the arm implies a similar attachment, e.g. at Barnack 28, Sewell or Thomas Hardye School⁴¹⁰.

Woodward *et al.* (2011) interpreted toggles in combination with wristguards as part of falconry equipment (See Chapter 4.3). That idea was based on the observation of the regular association of toggles and bracers, also well represented in the current dataset. This scenario cannot be eliminated, but the idea is mainly based on the interpretation that bracers were objects used in falconry, an idea not favoured here. It is possibly arbitrary if one calls these objects toggles or pendants because they might have served both purposes at the same time, in that they were used as fasteners for a garment but also had ornamental value. It could be objected, for instance, that the

⁴¹⁰ IDs: 23, 160, 188.

toggle from Barnack did not show any signs of wear and therefore had an ornamental rather than a functional use, as has been argued by Donaldson (1977, 215). On the contrary, an object could have been made especially for the grave and was in pristine condition for that reason. It cannot be decided if the interpretation as toggle or pendant better matches the original use. It is possibly not even necessary to make this strict distinction because the position of these items suggests that they had a practical function but were ornaments at the same time.

5.17 (Belt) Rings

Rings have been discussed by different authors, such as David Clarke (1970, 113, 571-572) or more recently by Alison Sheridan and Mary Davis (2011, 118-120) and therefore a brief summary is thought to be sufficient at this point.

Rings of different types are known from archaeological cultures from the Late Neolithic to the Early Bronze Age and have a wide European distribution (Clarke 1970, 113-114, 571-572). Bone belt-rings in Britain have been argued to be an “*adaption of a continental European fashion*” and in analogy to continental examples they have been interpreted as belt rings (*ibid.*; Sheridan & Davis 2011, 119).⁴¹¹ Especially the bone belt-rings with shanks have several parallels on the continent, e.g. the object from Mühlhausen, Thuringia (Albrecht 1964-65, 206, Abb. 4) (Fig. 63, no. 8) or from Stuttgart-Zuffenhausen, Baden-Württemberg (Sangmeister 1974, 111), both in Germany.

In Britain a variety of rings has been found with Beaker accompanied individuals. They comprise simple rings, sometimes with perforations, and the more elaborate forms with shanks. While the latter in Britain are only known to be made from bone, other rings have been found in bone, shale, jet and amber (Fig. 63). Some rings bear decorations, such as the grooves on the example from Hemp Knoll or the radial incisions on one flat side of the piece from Mainsriddle (Fig. 63, 3 & 4). Even though several examples of rings have been found close to the pelvis, such as the bone belt-ring from Borrowstone⁴¹², the broken bone ring from Hemp Knoll⁴¹³ and the shanked belt ring from Stanton Harcourt⁴¹⁴, others had been deposited in different parts of the

⁴¹¹ For a reconstruction of the possible use of belt rings see Clarke 1970, 299, Fig. 144.

⁴¹² ID: 226.

⁴¹³ ID: 108.

⁴¹⁴ ID: 173.

grave. The shale ring of the Amesbury Archer⁴¹⁵ was found in front of the knees, and at Mainsriddle⁴¹⁶ the bone ring lay amongst the finger bones and had probably been placed in the hand at the time of burial. The badly preserved amber ring from Raunds Barrow 1 (Irthlingborough)⁴¹⁷ was deposited at the feet of the individual with an array of other artefacts, possibly in a bag. Therefore, a single function cannot be identified, but a use of belt rings for different purposes is likely. According to a recent interpretation, some rings might have had a specific function that was connected to bracers. Like the toggles that were discussed above, some rings were found on the arm and were thought to be part of falconry equipment. As one example, the bone ring from Hemp Knoll was highlighted (Woodward *et al.* 2011, 105). This ring, however, was found on the right femur of the individual. During the decomposition process it could have been dislocated, but then it would originally have been situated on the right arm and not on the left, where the bracer had been worn in that case (cf. Robertson-Mackay 1980, 142, Fig. 9). The bone belt ring from Hemp Knoll was in a much worn state and because also the wrist-guard was much worn with a broken-off corner it has been suggested that the two objects were heirlooms (Needham 2005, 195).

A total of 9 individuals in this sample was associated with rings of different types⁴¹⁸, at Broomend of Crichton, Cist 1 it is uncertain with which body the ring was associated. Independent of the type of ring, all individuals were male (8) or probably male (1). The observation that (belt) rings were exclusively found with men was already noted by Clarke (1970, 113). Furthermore, most of the burials comprised rich assemblages of grave goods, the only exception being Mainsriddle,⁴¹⁹ where the Beaker and the ring were the only preserved artefacts. It has been seen in the discussions of the artefact groups in the previous sections that males with a large or high quality set of artefacts tend to be found on the left side. Furthermore, in the northern part they were predominately buried with the head to the east, in the south in a northerly direction. One bone belt-ring with shank from Stanton Harcourt⁴²⁰ was

⁴¹⁵ ID: 15.

⁴¹⁶ ID: 265.

⁴¹⁷ ID: 145.

⁴¹⁸ IDs: 1, 15, 74, 108, 145, 173, 226, 229/230, 265.

⁴¹⁹ ID: 265.

⁴²⁰ ID: 173.

included in the catalogue and a second object of this type was discovered immediately north of the barrow Wilsford G1, Wiltshire (Leivers & Moore 2008, 25-33 and see footnote 136).

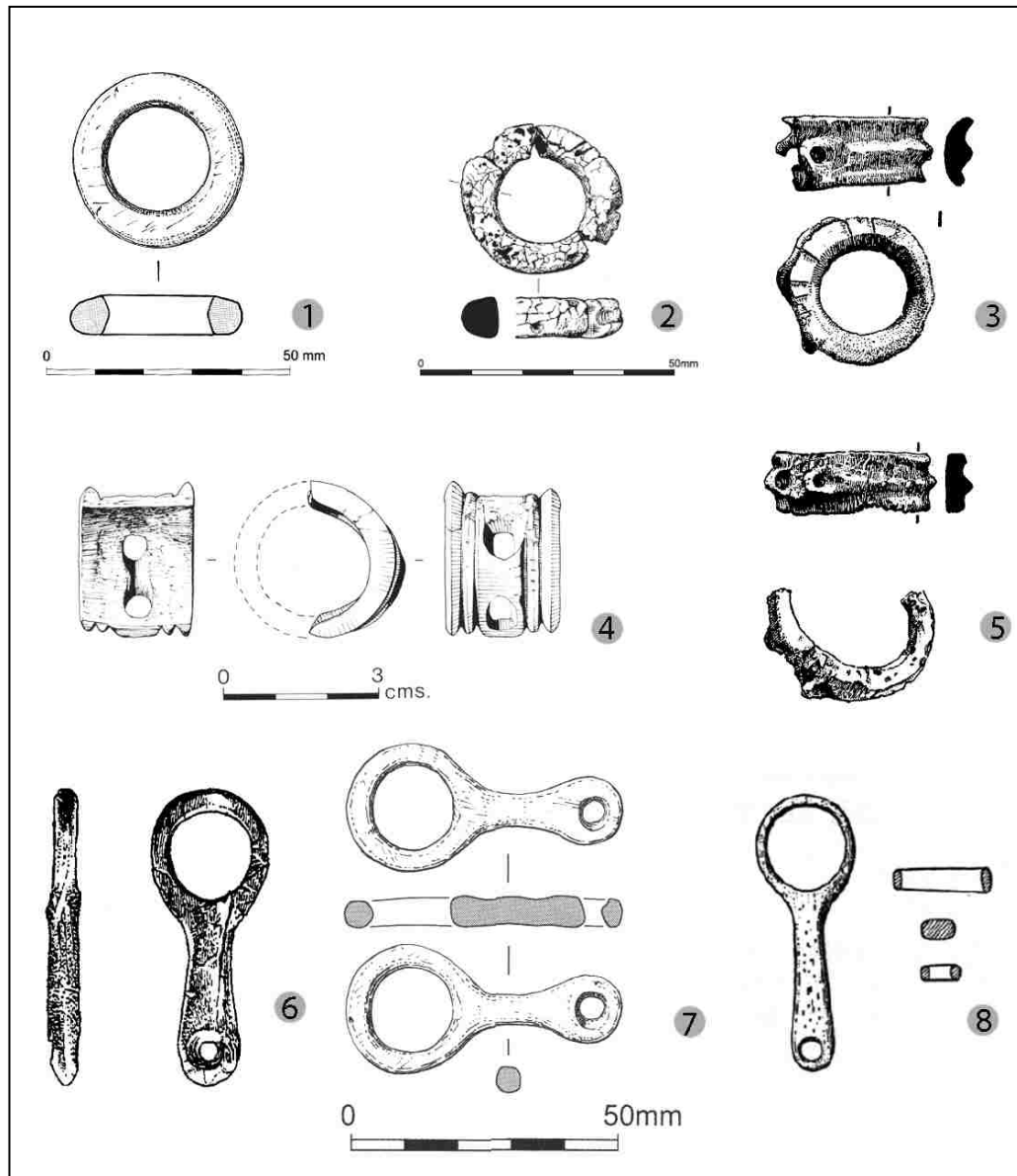


Fig. 66 Belt rings

1. Amesbury Archer, Wiltshire (shale); 2. Raunds Barrow 1 (Irthlingborough) F30426 (amber); 3. Mainsriddle, Dumfries & Galloway (bone, diam.: 3.1cm); 4. Hemp Knoll, Wiltshire (bone); 5. Broomend of Crichtie, Aberdeenshire (bone, diam. appr. 3.5cm); 6. Stanton Harcourt, Oxfordshire (bone, length: 5.4cm); 7. Wilsford G1, Wiltshire (bone); 8. Mühlhausen, Thuringia, Germany (bone, length: 6.2cm; ring-diam.: 2.5x2.25cm)
 (1. after Fitzpatrick 2011, 118, Fig. 40; 2. after Harding & Healy 2011, 392, Fig. SS3.7; 3. & 5. after Stevenson 1956-57, 230, Fig. 6.1 & 6.3; 4. after Robertson-Mackay 1980, 145, Fig. 11; 6. after Grimes 1943-44, 18, Fig. 15.d; 7. after Leivers & Moore 2008, 27, Fig. 15; 8. after Albrecht 1964-65, 206, Abb. 4)

A simple bone ring together with a Beaker Clarke's of W/MR type and a boar's tusk with terminal perforation had been found with another burial on the north side of the same barrow in a previous excavation. Five further individuals with similar Beakers were also found there (Leivers & Moore 2008, 25, 28).

The men from Stanton Harcourt and Wilsford G1 were lying on their left side with the head to the north. The former individual was an adolescent or young adult in a flexed position who was associated with a LC Beaker and 7 barbed-and-tanged arrowheads of different types. The skeleton from Wilsford G1 belonged to a young adult that was buried in a contracted position and was associated with a TMC Beaker. The position of the belt-ring was only recorded at Stanton Harcourt where it was found in front of the body in the angle between left thigh and pelvis, and therefore indicates its function as a belt-ring. The grave at Wilsford had been disturbed in antiquity; the toggle as well as the Beaker were dislocated. The skeleton has been radiocarbon dated to 2460-2290 cal BC (NZA 29534: 3878±20 BP) (Leivers & Moore 2008, 28) and thus places these forms in the early phase of British Beaker use. Further examples of the shanked bone belt-rings have been found in Beaker funerary contexts in Britain. At Folkton 245, burial 8, North Yorkshire, the belt-ring was found in the fill of a grave that contained the inhumation of a child accompanied by two AOC vessels and a necklace of jet beads. The object from Melton, Yorkshire, was found with a Group VI 2Wpp bracer and a sherd, possibly of a bowl (Clarke 1970, 297, Fig. 136; Cat. No. 1344; Woodward *et al.* 2011, 157, ID 105).

'Simple' bone rings are represented by four burials here, three of which have been found in Scotland, one in England. The Scottish examples from Broomend⁴²¹ and Mainsriddle⁴²² are very similar, with a raised rib containing two perforations. A similar piece was found at Clinterty, Aberdeen City (Stevenson 1956-57, 230, Fig. 4) and they form a distinct northern type of belt rings. A description of the ring from Borrowstone, Cist 6⁴²³ has not been published and its exact type is unknown (Shepherd 1986, 13, Fig. 13a). Clarke suggested for reasons of decoration and

⁴²¹ ID: 229.

⁴²² ID: 265.

⁴²³ ID: 226.

attachments that the Scottish bone examples were copies of the jet ‘pulley rings’ (1970, 262; and see below). While the position of the ring was unknown at Broomend of Crichtie⁴²⁴, the object at Mainsriddle⁴²⁵ was found in the hand and at Borrowstone,⁴²⁶ it lay in the pelvic region. The associated pottery at Mainsriddle could not be classified; at Borrowstone and Broomend it consisted of SN Beakers. The orientation of the young adult men at Borrowstone and Mainsriddle was E-W and followed the expected pattern: both lay on their left side. The two radiocarbon dates on skeletal material from Borrowstone produced virtually identical ranges between 2460-2140 cal BC⁴²⁷. These dates are very early for SN Beakers (cf. Needham 2005). The date for the skeleton from Broomend of Crichtie, Cist 2 gave a similar determination⁴²⁸ and since the majority of dates for SN Beakers suggest that they kicked in around the middle of the 23rd century with a currency until the first half of the 20th century, Stuart Needham argued that the date from Broomend, Cist 2 was potentially a statistical outlier (Needham 2005, 191). However, the above cited date for Borrowstone would also suggest a potentially earlier date. The radiocarbon dates for the skeletons from Broomend of Crichtie, Cist 1 are therefore of some interest here.

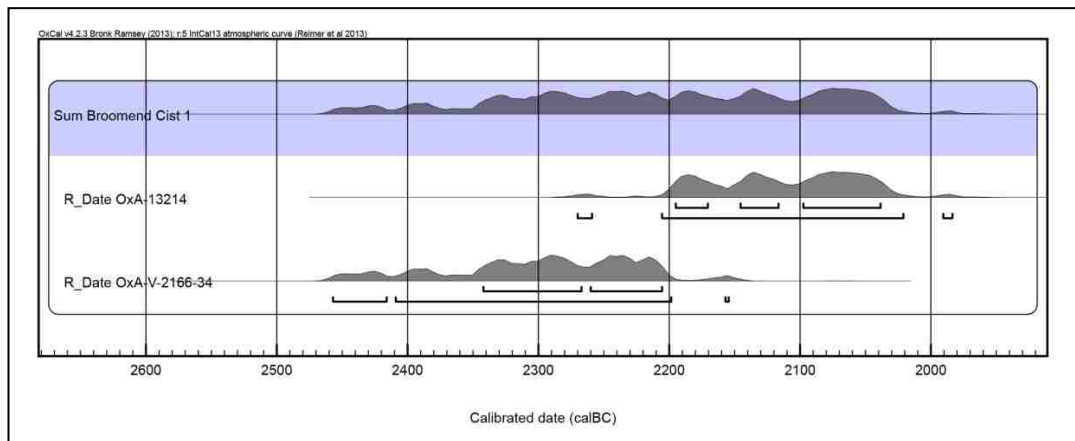


Fig. 67 Broomend of Crichtie, Cist 1, Aberdeenshire
Multiple plot for individuals who were probably interred simultaneously (ID 229 & 230)
Calibrated with OxCal 4.2

⁴²⁴ IDs: 229&230.

⁴²⁵ ID: 265.

⁴²⁶ ID: 226.

⁴²⁷ 1. GrA-29082 : 3820±40 BP = 2460-2150 cal BC; 2. GrA-29083 : 3835±40 BP = 2460-2140 cal BC.

⁴²⁸ OxA-15056 : 3856±29 BP = 2470-2200 cal BC.

The men have seemingly been interred simultaneously, but the two high integrity radiocarbon dates are quite different (Fig. 64). One date has a range from 2280-2020 cal BC⁴²⁹, the second one dates to 2460-2190 cal BC⁴³⁰ and would theoretically allow for an earlier begin of SN Beakers. However, looking at the plotted radiocarbon dates and accepting that it was a closed find, a date around 2200 cal BC for the cist can be accepted and thus does not contradict Needham's thesis for the currency of SN Beakers around 2300 cal BC. That would also be in accordance with the supposed date for the Langdale tuff bracer with the bronze rivets was associated with the Borrowstone individual.

If the two skeletons had been found in separate burials, they would possibly have been dated to different stages, even though the radiocarbon dates show a short overlap. This phenomenon has been discussed by Daniel Steiniger with the example of three burials from Remedello, Italy (Steiniger 2010). The burial 'Remedello 34' produced a calibrated radiocarbon date with a span of c. 500 years before, and 'Remedello 65' a date of c. 500 years after 2900 cal BC, with a short overlap around 2900 cal BC. For that reason, and although the graves had similar artefact associations, they were assigned to an earlier and a later phase. A third grave, 'Remedello 75', that also produced similar artefacts revealed a radiocarbon date that lay exactly between the two above mentioned graves and peaked at 2900 cal BC. Steiniger could show that the apparent chronological difference between 'Remedello 34' and 'Remedello 65' was a result of wiggles "of the nonlinear calibration curve and its steepness between" the dates.⁴³¹ He therefore argued, that these (and similarly dated) graves from Remedello, represented a "short, continuous succession" (Steiniger 2010, 151-152, Fig. 1). The same can be shown for the dates from Broomend, where a steep drop on the nonlinear calibration curve can be seen around 2200 cal BC, thus giving a contorted image of the calibrated dates, even though, for archaeological reasons, the burials should be contemporary. One ring of Kimmeridge shale was found in front of the knees of the Amesbury Archer⁴³². This grave has

⁴²⁹ OxA-13214 : 3720±35 BP.

⁴³⁰ OxA-V-2166-34: 3835±33 BP.

⁴³¹ See Weninger (1992) for a general discussion on the problem of wiggles in C14 calibration.

⁴³² ID: 15.

been discussed in previous sections and it suffices to give a short description of the artefact. The symmetrical black ring was plain with a D-shaped profile and did not show signs of wear. It has been argued that it might not have been old when it was deposited in the grave. Shale does not have the same origin as jet, but has been argued to be a substitute for it (Shepherd 1981, 43). Jet-like materials such as cannel coal, lignite and shale originate from Brora, Sutherland and Dorset (Shepherd 1985, 204).

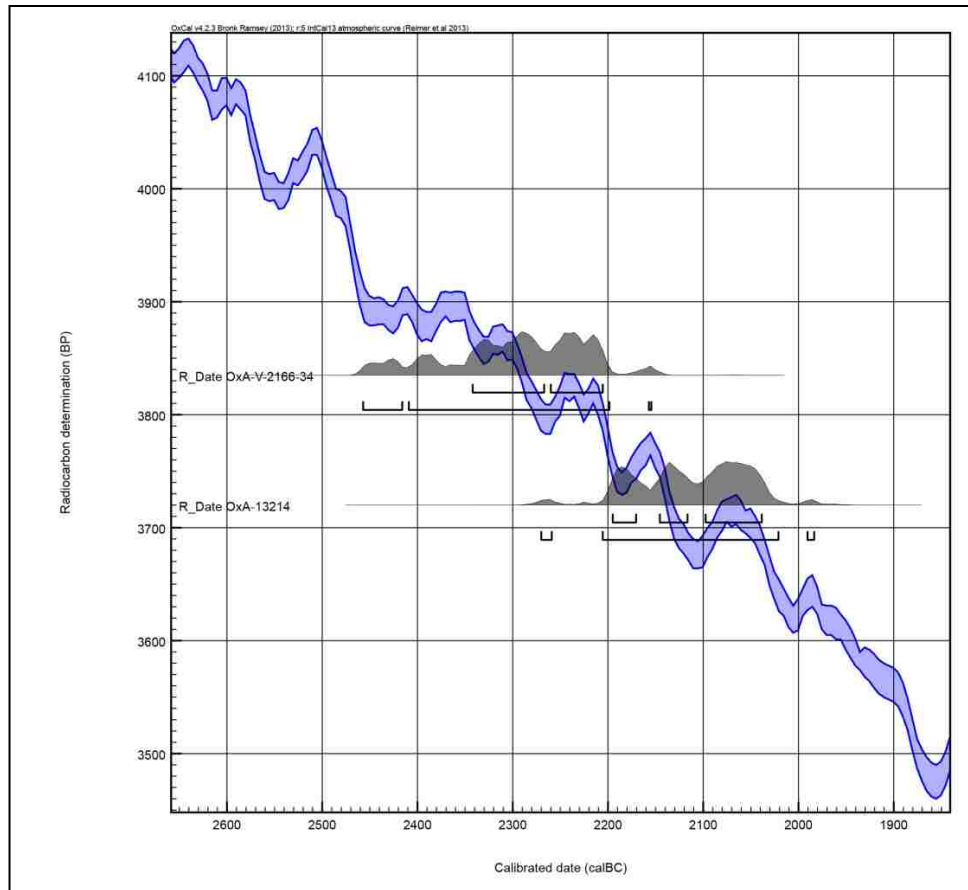


Fig. 68 Radiocarbon determinations for Broomend of Crichton, Aberdeenshire Cist 1; note the steep drop of the curve around 2200 cal BC

Even though the ring was found in front of the knees, it was suggested that it had been a belt ring (Sheridan & Davis 2011, 118). It is thought that rings of this kind should not automatically be regarded as parts of belts. Even though the arguments put forward by Woodward *et al.* (2011) concerning the application of toggles or some of the rings that are mentioned here is not convincing, alternative theories should be discussed. A ring can have ornamental purposes and be attached to the

clothing or it could have had functional purposes, possibly also on clothes as fasteners or for other parts of personal equipment such as fasteners for bags. The same is suggested for amber rings that are rare in Beaker contexts and are only represented in two graves in this sample. Amber artefacts are known in small quantities from Beaker contexts. Also the amount of amber from Mesolithic and Neolithic contexts is low. The number then escalates in Early Bronze Age non-Beaker contexts, especially in the series of 'rich' 'Wessex Culture' graves in southern Britain (Beck & Shennan 1991, 71-98, Figs. 5.1, 5.2, 6.1). The source for British amber artefacts has been argued to be in Denmark (Piggott 1938). However, this 'Baltic amber' has a wide distribution in northern Europe and can also be found on the British east coast; it has the same botanical source and cannot be distinguished chemically (Beck & Shennan 1991, 15-19). Amber could have reached the British Isles via exchange networks, but it seems more likely to have been picked up on the British east coast.

One amber ring each was found at Ferry Fryston⁴³³ and at Raunds Barrow 1 (Irthlingborough)⁴³⁴. The position of the object relative to the body is unknown at Ferry Fryston; at Raunds Barrow 1 the ring was found with all other grave goods at the feet of the body indicating that the objects had been deposited in an organic container, possibly a bag. Both burials were those of adult males (one middle adult between 40-50 years) lying on the left side in a contracted position. The individual at Ferry Fryston was orientated E-W and the man at Raunds Barrow 1 was aligned SSE-NNW, a rather unusual orientation. Only four other individuals have been buried with the same orientation. Both individuals were accompanied by long necked Beakers (LN Earlier Ser) and, the remaining grave goods, such as riveted tin-bronze dagger from Ferry Fryston or the finely flaked flint dagger from Raunds, point to an advanced stage of Beaker currency. That assumption has in both instances been confirmed by radiocarbon dates that show a time bracket of 300 years between c. 2200-1900 cal BC.⁴³⁵ Both men were buried in graves of large dimensions; the pit at Ferry Fryston measured 2.45 x 1.35m and was 0.60m deep. The construction of the

⁴³³ ID: 74.

⁴³⁴ ID: 145.

⁴³⁵ Ferry Fryston: KIA-25326: 3732±27 BP = 2210 - 2030 calBC; Raunds Barrow 1: UB-3148 : 3681±47 BP = 2200 - 1920 cal BC (sample material was in both cases human bone).

barrow under which the individual at Raunds Barrow 1 was found was however, without parallel. He had been buried in a wooden chamber, above which a small cairn had been erected which then had been covered by at least 185 cattle skulls. The remaining object from Acklam Wold ⁴³⁶ is a jet ring with 4 external perforations. The grave goods additionally consisted of LN Beaker, flint dagger, 2-V-perforated buttons, one bone pin, three flint objects including a strike-a-light and a piece of iron ore. The old adult man was aligned NNE-SSW, which is occasionally found in northern England and also in Scotland. His position on the right side, however, is only repeated once in this sample. In Aldro Barrow ⁴³⁷ a child / adolescent had been buried on the right side with the head to the NNE, but unfortunately the individual's sex was unknown.

The grave assemblage from Acklam Wold dates the feature approximately to 2200-1900 BC, based mainly on the Beaker typology but also the flint dagger and the V-perforated button (cf. Needham 2005, 205, Fig.12 and see Chapter 4.18). Jet rings have been discussed and classified by David Clarke who identified them as an indigenous British prestige item but with forerunners in other materials on the Continent (1970, 262-263). The simplest type did not comprise perforations and one example was found with a Beaker of Clarke's N/MR ⁴³⁸, or Needham's TMC vessels. More elaborated types with perforations or grooves were associated with long- and short-necked Beakers. Typical associations of jet pulley rings are furthermore V-perforated buttons, for example, at Thwing, East Riding of Yorkshire (there with a long necked Beaker) (Kinnes & Longworth 1985, 59, no. 60), Rudstone 61 (+ tall short necked Beaker with protruding foot) (*ibid.*, 59-60, no. 61) and Rudston 68, burial 6 where no associated pottery but a 3-riveted dagger and a sponge finger were found (*ibid.*, 76, no. 68). Sources of jet are rare in Britain and are mainly located on the east coast in Yorkshire, namely in the area of Whitby where also the main area for the manufacture of V-perforated buttons can be found (Shepherd 1981, 44; 2009; Sheridan & Davis 1998).

⁴³⁶ ID: 1.

⁴³⁷ ID: 3.

⁴³⁸ See Clarke 1970, 311, Fig. 240.

5.18 (V-perforated) Buttons

V-perforated buttons have a Europe-wide distribution and occur already in pre-Beaker times in some regions (Shepherd 1985, 215). The image of the distribution in Britain reflects antiquarian and archaeological activity (Shepherd 2005, 337), a fact that has already been discussed above. The nuclei on the map published by Peter Harbison (Fig. 67) do not greatly differ from those that can be seen on the map published by Ian Shepherd thirty years later. While Harbison counted about 100 find spots with V-perforated buttons in Britain (1976, 17), Shepherd named around 160 sites that produced nearly 400 buttons (2005, 336). In Britain they first appear in Beaker contexts but are also known from Food Vessel as well as from Collared Urns contexts (Shepherd 2011, 395). On a European scale, V-perforated buttons have been made from a variety of materials, such as bone, stone, amber, jet, shale, tin, shell and also chalk.⁴³⁹ Regional preferences concerning the raw material can be seen: these are probably based also on the availability of certain materials (Fig. 66). In Britain and Ireland the majority of buttons were made of jet, whereas the Baltic area and the continental North Sea coast was dominated by buttons manufactured from amber. In the remaining areas, the predominant material was bone. The function has been discussed in the past and, as with some artefacts discussed in earlier sections, several applications are possible. Buttons might have been used as fasteners for cloaks or pouches or as buttons of shirts or tunics, but in some instances a purely ornamental purpose is also possible (Clarke 1970, 265; Shepherd 1985, 215; Shepherd 2005, 346). Different types of buttons have been classified by Ian Shepherd (2005). The types he defined were not to be understood as chronologically sensitive but merely purely typological, because different types had been found together (*ibid.*, 337). The button types in this sample correspond to Shepherd's conical button and concave-conical button series (Types 1-6) with the exception of the example from Pentraeth, Merddyn Gwyn⁴⁴⁰. This button had a straight perforation and belonged the 'miscellaneous' Type 10 (see below). Fourteen burials with a total of 40 buttons, most of which V-perforated, are included in this work.⁴⁴¹ Usually, one or two buttons

⁴³⁹ For jet and amber sources see „(Belt) Rings“.

⁴⁴⁰ ID: 300.

⁴⁴¹ IDs: 1, 60, 87, 91, 103, 114, 123, 126, 145, 146, 148, 199, 202, 300.

were found in the grave but at Raunds Barrow 1⁴⁴² five had been buried with the body and at Hunmanby 250⁴⁴³ 20 buttons were found with the individual. In the latter case, however, it is uncertain if the individual was accompanied by a Beaker.

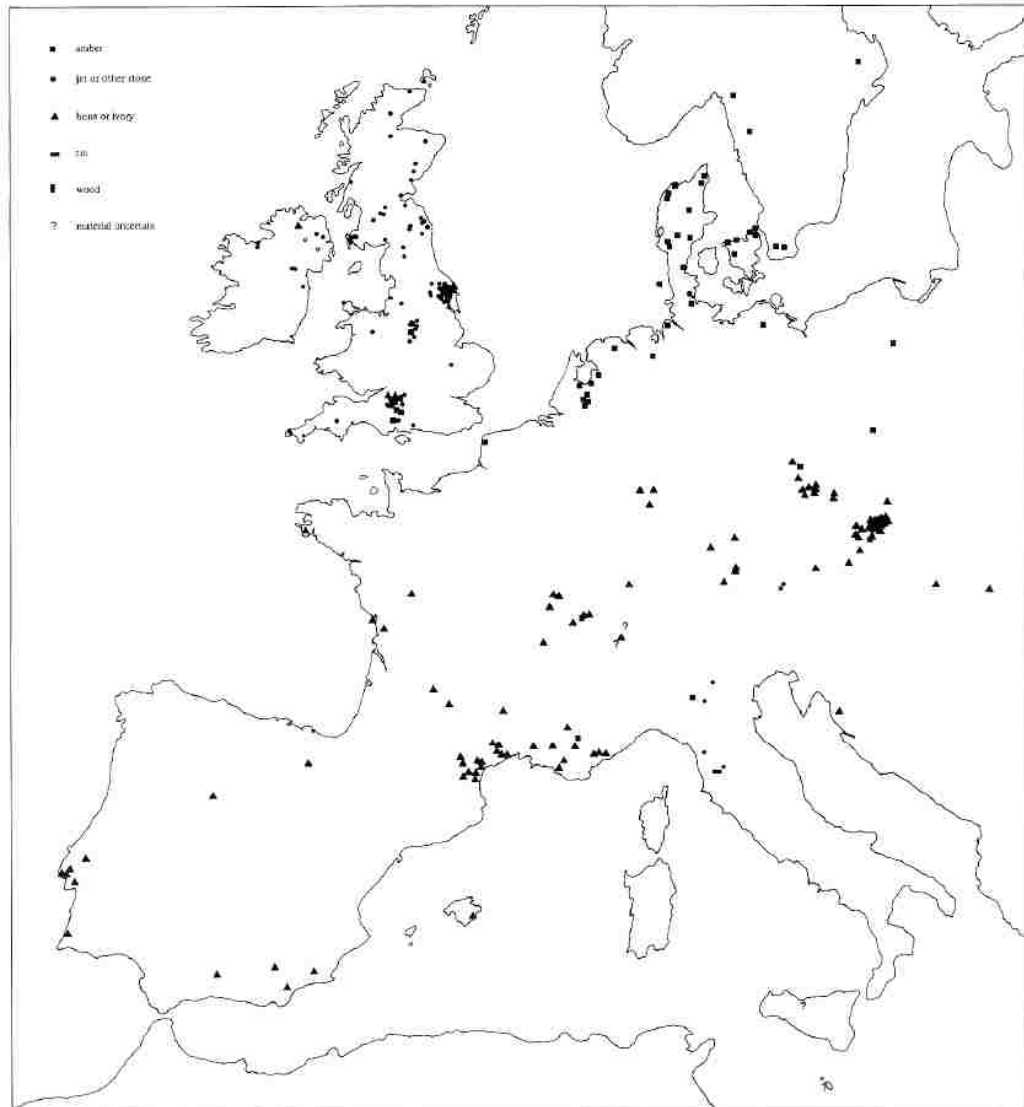


Fig. 69 Distribution of conical and hemispherical V-perforated buttons in western and central Europe (after Harbison 1976, Fig. 5)

⁴⁴² ID: 145.

⁴⁴³ ID: 114.

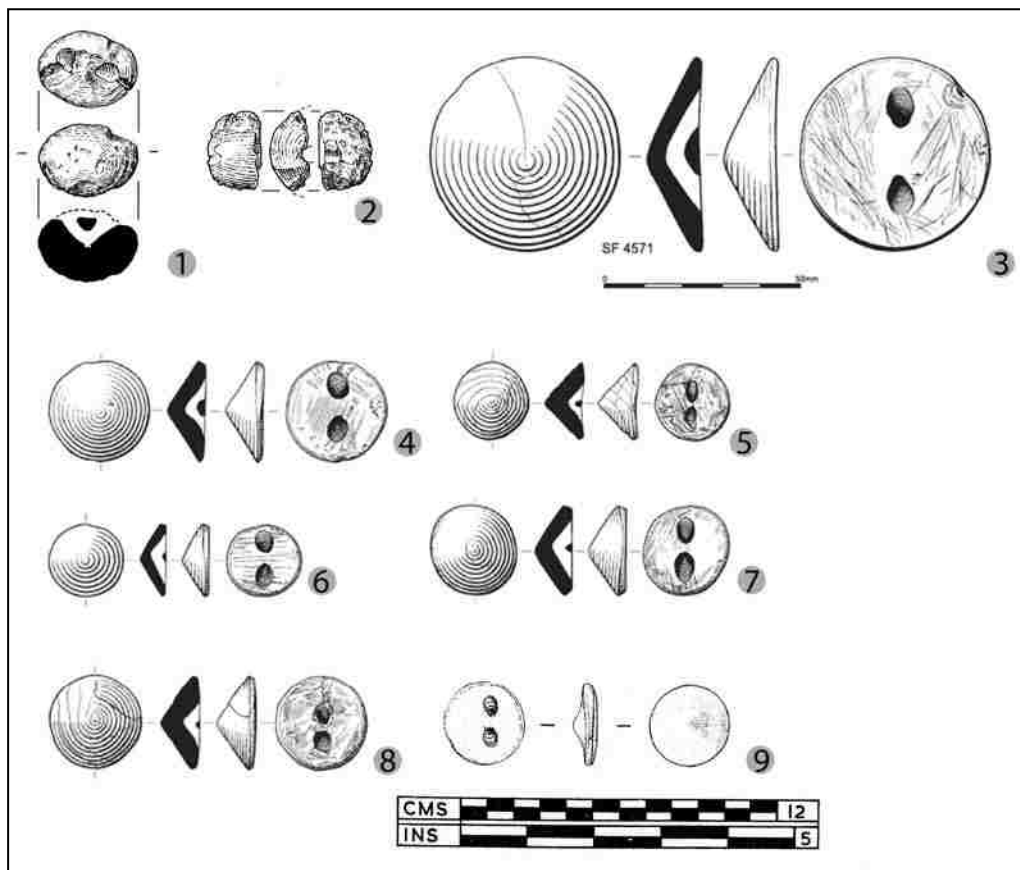


Fig. 70 V-perforated buttons

1, 2: Driffield C.38 (Kellythorpe) (amber; 1: length 29mm; width 22mm; 2: length: 22mm; width 12mm), East Riding of Yorkshire; 3: Raunds Barrow 6, burial F3259 (West Cotton) (jet), Northamptonshire; 4-8: Raunds Barrow 1; burial F30426 (Irthlingborough) (jet), Northamptonshire (scale: see. no. 3); 9: Wetwang Slack 1 (jet), East Riding of Yorkshire (1, 2 after Kinnes 1985, 21; 3-8 after Harding & Healy 2011, 392, Fig. SS3.7; 9 after Brewster 1980, Fig. 446)

Greenwell stated that “a piece of a ‘drinking cup’” had been lying close to the feet (1890, 19). However, this sherd has been lost and it is uncertain if it was a Beaker and whether it was part of the grave goods or had been located in the fill. No other Beakers were discovered in the barrow, but one grave produced a Food Vessel. David Clarke did not include that barrow in his corpus of Beakers and the unusual high number of V-perforated buttons as well as the bronze ring with overlapping ends, indicates that the burial is no ‘Beaker burial’. The orientation towards the west and the position on the right side additionally suggest that the burial stood rather in Food Vessel than Beaker tradition (cf. Shepherd 2012, 262, Fig. 17.2).

The predominant material was jet (in 12 graves), as has already been mentioned above, followed by amber (2 graves) and shale (1 grave). At Acklam Wold⁴⁴⁴ one amber and one jet button had been combined. The majority was found in Yorkshire with some examples further south in England and one button in Wales (Fig. 68). Buttons have mostly been found with male burials, but Shepherd showed that certain types were more commonly associated with females (his Types 2 & 8) (Shepherd 2005, 343). In fact, the only female individual from Ravenstone⁴⁴⁵ was accompanied by a Type 2 shale button, which in addition is the only example of this material in this sample. Five individuals were of indeterminate sex, another five were males and three were probably males. Two of the individuals⁴⁴⁶ with indeterminate sex were also accompanied by evolved metal daggers (Needham's group b: 2012), indicating male burials. The same applies for two of the three probably male individuals⁴⁴⁷. Both had been accompanied by flint daggers that in other cases were found only with individuals that had been identified as males. With the exception of the child from Wetwang Slack 1⁴⁴⁸ all individuals were adults without a focus on a certain age class. The orientation of the individuals broadly follows the described pattern in the northern part of the distribution area with a preference for E-W/ W-E and NE or NNE and further south with an N-S orientation. Also, the individual from Raunds Barrow 1⁴⁴⁹ who was orientated SSE-NNW and the SW-NE orientated male from Raunds Barrow 6⁴⁵⁰ are not unusual occurrences in that area (cf. Fig. 17). In terms of pottery association, it can be seen that buttons and the male individuals were exclusively associated with typologically late Beakers of Needham's LN series (2005, 205, Fig. 12), while the only woman was found with a collared Beaker that should have a similar date, possibly between the 22nd and 20th century (cf. the radiocarbon date for Gravelly Guy (secondary): Needham 2005, 204). Only the alleged Beaker sherd from Hunmanby 250 is unclassified. Buttons thus do not belong to the primary British Beaker artefact assemblage but became Beaker funerary components between c. 2250 – 2150 cal BC (Needham

⁴⁴⁴ ID: 1.

⁴⁴⁵ ID: 148.

⁴⁴⁶ IDs: 60, 300.

⁴⁴⁷ IDs: 126, 145.

⁴⁴⁸ ID: 202.

⁴⁴⁹ ID: 145.

⁴⁵⁰ ID: 146.

2005, 201, 205). The three radiocarbon dates for the burials in this sample would place them broadly between 2200 and 1900 cal BC.⁴⁵¹ The radiocarbon date for the woman from Ravenstone⁴⁵² has a large deviation and is not particularly helpful here (HAR-3000: 3760±90 = 2465 - 1960 cal BC).

Striking associations of buttons are daggers that have been found with 7 out of 14 individuals, including two metal daggers that both fit into the transition between Needham's Association Group Ib and Ic (from Driffield⁴⁵³ and Pentraeth, Merddyn Gwyn⁴⁵⁴), and flint daggers that were found in five cases with buttons.⁴⁵⁵ These metal and flint daggers are contemporary (Needham 2005, 205). Fire making kits are, like daggers, typical components of male burials and have been found in three graves with buttons.⁴⁵⁶ It has been suggested that these were often carried in pouches with button fasteners (Clarke 1970, 265). This is also suggested for Acklam Wold 124, Grave 4⁴⁵⁷ and Garton Slack 37⁴⁵⁸, where the position of V-perforated button, flint fabricator and iron ore allow that interpretation. At Middleton-on-the-Wolds⁴⁵⁹ a fabricator and a piece of iron ore were also found together but the position of the one, or maybe two, V-perforated buttons was unknown. They have been found with flint daggers in all three cases, and the burial Garton Slack 37 additionally contained one of the rare axes from Beaker contexts. The two Yorkshire burials from Acklam Wold and Middleton-on-the-Wolds additionally contained bone pins. Further associated artefacts were bracers, arrowheads, spatulae, sponge finger stones, boar's tusks and food offerings and in this sample in one case by a pulley ring. Shepherd stated that pulley rings were frequently associated with two V-perforated buttons and suggested that the "pulley ring and one of the buttons served as belt fasteners, with the second button fastening a pouch to the belt" (2005, 347), or, citing Clarke (1970, 265, Fig. 144) that the pulley ring was used to bend the belt and the buttons fastened a pouch to the belt (Shepherd 2005, 347). The majority of eleven graves with buttons also contained flint artefacts of different types.

⁴⁵¹ The dates for Manston (ID:123) and Raunds Barrow 1 (ID:145) and Barrow 6 (ID: 146).

⁴⁵² ID: 148.

⁴⁵³ ID: 60.

⁴⁵⁴ ID: 300.

⁴⁵⁵ IDs: 1, 87, 126, 145, 146.

⁴⁵⁶ IDs: 1, 87, 126.

⁴⁵⁷ ID: 1.

⁴⁵⁸ ID: 87.

⁴⁵⁹ ID: 126.

Further finds of possible bags or pouches have been recorded in two burials under barrow 1⁴⁶⁰ and 6⁴⁶¹ at Raunds, Northamptonshire. In both cases the accompanying artefacts were found at the feet of the deceased. In barrow 6 a flint dagger, two large unretouched flint flakes, a chalk object of unknown function and a large V-perforated button were found “stacked up”. Because of the arrangements of the artefacts, in particular the V-perforated button that was lying with the base upwards, it was argued that it was not a bag that contained the objects. However, the button showed traces of wear and was thought to have been attached to a garment (Harding & Healy 2011, 241), and possibly was part of a bag.

In barrow 1 the grave goods were also found together at the feet. The grave group was exceptionally rich, comprising a variety of artefacts: a flint dagger, a fragmented bracer, three spatula, a sponge finger, four large and a small V-perforated buttons, etc. The artefacts were found over a very small, area and it was argued that they had been stored in an organic container (Healy & Harding 2004, 180). All buttons were made from Whitby jet, but it was argued that they had a different history based on different degrees and appearances of wear that was probably caused by separate use. Additionally, one piece had apparently been freshly re-worked prior to deposition in the grave in order to match the remaining four. Thus, a set had been constructed that originally did not belong together and that “may have carried connotations of the different individuals and places from which they came (Healy & Harding 2004, 183-185).

A similar example of the possible creation of a set of buttons has also been suggested for Durrington, Wiltshire⁴⁶², where in addition to a V-perforated shale button, two “chalk pseudo-buttons” had been found with depressions on the flat side where the perforations would have been situated. These objects seem to be substitutes for items that should have been included in the grave (Harding & Healy 2004, 184). Here, the chalk object from Raunds Barrow 1 (Irthlingborough) should also be mentioned again as it has been interpreted as the replica of a sponge finger or a flint fabricator (see section Sponge Fingers) (Healy & Harding 2004, 184-185; Williams & Humble

⁴⁶⁰ ID: 145.

⁴⁶¹ ID: 146.

⁴⁶² Originally published in: : Hoare 1812, 172, Pl. XIX; see also: Annable & Simpson 1964, cat. No. 86-90.

2011, 418). These items would then lack an intrinsic material value and their 'wealth' would not lie in the material, but in the meaning these objects conveyed. A possible bag has also been found with the only female with a button in this sample; this find comes from Ravenstone⁴⁶³. Three flint tools and the V-perforated shale button lay in the south-east corner of the grave about 40cm beyond the pelvis. The position of the flints and the buttons suggested that the button had fastened a pouch containing the flints (Allen 1981, 82). An awl lay in short distance beneath one end of the possible remains of an oak plank or board, the other end of which rested on the individuals' lower legs (see image in database). The skeleton of a water vole was lying upon the human skull, but the animal had probably found its way into the grave after the burial. A shallow gully with a brook that could have formed a natural habitat is situated less than 200m to the west and probably existed already in prehistoric times.

In five graves the buttons had been found on the body, indicating attachment to the clothing, either ornamental or functional. In Driffield C.38, Kellythorpe,⁴⁶⁴ the two amber buttons were located on the neck and had probably formed part of a necklace. The 20 jet buttons that were associated with a man at Hunmanby 250⁴⁶⁵ were found in front of the body in a line from neck to the stomach and thus appear as if they had been sewn to a shirt. However, the definite association of the individual with a Beaker is questionable. A similar find was reported from Butterwick 39, Yorkshire, where the buttons lay in front of the chest (Greenwell 1877, 187). Also in other regions of the Beaker distribution area, similar wear patterns have been documented, such as in the cave of Calvari d'Amposta, Catalonia, Spain, where the V-perforated buttons were lying across the chest (Estevez Galvez 1965, 40-42). Both burials are not directly associated with Beakers, but the connection in Calvari d'Amposta is attested by Beaker burials in close vicinity.

⁴⁶³ ID: 148.

⁴⁶⁴ ID: 60.

⁴⁶⁵ ID: 114.

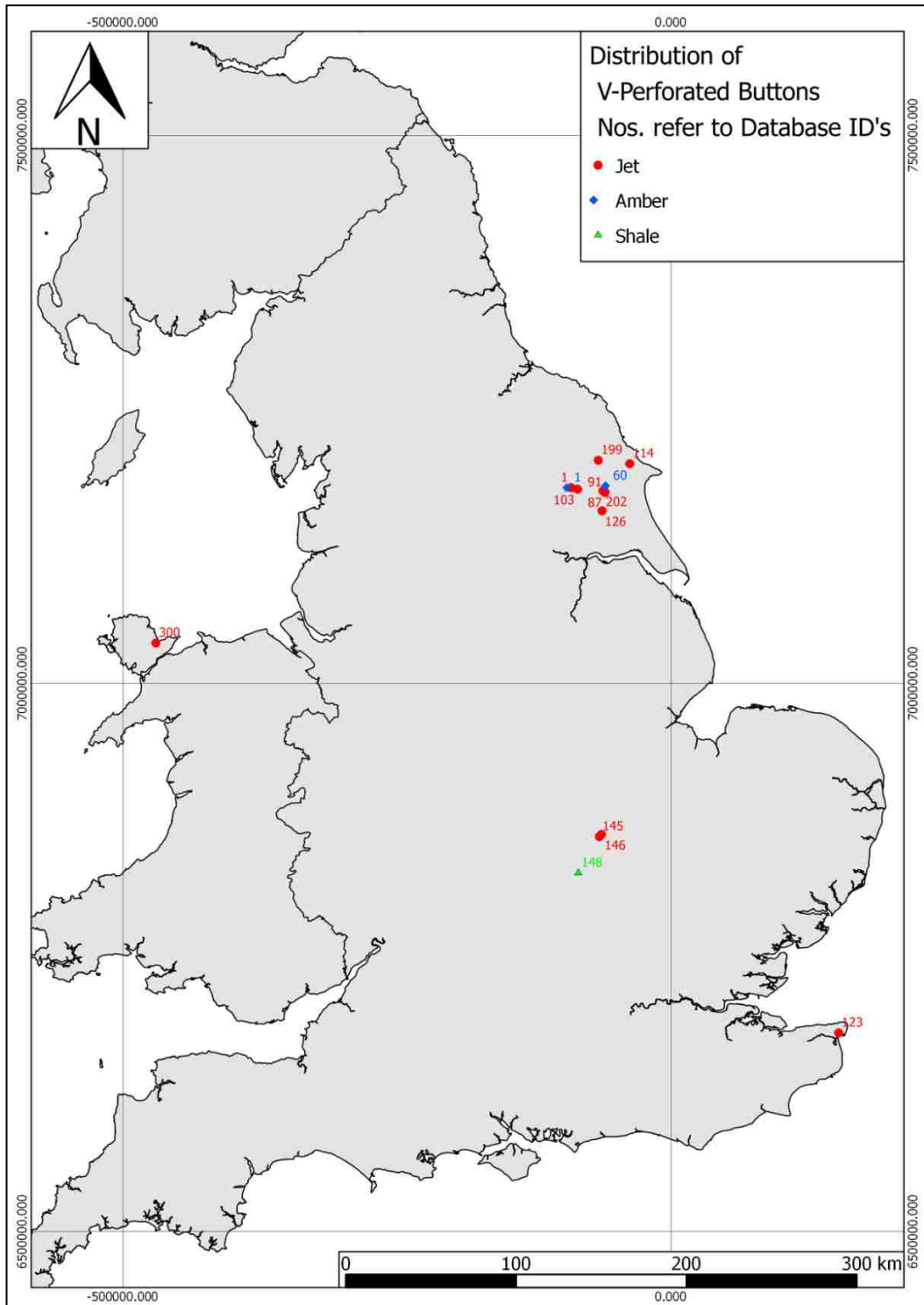


Fig. 71 Distribution of buttons

5.19 Boars' Tusks

Finds of boars' tusks in British Beaker graves are rare, other than on the continent where they are found regularly in Beaker funerary contexts. In central Europe tusks are occasionally perforated for suspension; in Britain a perforation is known on the piece from Wilsford G1, Wiltshire (Clarke 1970, 297, fig. 138), but also other examples have been worked. On the continent it has been suggested that boars' tusks were used in metal working for burnishing because of their occurrence in graves, which also contained objects that are interpreted as metal-working tools (Fitzpatrick 2011, 61, 222). However, they have also been found regularly in burials without 'metal workers tools', and so a single function is unlikely (Fitzpatrick 2011, 222).

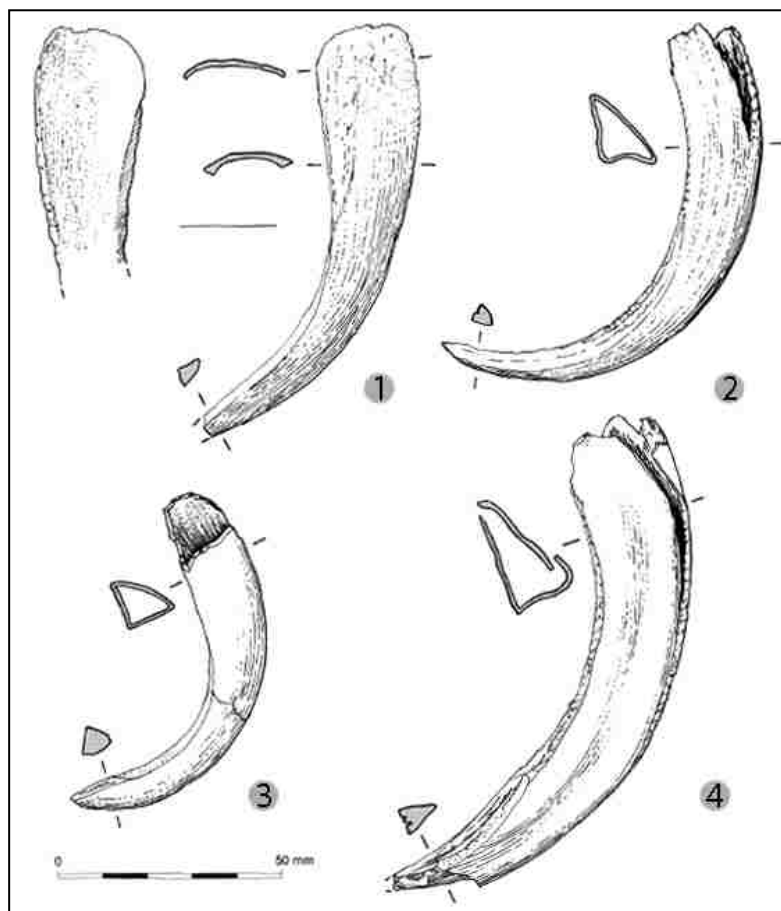


Fig. 72 Boars' Tusks

Amesbury Archer, Wiltshire

1,2 found in front of the body; 3,4 found behind the body with the cushion stone (after Fitzpatrick 2011, 162, Fig. 56)

It could be argued that the boar's tusks that had been found with the cushion stone in the grave of the 'Amesbury Archer',⁴⁶⁶ fulfilled the same purpose. The find of a tusk with the 'Companion' could also be interpreted in connection with metal working, in this case gold working, based on the gold basket-shaped ornaments. Fitzpatrick recently counted a total of seven burials with boar's tusks from Beaker contexts, including the 'Companion' who was not accompanied by a Beaker vessel, and the 'Boscombe Bowmen', where it is uncertain to whom the tusk belonged (2011, 61). It is noteworthy that three of the small numbers of tusks have been found on Boscombe Down in graves with richly furnished individuals and/or early Beaker pots. In this sample three burials with boars' tusks have been integrated⁴⁶⁷, the most prolific of which is that of the 'Amesbury Archer'. He had been equipped with two pairs of tusks; one pair was lying behind the back with the already mentioned cushion stone, the other set was located in front of the torso within a cache of artefacts containing two LC AOC Beakers, a copper dagger, a barbed-and-tanged arrowhead, an antler strip, a shell and several flints. The radiocarbon dates for the boar's tusks⁴⁶⁸ were almost identical and confirm the date for the human remains,⁴⁶⁹ placing the burial between the 25th and 23rd centuries. Another example from Wiltshire has been found at Sutton Veny,⁴⁷⁰ but the record for that grave is unfortunately poor. Two boar's tusks were lying close to the wrist-guard that was located in the area of the chest. The Beaker has been lost but Clarke thought that it had been a W/MR vessel (1970, 503, no. 1143), most of which can be compared with Needham's group of TMC Beakers and together with the amphibolite bracer, place the feature somewhat later than the 'Amesbury Archer'. The last example from Raunds Barrow 1 (Irthlingborough)⁴⁷¹ is very interesting in terms of the date of the boar's tusk. The single tusk was found at the feet of an individual, accompanied by a wide array of rare grave goods, including an LN Beaker, a flint dagger, a group VI bracer, one arrowhead, five V-perforated buttons, a sponge finger stone, three bone spatulae, 11 flint objects with slight signs of wear, an amber ring and two pig bones

⁴⁶⁶ ID: 15.

⁴⁶⁷ IDs: 15, 145, 182.

⁴⁶⁸ Sample from boar's tusk in front of body (6611): OxA-13540 : 3877±33 BP = 2470 - 2210 cal BC; sample from boar's tusk behind body (6592): OxA-13623 : 3866±28 = 2460 - 2210 cal BC

⁴⁶⁹ Sample from human right femur: OxA-13541 : 3895±32 BP = 2470 - 2280 cal BC

⁴⁷⁰ ID: 182.

⁴⁷¹ ID: 145.

and one object that might be described as the replica of a sponge finger. This artefact combination can be assigned to Needham's "fission horizon" (2005, 205, 209) and the radiocarbon date for the human remains underline that assumption. The date places the individual between 2200 – 1920 cal BC (UB-3148 : 3681±47 BP). However, the date for the boar's tusk of 2890 – 2460 cal BC (OxA-4067 : 4100±80 BP) is considerably older than the inhumation and places the object into a period before Beakers were used in Britain, or possibly just at the beginning of the use of Beakers. It has been argued that it either has remained in circulation or can be seen as an heirloom, or that it could have been recovered from another archaeological context, such as a grave, in which it had been buried (Healy & Harding 2004, 186; Healy, Harding & Bayliss 2007, 255). The former idea is supported by the presence of three other objects in the grave, one of which securely predates the inhumation considerably, while the other can be argued to predate it by some time.

The inhumation at Raunds Barrow 1 (Irthlingborough) had been covered by a small stone cairn which then was covered by several layers of cattle skulls summing up to about 185 individuals. Amongst the cattle bones, the remains of one aurochs were found. Two teeth were radiocarbon dated and produced very different results. One tooth dated to 2880 - 2340 cal BC (OxA-2085: 4040±80 BP) the other to 2470 - 1980 cal BC (OxA-2086 : 3810±80 BP). It seems likely that a similar phenomenon is visible here that has already been shown for the two radiocarbon dates from Broomend of Criche⁴⁷² (see (Belt) Rings above). The individuals there were arguably contemporary but produced different radiocarbon dates, possibly caused by a steep drop of the non-linear calibration curve. A similar situation might be visible at Raunds Barrow 1 where two aurochs teeth were dated. The radiocarbon determinations have a wide range but have a small area of overlap where the calibration curve steeply drops. The date for the teeth could therefore lie between 2500 and 2400 cal BC and other than argued by Healy, Harding & Bayliss (2007, 163-164) could belong to the same animal. The other artefact that was already old when deposited in the grave was the fragmented wrist-guard (Allan, Rault & Humble 2011, 163) that was used as a burnishing tool, and the original function had therefore been changed. Especially the direct association of bracer and boar's tusk, i.e. of

⁴⁷² IDs: 229&230.

probably curated items might have established or signified a connection to past people or past events. The three discussed graves belonged to adult, and probably male, individuals. The sex of the individual from Sutton Veny has not been determined, but the association of the wrist-guard speaks in favour of a man. Generally, boar's tusks have been found with male inhumation, but in one case a female was accompanied by a tusk (Brodie 2001, 489).

The 'Amesbury Archer' and the individual from Sutton Veny followed the 'southern scheme', i.e. the former was orientated NW-SE, while the latter was aligned due N. The man at Raunds Barrow 1 lay with the head to the SSE on the left side; the same position that also the Amesbury Archer had, which is typical for male individuals.

5.20 Beads

Beads have been rarely found in secure Beaker contexts, an exception being the 55 jet disc-beads from Chilbolton⁴⁷³ and the 14 disc beads from Beggars Heaven (Kinnes 1985, A10). At Chilbolton and Beggars Heaven, the beads were found at the neck and probably formed a necklace. The 160 beads that were found with an infant at Folkton 245 were also found at the neck (Kinnes & Longworth 1985, 116).⁴⁷⁴ The beads from Folkton were made of Whitby jet, as were the beads from Beggars Heaven (Woodward et al 2011, 93). The Folkton and Chilbolton examples are early in the Beaker sequence, according to the dates for the Beaker types (Needham 2005) and the radiocarbon determination from Chilbolton.

However, disc beads are usually found in graves without pottery of late Beaker date and other Early Bronze Age contexts (Woodward *et al.* 2011, 93).

They are usually associated with female burials but have also been found with males, then often in large numbers. In Chilbolton, Hampshire, 55 flat and perforated beads had been found. Their exact position is not clear because they were mostly found during sieving. Most of them have been found in the region of the skull, however. Additionally, they showed signs of wear, indicating that they had sewn to clothing or

⁴⁷³ ID: 51.

⁴⁷⁴ The individual was unfortunately overseen during the compilation of the catalogue. The individual lay crouched on the right side with head W. "The grave was aligned E-W and was situated SW of the barrow centre. Two Beakers (both AOC) were found at the shoulder and a fragmented bone belt ring, two flakes and a scraper were found in the lower grave fill. The skull of a second infant and parts of the post-cranial skeleton were also recovered from the grave, (Kinnes & Longworth 1985, 116; PastScape Monument No. 79665, http://www.pastscape.org.uk/hob.aspx?hob_id=79665 [retrieved 28/12/2013]).

had been threaded (wear on some of the items favours the latter option) (Russel 1990). In Dunrobin Park, Highland, 118 perforated shale discs were found. These were lying by the feet and only six were perforated (Joass 1904).

The bead found at Chippenham, Cambridgeshire, was not securely associated. It was found with several disturbed and one undisturbed skeleton in a natural mound, which had been used as a cemetery or barrow. The date of the deposition of that artefact should be broadly contemporary to the deposited Beaker (Clarke S4/Case Style 3), i.e. Early Bronze Age (Martin 1976).

Nine fragments of a minimum of five beads are known from Beggars Heaven (or Devil's Dyke in Clarke 1970, corpus no. 991, Fig. 167). They were made from sheet copper, have an oval to round section and overlapping long edges. One bead comprised a circular perforation punched from the exterior. Three wood fragments were found that possibly represent remaining bead cores. They were found around the neck of an unsexed contracted skeleton (Grinsell 1930, 39; Kinnes 1985, 15-18). Parallels for the beads are known from the Migdale Hoard (Piggott & Stewart 1958, 26), from Chippenham (Martin 1976a), Risby (Martin 1976b) and Garton Slack 6 (Dent 1983).

6 Discussion

In this thesis Beaker mortuary practices in Britain were reviewed with regard to recurring patterns, such as orientations and positions of the skeletons, artefact associations and grave types. With a sample of 312 individual burials directly associated with Beaker pottery, it was examined whether established views concerning geographical and gender-specific patterning could be confirmed or had to be updated. In particular, the north-south division of funerary traditions and the process of their formation are of interest in this context.

It is thought that for the better understanding of the current state of research, it is necessary to understand its history. Consequently, an extended review of research into Beakers was presented. This included a general overview of the development of research and its theoretical basis for the entire distribution area, and in addition, a discussion of the British Beaker research with a focus on burial studies.

This section was followed by the main part of the work, where aspects of gender, age, orientation and position of Beaker associated individuals were analysed. In the next step, typically Beaker-associated artefacts, their possible meaning and function, and the dynamics of their association during the period of Beaker use were reviewed and analysed.

Comparable to other areas in the Beaker distribution area, particularly the Beaker East Group, a high proportion of the British Beaker funerary record consists of discrete burials that are characterised by quite standardised gender-specific mortuary practices. These practices are not uniform in the entire area of research, but exhibit different characteristics in northern and southern Britain, respectively. Based on the orientation and position of the skeletons, a division in a northern and southern Beaker 'province' seems justified.

6.1 Patterns of Burial

The northern English and Scottish burial record is dominated by cist burials (cf. Fig. 21). These are usually found isolated, and small cist cemeteries have been excavated only occasionally. However, cists were not the earliest type of Beaker burial in the north (Sheridan 2008, 98). According to Alison Sheridan, the earliest type is represented by the so-called Dutch-style graves that exhibit features which are common in Dutch Beaker graves and, in addition, they contained typologically early

Beakers. They should, therefore, date to the 25th century cal BC. This assumption is difficult to corroborate at the moment because, as a result of unfavourable preservation conditions, short-lived sample material for radiocarbon dating is scarcely available. The date for the burial from Sorisdale, Argyll & Bute⁴⁷⁵ on human bone and the dates for Upper Largie, Argyll & Bute⁴⁷⁶ on charcoal (see Healy 2012, CD 59) would, on the one hand, allow for a very early date of these features in the northern burial record. The results of Bayesian modelling, on the other hand, indicate a start date for Scottish Beakers only in the 23rd century BC (Healy 2012). Further radiocarbon dates from short-lived contexts with typologically early Beaker pottery are necessary to achieve a clearer image.

The treatment of males and females followed different norms: concerning the orientation, males were predominantly buried with the head towards the east in a crouched position (Fig. 16). Orientation to the northeast was also a common finding. This was not a unique northern pattern: northeast-southwest orientation was documented in most parts of the research area (Fig. 17).

Judging by radiocarbon dates and pottery typology, there does not appear to be a chronological difference between E-W and NE-SW orientated individuals, so it can be assumed that both orientations were practiced contemporaneously. Whether NE-SW can be called an accidental deviation from the more frequent E-W orientations is speculative.

In addition to the orientation, men were buried on their left side, thus facing south or the southeast. The age was not pivotal for the orientation and position of males: all age classes were buried according to the prevailing practice.

Even though the above described pattern is significant, numerous burials were not following the pattern just outlined, be it in terms of orientations or positions. A chronological difference between these 'odd' burials and the typical burials is not visible.

A number of reasons can be imagined for this finding, some of which may be rather unspectacular: the burying community could have chosen to bury their dead in a way they regarded appropriate, or possibly even the deceased himself or herself decided

⁴⁷⁵ ID: 287.

⁴⁷⁶ The three statistically consistent dates are from oak charcoal and from hazel. They are a *terminus post quem* for the burial but should date the burial quite accurate.

how they wanted to be buried. Though individuals or communities may only be able to move within a certain sphere of socially-sanctioned behaviour, human action is flexible and may bend or re-interpret existing norms that then can appear alien in the archaeological record. However, it is assumed that the 'standard' burials are symbolical representations of defined social identities and this could be possible for the odd burials as well. It is difficult to decipher and explain these symbolic codings, particularly when we may face individual choices that differ from expected patterns of burial. Explanations for deviating burial practices have been offered, e.g., for Corded Ware contexts. Some mature males were not buried according to the typical Corded Ware male pattern, but orientation and position was reversed, thus following the female pattern (Wiermann 1998 and cf. Chapter 3.2.2). Social identities can change with increasing age, and Jan Turek has suggested that some mature males may have decided to symbolically give up their male social identity and their masculine attributes, hence not needing to take part in social competition (Turek 2011, 56). Concerning the sample used in this study (both in the north and south), a small number of burials may be compared to the examples from Corded Ware contexts. The old adult from Garrowby Wold, East Riding of Yorkshire,⁴⁷⁷ or the individual from Mains of Balnagowan, Ardersier, Highlands⁴⁷⁸ can be named here. Both men were interred reversed to the typical practice. However, the continental examples can only serve as analogies. Social identities differ between societies and the reversed position may simply mean that the men died under certain circumstances that required a special form of burial or that they were unmarried, just to name two possible scenarios.

Though the burial record is dominated by male individuals, the smaller number of female burials also reveals a significant pattern in the north diametrically opposed to that of males. Women were generally aligned in westerly directions, mostly due west. From where the position was documented, it was possible to show that women were predominantly buried on the right side and consequently faced south. However, the image is not as clear as for male individuals concerning the combination of position and orientation, because a greater number of different

⁴⁷⁷ ID: 83.

⁴⁷⁸ ID: 262.

orientations can be observed. At Rudstone, East Riding of Yorkshire,⁴⁷⁹ for example, two female individuals were buried according to the male pattern. There is no single explanation for this finding in either of these cases. The simplest explanation – and one that also applies to some of the odd male individuals – is the assumption that because the burials are from old excavations, the determination of the sex was wrong. Alternatively and comparable to the interpretation of male burials, we may face representations of social identities that differed from the norm.

The existence of a northern and southern burial tradition is not a novel insight, and the boundary between the two traditions has traditionally been drawn in the area of the Rivers Tyne and Tees (cf. Chapter 2.2.6). This assumption of the north-south division was based on burial types, namely cists in the north and barrows in the south. The distribution maps (Fig. 21) show that the distribution of the cist burials effectively ends north of the River Tees; to the south, barrows were the typical grave type on the Yorkshire Wolds. The reason for this distribution seems to be the natural border between the northern Highlands and the southern Lowlands, hence the availability of materials for grave construction. The ‘cist-boundary’ is no cultural boundary: the typical orientation of Beaker burials in Scotland is also found on the Yorkshire Wolds, and both regions show strong cultural affiliations (Fig. 16). That becomes also clear on the distribution maps for Beakers of David Clarke (1970). His pottery typology has been re-worked and updated, but the notion of a northern and southern tradition of Beaker styles is still valid. It can be seen that both traditions meet on the Yorkshire Wolds (with outliers both north and south) (ibid. 1970, 561-564, maps 5-8) and the region is a nodal point in the British Beaker distribution and seem to have a sort of mediator-function between the northern and southern Beakers. Gender-differentiated burial practices were also the norm in the south, but the main orientation of males and females was rotated by 90° towards the north and the south, respectively. Males were generally orientated towards the northern sector of the compass.

The crouched position on the left side was maintained so that the individuals faced east.

⁴⁷⁹ IDs: 151; 152.

Two large groups of males with significant orientations were documented: one smaller group of NW-SE orientated individuals and a larger group with N-S orientated burials. Lanting & van der Waals argued for reasons of artefact associations that the former group stood at the beginning of the Beaker development in the south, and that the orientation changed to the north at a later stage (1972). From the perspective taken here, it is difficult to make this division. Regarding the artefact associations such as Beakers, daggers and bracers there are early associations in both groups, and conventional radiocarbon determinations place both traditions in the same horizon of burials. The association of gold basket-shaped ornaments with three NW orientated burials⁴⁸⁰ possible indicates their early chronological position. However, among the contexts that Needham (2012) defined as characteristic for his Association Group Ia, which basically identify some of the earliest Beaker graves in Britain, both groups of orientations are present. Following the approach of Alexandra Shepherd (Tuckwell 1975; Shepherd 2012), who labelled the male pattern for Yorkshire and Scotland LESM,⁴⁸¹ the pattern in the south can be dubbed LN(W)EM. Only a few exceptions from this pattern were observed, where males were either buried according to the usual orientation but resting on their right sides, or where the position was reversed. The exceptions were from individuals of different age classes, and no characteristic artefact association was observed. In the case of females, generalisations are more difficult to formulate. On the one hand, this is owed to the small number of females in the sample; on the other hand, female burial practices were more diverse. However, there is a tendency of orientation towards the southern sector of the compass while the position on the right side was maintained. Despite differing orientations, the position on the right side generally is consistent among Beaker burials, not only in Britain, but also in northwestern continental Europe and in the Beaker East Group. Resembling the situation in Scotland and in continental Beaker communities, burials of females were diametrically opposed to those of males. For England south of the Yorkshire Wolds that means adult females were buried with an S-N or SE-NW

⁴⁸⁰ IDs: 15; 25; 51.

⁴⁸¹ Left side, orientated east, facing S, male.

orientation. Because of problematic determination of the biological sex of children (cf. 3.2.2), it is uncertain if girls were also buried according to this pattern. Gendered artefacts were not associated with the individuals of indeterminate sex. The pattern that can be formulated as a working hypothesis, based on the burials of ten female individuals, is RS(W)EF⁴⁸². Some women were buried according to the LNE-pattern that was usually 'reserved' for males, e.g., the individuals from Eynsham, Grave 18⁴⁸³ and from Balksbury Camp⁴⁸⁴. Whether this is the expression of a particular social identity is uncertain and artefacts indicative of the gender are lacking. Judging by the chronology of the associated Beaker types, northern orientation of females was practiced at different times of Beaker use.

The burial patterns that were outlined above for northern and southern Britain show, in particular for male individuals, relatively strict standards. However, there is a difference between the early and late phase of Beaker use: in the beginning, the adherence to standard burial practices was of great importance. They were a novel practice and the symbolical expression of a phenomenon with a continental European background. Users of Beakers were low in number, and were possibly immigrants that needed to emancipate themselves in the indigenous Late Neolithic communities, or at least in the vicinity of these groups. The retention of the own cultural practices was of great importance. This phase can be described with Needham's "*circumscribed, exclusive culture*" that started in the mid-third Millennium, lasting for c. 250 years (Needham 2005, 209). The number of graves for this phase is very low. The burial of the Amesbury Archer is the most impressive example of this phase. Beakers and artefacts such as daggers or bracers were the expression of an idea that was apparently highly attractive to the indigenous population, and Beakers were established quickly. This led to a strong increase in the numbers of individual graves. In the context of this process, a diversification of burial practices can be observed that included alternative burial orientations and changing associations of artefacts in graves. These developments took place broadly in the last quarter of the third Millennium. The period of Beaker use and Beaker deposition in graves ended roughly 1750 cal BC. In the preceding c. 250 years, Beakers had started losing their

⁴⁸² Right side, orientated south or southwest, facing E, female.

⁴⁸³ ID: 69.

⁴⁸⁴ ID: 310.

importance as grave goods and the symbolical meaning they transported was re-interpreted and Beakers were ultimately replaced.

6.2 Continuity of Burial Practices

It has been indicated in the preceding section that Beakers, including the practice of individual burial, were introduced to Britain as a result of immigration from the continent. While there is no doubt that Beakers came from the continent, it has been argued that the practice of individual burial was an indigenous development that can be traced back to Neolithic funerary practices with a direct continuity into the early Chalcolithic (cf. Chapters 2.2.6 and 3.4.3).

Overall, the total number of recognized middle Neolithic single burials is low and, consequently, patterns concerning orientations or positions are difficult to identify. This small number, however, does not necessarily reflect the prehistoric reality, but is possibly the result of the assumption concerning the 'Beaker stereotype': single burials were introduced in the Early Bronze Age together with Beakers, and consequently every single burial had to be Beaker or later (cf. 2.2.6). Crouched individuals without artefact association may have been described as Beaker / Early Bronze Age too easily. These have not been the priority of radiocarbon dating programs that might have potentially shown their Neolithic date. In short, it might be a methodological problem. Nevertheless, several middle and late Neolithic burials have been recorded that can be compared structurally to Beaker burials and may shed some light on the problem of continuity. A selection of these features is shown in Tab. 18, and several points can be made regarding this data.

As can be seen in the table, there is a tendency towards an easterly orientation of individuals, i.e., E, NE and SE. "Easterly orientation" is of course an interpretation. NE can be argued to be a northerly orientation and SE a southerly. Regarding the high number of 'true' eastern orientated bodies, it is argued here that the eastern sector of the compass (here defined as lying between 45° and 135°) was of special importance.

This is, for example, visible at the Neolithic burial mound of Duggleby Howe, North Yorkshire. This monument was excavated and published by John Mortimer (Mortimer 1905, 23-42) and has been repeatedly reviewed (Kinnes 1979; Kinnes et al. 2002; Gibson *et al.* 2009). The barrow has several phases of activity, but the

middle and late Neolithic burials are of particular interest here. Three middle Neolithic individuals were buried in a deep shaft, and one individual was buried next to the shaft in a shallow grave (inhumations from bottom to top as labelled in Mortimer (1905): K, I, H, G). These four burials took place between the 35th and 33rd centuries BC, according to the results of Bayesian modelling from recently acquired radiocarbon dates (Gibson *et al.* 2009). Three of the individuals were (probably) male, two of which with an E-W orientation, one NE-SW. One child was orientated E-W. Four late Neolithic burials in the barrow (inhumations B, C, D, F) roughly date to the first quarter of the 3rd millennium BC. Two of them, two adult males, were orientated E-W and NE-SW, respectively. There is a gap of several hundred years between these and the middle Neolithic burials, but the orientation may indicate some degree of continuity that had been passed on. In both groups of burials, no common position, i.e., buried on the left or right side, is visible. Of secondary importance in this context but still of interest is a mature adult (inhumation D). The man was buried on the right side with a W-E orientation that means the orientation was reversed in comparison to the other individuals. It was already discussed above that society's perception of individuals or of individuals' roles, i.e., their social identity, can change with increasing age, which may become visible in the grave (cf. for example Chapter 3.2). Aspects such as orientation and position may thus be altered or reversed.

Regarding the other features in the sample, an easterly orientation is dominating the middle Neolithic burials (Tab. 18). Two male individuals from Oxfordshire (Barrow Hills, Flat Grave 5356 (Barclay & Halpin 1999; Mount Farm (Lambrick 2010)) are of interest in the context of this work. They were orientated E-W and SE-NW, respectively, while lying on the left side, thus resembling male Beaker associated burials in northern Britain. To speak of a pattern, however, would mean to overstretch the significance of this small sample. The late Neolithic burial from Barrow Hills, Oval Barrow, No. 1 (Bradley 1992; Barclay & Halpin 1999) that was dated to 2900-2500 cal BC (BM-2707: 4120±60 BP) can be added here because the male individual was buried in a similar attitude as the two aforementioned, i.e., contracted, NE-SW orientation, lying on the left side. This was no 'normal' single burial, however, because a female individual was buried contemporaneously with the

head on the opposite side, i.e., SW and lying on the right side. The feet and lower legs were laid across one another. Especially the position of the male individual has parallels in Beaker contexts, but also for the female a number of comparable burials are known (cf. Fig. 34 & Fig. 35).

In addition to the preferred E-W orientation, the side on which the individuals were buried could be significant. Females are underrepresented here, which is a common finding in samples of prehistoric burials (cf. Chapter 3.2), however, the numbers indicate that women and children were preferably buried on the right side. Two of the women were buried on the right side with a southerly orientation, also a common feature in Beaker burials, but the sample size disallows making general statements (cf. Chapter 3.5).

It should be borne in mind that the small number of individuals is from an even smaller number of sites. Nevertheless, the preference for a certain general orientation does not seem to be connected to site specific practices, as could be argued for Duggleby Howe, but might follow a general idea. An exception may be seen at Four Croeses, Powys (Warrilow *et al.* 1986). The primary inhumation within a ring-ditch was buried in a sub-rectangular pit with an S-N orientation and lying on the left side. The feature dates between 3336 - 2899 cal BC (CAR-670: 4400±70 BP). Directly to the north and south of this burial, two slots running E-W had been cut into the pit floor at right angles. The pits contained the badly preserved remains of skeletons, rather body stains, that were orientated E-W. It seems in this case that the two individuals flanking the primary inhumation were orientated in reference to it. In conclusion, several aspects of middle and late Neolithic burial practices shown above can also be seen in Beaker contexts and point to a certain degree of continuity.

Discrete burial was not a new feature, but was it triggering Beaker single burial? From the perspective that is taken here, it is difficult to bridge the chronological gap and link middle Neolithic and early Beaker burials with only a few late Neolithic single burials. According to modelled radiocarbon dates from early Neolithic to early Bronze Age contexts, this gap was as long as 170-510 years between 2900-2620 and 2510-2350 cal BC (Healy 2012, 149; Fig. 71). It cannot be ruled out that some articulated burials fall into this gap, but their numbers would have been low (*ibid.*).

Site	Sex	Orientation	Position	Facing	Age	Reference
Barrow Hills, Oxfordshire, Flat Grave 5354	/	SSE-NNW	Right Side	ENE	Child	Barclay & Halpin 1999
Barrow Hills, Oxfordshire, Flat Grave 5355	Female	N-S	Right Side	W	Adult	
Barrow Hills, Oxfordshire, Flat Grave 5356	Male	E-W	Left Sid	S	Adult	
Barrow Hills, Oxfordshire, Oval Barrow, No. 1 (LN)	Male	NE-SW	Left Sid	SE	Adult	Bradley 1992
Barrow Hills, Oxfordshire, Oval Barrow, No. 2 (LN)	Female	SW-NE	Right Side	SE	Adult	Barclay & Halpin 1999
Barrow Hills, Oxfordshire, Rectangular Structure	Prob. Male	WNW-ESE	Right Side	SSW	Adult	
Duggleby Howe, North Yorkshire, Inhum. K	Prob. Male	E-W	Left Sid	S	Adult	Mortimer 1905, 23-42; Kinnes 1979; Kinnes et al. 2002;
Duggleby Howe, North Yorkshire, Inhum. I	Male	E-W	/	/	Adult	
Duggleby Howe, North Yorkshire, Inhum. H	/	E-W	Right Side	N	Infant	
Duggleby Howe, North Yorkshire, Inhum. G	Male	NE-SW	Right Side	NW	Adult	
Duggleby Howe, North Yorkshire, Inhum. C (LN)	Male	NE-SW	Left Side	SE	Adult	
Duggleby Howe, North Yorkshire, Inhum. D (LN)	Prob. Male	W-E	Right Side	WS	Adult	
Duggleby Howe, North Yorkshire, Inhum. F (LN)	/	SW-NE	Left Side	NW	Child	
Duggleby Howe, North Yorkshire, Inhum. B (LN)	/	E-W	Right Side	N	Child	
Four Crosses, Powys, Primary	/	S-N	Left Side	W	Adult	Warrilow <i>et al.</i> 1986
Four Crosses, Powys, Secondary 1	/	E-W	/	/	/	
Four Crosses, Powys, Secondary 2	/	E-W	/	/	/	
Linch Hill, Oxfordshire	Female	S-N	Right Side	E	Adult	Bradley 1992
Mount Farm, Oxfordshire	Male	SE-NW	Left Side	SW	Adult	Lambrick 2010
Newnham Murren, Oxfordshire	Female	SE-NW	Left Side	SW	Adult	Moorey 1982
Windmill Hill, Wiltshire, No 1	/	E-W	Right Side	N	Child	Smith 1965
Windmill Hill, Wiltshire, No 2	/	E-W	Right Side	N	Child	

Tab. 18 Selection of middle and late Neolithic individual burials

(the burials from Duggleby Howe are listed according to their position in the mound, starting with the primary burial K; only burials with known position from that barrow are included: LN: late Neolithic)

Although individual burial was possibly still known and even practiced to a minor degree, at least in parts of the research area, the (in terms of archaeology) sudden increase in single burials has its catalyst in ideas and practices that came from outside Britain. The quick adoption of the practice of single burial in the British Chalcolithic, however, may also have been possible because, rather than being an invention, it was a revival of practices remembered, even though hardly practiced.

6.3 Heads North or East?

The diverse burial traditions in the north and south, and the notion that Beaker burial practices were novel in Britain, leads to the questions of where these traditions had their roots, and why and how they were adopted in Britain.

Contacts between northern Britain and northwestern continental Europe, in particular the Netherlands and parts of Germany, have been suggested by several archaeologists (e.g. Crichton Mitchell 1934, Clarke 1970, Needham 2005, Shepherd 2012). These contacts were mainly documented by certain Beaker types, but the similar funerary practices were also recognised. The burial practices of the continental Corded Ware groups have been regarded as prototypes for northern British Beaker practices, however, with one major difference: the position and orientation of males and females was reversed. On the continent Corded Ware males were orientated west-east and were resting on the right side; this combination is a typical female feature for British Beaker contexts. Conversely, Corded Ware females were orientated east-west and were lying on the left side, thus echoing the typical male practice of British Beaker contexts. It has been argued that the formation of the northern British Beaker mortuary practices were a result of an amalgamation of continental Single Grave Culture (SGC)⁴⁸⁵ and continental Beaker burial practices that met in Britain (Shepherd 2012). This process, if it is correctly interpreted, did not necessarily happen in Britain, but may already have taken place on the continent.

⁴⁸⁵ The Single Grave Culture belongs to the large group of Corded Ware-using communities and was mainly distributed in the Netherlands, Northern Germany and Southern Scandinavia.

Lanting & van der Waals (1976), and also Drenth & Lohof (2005), showed that the gender specific practices found in Britain already existed in the Netherlands, even if only in small numbers. Comparable to the situation in Britain, not all graves of this period were orientated E-W/W-E but also N-S and NW-SE orientation was practiced, though in smaller numbers. It will be difficult to establish a chronology for these different practices, in order to clarify a succession of practices, because datable skeletal material is only scarcely preserved in the sandy soils of the Low Countries (Drenth & Lohof 2005, 434-436). Two large concentrations of the typical northern burial practices can be seen on Fig. 16, namely in Yorkshire and northeastern Scotland. It can be assumed that travellers from the northwestern Europe sailed up the coast, not by way of a mass migration of people, but possibly were single individuals, or more likely kinship groups.

As outlined above, the situation in southern Britain is slightly more diverse than in the north. Also here gender-differentiated burial patterns exist, but there is more variety of orientations and positions. In general, the mortuary practices of the south resemble practices of central European Beaker groups, i.e., north-south orientation for males resting on the left side, and south-north orientation for women resting on the right side. Some artefact groups, such as the toggles found in Britain, point in this direction. It is thought here that impulses from the central European Beaker groups were mainly responsible for the formation of Beaker burial practices in the south. Representative for this formation period is the early grave of the Amesbury Archer, Wiltshire. However, the above mentioned diversity is possibly owed to influences from other parts of the continent, for instance, Brittany (Needham 2005). The reason for diverse influences in southern Britain could be connected to the cluster of monumental sites there, particularly Stonehenge. This monument was without a doubt known in large parts of Europe by word-of-mouth and has probably attracted people from different areas, possibly on a sort of pilgrimage, as suggested by Needham (2008). The Amesbury Archer can be seen in this context. Being born probably in the Alpine area, the man travelled through Europe and lived for the most part of his life in Britain. He was

provided with a large array of artefacts and it was suggested that certain people of high status undertook heroic journeys in order to gain prestige (Needham 2005). While this is one explanation for the 'rich' burial of the Amesbury Archer, these artefacts, or gifts, may have been brought to southern Britain from different parts of Europe and were given to him being a person of high status.

Even though it will probably be impossible to decipher the exact circumstances of the formation of Beaker mortuary practices, it has to be assumed that the contacts between the continent and Britain were not unidirectional, but knowledge, ideas, goods, etc., were exchanged by people travelling back and forth. A mixture of certain aspect must therefore be expected.

Generalizations, made in the course of this study are difficult in any case: we are dealing with a period of about 700 years of Beaker activity in Britain, and the start of the Phenomenon will not have had much to do with the end. This is also visible in the diversification of burial practices. While at the beginning, it seems that the N-S orientation in the south and the E-W orientation in the north were followed rather strictly, it can be seen at a later stage of Beaker use that practices start to diversify. This process has been described persuasively by Needham (2005), who distinguished three phases of Beaker activity: the earliest with Beakers and funerary practices of entirely European inspiration, followed by a phase in which Beakers became emancipated in Britain and were available to many. At the same time, diversification of burial practices is visible, for instance, by changing artefact associations. In the last phase, smaller Beaker communities existed amongst other emerging or already existing groups with different potting traditions. Beakers lost their importance in daily life and in the grave.

The magnitude of Beaker influences in Britain is difficult to comprehend. There is no doubt that immigration played a role, but whether we are talking about single persons such as traders, smaller groups like families or even large groups is difficult to answer. There are no clues concerning larger movements of people; we might think about single individuals or small

groups travelling back and forth on routes within already existing networks. If this notion is correct, then probably none of those newcomers will be represented in the burial record because none of the established population knew the appropriate burial ritual. Early Beaker burials, such as that of the Amesbury Archer, must therefore represent members of already established groups of people who buried their deceased within their own belief systems. The Europe-wide distribution of Beakers has been seen in a variety of contexts, starting with copper-seeking parties who roamed the continent. The question of where exactly and with which motivation Beakers started to spread cannot be answered here. However, based on the wide distribution and the recurring set of artefacts, it is argued that the Beaker Phenomenon is the expression of a common set of ideas, with regionally distinct characteristics. Despite their variability, the burial practices particularly in central and north-western Europe, seem to follow a universal idea, and the gender differentiated burial practices that we see are the symbolical representations of this idea and of idealised social roles. It may be connected to cosmological aspects, such as the rising and setting of celestial bodies.

The orientations and positions of the body discussed in depth here reflect social identities of males and females within Beaker society. The age of the individuals seems to have been of less importance, as the majority of individuals, regardless if adolescent or mature, were buried according to the general patterns. For children this also seems to have been the case. Some groups of artefacts, however, were gendered and also age-specific, and Beakers themselves transported categories of social identity. The sizes of Beakers, e.g. was dependent on both gender and age. Males were equipped with large Beakers, females with medium-sized Beaker and children with small ones (Case 1995; Brodie 1998). In Scotland, Alexandra Shepherd showed that specific types of Beakers appeared to be gender specific. Short-necked Beakers (those of Lanting & van der Waals Step 3) were mostly found with women (Sheperd 1989; 2012).

Artefacts such as daggers, bracers and arrowheads were exclusively male objects. For females there was no gender-specific artefact association. It has

sometimes been argued that awls were female objects, but it could be shown with this sample, that awls were male as well as female objects.

In the Beaker East Group, a number of female burials is known, to have contained typical male artefacts, such as bracers and smith' tools (Turek 2011, Merkl 2013).

These were 'rich' graves and reflect the social status of these individuals, as well as and representations of social identities that deviated from the norm. In British Beaker contexts, no example of a female burial with male attributes has been documented yet.

Even though Beaker size was age-dependent, some children were buried with artefacts of high quality, e.g., the burials of the 4-5 year old child from Barrow Hills, Radley, Grave 919, Oxfordshire⁴⁸⁶ and the c. 6 year old child from Monkton-Minster, Grave 6371, Kent⁴⁸⁷. Both were buried according to the male pattern and were associated with rare items of copper, which can be interpreted as status symbols. These cannot have been acquired by the young children themselves, but must have been bestowed on them at the time of burial or before. This practice indicates that social status was not necessarily something that had to be gained, but that could be passed on.

However, not everyone was buried according to these practices: sequential burial, multiple burial and cremations were practiced contemporaneously and sometimes on the same site. In addition, unaccompanied graves have been recorded on Beaker cemeteries, for instance as Cassington and Eynsham (both Oxfordshire). This implies that even within communities people had different ideas of how to bury their dead. One can imagine that certain rituals were reserved for specific groups within society, i.e., that burial practices were one group-specific. Alternatively, it was possible to articulate social identities in different, but equally accepted ways.

The practice of individual burial has often been argued to stand in contrast to multiple burial and has to be seen in the context of increasing importance of the individual in Late Neolithic and Early Bronze Age societies. However, the

⁴⁸⁶ ID: 28.

⁴⁸⁷ ID: 127.

standardized practices indicate that it is rather a common identity, a common set of social categories that find their expression in the funerary ritual, understood and accepted by society, rather than being the pronouncement of the individual. Our modern, western concept of individuality, which focusses on the identity of single individuals above groups, is assumed to strongly differ from the concept in less complex societies (Götz-Fernández 2014, 16). It should also be taken into account that identity is not static, but is a changing process that must be adjusted to the needs and requirements faced by societies (Diaz-Andreu 2005).

Finally, the perpetual question arises, as to what the meaning of Beakers in Britain and in general was. Burgess' and Shennan's notion that Beakers, or rather the Beaker package, was the physical expression of an international phenomenon probably is still the most convincing approach. The size of the distribution area and the diversity of the Late Neolithic and Chalcolithic archaeological cultures involved speak against a common social or economical background. Nevertheless, there were obviously dynamic processes that led to the wide dispersal of the Beaker Phenomenon, the aspects of which were widely understood and were, in particular, attractive. It must have been desirable to be part of a community that was initiated in the idea that was transported by Beakers. This idea was possibly connected to metallurgy, which at the beginning of the Beaker Phenomenon was surely mystical and only controlled by a few people, with an elevated social status, due to their knowledge of transforming ore into copper objects. In that sense, the Beaker Phenomenon may have primarily been economically motivated. However, the expression we face in the ritual sphere of the grave goes beyond that: it is more an expression of a system of shared beliefs, most likely in a religious sense. This last notion is independent of whether or not metal was the motor that kept Beakers going.

Individual burial was certainly no Beaker invention, but symbolically-laden burial practices were common in Central Europe in Corded Ware contexts long before Beakers appeared on the scene. However, they were still practiced when the Beaker Phenomenon started, and the formations of the

practices that are documented in several parts of Europe are probably a reaction to these established practices.

7 Bibliography

Abbreviations

Ant J	Antiquaries Journal
AC	Archaeologia Cambrensis
Arch J	Archaeological Journal
BAR	British Archaeological Reports
BAR Int Ser	British Archaeological Reports International Series
DES	Discovery and Excavation in Scotland
PCAS	Proceedings Cambridge Antiquarian Society
PNAS	Proceedings of the National Academy of Sciences of the United States of America
PPS	Proceedings of the Prehistoric Society
Proc.Soc.Ant.Lond.	Proceedings of the Society of Antiquaries London
PSAS	Proceedings of the Society of Antiquaries of Scotland
WAM	Wiltshire Archaeological and Natural History Magazine

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