Reassessing the gender ideology of the supra-regional corded ware culture

Olerud, S.L.

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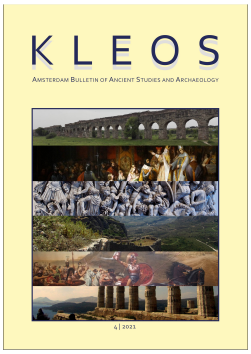

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CONTACT
bulletin.kleos@gmail.com
www.kleos-bulletin.nl

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Reassessing the Gender Ideology of the Supra-regional Corded Ware Culture

Louise Olerud

Abstract

The Corded Ware culture (c. 2900-2200 BC; hereafter 'CWC' for the phenomenon itself or 'CW' as the adjective) is a widespread prehistoric phenomenon encountered throughout Europe and was characterised by standardised burial practices and material culture. Recent studies incorporating scientific methods have revived the traditional hypothesis that the sudden appearance of the CWC was caused by mass migrations from the Pontic Caspian steppe. Among other things, this new archaeological culture is typically associated with the introduction of a binary gender system and the establishment of a patriarchal society.

However, such a narrative is largely rooted in andro- and ethnocentric, Western assumptions: biological sex is equated with gender, grave goods are taken as a direct representation of identity, and weapons (i.e. the CW 'battle-axe') are associated with masculinity. Moreover, burials under barrows are overrepresented in the 'grand narrative' of the CWC, while other funerary and depositional contexts are underrepresented.

This paper aims to investigate CW gender, while taking the abovementioned problems into account. The emphasis is placed on the expression of gender through material culture and its selective deposition (i.e. specific objects deposited in specific contexts). Two regions have been selected as a case study: Southern Jutland (102 burials, 13 depositions (i.e. buried objects without a body), 29 single finds) and Bavaria (90 burials, three depositions, 32 single finds). The co-occurrences of various object categories in different depositional contexts are studied in each region. The results are contextualised in comparison to the extensive network analysis by Q. Bourgeois and E. Kroon (2017), which consisted of 1161 CW burials and resulted in the recognition of striking burial norms, but only takes the funerary context into account.

The present comparative and multi-contextual study adds nuance to the binary reading of CW gender and suggests that CW gender may have been constructed through an interplay of

Louise Olerud has completed her Research Master programme 'Prehistoric Farming Communities in Europe' at the Faculty of Archaeology, Leiden University in 2019. This research paper discusses the results of her thesis. Her main research interests lie in burial rites and gender identities in European prehistory. She currently works as an archaeological advisor at the municipality of Delft and has been accepted for a PhD position at Leiden University.

▶ *Profile page*

normative supra-regional versus idiosyncratic local identities. The supra-regional and local burial styles do not necessarily convey a 'male' and 'female' gender identity but emphasise the larger CW community and local values respectively. Thus, this study argues that the core value displayed in burials is the CW community, rather than gender and particularly 'male-dominant', martial values as suggested in the grand narrative of this period.

Introduction

A binary gender system (male and female) is thought to have developed in Europe during the Bronze Age.[1] The appearance of the Corded Ware culture (c. 2900-2200 BC; hereafter 'CWC' for the phenomenon itself or 'CW' as the adjective) throughout Europe is thought to correspond with the establishment of this binary gender system. This prehistoric phenomenon has recently received significant attention in both academic circles and the wider public, due to newly developed methods to analyse ancient DNA (hereafter aDNA) of skeletal remains. Indeed, recent aDNA studies propose that the CWC was the result of large-scale population movements, of mostly men, from the Pontic-Caspian steppe (see figure 1).[2] This has been interpreted in accordance with the traditional, culture-historical idea of mass migrations spreading Indo-European languages and the horse and wheel into Europe. In this narrative, the migrants were militarist pastoralists originating from the Yamnaya culture (c. 3300-2500 BC, Pontic-Caspian steppe).[3] While recent research from the years preceding the aDNA studies emphasised continuity of older European cultures,[4] the new findings have revived this traditional idea without nuance. Indeed, the new grand narrative claims that the Indo-European-speaking male migrants took the native Neolithic women in Europe as their wives and established a patriarchal, male-dominated CWC, which developed into the establishment of a binary gender system during the Middle Bronze Age.[5] Such an interpretation is problematic on several accounts. This paper proposes an alternative – much more nuanced – interpretation of CW gender, by a multi-contextual and comparative approach and through network analysis.[6]

1 Robb/Harris 2018.

2 Allentoft et al. 2015; Haak et al. 2015; Goldberg et al. 2017.

3 Anthony 2007; Anthony/Ringe 2015; Childe 1929; Gimbutas 1956.

4 Furholt 2014; Iversen 2016.

5 Kristiansen et al. 2017, 335-342.

6 This paper is based on the author's Master's thesis: Olerud 2019.

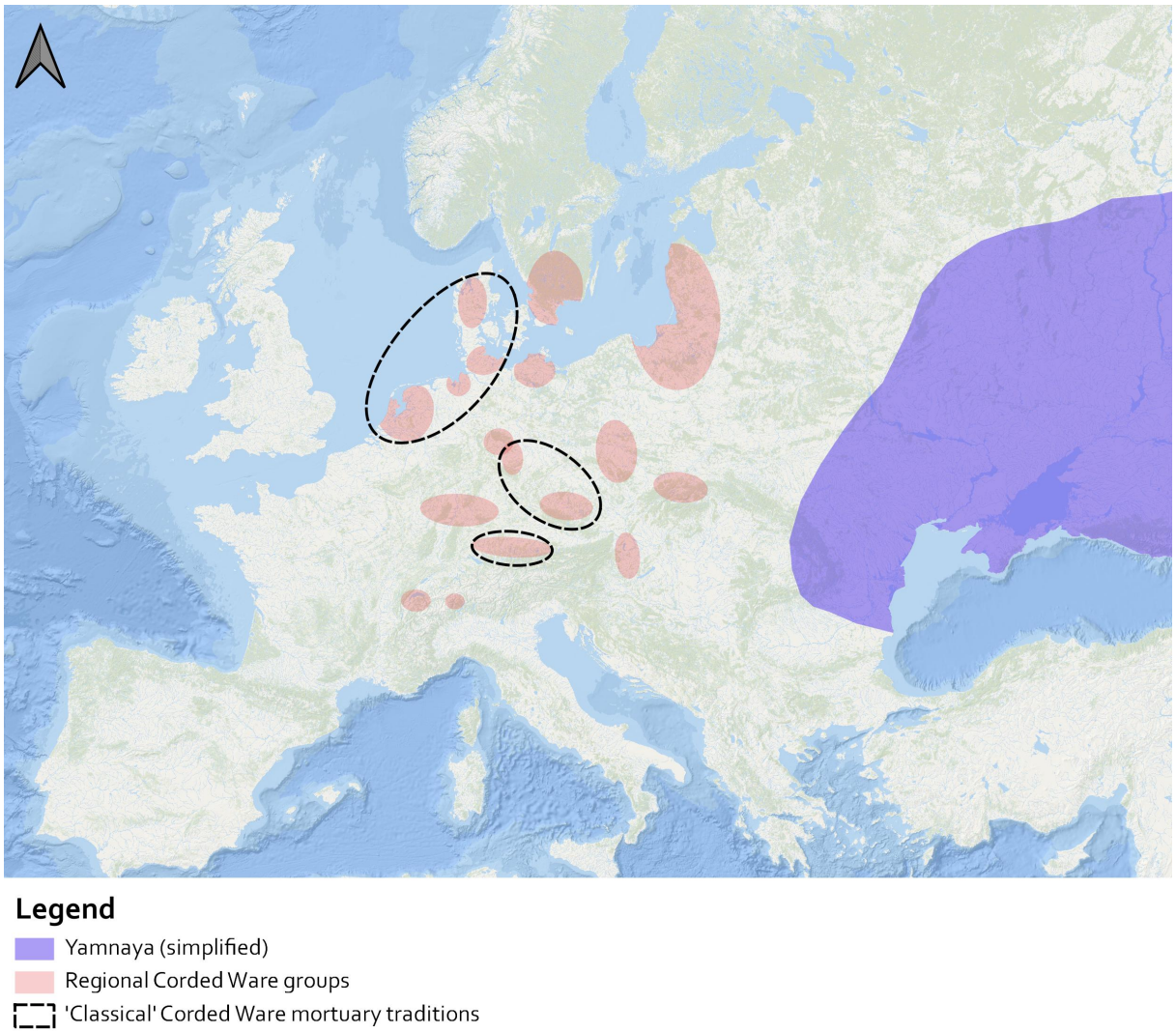

Figure 1
The distribution of the Corded Ware culture in Europe (reproduced from Johannsen et al 2017, 1120; map courtesy of ESRI Ocean via QGIS QuickMapServices plugin by NextGIS).

Deconstructing the grand narrative of the third millennium BC

The CWC is primarily known through its mortuary context. CW graves are characterised by a single burial in a crouched flexed position underneath a burial mound. A standardised set of grave goods marks out CW graves: a beaker with cord impressions (hence the name of the culture), a flint blade, a flint axe, a stone 'battle-axe' (i.e. a stone axe interpreted as a weapon), and amber or bone jewellery. The position of the deceased and the accompanying grave goods have traditionally been considered gendered and distinctly binary. Men are thought to have been placed in a right-flexed position and given a battle-axe, and women in a left-flexed position and given jewellery (see figure 2).[7] The appearance of this new mortuary style marks a break from the megalithic graves of the preceding period (fifth and fourth millennia BC), i.e. communal

7 Beckerman 2015, 13, 23-4; Bourgeois/Kroon 2017; Turek/Černý 2001.

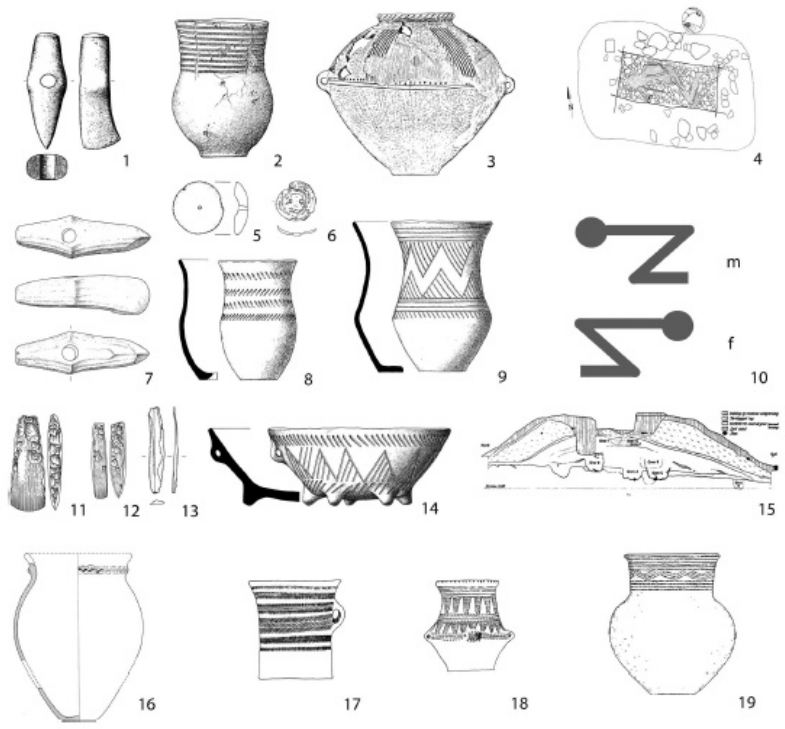

Figure 2
The typical elements of the CWC, which recur throughout Europe (after Furholt 2014, 69, fig. 2): 1 & 7 (Facetted) battle-axe; 2 Cord-decorated beaker; 3 Amphora with Strichbündel decoration; 4, 10 & 15 Single burial in a (gender-specific) crouched flexed position underneath a burial mound; 5 & 6 Amber and bone discs; 8 Beaker with herring-bone motif; 9 Beaker with triangular decoration; 11-13 (Flint) axe, chisel and blade; 14 Bowl; 16 Storage vessel with Wellenleisten decoration; 17 Straight-walled beaker; 18 Amphora; 19 Short-necked beaker.

tombs built with large stones and then covered by a mound.[8]

From the 1980s onwards, scholarly contributions have debated the sudden appearance of the CWC and its uniform nature throughout Europe, emphasising regional variability and continuity.[9] Yet as a result of recent aDNA studies, the traditional migrationist stance has reappeared.[10] Criticism of this renewed migrationist grand narrative includes the view that it is increasingly uncritical and unidirectional and that it reminds of the culture-historian equation of 'pots and people' as well as contemporary extremist ideas about European identity.[11] The linguistic and genetic data, on which this grand narrative is based, is itself not uncontested and genetic transmission does not necessarily imply cultural transmission.[12]

Moreover, this revived narrative is based on numerous assumptions.[13] A first problem is the concept of the Indo-European warrior band, which originates from comparative mythology and the accompanying notion of 'male warriorhood', which has been criticised as a projection of the idealised individual in Western culture.[14] A second assumption is the interpretation of grave goods as a direct representation of the identity of the deceased: an

8 Bourgeois 2013, 5, 12; Scarre 2002, 2.

9 Beckerman 2015, 16, 27-28; Furholt 2014.

10 Kristiansen et al. 2017.

11 Friemann/Hofmann 2019; Furholt 2016; Furholt 2018; Heyd 2017, 354.

12 Bourgeois/Kroon 2017, 2; Burmeister 2016, 55-56; Heyd 2017, 350; Klejn et al. 2017.

13 Kristiansen et al. 2017.

14 Anthony/Ringe 2015, 213; Brück/Fontijn 2013; see also Friemann/Hofmann 2019.

abundance of battle-axes in graves are taken as indicative of a male-dominated society with martial ideals.[15] Additionally, such statements about CW society are considered problematic due to the overrepresentation of funerary contexts – and particularly barrows – while the domestic sphere and other ritual contexts are largely unknown; burials, however, cannot give a full picture of daily life.[16] Finally, the underlying notions of traditional gender roles do not adhere to the current theoretical discourse in and beyond archaeology as well as to developments in contemporary Western society.[17] This grand narrative portrays women as passive objects of exchange, who are only credited with bringing ceramic skills into the CWC after an assumed 'marriage by abduction'.[18] In a system of female exogamy, these women would have brought with them knowledge about other CW communities and perhaps material culture. Rather than being 'dominated by men', these women would have exerted power in their own right by maintaining supra-regional relations and upholding a system of female exogamy for future generations.[19]

Binary gender

While the current consensus is that CW burials had a clear notion of binary gender based on biological sex, in some regions (e.g. the sandy soil regions of north-western Europe) the preservation of skeletal remains is rarely good enough for an osteological determination of sex. Instead, burials are often identified as either male or female on the basis of their position and/or the accompanying grave goods.[20] Besides the danger of circular reasoning, this identification is problematic even in cases in which the biological sex of the skeletal remains can be established. Firstly, the equation of biological sex and gender is a notion rooted in biological determination and disregards variability. Many ethnographic and historical societies as well as contemporary Western society know of more than two genders and of a range of variability in gender identities.[21] Thus osteological determinations

15 Beckerman 2015, 24-25; Edenmo 2008, 19-20; Ekengren 2013, 174-80.

16 Beckerman 2015, 20-23; Furholt 2014, 70; Nobles 2016, 16-17.

17 Even societies with a predominantly binary gender system show complexity of gender relations (Arnold 2016; Robb/Harris 2018).

18 Kristiansen et al. 2017, 338-40.

19 A CW system of female exogamy has been shown by stable isotope studies (Knipper et al. 2017; Sjögren et al. 2017).

20 Bourgeois/Kroon 2017, 2; Larsson 2009, 61. This happens in regions with good preservation as well (Buchvaldek and Koutecký 1970, see footnote 43).

21 Sørensen 2000, 42-5; Turek 2016, 353-356; Weglian 2001, 137-138. Yet a strict distinction between biological sex and cultural gender is equally difficult to establish as this reflects the Enlightenment dichotomy of nature and culture (Robb/Harris 2018, 129; Sørensen 2000, 42-45); on the nature-culture dichotomy: see Brück 2019; Fontijn 2019, 137.

of sex (and age) do not directly reflect the experienced reality of gender.[22]

Secondly, the equation of grave goods and gender is a direct inheritance of 19th-century (male) archaeologists, who first categorised archaeological artefacts from their ethno- and androcentric points of view: weapons and 'rich' burials indicating a male grave, and jewellery (or a lack of grave goods) indicating a female grave.[23] Current practice-based mortuary archaeology does not interpret grave goods as a direct representation of the identity and status of the deceased, instead emphasising mortuary rites and the relationship between the mourners and the deceased.[24] Biographical and contextual approaches emphasise the interaction between humans and objects, through which gender is actively constructed and performed (e.g. dress, production and use of objects).[25]

Lastly, even though (biased) statements are being made about gender in the CWC, the nature of CW gender has rarely been the subject of study. Contextual and practice-based interpretations of gender are often undertaken for the European Bronze Age, but not for the CWC and only rarely for the Neolithic as a whole.[26] Instead, the consensus of a binary CW gender symbolism is reiterated, perhaps with a critical side-note.[27] Burials, which are exceptions to the 'rule', are rather ascribed to homosexual or transgender individuals instead of being included in a critical analysis of CW gender.[28] Clearly, more research is necessary in order to gain a better understanding of CW gender; this paper aims to bridge this gap.

METHODOLOGY: A MULTI-CONTEXTUAL AND COMPARATIVE GENDER ARCHAEOLOGY

This study aims to provide an initial investigation of CW gender in reaction to the grand narrative, while acknowledging both the aforementioned problems and the limitations of the CW archaeological record. As an initial and reactive study, the traditional idea of binary CW gender is explicitly investigated,

22 Nor is this method without problems of its own (Krogman/Iscan 2013, 59-60, 143-146; Sofaer 2011; Sørensen 2000, 45-46).

23 Hjørungdal 1994; Sofaer/Sørensen 2013, 530-531; Sørensen 2000, 27. One example (out of many) of a rich grave with weapons (thus 'male'), that later research showed to belong to a biologically female, is the (much contested) 'female Viking warrior' from Birka (Hedenstiera et al. 2017; Price et al. 2019).

24 Ekengren 2013, 174-180; Sofaer/Sørensen 2013.

25 Brück/Fontijn 2013, 203; Fowler 2004; Sørensen 2000, 75-76.

26 Robb/Harris 2018.

27 E.g. Bourgeois/Kroon 2017; Larsson 2009; Vandkilde 2007, 70-71. A notable exception to this is Turek 2017.

28 E.g. Falvey 2011.

thereby proceeding to some extent from the same basis, that is criticised above.[29] However, the used approach towards gender in this paper is practice-based and biographical: the emphasis is on how various bodies and objects have been treated differently in different contexts.[30] Thus, CW gender is investigated through a multi-contextual analysis, in which not only burials from barrows are included, but also other funerary (reused megalithic graves and flat-graves) as well as depositional (defined here as buried objects without a body and single finds) contexts. Depositions are considered to be objects buried intentionally and with meaningful purpose in particular locations in the landscape.[31] The funerary context is analysed first in order to determine if certain CW objects are typically associated with differently treated (gendered) bodies. Next, the investigation includes other contexts in order to determine whether there were rules of (gendered) 'selective deposition' throughout CW depositional contexts: the discard of particular objects in a proper way and in a proper place.[32] Even though gender is qualitative and experiential, gendered behaviour is expected to result in patterns in the archaeological record. Therefore, elementary statistics as well as network analysis are employed in order to help in finding such patterns.

In order to compare a high number of burials from different sites, the focus is placed on the position of the body (see figure 3) and on the osteological categories of sex and age.[33] Taking the abovementioned issues into account, these categories should not

29 This choice has been made in order to 'test' the grand narrative. Thus, the focus is on gender rather than other forms of identity or other possible explanations for the found patterns. Moreover, this article takes gender as a fixed entity rather than fluid. This investigation assumes either one gender (male or female) or none (other or non-gendered). This limitation of the methodology needs to be overcome in future research. It must also be kept in mind that the choice for studying burial rites as well as (ritual) depositions can only lead to an ideological representation of identity instead of an understanding of the lived reality of prehistoric persons during the CW period.

30 See Olerud 2019 for a full discussion of the theoretical concepts underlying this approach, which is (mainly) inspired on: Arnold 2016; Aspöck 2008; Brück/Fontijn 2013; Ekengren 2013; Fahlander 2012; Fontijn 2002; Fontijn 2019; Fowler 2004; Haughton 2018, 2-4; Sofaer/Sørensen 2013; Sørensen 2000; Stratton 2016.

31 Throughout European prehistory (as well as later periods), it has been a common practice to deposit valuables in the landscape, for example in wetlands. These depositions can be singular objects or hoards consisting of multiple of the same (one-type hoards) or different objects (multi-type hoards) (Fontijn 2002; Fontijn 2019).

32 Fontijn 2002; Fontijn 2019.

33 Unfortunately, it is beyond the scope of this paper to investigate the taphonomic processes resulting in the position of the body at the time of excavation. Instead, body positions are taken as the deliberate placement of the deceased in their grave by the burial community. Particularly for the supine (left-/right-) flexed position, however, this may be an incorrect assumption: perhaps the legs were placed flexed upright rather than towards one particular side, or perhaps a crouched flexed position was intended.

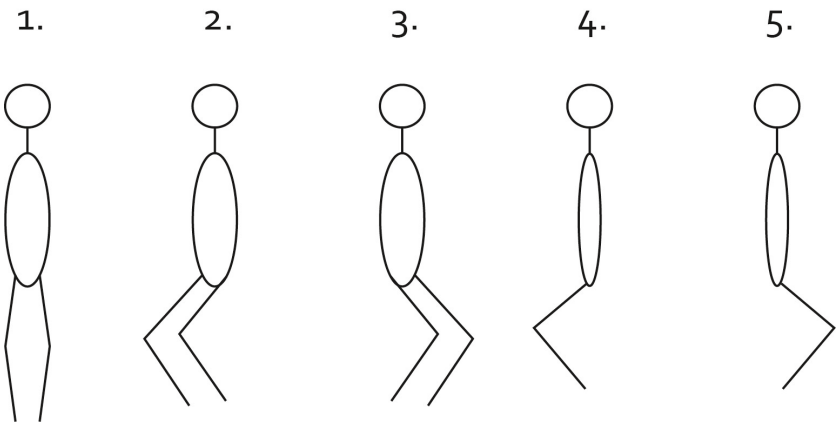

Figure 3
Possible body positions of inhumation graves (reproduced from Sternitzke 2017, 376): 1. Supine stretched position; 2. Supine right-flexed position; 3. Supine left-flexed position; 4. Crouched right-flexed position; 5. Crouched left-flexed position.

be regarded as concrete gender identities in themselves.[34] The goal is to find patterns in the ways sexed and aged bodies have been treated after death and to determine whether these patterns relate to gendered norms. Body positions are emphasised because the consensus of CW gender is that biological males are placed in a crouched right-flexed position and that the crouched left-flexed position is reserved for biological females.

For artifacts, the emphasis is placed on the object category and their embodiment, by which is meant the way these objects relate to the body: 'on body' (i.e. ornaments), 'in hand' (e.g. tools, weapons), 'non body' (e.g. pottery) and 'other' (e.g. food remains).

The typology of the objects has deliberately been left out since typo-chronology (as well as absolute chronology) is unfortunately not without problems for the CW period.[35] Thus, a limitation of this study is, that all objects and all sites are regarded to be from one period, whereas there would have been chronological differences within the CW period.[36]

In order to find patterns of (gendered) selective deposition, the focus is placed on which objects co-occur with other objects and which do not, and how this relates to the context in which these objects are found. In order to find such patterns, a simple network analysis is conducted consisting of two associated visual graphs, which show nodes connected by links.[37] The two-fold visualization

34 Arnold 2016; Fahlander 2012, 138; Haughton 2018, 3; Stratton 2016, 862.

35 There are two main problems. Firstly, CW typo-chronologies were originally based on the Danish Single Grave culture. They have been revised in some regions, but not in others. Secondly, the CW period coincides with broad plateaus in the radiocarbon calibration curve (2880-2580 cal BC and 2460-2200 cal BC) (Beckerman 2015, 13-4, 19; Bourgeois 2013, 26-8; Furholt 2003, 15-6; Furholt 2014, 70-1).

36 Typo-chronological differences between CW graves (e.g. underground, ground, and overground graves in Danish barrows, grave and barrow structures, and body positions) are not taken into account either. Particularly the supine stretched position may have been a later development, as this position occurs more frequently towards the end of the Danish Younger Neolithic (Hübner 2005, 747).

is done twice, first only for the funerary context (see figures 8-9, 14-16) and then for all contexts, thus including depositions and single finds (see figures 20-23).

The first graph (see figures 8, 14, 20, 21) consists of the objects (nodes): connected nodes indicate that these types of objects can co-occur, while stronger (darker) links indicate that these objects co-occur more frequently than weaker (lighter) links. The size of the nodes indicates how often this object co-occurs with other objects (larger nodes imply more connections). A graph showing clustered nodes with strong links between them thus indicates that these objects commonly occur together, whereas scattered (or isolated) nodes indicate that these objects rarely occur with other objects (or not at all). The latter are typically uncommon finds.

The second graph consists of the sites themselves: first, only the graves (see figures 9, 15, 16) and later all features (graves, depositions and single finds, see figures 22-23), offering context to the first graph. The placement of the nodes (i.e. the sites) reflects the same connections of the first graph, while connected nodes indicate that they have similar (co-occurring) objects found at these sites. In order to help interpret the patterns, the second graph (see figures 9, 15, 16, 22, 23) includes further context by adding colour or differently shaped nodes. Lastly, the size of the nodes represents the 'reliability' of the data: a scale of 1-3 has been chosen (1: unreliable; 2: reliable; 3: excellent). This reliability factor has been included to show the limitations of the data explicitly, as the archaeological record is not only fragmented, but the quality of the documentation of the features differs enormously per site.

Dataset

Due to the supra-regional nature of the CWC, this multi-contextual methodology is combined with a comparative approach, in which two regions are contrasted. The comparison is expected to allow a better understanding of contextual gender patterns on a supra-regional and a local level. The discerned patterns are then contextualised in relation to the large-scale network analysis of CW burials throughout Europe, conducted by Q. Bourgeois and E. Kroon.[38]

37 For this purpose, the programme Visone was used to create node-link graphs, by importing a'two-mode' adjacency matrix that indicates only the presence or absence of each object category per site. Multiple numbers of an object are thus ignored. The two-mode visualization is then divided into two one-mode visualizations, in which object categories and sites are visualized as nodes, while links indicate the occurrence of an object category on a site. The layout of the network, i.e. the placement of the nodes, is arranged through Visone's stress minimization algorithm (multidimensional scaling).

38 Bourgeois/Kroon 2017.

Two case studies were chosen. The first is Southern Jutland, which is considered to be a core area of the Single Grave culture (i.e. the regional CWC in Scandinavia, north-western Germany and The Netherlands, figure 4). CW graves from Jutland form a large part of the CW narrative, due to the large number of battle-axes found there, although skeletal remains are rarely preserved in the sandy soils of the region. Secondly, Bavaria was chosen, because skeletal remains are preserved there, and the region has been included in several recent studies (figure 5).[39]

The data included in the analysis are shown in tables 1-2.[40] A limitation of the CW funerary context is the often-poor preservation of skeletal remains. In the Danish case study, this is especially the case as only few skeletal remains have been recovered. Most bodies recognised in the Danish graves were preserved as 'soil silhouettes': discolourations in the shape of a body or skeletal element. Fortunately, also soil silhouettes can reveal the position in which the deceased was laid to rest.[41] In Bavaria, skeletal remains are preserved well enough for osteological determinations and aDNA analyses. This variation in preservation and documentation is reflected in the reliability scale employed in this paper.

Indeed, even in the absence of a preserved body, graves with grave goods are included in the analysis, albeit with lower reliability, because these graves still contribute to finding a pattern, in which some grave goods co-occur only with certain other grave goods. These features have been recognised as graves mainly due to the presence of grave structures (e.g. barrows, grave pits, stone frames etc.). The graves with bodies then give an indication about how this pattern may be interpreted, bringing to light which co-occurring objects are given to which bodies (and which are not).

39 Ebbesen 2006; Massy et al. 2017.

40 Bavarian data: Andrades Valtueña et al. 2017; Heyd 2000; Massy et al. 2017; Knipper et al. 2017. Danish data: Ebbesen 2006; Hübner 2005; Siemen 2009; Frei et al. 2019. The sources used in this study are catalogues of CW burials and finds (descriptions and images). No primary data are used and neither skeletal remains nor archaeological objects are determined by the author; the main method is thus a re-analysis of already published and determined material. Source criticism can be found in Olerud 2019. Sites are the locations at which one or more features were found, for example cemeteries, barrow landscapes, and so on. Despite the multi-contextual approach, the funerary context is overrepresented in both case studies, particularly in Bavaria. This is a limitation of the data, which could be solved by including more sites in future research.

41 Some soil silhouettes are very well-preserved and show the exact position of the body, including on which side the deceased was lain. Yet others are less clear and only indicate for example the location of the skull. Taphonomic research into soil silhouettes may provide more information, but to the author's knowledge this has not been undertaken.

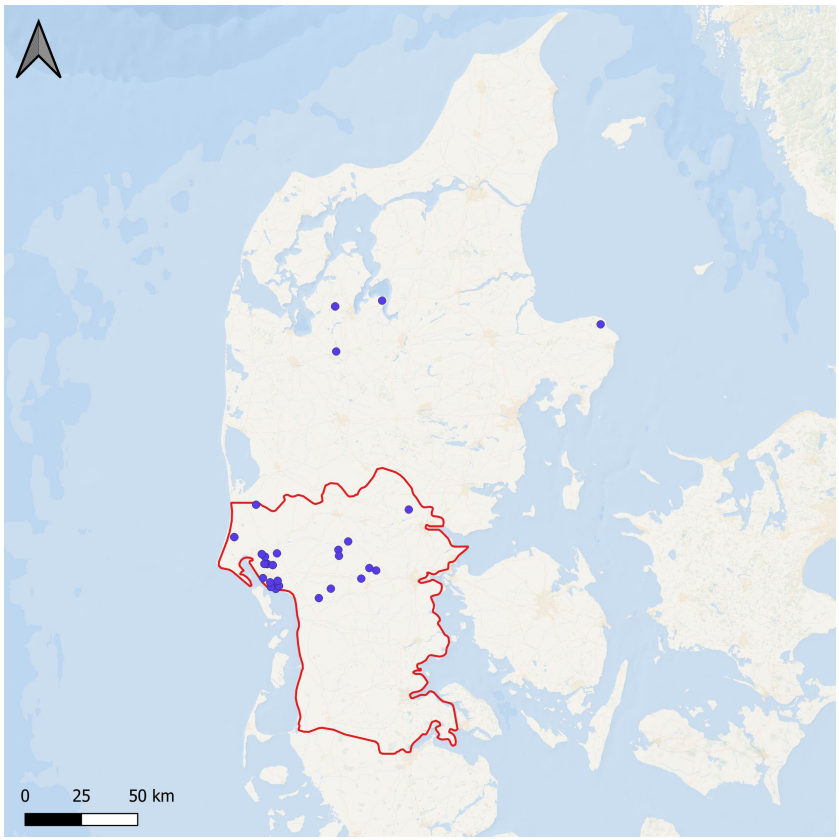

Figure 4
The sites (purple dots) included in the Danish case study from Southern Jutland (red outline). A few beyond the region were included, as these yielded skeletal remains as well (created by author, map courtesy of ESRI Ocean via QGIS QuickMapServices plugin by NextGIS).

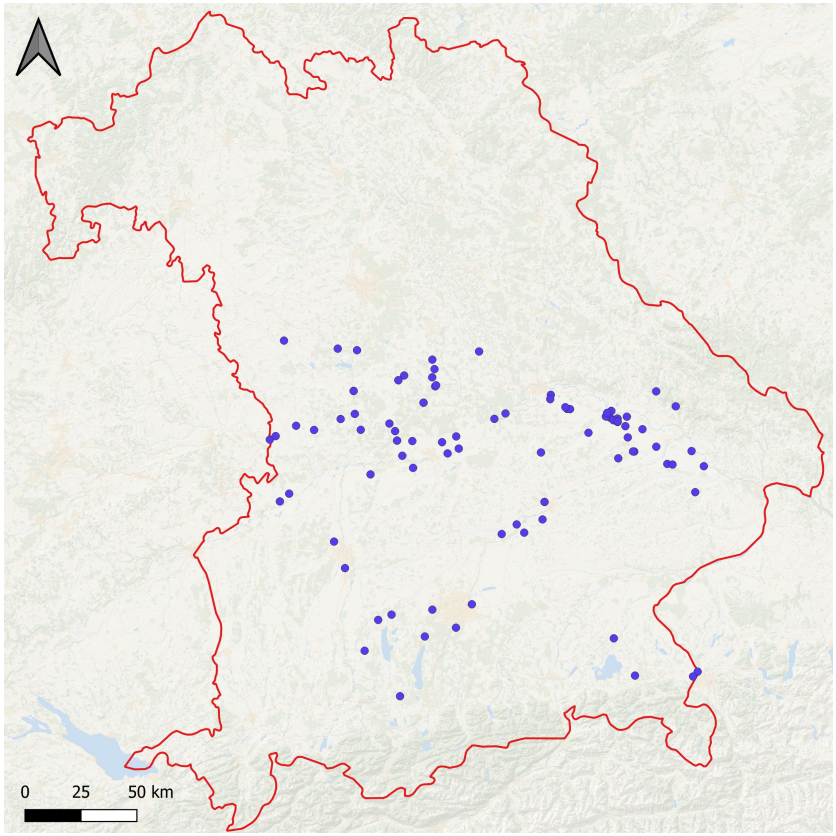

Figure 5
The sites (purple dots) included in the case study of Bavaria (red outline) (created by author, map courtesy of ESRI Ocean via QGIS QuickMapServices plugin by NextGIS).

Features	Jutland (29 sites)	Bavaria (94 sites)
Graves	102	90
Graves with bodies	45 (in 39 graves; 11 skeletal remains)	72 (in 60 graves)
Depositions	13	3
Single finds	29	32
Total	*144*	*125*

Table 1
Features included in the dataset.

Features	Jutland	Bavaria
Graves	233 (in 86 graves)	212 (in 79 graves)
Graves with bodies	97 (with 38 bodies)	139 (with 47 bodies)
Depositions	38	5
Single finds	61	73
Total	*332*	*290*

Table 2
Objects included in the dataset.[42]

Results: binary norms and convention-breakers in southern Jutland versus idiosyncratic identitites in Bavaria

The funerary context: sex, age and body positions

Due to the poor preservation of CW graves in Jutland, the sex and/or age of only six burials could be determined osteologically (see table 3). In addition, three soil silhouettes were 'aged' as children based on their size. The crouched right-flexed position is most common (n=19), while the crouched left-flexed (n=5) and supine stretched positions (n=6) are prevalent, but less common. Supine flexed burials have not been recognised in the scholarly debate, perhaps due to poor preservation or a different research tradition. While both sexes and all ages are represented, these numbers do not allow a reliable comparison between sex/age and body position. Thus, the hypothesis that the males were buried on their right side and females on their left side, cannot be tested with the Danish data alone.

In Bavaria, 24 bodies have been attributed a sex, 34 an age and 18 both, sex and age (see appendix 1). It is however not always clear what this determination is based on. Therefore, the burials in which physical anthropology is not explicitly mentioned as part of

42 The Danish object totals have been corrected due to a high amount of (amber) beads. Rather than the actual number of beads, the number of features with beads is used in the analysis.

Sex/age	F	M		n/d	unknown		Total
Body position	adult	adult	mature	infant	child	unknown	
crouched flexed	1					1	2
crouched left-flexed						5	5
crouched right-flexed				1	2	16	19
supine stretched		1	1			4	6
unknown				2	1	10	13
Total	*1*	*1*	*1*	*3*	*3*	*36*	*45*

Table 3
The bodies in the Danish dataset, with their body position, sex and/or age.

the method for sex determination (or otherwise unreliable)[43] are given a lower reliability factor. Most of the sexed bodies are categorised as male or 'probably male', which means that biologically male burials could be overrepresented in the data, but the high number of unsexed burials makes this uncertain.

The most common body position for all sexes and ages is the typical crouched flexed position (n=37). The supine flexed position is also common (n=17), while supine stretched position (n=2) seems to be an irregularity, reserved for children. According to the CW consensus, the difference between crouched left- and right-flexed positions may be related to sex. However, only six of the 24 sexed burials conform to this rule. Most burials in these positions have an unknown sex and, consequently, this rule cannot be confirmed (nor rejected). Furthermore, the supine flexed position does not conform to the assumed CW gendered position: both males and females are buried on the left or right side.[44] This may indicate a third way of burying both biological sexes, perhaps related to gender or another form of identity. Indeed, approximately half of the bodies in supine flexed positions are from unique multiple burials (i.e. graves with two or more bodies). Lastly, subadults are generally placed in the same positions (except perhaps the supine flexed position), which could indicate that children were gendered along similar lines as adults.

The funerary context: grave goods

The most common grave goods in Jutland are battle-axes and

43 51 burials have explicit mention of physical anthropology as the method of sex determination, although some of these have conflicting information between the catalogue and the appendix (Heyd 2000). Moreover, three subadults have been 'sexed', which is not possible (personal communication, R. Schats 2019); these burials may have been unreliably sexed according to the accompanying grave goods or their body position.

44 Intriguingly, more biological males are buried on their left side (n=4) than on their right side (n=3). With such low numbers, however, it is unclear if this is a significant peculiarity. More research is needed.

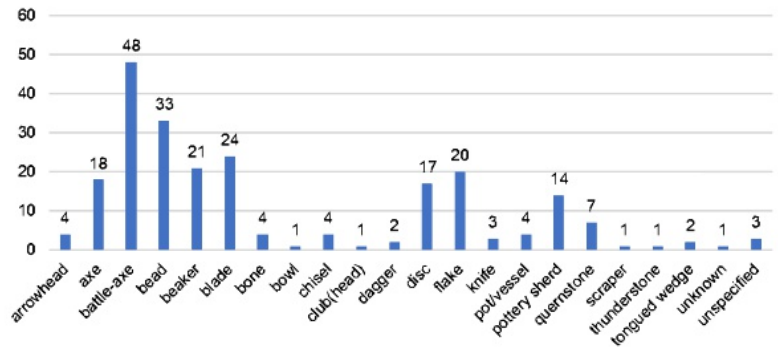

Figure 6

The objects occurring in all Danish graves (n=233), shown according to object category.

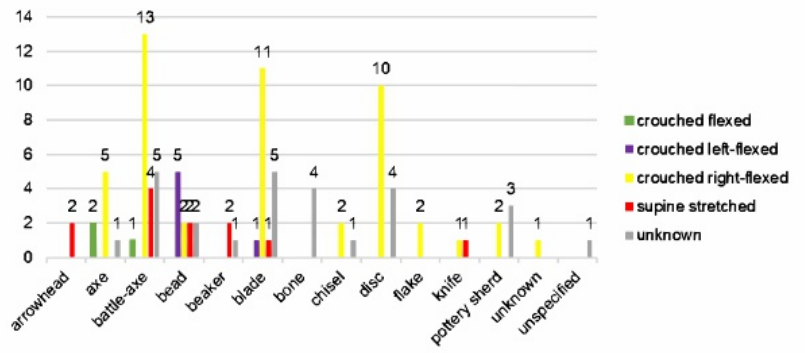

Figure 7

The objects associated with bodies in the Danish graves per age/sex (n=97), shown according to object category and the body position of the burial.

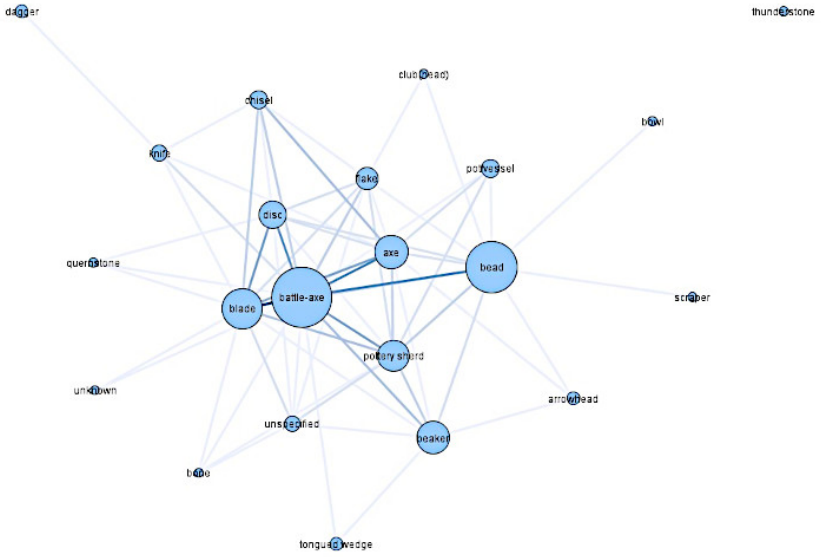

Figure 8

The co-occurrence of the objects in the Danish graves, visualized as a node-link graph. Network type = one-mode; node value = object category; node size = degree centrality; node layout = stress minimisation; link colour = number of sites, where this object category co-occurs with another object category.

beads (see figure 6). The majority of the objects are found in crouched right-flexed burials with flint flakes as exclusive object categories for this position (see figure 7). Only two object categories (beads and a flint blade) occur in crouched left-flexed burials with certainty, but neither object category is exclusive to this body position. The battle-axe co-occurs with most other objects, particularly with flint blades and beads (see figure 8).

A dichotomy can be observed in the co-occurrences in the graves (see figure 9). Almost all crouched right-flexed burials are centred in the left side of the graph (burials associated with battle-axes, which are never left-flexed), while all crouched left-flexed

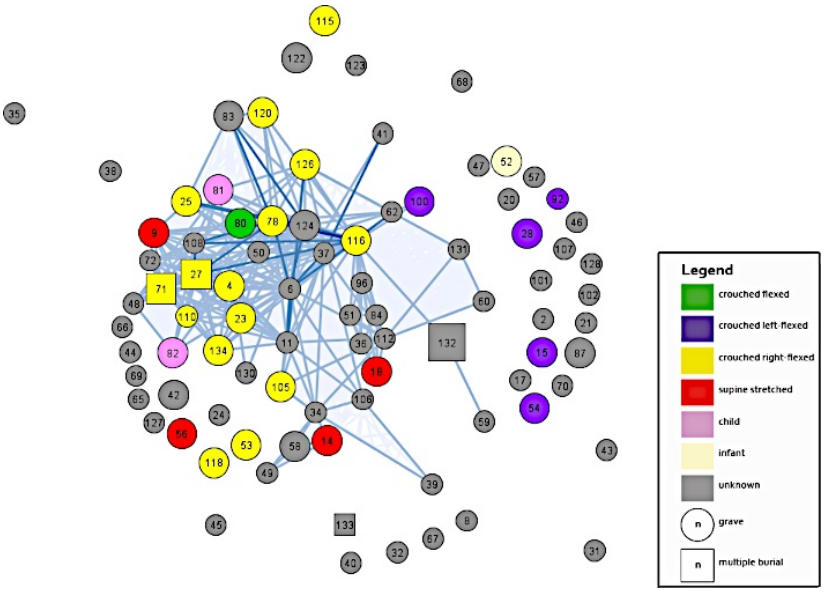

Figure 9

The co-occurrences between the Danish graves on the basis of their grave goods (as in figure 8). Network type = one-mode; node value = grave ID; node colour = body position or age (if known); node shape = single or multiple burial; node size = reliability; node layout = stress minimization; link colour = amount of shared object categories.

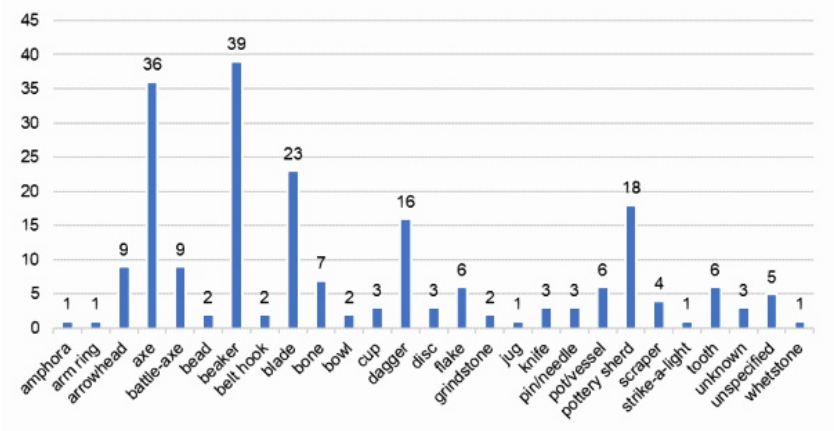

Figure 10

The objects occurring in all Bavarian graves (n=212), shown according to object category.

burials are located on the right side (burials with only beads; this includes one crouched right-flexed infant). This implies, that both body positions have rather standardised – yet distinct – grave sets. This may indicate a binary (perhaps gendered) distinction. The multiple burials and supine stretched burials, however, are spread out throughout the graph and do not follow this distinction. Intriguingly, the burials in a supine stretched position seem to have elements of both crouched right-flexed and crouched left-flexed burials. The supine stretched position may thus indicate a third, more idiosyncratic way, in which (at least) biologically males could be buried.[45] The few subadults in the dataset bring further complexity to the observed dichotomy.[46]

45 The only two sexed males in the dataset were placed in the supine stretched position, for which typically regarded 'male' objects (battle-axes, arrowheads) are common.

46 Two crouched right-flexed children were treated in the same way as adults, while one crouched right-flexed infant was given amber beads and no battle-axe or other 'male' objects.

Gender of body position	Bavaria	Jutland
'Male'?	Crouched right-flexed	Crouched right-flexed
		Supine stretched
'Female'?	Crouched left-flexed	Crouched left-flexed
'Male and female?'	Supine (left-/right-)flexed	
?	Supine stretched	

Table 4
Summary of the possibly gendered body positions in the dataset, from a purely gender-driven perspective.

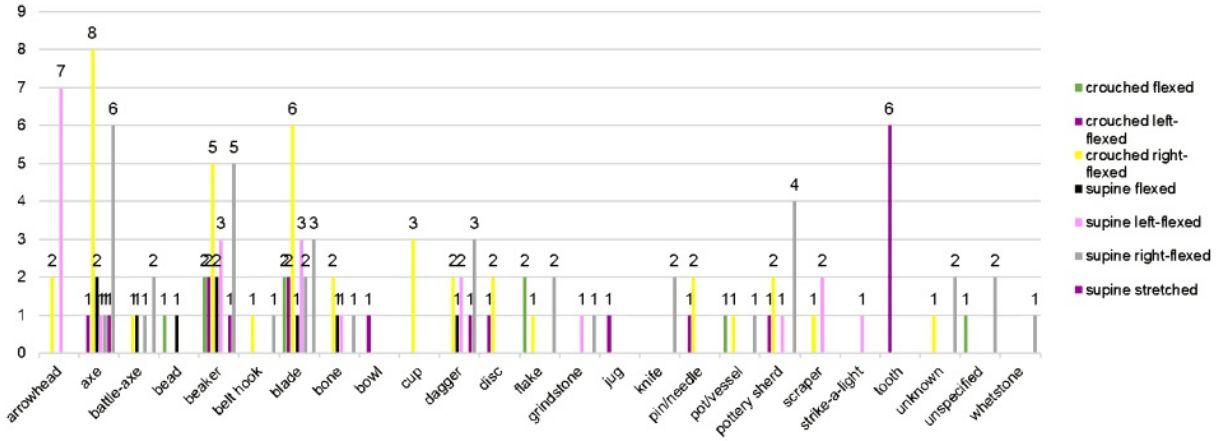

Figure 11
The objects associated with bodies in the Bavarian graves (n=139), shown according to object category and the body position of the burial.

In Bavaria, the beaker and stone axe are the most common grave goods, typically co-occurring with the dagger and blade (see figures 10-14). Biologically male burials appear to have most variability in grave goods, while biologically female burials display much less variability (see figures 12-13). This may relate to the overrepresentation of males in the sexed burials. Axes, daggers and flint blades are most likely to occur in crouched right-flexed and adult male burials, while perforated animal teeth only occur in crouched left-flexed (and one female) burials. Beakers and flint blades are common for almost all positions, sexes and ages and are thus perhaps 'non-gendered'.

Corresponding to the most common and co-occurring grave goods, the graves, which contain these objects, are largely clustered in the middle (see figures 14-16). The middle cluster mostly contains crouched right-flexed positions and adult males. However, other positions, sexes and ages also occur in (or close to) this cluster. In comparison to the Danish co-occurrences, there appears to be much less standardization for a particular position, sex or age, as these are all rather spread out throughout the graph. Clearly, it is difficult to discern particular treatments of sexed and aged bodies in the Bavarian dataset.

In sum, both case studies bring nuance to the interpretation of a strictly binary gender symbolism in the funerary context, if the correlation between body position, biological sex and age is systematically examined (see table 4).

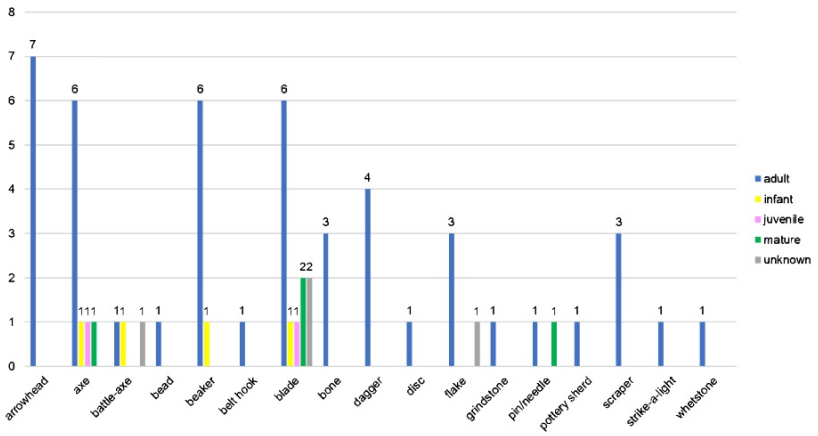

Figure 12

The objects associated with (probably) male bodies in the Bavarian graves (n=61), shown according to object category and the age of the body.

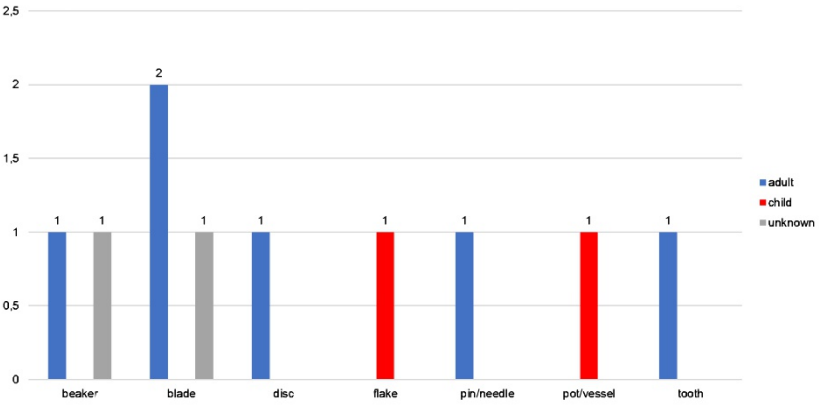

Figure 13

The objects associated with (probably) female bodies in the Bavarian graves (n=10), shown according to object category and the age of the body.

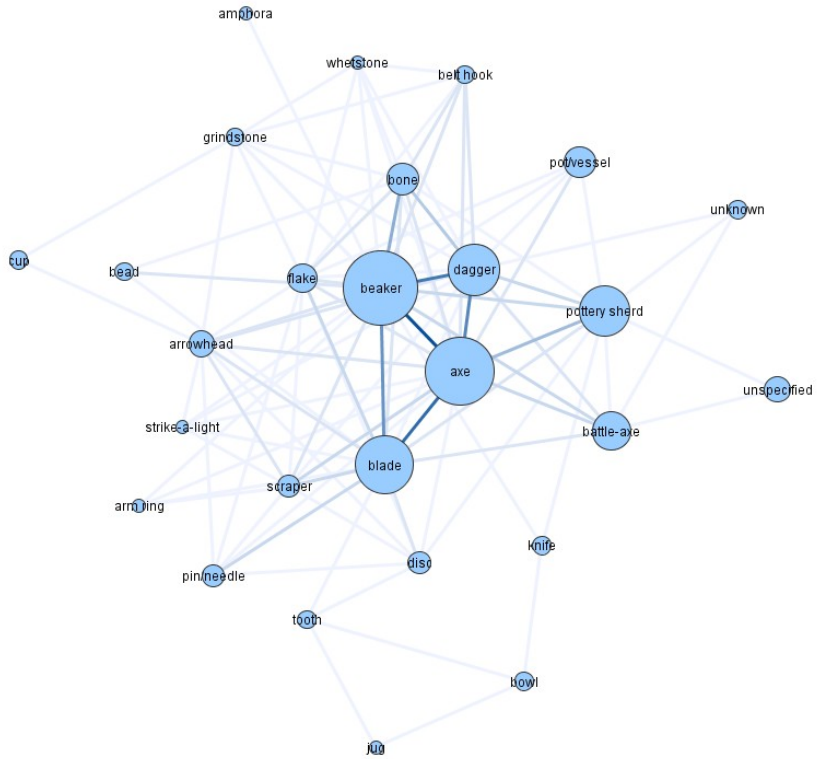

Figure 14

The co-occurrence of the objects in the Bavarian graves. Network type = one-mode; node value = object category; node size = degree centrality; node layout = stress minimization; link colour = number of sites, where this object category co-occurs with another object category.

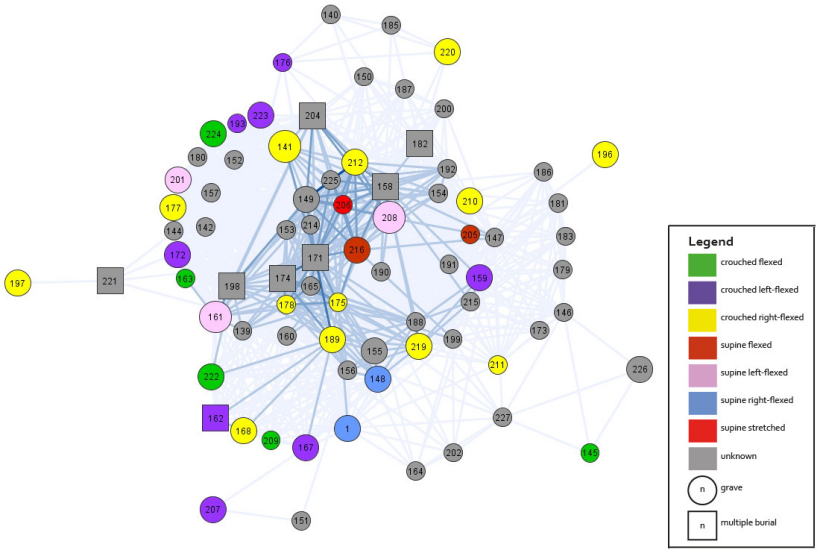

Figure 15

The co-occurrences between the Bavarian graves, on the basis of their grave goods (as in figure 14). Network type = one-mode; node value = grave ID; node colour = body position (if known); node shape = single or multiple burial; node size = reliability; node layout = stress minimization; link colour = amount of shared object categories.

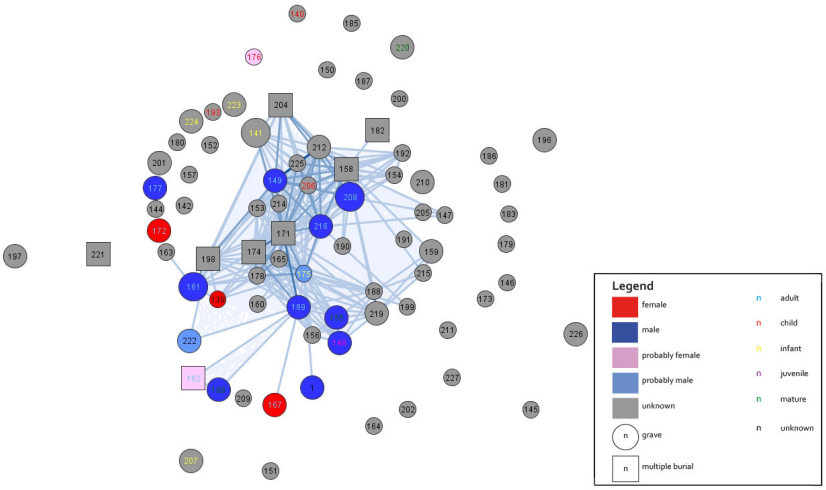

Figure 16

The co-occurrences between the Bavarian graves as in figure 15. Network type = one-mode; node value = grave ID; node colour = sex; label colour = age; node shape = single or multiple burial; node size = reliability; node layout = stress minimization; link colour = amount of shared object categories.

Gendered selective deposition

The majority of Danish depositions (i.e. buried objects without a body) typically consist of flint axes (see figure 17).[47] Strikingly, no bodily ornaments have been found in depositions. The three Bavarian depositions are too few and the single finds in both case studies are too uncertain to be scrutinised separately but are instead included in the multi-contextual analysis.[48]

Taking all contexts into account (figures 18-19), it becomes apparent that the highest variability in objects occurs in the funerary context in both case studies, which is unsurprising due to

47 Wet and dry contexts refer to different locations in the landscape, where objects are deposited. The distinction is made between wet locations such as rivers, lakes, and marshes on the one hand, and dry land on the other. This distinction (and its association with ritual and profane), however, is not uncontested (Fontijn 2002).

48 Single finds are uncertain features by nature, as it is unknown what they represent. They could be destroyed graves or depositions, settlement waste in secondary context, etc. See Olerud 2019 for a discussion of the single finds included in the analysis.

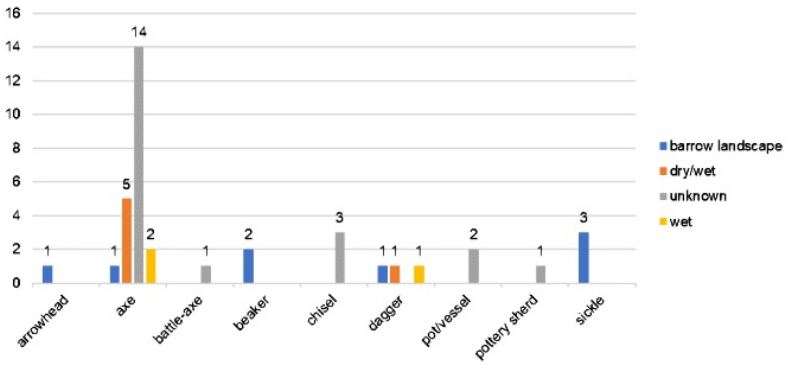

Figure 17
The objects in the Danish depositions, shown per object category and context (n=38). The 'dry/wet' context is one particular site with five depositions located on the sandy hills alongside the moors of a brook.

its overrepresentation. Interestingly, however, nearly all objects in the Danish graves as well as the most common Bavarian grave goods occur as single finds and in depositions. In Jutland, beads, flint blades, and amber discs appear to be excluded from depositions, while sickles may be typical for depositions (also found as single finds). Axes, on the other hand, seem to be more common in depositions rather than graves (see figure 20). In Bavaria, no object categories occur exclusively in depositions or single finds. A pattern may be discerned, however: perforated teeth, the only possibly 'female' object, and other 'on body' objects occur only in burials, while the possibly 'non-gendered' objects and the possibly 'male' objects can occur in other contexts as well (see figure 21).

The co-occurrences of all features in the Danish dataset (see figure 22) mirrors the funerary context (see figure 8) as only a few depositions and single finds are located within the dichotomous middle clusters of right-flexed and left-flexed (barrow) graves. However, another division reveals itself in this graph: in the top half, mostly depositions and megalithic graves are located, while flat-graves and single finds are mainly located in the bottom half. Although it must be kept in mind that single finds are uncertain contexts, which may be disturbed graves or depositions, this division may indicate, that objects were indeed treated differently according to context. Moreover, the megalithic graves are mostly located between different clusters, thus connecting different treatments of objects. No similarly clear patterns of differential treatment become apparent in the Bavarian co-occurrences (see figure 23), other than that the single finds and depositions are generally in the periphery of the graph. These are not, however, distinct from graves. This is because they typically consist of only one object, emphasising their uncertain nature.

Summing up (see table 5), it seems that potentially gendered rules of selective deposition can only be discerned in the Danish data, although the Bavarian dataset does follow a similar pattern: 'on body' objects are prevalent in graves and absent in depositions, while 'non-gendered' and possibly 'male' objects typically occur in

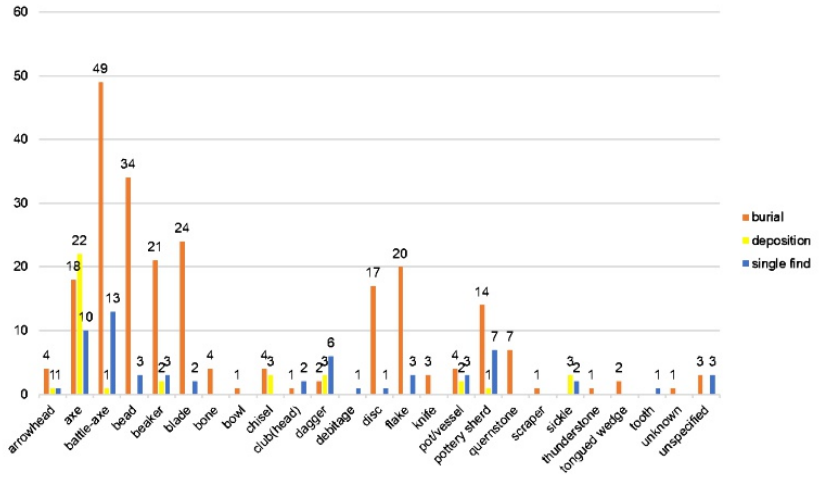

Figure 18

The objects in the Danish dataset (n=334), shown according to their object category and per feature type.

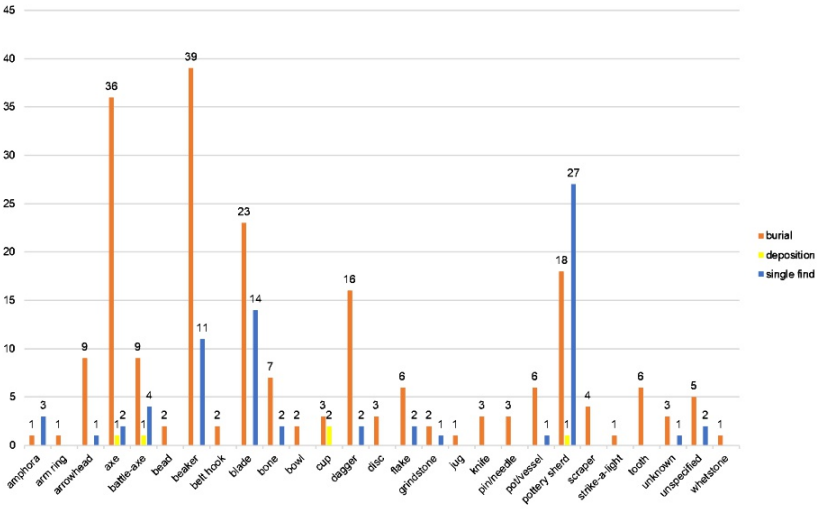

Figure 19

The objects in the Bavarian dataset (n=290), shown according to their object category and per feature type.

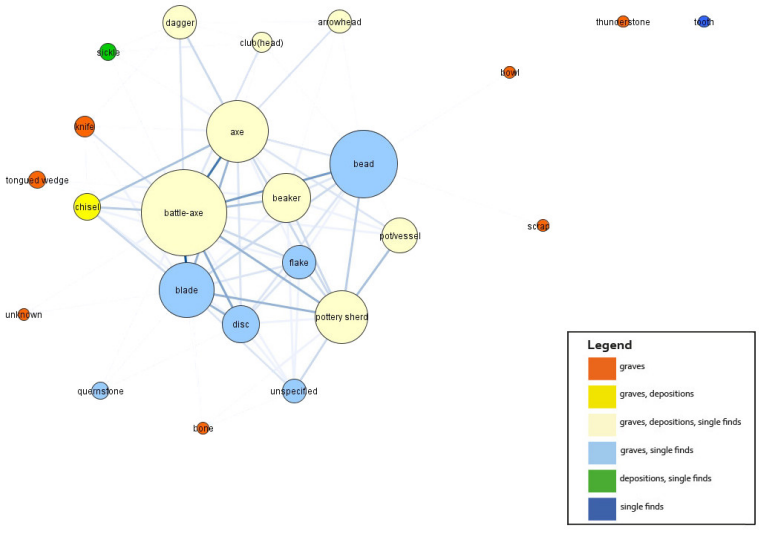

Figure 20

The co-occurrences of all objects in the Danish dataset. Network type = one-mode; node value = object category; node size = degree centrality; node layout = stress minimization; link colour = number of sites where this object category co-occurs with another object category.

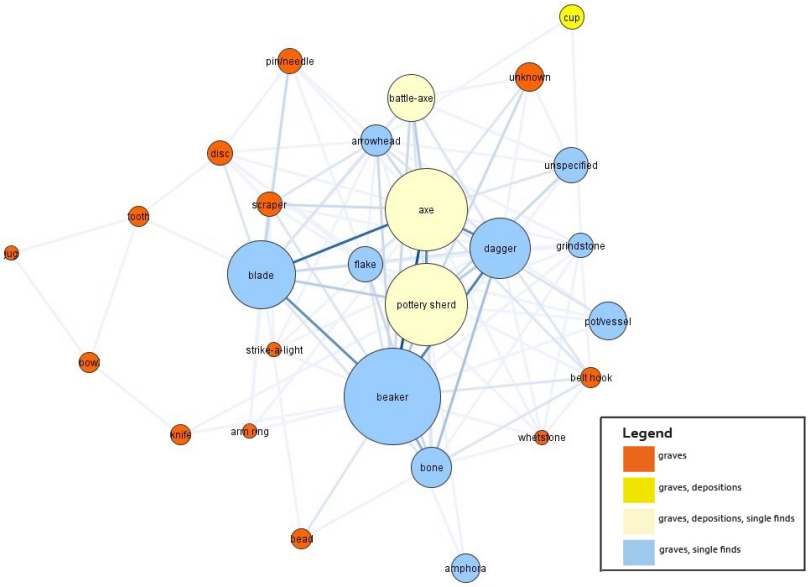

Figure 21

The co-occurrences of all objects in the Bavarian dataset. Network type = one-mode; node value = object category; node size = degree centrality; node layout = stress minimization; link colour = number of sites where this object category co-occurs with another object category.

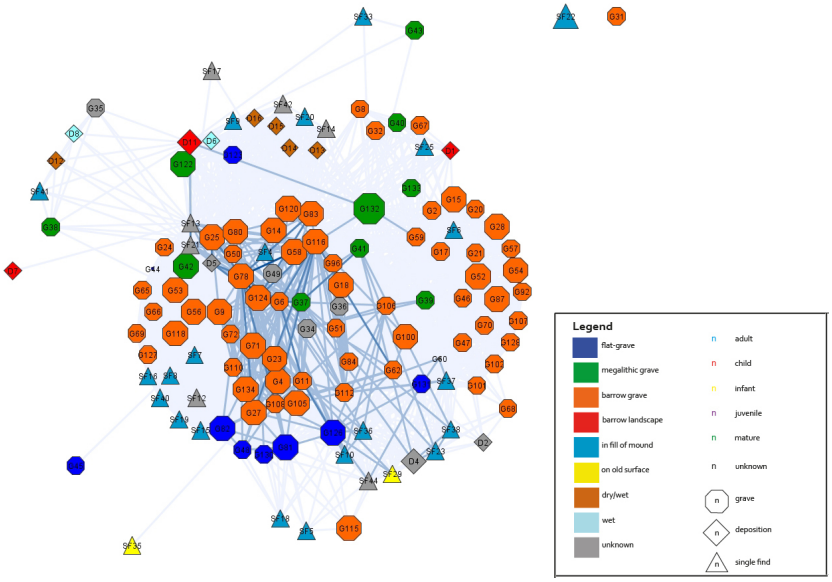

Figure 22

The co-occurrences between all Danish features, on the basis of their objects (as in figure 20). Network type = one-mode; node value = database ID; node colour = context; label colour = age; node shape = feature type; node size = reliability; node layout = stress minimization; link colour = amount of shared object categories.

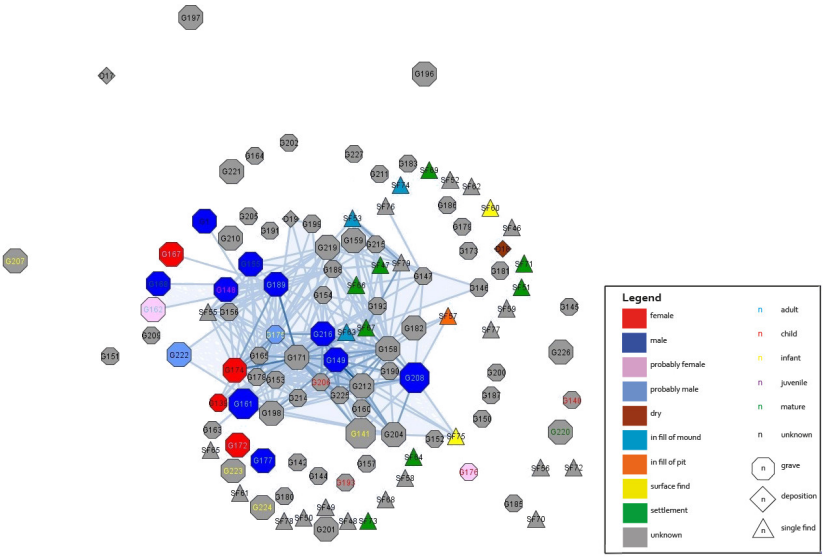

Figure 23

The co-occurrences between all Bavarian features, on the basis of their objects (as in figure 21). Network type = one-mode; node value = grave ID; node colour = context; label colour = age; node shape = feature type; node size = reliability; node layout = stress minimization; link colour = amount of shared object categories.

Identity	Object	Selective deposition
Supra-regional	'Male' objects:	'Male' objects:
	In hand: axes, battle axes, daggers, arrowheads	In hand: 'male' burials, crouched right-flexed position, supine stretched position (Jutland), wetland depositions, megalithic graves (Jutland)
	'Non-gendered' objects:	'Non-gendered' objects:
	In hand: flint blades	In hand: 'male' and 'female' burials, crouched (left-/right-) flexed position, supine (left-/right-)flexed position (Bavaria), supine stretched position (Jutland), wetland depositions
	Non-body: beakers, other pottery	Non-body: 'male' and 'female' burials, crouched (left-/right-) flexed position, supine (left-/right-)flexed position (Bavaria), supine stretched position, barrow landscape depositions, megalithic graves (Jutland)
Local	'Male' objects:	'Male' objects:
	On body: amber discs (Jutland)	On body: crouched right-flexed burials (Jutland)
	'Female' objects:	'Female' objects:
	On body: amber beads (Jutland), perforated teeth (Bavaria)	On body: 'male' and 'female' burials, crouched (left-/right-) flexed position, supine (left-/right-)flexed position (Bavaria), supine stretched position (Jutland), megalithic graves (Jutland)

Table 5
Summary of the possibly gendered object categories, their embodiments, and their selective deposition in the dataset from a supra-regional vs. local perspective. Regional differences are shown in brackets.

wetland depositions as well as in graves. However, objects deposited in or with megalithic graves (also together with bodies) bridge the gap between depositions and barrow graves.[49] Megalithic graves thus may have been 'convention-breakers', a special context, which allowed for the breaking of the prevailing conventions, connecting the differential treatments of bodies and objects.[50]

Discussion: contextualizing the results

Bourgeois and Kroon have conducted a large-scale network analysis of 1161 CW burials throughout Europe, focusing on the occurrence and placement of grave goods in relation to the position of the body.[51] They found that right-flexed burials were more standardised than left-flexed burials throughout the CW regions. The Danish dataset in the present study confirms this pattern, although the left-flexed burials also showed standardization in the exclusion of certain grave goods. This is perhaps not surprising, as Bourgeois and Kroon's dataset mostly

49 Particularly the sites of Børsmose (G42 and D11 in figure 22) and Gjerrild (G132 in figure 22), Jutland. The reused megalithic graves typically contain multiple burials with possibly 'male', possibly 'female' and 'non-gendered' artefacts.

50 Cf. Fontijn 2019, 35.

51 Bourgeois/Kroon 2017.

consisted of Danish burials.[52] Yet, the Bavarian case study indicates more variability than a simple dichotomy between left and right. Indeed, Bourgeois and Kroon did not distinguish between a crouched flexed and supine flexed position and, moreover, supine stretched burials as well as reused megalithic graves were not included. A possibility is that these positions indicate chronological differences, with the supine stretched position increasing towards the end of the period in Denmark and the supine flexed position being more closely related to Yamnaya burial traditions.[53]

Bourgeois and Kroon associate the ('male') right-flexed position with a supra-regional burial style, similar across all CW regions, and the ('female') left-flexed position with a local burial style, similar only within the different CW regions. In the present study, both case studies confirm this distinction: supra-regional objects such as beakers and axes occur mostly in the crouched right-flexed burials in both regions, while local objects are typical for the crouched left-flexed position (see table 5). Yet in both cases, the supra-regional flint blades (and beakers in Bavaria) as well as local objects occur with both positions as well. Moreover, this study has shown that supra-regional objects occur in both funerary contexts and wetland depositions, while local objects only occur in the funerary context.

This paper proposes that the supra-regional burial style (see table 5) does not necessarily convey a 'male' gender identity, although it seems to be more common for biologically male burials. Instead, the main value in these burials is not gender, but the CW community. This follows K. Wentink's suggestion, that standardised grave sets signify an 'archetypical', idealised ancestor rather than a particular identity, as well as D. Fontijn's explanation of wetland depositions as objects that are less attached to a particular person and more a symbol of the community.[54] Indeed, these supra-regional 'in hand' objects would have played an important ideological and economic role for an agricultural

52 802 sites, of which 425 were from Jutland (including Schleswig-Holstein), 283 sites from Central Germany, 17 from Czechia, and 77 from the Netherlands. The burial dataset in the present study was based on the database of Bourgeois/Kroon 2017 (425 Danish graves), deliberately focusing on sites that had not been included in their analysis (flat-graves, megalithic graves, depositions, single finds, and occasional barrows in their proximity; mostly Siemen 2009 but also Hübner 2005). The seven Danish graves marked as exceptional in their database were however included (Hübner 2005). In total, 26 graves overlap between Bourgeois/Kroon 2017 and the present dataset.

53 Hübner 2005, 747; pers. comm. Q. Bourgeois 2019; see also footnote 36. In the present study, all sites are treated as contemporaneous even though the CW period lasted c. 700 years (see also footnote 35). Further research incorporating chronology is necessary to determine to what extent the found patterns are related to contemporaneous diversity or chronological differences.

54 Fontijn forthcoming; Wentink 2020, 14, 229-32.

community with faraway contacts: the ('battle'-)axe may have been used to clear the land in order to plough and enable wheeled transport, while from the Early Neolithic onwards, axes were exchanged supra-regionally and deposited as valuables.[55] The supra-regional, 'non-gendered' beaker may have been essential in maintaining social contacts with other CW communities as a symbol of guest-host relationships.[56] As beakers occur in crouched left-flexed and/or biologically female burials in the present dataset, it seems this object was chosen to signify the CW community when a female was buried in a supra-regional burial style, thus implying a gendered distinction in which objects were considered appropriate. This may also explain why beakers and axes do not typically co-occur in crouched right-flexed burials. Mirroring the above, the local burial style (see table 6) does not necessarily convey a 'female' identity, but it emphasises local values. Bodily ornaments appear to be the supra-regionally accepted medium through which local identity may have been expressed. Lastly, the re-used megalithic graves in Jutland may have been 'convention-breaking' places, where these supra-regional and local identities came together and where the different rules for treating gendered bodies and supra-regional and local symbols were allowed to be broken.

Conclusion

CW gender was not necessarily binary in the (contested) Western sense of the concept. Instead, the binary symbolism recognised in CW burials may be related to a distinction between supra-regional and local depositional norms, by which gendered bodies had to be buried and supra-regional and local objects had to be deposited. Biologically male bodies were buried more often in a supra-regional style, with objects that could also be deposited in wetlands and which signified the larger CW community. Biologically female bodies, on the other hand, were buried more often in a local style, emphasising more personal, local identities through objects that were not typically deposited in contexts other than graves. Yet, this does not necessarily mean a strict binary gender distinction, an assumption that equates biological sex and gender. Instead, it seems that local expressions of gender may have differed throughout the CW regions: in Jutland, there may have been an additional ('male'?) way of burying (the supine

55 Fontijn 2002, 248; Wentink 2020, 125-6. For a later example see also Theuws 2009: in his re-analysis of 'warrior graves' from Gaul in the 4th and 5th centuries AD, he re-interprets axes, lances, and the bow and arrow as symbols of the landscape and as representing claims on land.

56 Wentink 2020, 239-47.

stretched body position), while there may have been a third, 'male and female' way of burying in Bavaria (the supine flexed position). Age may have played a part in these expressions as well, although more research on subadult and mature bodies is needed. Additionally, re-used megalithic graves in Jutland seem to have been 'convention-breakers', where the different treatments of supra-regional and local identities were allowed to come together. Finally, on a critical note, it is unclear to what extent these burial styles relate to chronological changes and other types of (fluid) identity, although both factors would have played a – likely important – role.

Further research is necessary to scrutinise these local expressions of gender as well as to determine whether these hypothetical rules of selective deposition apply to other CW regions. It is recommended to include typo-chronology in a future analysis rather than treating all sites as contemporaneous, as some of the found patterns may be related to changing practices throughout the CW period and in transition to the succeeding Bell Beaker culture. Nevertheless, this small study has shown that the grand narrative of the third millennium BCE needs to be nuanced. CW gender was more complex and contextual than a simple binary dichotomy, allowing for regional variability in a supra-regional CW context. The main value in CW graves does not appear to be gender at all, as suggested in the grand narrative posited by Kristiansen et al. Instead, following Bourgeois/Kroon and Wentink, CW gender may have been constructed through an interplay of supra-regional versus local norms. The abundance of supra-regional, male burials does not imply a 'male-dominant' martial society but emphasises the idealisation of the whole CW community rather than the own personal (and local) identity of the deceased. In contrast, women (and some men) were more typically buried in a style displaying personal and local significance.

Acknowledgements

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APPENDIX 1: SUMMARY OF THE POSSIBLY GENDERED BODY POSITIONS IN THE DATASET, FROM A PURELY GENDER-DRIVEN PERSPECTIVE (N=139)

Sex/age		F			M				probably F		probably M	unknown					
Body position		adult	mature	unknown	adult	juvenile	mature	unknown	adult	child	infant	child	infant	unknown	unknown	mature	juvenile	infant	Total
crouched flexed														1	5			1	7
crouched left-flexed		2							1	1		1			5			2	12
crouched right-flexed					2		1				1	1			10	1		2	18
supine flexed					1										1				2
supine left-flexed		1	1		4										2				8
supine right-flexed		1			1	1	1	1							2				7
supine stretched												2							2
unknown				1	1		1					1			10	1	1		16
Total		*4*	*1*	*1*	*9*	*1*	*3*	*1*	*1*	*1*	*1*	*5*	*1*	*1*	*35*	*1*	*1*	*6*	*72*