Face pots and battle axes of the late fourth millennium BC

Locally distinct phenomena or part of pan-European developments?

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ABSTRACT

For over a decade, scholars have discussed the question of whether the Eastern Danish face pots are part of a pan-European phenomenon, which resulted in considering them as a local phenomenon. Nevertheless, a more abstract comparison provides new perspectives on these pots as well as other materials of the late Funnel Beaker period.

In the first part, the paper proposes that Danish face pots represent a local interpretation of anthropomorphic art present in the western Mediterranean and Central Europe, while battle axes reflect adaptations of a supra-regional trend of 'valued objects'. The supra-regionally shared developments indicate a particular Zeitgeist present during the late fourth millennium BC in a vast area. Only, in the North, the term 'warrior ideology', developed for the western Mediterranean contexts, cannot be used for the Northern European contexts.

The second part reinforces the notion that Danish and Iberian face and eye motifs are not directly related. However, a small-scaled network of networks along the Atlantic façade dating to a pre-Beaker context can be observed.

Ultimately, the paper argues that the success and rapid spread of the Beaker Cultures across the continent and along the Atlantic façade was made possible by earlier networks. These networks are reflected in the distribution and growing significance of valued objects and anthropomorphic art.

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Introduction and Aim

The material culture of later Funnel Beaker (FBC) societies (~3300-28/2600 BC) is remarkable in many ways and has no direct parallel in other regions. For instance, the face pots of eastern Denmark (Figure 1 and 2) represent the only known anthropomorphic art in a larger area during this period. As such, most scholars consider them a local phenomenon (Ebbesen 1978a; Clausen 2020). In contrast, double axes are widely distributed across this period, spanning from Brittany to Poland and from Norway to the Alps. However, the double axes from northern Germany and Southern Scandinavia stand out in terms of craftsmanship, variability, and the high number of burial finds (Beran 2012; Ebbesen 1975, 206-207; Schultrich 2023b, 292; 2024, 26; Zápotocký 1992, 165, 200). Both phenomena attest to the creativity and high degree of craftsmanship within local societies in northern Germany and Southern Scandinavia.

These observations align with analyses of collective graves, enclosures, and pottery styles, which suggest that FBC societies had distinct, locally rooted identities and emphasised the collective (Renfrew 1976; Tilley 1996; Müller 2010). This stands in stark contrast to the following period, when Corded Ware (CWC) societies (~29/2800-23/2500 BC) emerged. The shift from collective to single graves rituals which highlights a kind of 'warrior' is regarded as a profound transformation in worldview in this period. Supra-regional interactions played a particularly significant role in the development of the CWC societies across large parts of northern, central, and eastern Europe (Kristiansen *et al.* 2017; Heyd 2021; Papac *et al.* 2021).

Thus, there seems to be a stark contrast of the FBC's locality and CWC's supra-regionality. This

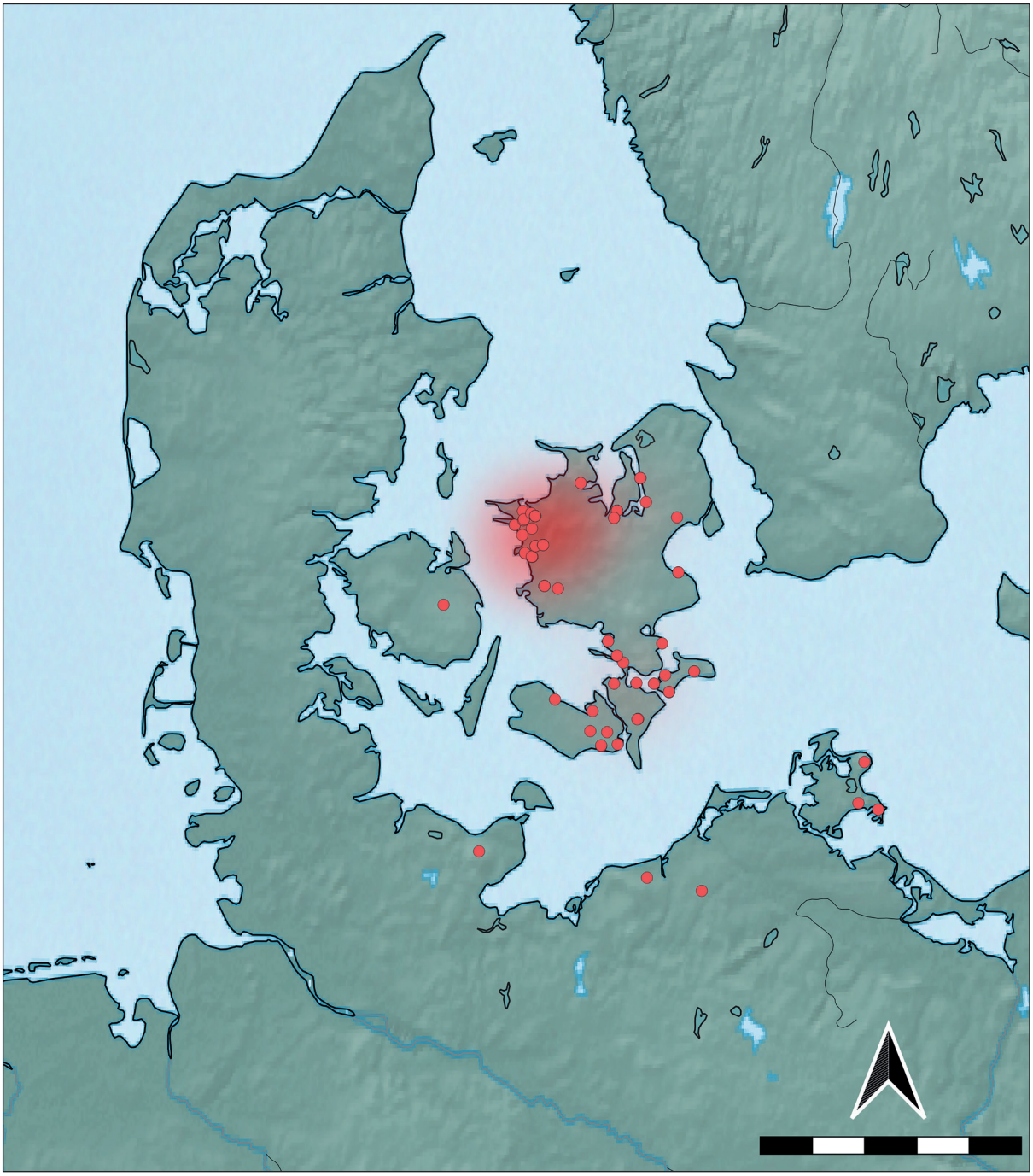

Figure 1. Distribution of face-pots (acc. Ebbesen 1978a) with additions (*acc.* Brozio 2016; Lorenz 2018).

paper, however, explores how a supra-regional perspective can provide new insights into the interpretation of local phenomena associated to the FBC, by linking face pots and double axes to broader European developments during the late fourth millennium BC.

The paper begins with brief introductions to Beaker Cultures, supra-regional networks, and Danish face pots. It then examines anthropomorphic art, single graves, and 'valued objects' from Southern Europe to establish conceptual similarities with Northern European contexts. This analysis forms the basis for discussing face pots and battle axes as supra-regional phenomena, demonstrating the potential for long-distance networks before the rise of CWC societies. Finally, as an outlook, the study will explore whether the Atlantic network characteristic of the Bell Beaker complex (BB) has roots extending back to the late fourth millennium BC.

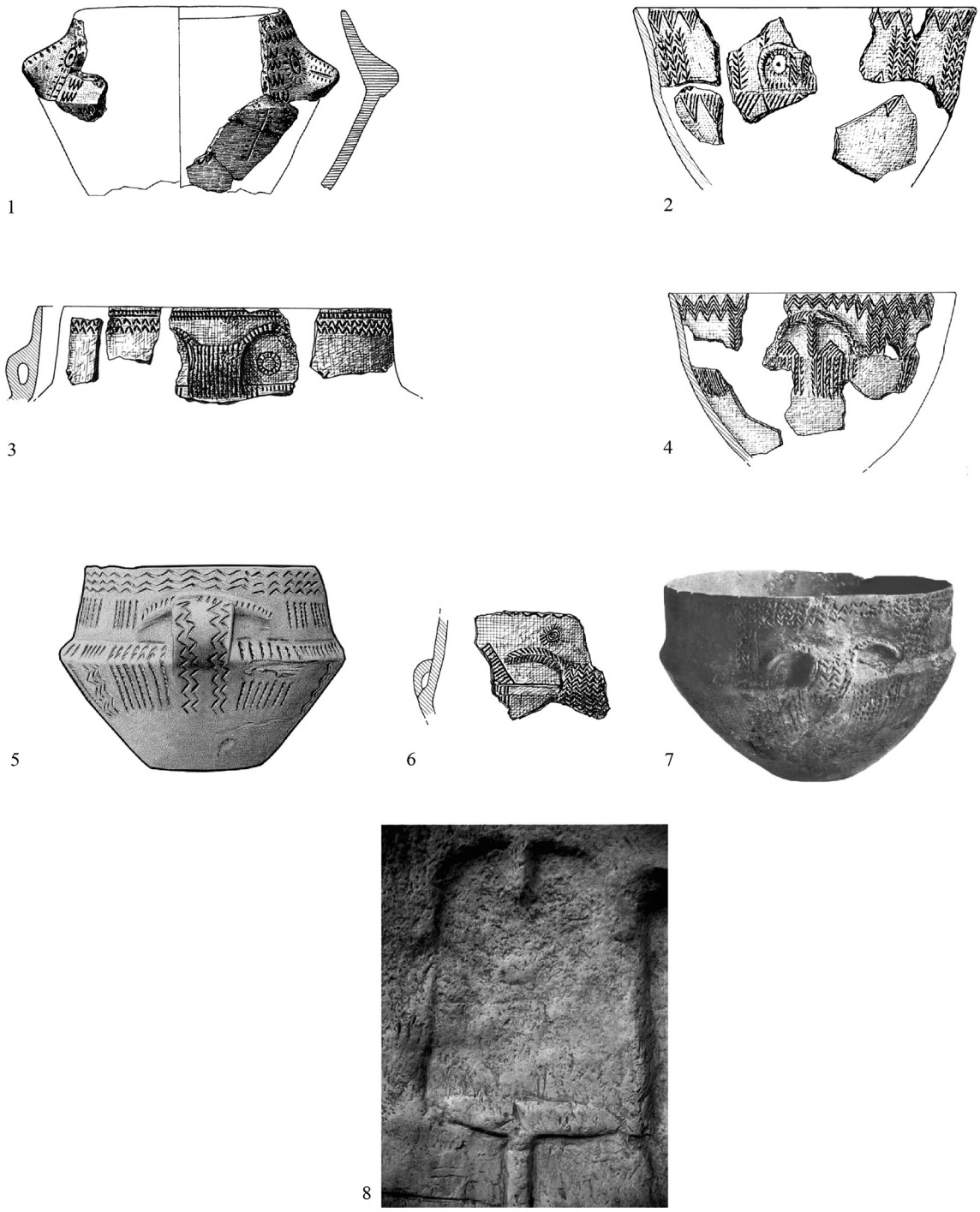

Figure 2. Examples of face-pots and face-like pottery from Denmark and northern Germany without scale. 1–2 face-pots with non-functional hank. 3–5 face-like pottery with functional hank. 1: Gaarzerhof (Lorenz 2018, tab. 99,2); 2: Sjælland (Ebbesen 1978a, 107, fig. 18); 3: Sjælland (Ebbesen 1978a, 100, fig. 2); 4: Sjælland (Ebbesen 1978a, 107, fig. 20); 5: Wangels, northern Germany (Brozio 2016, 464, tab. 174); 6: Sjælland (Ebbesen 1978a, 108, fig. 24); 7: Forst Mönchgut (Lorenz 2018, Tab. 301,7) 1978a, 108, fig. 24). Additionally, an anthropomorphic depiction in stone from l'hypogée 2 de Courjeonnet, Paris basin (Charpy 2014, fig. 7).

Introduction to the Corded Ware and Bell Beaker complexes

Although the CWC and BB complexes, collectively termed the Beaker Cultures, differ in spatial distribution, origins, chronology, as well as specific material and immaterial characteristics, they share several attributes. One key feature is the supra-regional prevalence single grave rituals. These burial practices are widely interpreted as reflecting a

shared ideological foundation in Beaker societies (Bourgeois and Kroon 2017; Furholt 2019; Heyd 2021). Many scholars regard the newly established burial rituals as a conscious shift away from the collective grave rituals of the preceding period (Kristiansen *et al.* 2017; *cf.* Müller 2010).

Recent research has further emphasized the significance of the Beaker complexes. Isotope and aDNA analyses have demonstrated that migration and ongoing mobility were integral to their expansion and maintenance of shared supra-regional patterns (Sjögren *et al.* 2016; Kristiansen *et al.* 2017; Furholt 2019; Heyd 2021; Papac *et al.* 2021; Stockhammer 2023; Iversen 2024). Crucially, these studies suggest that a new approach to individual representation, including (but not limited to) the 'warrior role', emerged with these cultures. The (single) graves are commonly interpreted as either belonging to individuals of a particular social status who were deemed worthy of bearing artefacts interpreted as weapons or as embodying an idealized form of personhood (Hansen 2014; Jeunesse 2017; Robb and Harris 2018; Furholt 2021; however, see Furholt 2025). Items categorized as 'weapons' include battle axes, arrowheads, daggers, and wrist guards (Hübner 2005; Iversen 2015). In the BB context, anthropomorphic stelae provide additional representations of either specific individuals or idealized human figures (*cf.* Vierzig 2020).

However, recent research, spurred by use-wear analysis (Wentink 2020), has called into question the prevailing interpretation of battle axes as weapons (*cf.* Furholt 2025). Also, BB burials may mark travellers instead of warriors (Wentink 2025). Nevertheless, the axes and other weapons formerly interpreted as weapons continue to represent a significant class of object due to their supra-regional characteristics and frequent appearance in grave contexts.

Earlier discussions on the Beaker Cultures in the western Mediterranean associated significant ideological transformations with their emergence. However, Jeunesse (2017) argued that crucial shifts towards warrior identities occurred as early as the mid-fourth millennium BC, challenging the notion that such changes were exclusively linked to the BB (*cf.* Dolfini 2020; see below).

For Central and Northern Europe, similar developments still are associated with the emergence of Beaker communities. However, there are structural parallels to the developments of the Western Mediterranean, which must be acknowledged in the discussion.

The history of Neolithic super-regional Networks

The continental network, characterised by the widespread distribution of cultural similarities associated with CWC and BB practices (Furholt 2019), forms the focus of the first part of this paper. The second part addresses the Atlantic network, which during the BB period is marked by the appearance of remarkably similar traits across regions along the Atlantic façade and the North Sea, including Galicia, Brittany, the British Isles, the Netherlands, and northern Jutland (Prieto Martínez 2012).

It is important to emphasise that supra-regional networks were not a novelty of the third millennium BC. By the sixth and fifth millennia BC, following the initial migrations of agriculturalists, objects made of actinolite, jadeite, and early copper artefacts demonstrate the maintenance of extensive continental networks (Klassen 2004, 100-108; Sørensen 2017). Scholars generally agree that both the quality and frequency of supra-regional communication increased during the fourth millennium BC, coinciding with the emergence of advanced copper technologies and traction systems (Klimscha 2017, 49; Brozio *et al.* 2023).

Atlantic coastal communities engaged in long-distance interactions for millennia, as evidenced by the distribution of megalithic hubs, specific rock art motifs, and jadeite axes (Cassen *et al.* 2019). The Neolithization of Great Britain around 4000 BC provides another example, reflecting sustained interactions between continental and insular populations (Sheridan 2016, 227; Thomas 2022, 519). Nevertheless, the intensity and reduced social distance characterising the BB network – particularly across regions from Spain to Denmark – had no clear precedent.

From a Central and Northern European perspective, partly shaped by the significance of aDNA and the history of research, the advent of the CWC is still considered a crucial turning

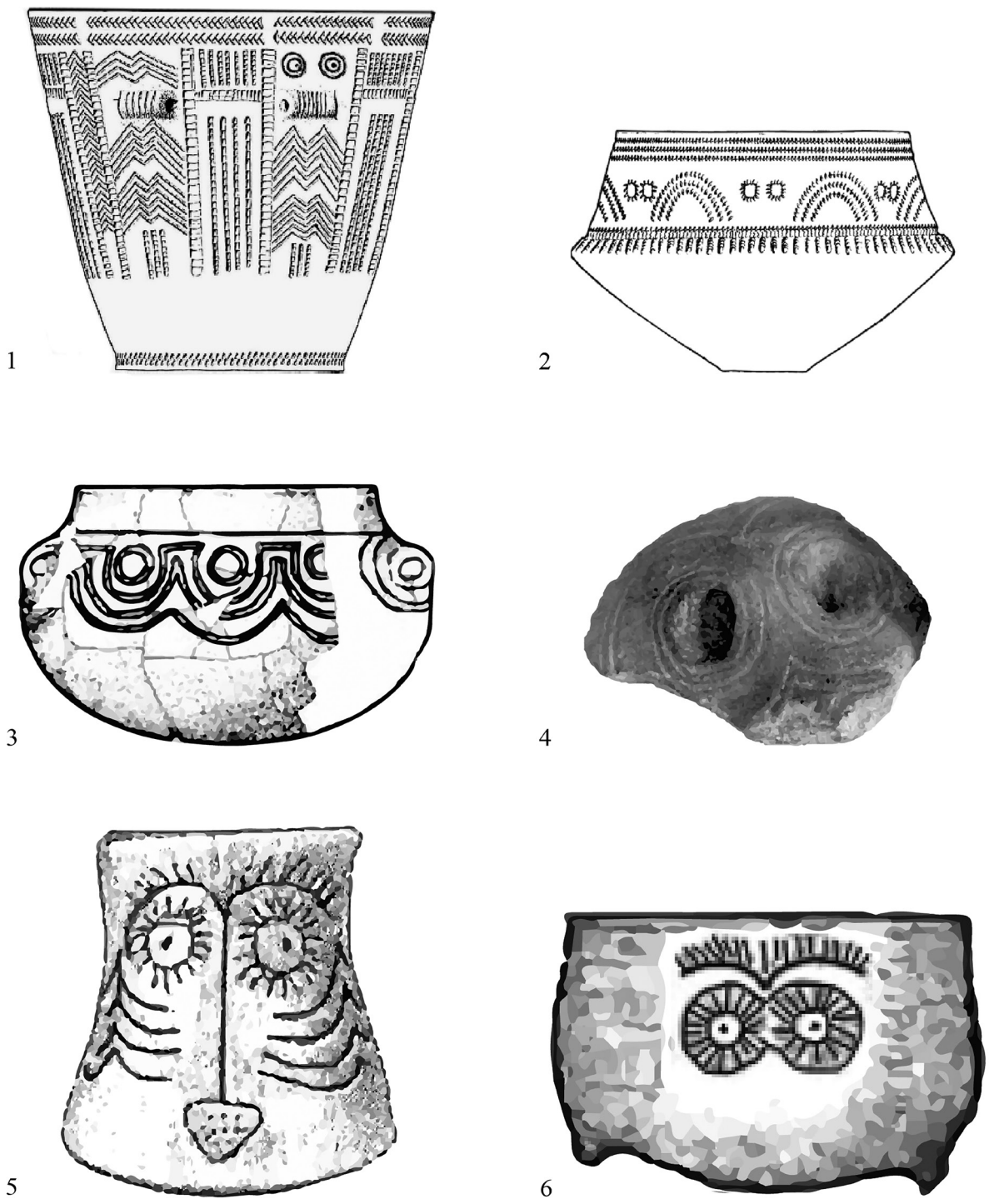

Figure 3. Examples of face-pots, face-like pottery and potential face-like pottery of the Atlantic façade without scale. 1–2: Western FBC, 3–4: Peu-Richardien; 5–6: Spanish Chalcolithic. 1: Bronneger, Netherlands (Brindley 1986, 118, fig. 5.4); 2: Groß Berßen, Lower Saxony (Lorenz 2018, Tab. 490,1); 3: Diconche, Charente-Maritime (Ard 2013, fig. 6); 4: From Musée archéologique de Pons (wikicommons 14.09.2023); 5: Monte de Outeiro, Portugal (Lillios and Thomas 2009, 143, fig. 13.4); 6: Los Millares, Spain (Recchia-Quiniou 2017, 92, fig. 5.4[3]).

point, marked by the establishment of new material culture, ideological foundations, population movements, and spatial communication structures (Heyd 2021). Consequently, certain material culture elements of northern FBC societies – such as face pots and double axes – are often regarded as products of local development rather than expressions of supra-regional networks.

The south-western Baltic Face Pots

Figurative art is almost entirely absent from the archaeological record of Southern Scandinavia. This stands in stark contrast to Neolithic and Chalcolithic contexts in Southern, Eastern, and South-eastern Europe (Iversen *et al.* 2024; for a summary of art in Neolithic contexts of Southern Scandinavia see Iversen 2024). Against this background, one of the very few artistic expressions, the face pots of the Middle Neolithic (MN) FBC, represent a particularly intriguing phenomenon.

Ebbesen's (1978a) study of Danish face pots is still the most influential. Briefly summarized, according to his definition, facial motifs consist of a curved plastic ornament (eyebrows) in the form of a quarter to a full circle and a vertical plastic application (nose) placed centrally. Additional circular motifs (eyes) may be added to enhance the resemblance to a human face (Figure 2.1-3). He regards the handles of proper face pots as non-functional (*i.e.* the noses, see Figure 2.1-3). Such proper face motifs belong to the MN III/IV phase, which in eastern Denmark is characterized by diverse and complex pottery styles known as Bundsø and Lindø (Ebbesen 2011, 55-57, 316; Iversen 2015, 51-52). In absolute chronological terms, this phase dates to approximately 3000-2900 BC (*cf.* Müller *et al.* 2012; Iversen 2015). Lorenz (2018) verified the dating of the face motifs based on several finds from northern Germany, specifically linking them to phases 1-4 of her FBC Group 9 (2018, 130-135). In most cases, face pots are associated with collective burials (Ebbesen 1978a, 102; 2011, 316; Jensen 2001, 313; Lorenz 2018, 130-135).

Ebbesen proposed a typological development of face pots, beginning with circular motifs on pottery from the MN Ib and MN II phases (1978a, 109). During the MN II-III periods, pottery with face-like features appears, but Ebbesen refrains from classifying them as true faces due to their functional handles (Figure 2.5-7).

For different prehistoric contexts, it is well established that individual symbolic features could convey specific meanings that were significant to contemporary people but remain elusive to modern interpretation. For example, simple lines in Magdalenian art have been identified as female figures through abstraction analysis (*cf.* Mussi and De Marco 2008). J. Kneisel (2010; 2012) proposed a similar abstraction model based on Bronze Age urns, suggesting that proper faces include multiple features (eyes, noses, mouths, hats, etc.), while abstract faces retain only a single feature, which might not be recognizable as a face without reference to known motifs. Handles, lugs, or circular depressions on vessels, for instance, could serve as pseudo-faces (Kneisel 2010, 38-41).

In the FBC context, such non-proper face pots (or pseudo-face pots) are not confined to the Danish Islands but also occur in adjacent areas within the distribution range of the northern FBC (*e.g.*, Brozio 2016, tab. 172-175, 182; see also Lorenz 2018, 80). Examples are found in the Wangels passage grave in Schleswig-Holstein, dating 3120-3000 calBC (Brozio 2016, 163-167) (Figure 2.5) or Forst Mönchsgut, Mecklenburg-Vorpommern (Figure 2.7; Lorenz 2018, tab. 301.7).

Extending this abstraction approach to the western FBC (present-day Netherlands and Lower Saxony), there are indications for identifying pseudo-faces in the middle phases of the western FBC (Brindley Horizons 3 and 4[1]). These forms, comprising half-circles and circles, occasionally appear in conjunction with lugs and handles and may be interpreted as abstract faces (Figure 3.1-2). However, as the 'eyes' are usually not round (half circle only) and have no eyebrows associated, they should not be regarded as representative of the same phenomenon.

Anyway, while proper face pots represent a unique local type in eastern Denmark, pseudo-face pots have been present within the broader FBC Baltic network including at least northern Germany during the late fourth millennium BC (Figure 1).

Neolithic (and Chalcolithic) eye motifs and face motifs have been discovered in various regions and periods, particularly in the Mediterranean (Figure 4.5-6). Early scholars identified this widespread phenomenon and described it in different ways, such as the 'eye-goddess' concept (*e.g.*, Wilke 1912; Crawford 1957), suggesting a connection between various face-like motifs. However, due to recent chronological insights, many of these earlier interpretations are no longer tenable (Jones 2017, 86). Ebbesen (1978a) challenged many of these assumptions, emphasizing that pottery with

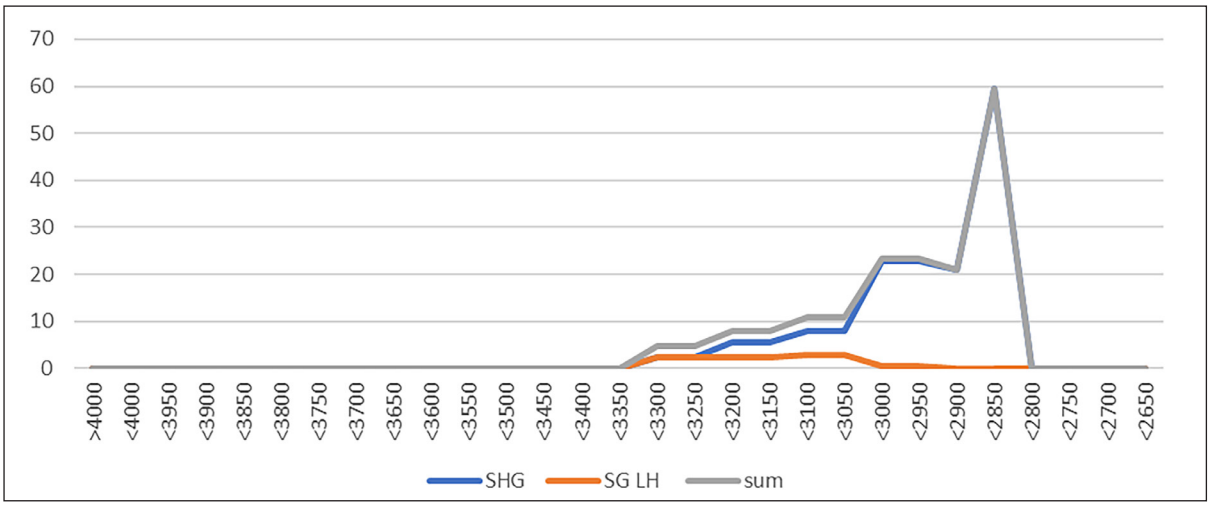

Figure 4. The number of single graves associated with FBC materials in Jutland per century. HG=Stone Heap Graves (acc. Fabricus and Becker 1966), SG LH 1970= Single Graves *acc*. Lund Hansen 1972.

facial motifs in Denmark appeared only in a limited spatial and temporal context and suggesting that they developed as part of a local typological tradition (*cf.* already Müller 1918). Current scholars acknowledge similarities to finds from other regions, such as Los Millares in the Iberian Peninsula or the Folkton Drums of the third millennium BC in the British Isles, but they generally dismiss the notion of a direct relationship with the Danish motifs (Ebbesen 2011; Iversen 2015; 2024; Recchia-Quiniou 2017).

The present paper provides a thorough discussion of the broader European perspective. The first section explores the question of whether the emergence of Danish face pots can be connected to developments in the Western Mediterranean and Central Europe. In the second part of this study, the hypothesis that an Atlantic network stretching from Denmark to Spain existed prior to the BB complex will be discussed. The discussion will also encompass the association of this network with the appearance of face and eye motifs in distant regions.

Part I. The continental network – Anthropomorphic art and 'warrior' social roles

In this section, developments in the distant regions of the western Mediterranean, Central and Northern Europe are compared. Despite differences in the specific artistic motifs, the objects themselves, and the scale of these developments, it will be argued that a common underlying trend connected distant groups in the late fourth millennium BC on a pan-European scale.

The study compares different classes of objects such battle axes, daggers, and halberds, which are often classified as weapons. The terms 'weapons' and 'warrior graves' are well-established in the cited literature (*e.g.*, Dolfini 2021; Jeunesse 2017; Kristiansen *et al.* 2017). However, this term cannot be used uncritically for the Central and Northern European contexts. Thus, the different classes of objects will be termed as 'valued objects'.

This paper does not aim to comprehensively discuss the complex topics of gender, personhood, and warriorhood in prehistory. A literature review reveals a wide range of approaches to interpreting the terms in prehistoric contexts, demonstrating their inherent ambiguity (*cf. e.g.*, Brück 2019; Dolfini 2021; Robb and Harris 2018; Furholt 2025).

Anthropomorphic art in Southern, Western and Central Europe

Rock art has a long-standing tradition in France. Early picture stones from Brittany (and the Iberian Peninsula), dating back to the early fifth millennium BC, already feature distinct motifs, such as whales and (jadeite) axes (Cassen *et al.* 2019, 317). In the subsequent phase, with the emergence of the first passage graves around the end of the fifth

Central Germany	Northern Germany	Jutland	Danish Islands	Date
Younger Neolithic	Early Neolithic			4000 BC
Late Neolithic	Middle Neolithic (MN)	MN A		3300 BC
				2800 BC
			MN A-V	
Final Neolithic	Younger Neolithic	MN B		2600 BC
				2300 BC
Early Bronze Age	Late Neolithic			

Table 1. Comparison of Terminologies in Northern and Central Europe (*acc*. Müller *et al*. 2012; *cf*. Iversen 2015).

millennium BC, motifs transitioned to more abstract representations that were no longer externally visible (ibid.; Patton 1993, 87-91). This pattern was disrupted again around the mid- to late fourth millennium BC. In southern France, stelae depicting human figures associated with objects interpreted as weapons (particularly daggers and axes) began to appear (Guilaine 2018, 1248).

In northern Italy, rock art has a long and continuous history, as demonstrated by the engravings in the Valcamonica valley (Anati 2008, 17). Significant transformations occurred around the mid- to late fourth millennium BC, when stone panels began to depict daggers, axes and halberds, and anthropomorphic stelae featuring sun and moon 'heads' emerged. These depictions emphasized artefacts ('weapons', necklaces) and gender through clothing, objects, and secondary sexual characteristics (Anati 2008, 22-27; Guilaine 2018, 1248; Horn 2014, 79-84; Robb and Harris 2018, 129; *cf*. Vierzig 2020) (Figure 6.10).

Some scholars suggest that these evolving engraving traditions were influenced by Eastern, South-eastern European, and Caucasian groups, where similar stelae were known over extended periods (*e.g*., Jeunesse 2017; *cf*. Vierzig 2020). Kaiser (2019) challenges this interpretation, emphasizing the potential for independent local development of anthropomorphic stelae in southern France due to significant geographical distances (*cf*. Guilaine 2018, 1256). Nevertheless, local origins and external influences are not mutually exclusive. It is conceivable that external stimuli reshaped local traditions, inspiring the depiction of weaponry on the stelae (Jeunesse 2017, 174-179; Vierzig 2020). The simultaneous emergence or distinct alteration of these traditions across Europe suggests that a shared concept, associated with artefacts interpreted as weapons and human representations was prevalent by the late fourth millennium BC (*cf*. Guilaine 2018, 1256).

Comparable developments have been observed in northern Western and Central Europe, albeit on a smaller scale. A limited number of anthropomorphic depictions dating to the late fourth millennium BC, including representations of necklaces, breasts, and other motifs, have been found in the Paris Basin, as well as in western and central Germany. These are either linked to gallery graves and rock-cut tombs or appear on stelae (Charpy 2014; Guilaine 2018, 1248; Müller 1988). Objects, including those interpreted as weapons are present but rare (Charpy 2014, 413-416; Drummer 2022; *cf*. Schultrich 2025a).

As Drummer (2022) noted for western and central Germany, stelae with engravings tend to date to the Younger Neolithic (YN, Final Neolithic in Central European terminology; see Table 1), whereas artwork on stone slabs in graves generally dates to the MN (Late Neolithic in Central European terminology). Examples are cattle and vehicles in the gallery grave of Züschen (*c*.3300-3000 BC) with parallels in Southern Europe (Drummer 2022, 125-127; Lichter 2020, 123) or the various symbols

from Leuna-Göhlitzsch such as an axe, a bow with arrows a and quiver, and a dagger, with parallels in the Caucasus region (Müller 1988; Schunke 2013). Some graves contain an anthropomorphic, likely female, figure known as the *'Dolmengöttin'* (Dolmen Goddess) (Perschke 2020). This summary demonstrates that rock art was already present in Central Europe during the late fourth millennium BC and was not an innovation introduced during the CWC period, as previously suggested (*e.g.*, Harrison and Heyd 2007).

Associated Warriors and Weapons: Southern Europe

In central and northern Italy, during the mid-fourth millennium BC, significant changes in burial customs emerged and artefacts interpreted as 'weapons' (such as axes, halberds, daggers, maces, and arrowheads) gained increasingly social significance. Especially halberds and daggers held particular significance, shown by their presence in rock art and frequent inclusion in collective and single grave contexts (Dolfini 2004; 2021; Jeunesse 2017). The diversity of materials used for daggers is especially noteworthy, with examples made from both copper and flint. There is no evidence to suggest that flint had a lower social value (Steininger 2015).

In addition to collective graves, single burials in designated graveyards became increasingly common from the mid fourth millennium BC (Dolfini 2004, 227-228; 2021, 811-817; Jeunesse 2017, 174-179). In both burial types, individuals were buried according to specific social ideals as evidenced by the presence of particular grave goods. One distinct social role is associated with artefacts interpreted as weapons. For instance, in the Rinaldone cemetery, approximately 25% of all single graves contained a substantial number of such artefacts, and many of these graves adhere to the concept of over-abundance (German: *Überausstattung*) (Dolfini 2004, 227-228; Jeunesse 2017, 174). Even in other, likely less prominent cemeteries, a significant proportion of individuals were buried with artefacts interpreted as weapons (Miari 1993, 101-161).

Single graves, particularly those with rich grave goods, are often interpreted as belonging to individuals of high social status compared to those interred in collective graves, which generally contain fewer grave goods. However, the lower number of weapons in collective graves may result from complex funerary rituals involving repeated secondary additions and removals of artefacts and human remains. This suggests a prolonged social memory associated with collective burials. Dolfini (2021) argues that prominent/high ranked individuals were more likely to be buried in collective graves, whereas single graves containing warrior equipment may represent individuals associated with violence in life or those who died violently (2021, 826).

The evolution of burial practices coincides with changes in engraving traditions (Bradley 2009; Jeunesse 2017). This connection is evidenced by the chronological overlap of both phenomena and the presence of identical types of artefacts and artefact combinations. Additionally, some stelae align with the concept of over-abundance, too, such as shown on Figure 6.10 (Jeunesse 2017, 174; Vierzig 2020, 119-121; *cf.* Hansen 2002).

This trend is also present in other regions of the western Mediterranean, albeit less prominently. During the transition from the fourth to the third millennium BC, in southern and western France, individual burials within collective graves adhering to the over-abundance concept appeared (Jeunesse 2017, 174-179). Moreover, the already rich stelae-tradition was re-shaped by now including weapons (especially daggers) (Guilaine 2018, 1256; Jeunesse 2017, 176). Also, on the Iberian Peninsula during this period, in some collective burials distinct individuals were added associated by numerous and highly elaborate weapons (García Sanjuán *et al.* 2019, 1018-1028; Morgado *et al.* 2016, 3-4). Moreover, the technological knowledge required for copper production reached the Iberian Peninsula during this period, likely through contacts with Italy (Gauß 2013, 220; *cf.* Dolfini 2013), suggesting an active exchange network in the western Mediterranean. Within this context, the concept of a warrior-like social role may also have spread (Jeunesse 2017, 174-176). Thus, similar developments across distant regions indicate shared grave practices, specific artefacts, and anthropomorphic symbolism.

On the one hand, this development underscores the ideological significance of the social role which has been labelled as warriors, whether as actual individuals or conceptual figures. On the other hand, the majority of stelae are not associated with artefacts interpreted as weapons (Reinhold 2018; *cf.* Iversen 2024, 110), and most graves lack such artefacts (Dolfini 2021, 811-817; Miari 1993, 101-161). Additionally, the prominence of eye and face motifs highlights an alternative form of human representation without weapons (Boaventura 2011, 166; Lillios and Thomas 2009, 143). Therefore, while the 'warrior motif' is part of the symbolic world, it has not been its primary focus.

Nevertheless, crucial changes in burial traditions and the emergence of valued objects in the Mediterranean are now dated to the mid-fourth millennium BC. However, in Northern and Central Europe, scholars link similar developments to the emergence of Beaker societies (*e.g.*, Jeunesse 2017, 180) – a notion that requires revision.

Contexts and Developments in Central and Northern Europe

The following discussion will address the assumption that no comparable developments to those in the Mediterranean appeared in Northern Europe back in the late fourth millennium BC.

Single and collective graves

In parts of Northern Europe, the frequency of single graves peaked in the late fourth and early third millennium BC. In particular, contexts in the Netherlands and north-western Germany contribute to this pattern such as the burial ground of Dalfsen [3100-2750 cal BC, most graves 3000-2900 cal BC; *cf.* van der Velde and Raemaekers 2022; Schultrich 2022, 606) as well as the stone heap graves of north-western Jutland (Figure 4), which most likely represent single graves (Johannsen *et al.* 2016). Moreover, a recent discovery at Bygholm Nørremark, near Horsens, revealed a collective burial site where a number of individual graves were added during a later phase at the end of the MN (A) (Seeberg 2020)[2] Similar contexts have been recorded in the Netherlands and northern Germany (Lanting and Brindley 2004, 87; Brozio 2016, 176). Thus, the number of single burials increased in the late MN (A) across various regions, albeit in different forms.

In the single graves of the Netherlands and north-western Germany, pottery predominates, while flint axes and in particular battle axes are very seldom (Pak and Pfeffer 2020; van der Velde and Raemaekers 2022). In contrast, the cattle burials of Jutland frequently contain flint axes, but rarely MN-V-pottery and battle axes (Fabricius and Becker 1996, 178-179; Jensen 2001, 399).

It is important to note that the grave good patterns observed for the regional single grave traditions reflects grave good strategies of the collective burial of the same regions (Van der Velde *et al.* 2022, 191; *cf.* Ebbesen 2011, 314-315, 322). This indicates that the underlying grave good practises are the same, irrespective of burying the deceased in single or collective graves. This can be interpreted as collective grave goods may reflect individual goods (*cf.* Müller 2003; Brozio 2016; Weiss-Krejci 2011) – at least in the later part of MN A, where other scholars see evidence for a shift from a kinship oriented burial practise towards a practise where '*ideas of the individual were (re)instated*.' (Madsen 2019, 918). Müller (2003; 2011) even argues that collective graves may have served pretending collective orientations, with in fact the societies have been socially differentiated (*cf.* Müller 2003; 2010).

However, probably this does not account for all collective grave using groups. In the collective grave traditions just mentioned, besides of pottery destruction outside of the chambers (*cf.* Gebauer 2014; Madsen 2019), often high number of well-preserved artefacts appear directly in the chambers (*cf.* Brozio 2016, 138; Ebbesen 2011, 347-356; Madsen 2019, 913-915). These include richly-ornamented pottery, flint and battle axes, often with use-traces, though. Very different to this are the practises observed in the gallery graves of western Germany, the Paris Basin and Brittany, and related tombs from south-western Germany and Switzerland. Here, grave gifts are generally rare, often broken, and mostly found in the passage or fore rooms of the chambers – thus not directly associated to individuals (Cottiaux *et al.* 2014, 515;

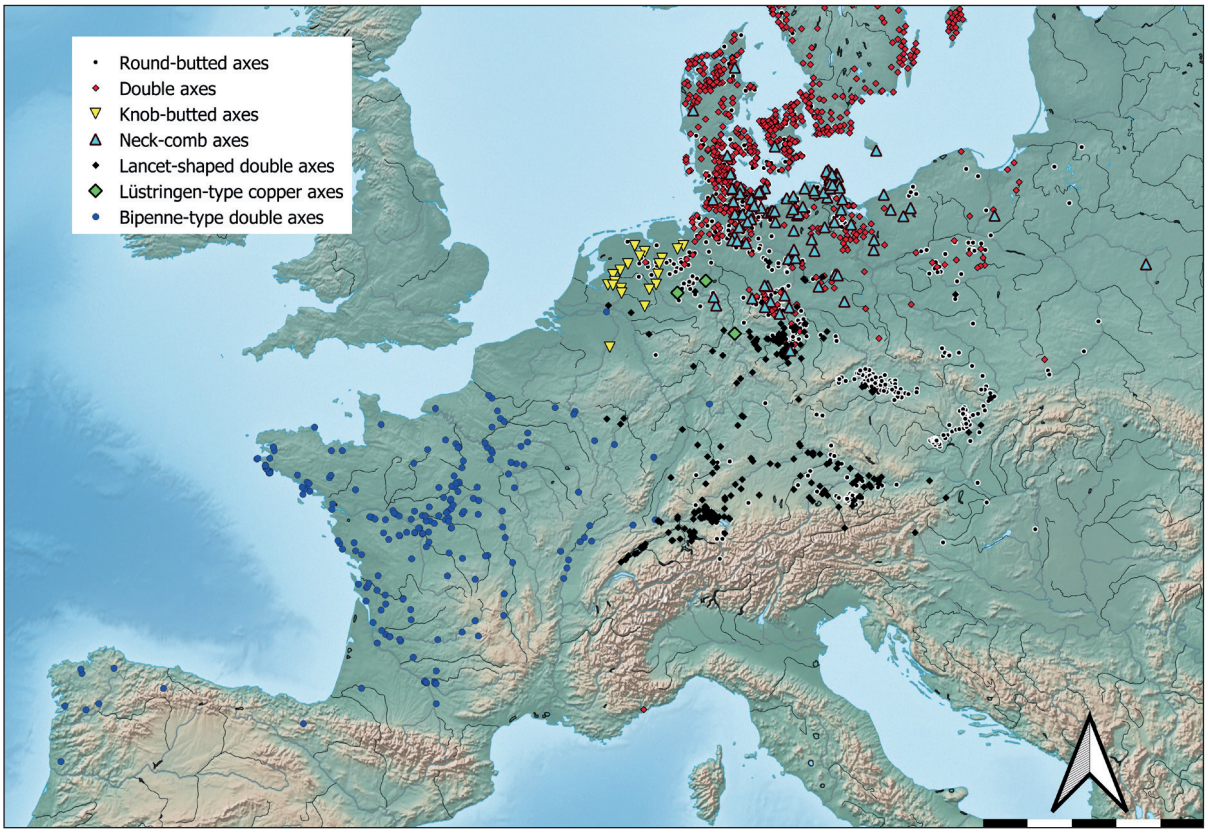

Figure 5. Distribution of the three different types of double axes (northern branch, lancet-shaped double axes, and double axes labelled as bipennes), related round-butted, neck-comb axes (with oval shaft-holes), the Lower Rhine knob-butted hammer axes (Knobhamerbijl), and the Lüstringen-type copper (knob-butted) hammer axes in Western, Central, and Northern Europe (*acc*. Schultrich 2022).

Schultrich 2025a, 73-76). Thus, it may be concluded that the collective graves of northern Germany and Denmark more likely were arenas with individual-focused rituals when compared to the rituals in gallery graves.

With these observations in mind, a novel interpretation of MN battle axes can be proposed.

Battle axes

In Central and Northern Europe, stone battle axes were among the most significant artefacts of the Neolithic. Recently, the interpretation of battle axes as primarily weapons has been questioned for the YN CWC period (Wentink 2020). CWC hammer axes show heavy use-wear, probably resulting from uprooting and chopping tree roots (2020, 123-126). Similar doubts apply to the earlier axes discussed here, as several broken examples and specimens with reworked cutting edges indicate intensive use (*e.g.* Müller 2024, 234-236; Schultrich 2024). This does not exclude their additional use as weapons. A detailed discussion of this issue lies beyond the scope of this paper. Instead, the focus here is on the particular significance of MN battle axes, reflected in their morphology, material, and depositional context.

During the late fourth millennium BC, double axes and related types emerged and were produced in regionally distinct forms (Figure 5 and 6).[3] In northern Central and Northern Europe, battle-axe typology developed into increasingly elaborate forms, including double and neck-comb axes with pronounced cutting edges and oval shaft holes (Ebbesen 1975, 175-185; Schultrich 2022, 268-269; 2024, 26; Zápotocký 1992, 128-134). In north-western Germany and the Netherlands, knob-butted hammer axes (Figure 6.1) were produced during the MN A (Lanting 2018), and even in France, a regional variant of double and round-butted axes appears – termed as bipenne (Schultrich 2022; 2025b).

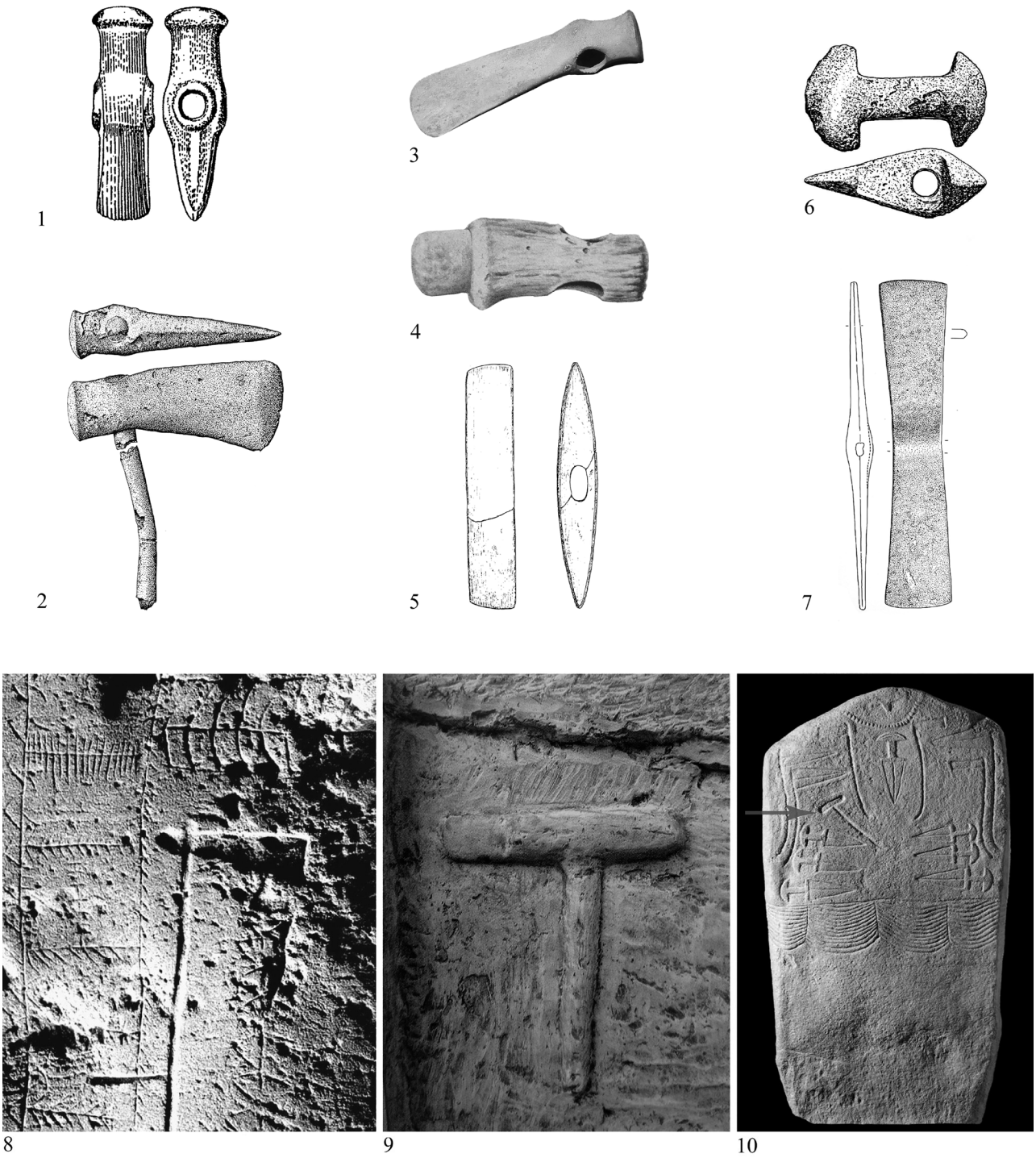

Figure 6. Many different ways of making battle axes in Central and Western Europe – Stone, antler, copper, and engraving. 1: Stone battle axe (Knob-butted type), Netherlands (Lanting 2018); 2: Lüstingen-type copper axe, Reiffenhausen, northern Germany (Grote 2004); 3: Lüstringen-type copper axe, Lüstringen (Neumann and Ostrowski 2022); 4: Antler battle axe, Hayettes à Congy, central France (Martineau et al. 2014, 431); 5: Stone double axe ('Southern' lancet-shaped type), Lüscherz, Switzerland (Schultrich 2022, cat. 717, tab. 41.e); 6: Stone double axe ('Northern' type), Kampen, Island of Sylt (Lorenz 2018, tab. 631,9); 7: Copper double axe (Cochem type), unknown locality, western Germany (Kibbert 1980, cat. 7A), 8: Depiction of a LN hammer axe in the chambered tomb of Göhlitzsch, central Germany (Müller and Müller 2010, 16); 9: Depiction of a antler battle axe in the rock-cut tomb at Maraisde-Saint-Gond, central France (Charpy 2014, 316); 10: Stelae from Arco, Trentino, showing a person associated with many halberds, daggers, a necklace, belt and a double axe (red arrow), showing the concept of over-abundance (Vierzig 2020, fig. 16).

Copper, antler, and art

All primary types of stone battle axe are accompanied by copper counterparts. Actually, this pattern reflects a long-standing tradition already evident in the Early Neolithic (*e.g.* knob-butted hammer axes) (Klassen 2000, 78-80, 217-219; Zápotocký 1992, 197). Only recently it has been proven that this this tradition continued throughout the MN (A): Copper knob-butted hammer axes such as the specimens from Lüstringen and Reiffenhausen (Figure 6.2-3), and copper double axes (Figure 6.7) (Neumann and Ostrowski 2022; Schultrich 2025a, 58-65). During the YN (MN B), hammer axes of the so-called Eschollbrücken type appear (Jacob-Friesen 1970, 24; Kibbert 1980, 28-34; Maran 2008, 175-178).

Furthermore, during the MN period, antler battle axes – comprising antler sleeves with shaft perforations, coupled with stone blades – also emerge in the France and Switzerland (Augerau et al. 2007, 177; Charpy 2014, 313-316; Schultrich 2025a, 68-70).

Battle axes are further significant because they appear in rock art north of the Alps. A notable example is the engraved axe from Leuna-Göhlitzsch (Figure 6.8), previously dated to the YN (Müller 1988). Typologically, it resembles MN knob-butted hammer axes known from north-western Germany and the eastern Netherlands (Figure 6.1-3) (Lanting 2018). In the rock-cut tombs of the Marne region, depictions of antler battle axes are known (Figure 6.9; Charpy 2014, 413-416). Additional engravings of axe-like artefacts occur on stone slabs, for example at Dingelstedt (Kerig 2010, 69-70), often associated with ring or sun motifs.

Moreover, amber beads shaped like double axes have been found in numerous collective graves in northern Germany and southern Scandinavia (*cf.* Cwaliński 2024; Ebbesen 1995). In regions without rock art, such objects may represent alternative forms of symbolic expression.

It is evident that there are numerous parallels to be drawn with the valued objects of the western Mediterranean. A more thorough examination of the contexts is likely to reveal additional parallels.

Contexts

Battle axes were also deposited as single finds, particularly in wetlands in northern Germany and Denmark (*cf.* Ebbesen 2006; Iversen 2015, appendix; Schultrich 2022, appendix 15.5, 747-749; 2025a, 54). Indeed, most battle axes did not end up in graves and were probably deposited as single finds (Figure 7). But in contrast to flint axes, which frequently ended up in multi-object hoards (*cf.* Müller 2024), battle axes were treated differently, as indicated by the predominance of single find depositions. This depositional pattern suggests a specific symbolic function (*cf.* Schultrich 2024).

Nevertheless, the axes deposited in burials remain significant. The most notable development is their marked increase in grave contexts during the late fourth millennium BC (Figure 7) (Ebbesen 2011, 316-317; Schultrich 2022, 458-462). Several scholars have noted the growing number of battle axes in burial contexts during this period (*e.g.* Beran 2012; Ebbesen 1975, 206-207; Zápotocký 1992, 165, 200). This pattern has often been treated as a regional peculiarity and explained by the assumption that grave goods in collective graves represent collective offerings. In contrast, this paper interprets them as individual grave goods (see above). This interpretation is supported by their near absence in gallery graves, which are more strongly associated with collective ritual practices; only three fragments are known from such contexts (Rinne 2003, 104; Schultrich 2022, 470).

It is noteworthy that the increase in burial contexts coincides with the emergence of new battle-axe forms – round-butted and double axes – around 3300 BC.

Evaluation

In both the western Mediterranean and in Central and Northern Europe, high-status objects gained symbolic importance during the late fourth millennium BC. These valued objects share several attributes. Firstly, they are considered to be among the most delicate objects in their respective cultural contexts. Moreover, they share the use of different materials (copper, stone, and occasionally antler) for the creation of a certain morphology. Furthermore, although rare, depictions of battle axes indicate that they formed part of the symbolic repertoire north of

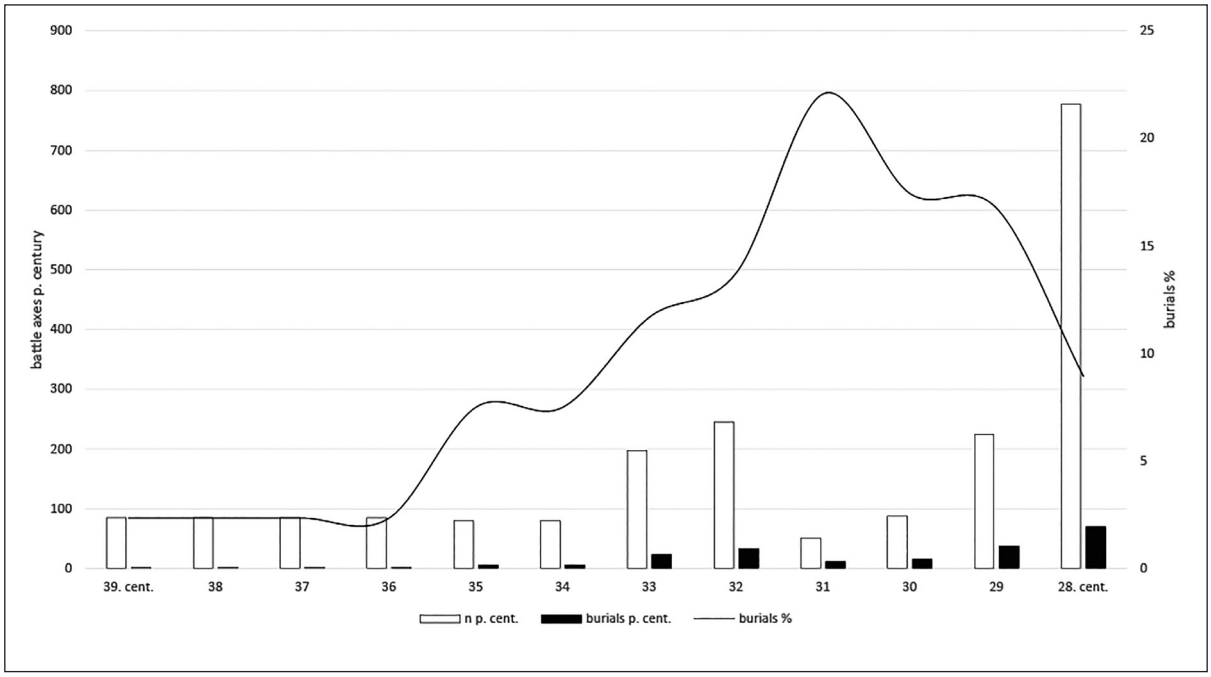

Figure 7. The number of Neolithic battle axes per century (39th to 28th century BC) in Northern Germany and Denmark. The line (y-axis to the right) shows the percentage of battle-axes from burial contexts. Data *acc*. Schultrich 2022.

the Alps, comparable to the role of daggers and halberds in the emerging symbolic systems south of the Alps. Amber beads in the shape of double axe provide further evidence for this hypothesis. Concurrently, battle axes attain heightened significance in ritual contexts, manifesting in single finds in wetland areas and, most significantly, in grave contexts.

Parallels with the western Mediterranean suggest that the development of battle axes may reflect a regional response to a broader supra-regional *Zeitgeist*[4] interpreted on different ways depending on the respective backgrounds, and leading to structurally comparable pattern.

However, this *Zeitgeist* does not exclusively entail warriorhood-related aspects. There is currently no clear evidence that MN battle axes functioned as weapons. Consequently, the notion of a 'warrior class' in the North should be approached with a degree of caution. Furthermore, in the western Mediterranean region, the 'warrior motif' has not been the primary interpretative focus. Consequently, it is plausible that battle-axe-related symbolism and the social roles associated with it likely formed only one element within a broader symbolic system in the North.

Nevertheless, significant developments concerning battle axes and the display of distinct social roles – in single, but especially collective graves – emerged on a limited scale in northern Germany and Denmark during the late fourth millennium BC. Thus, it emerged prior to the onset of the CWC in the YN (MN B). In this respect, the present study challenges the generalising assumption of Jeunesse (2017), who – in order to highlight the significance of the observations from the western Mediterranean – argued that such developments were absent in regions with megalithic traditions in Central Europe, the northern half of Western Europe, and Northern Europe (2017, 180). A comparison of structural patterns and the abandonment of the term 'warrior ideology' shows that significant alterations also appeared in the northern regions in the late fourth millennium BC.

Networks and the transition towards CWC societies

From a Central European perspective, Globular Amphora communities of the late fourth millennium BC were involved in extensive supra-regional exchange networks (Müller 2023, 337-347; *cf*. Brozio *et al.* 2019; Iversen 2020). At the margins of its distribution area, Globular Amphora cultural traits often appear in hybrid forms that combine local

and external elements, while some traits occur far beyond the core area (*cf.* Johannsen *et al.* 2016; Iversen 2015; Müller 2023; Szmyt 2003).

Battle axes represent another key element within these interaction networks. Across large parts of Western, Central, and Northern Europe, they display a remarkable degree of morphological and contextual homogeneity. Double axes, for example, occur throughout these regions (Figure 5). Likewise, the appearance of oval shaft holes in both northern Germany and the north Alpine region around 31/3000-2800 BC indicates parallel developments within a shared communication sphere (Schultrich 2025a, 61). Their wide distribution and convergent development imply both a shared understanding of these objects and sustained communication across regions.

Together, these observations point to a supra-regional network linking distant regions across much of Western, Central, and Northern Europe. This may suggest that communities associated with Globular Amphorae materials actively participated in the broader spatial dynamics of the period, or that the wide distribution of these attributes is another symptom of expanding networks (*cf.* Müller 2023, 373-374). In any case, it is clear that vast networks and widely shared concepts were present in large parts of Europe prior to the emergence of the CWC complex.

Burials containing battle axes – especially single graves – are usually regarded as characteristic of the CWC. However, the increasing deposition of battle axes in burials and the growing importance of single graves during the MN indicate that several practices commonly associated with the CWC already emerged within local MN contexts, albeit on a smaller and less explicit scale. In central Germany, for example, the distinction between MN and YN practices is sometimes blurred, particularly in the case of engravings (Drummer 2022; see above). In particular, such ambiguities occur in the symbolic association of hammer axes with sun motifs or rings. This combination appears on several stone slabs and stelae and in at least two hoards: one dating to the MN(A) (Lüstringen-Osnabrück; Neumann and Ostrowski 2022) and another to the YN/MN(B) (Dalum; Maran 2008). The motif therefore originates in an FBC/pre-CWC context and continues into the early phases of the CWC, indicating continuity rather than abrupt change.

This study therefore argues that the social significance of combining individuals with battle axes, flint axes, and arrowheads in grave contexts did not develop independently within MN(A) and YN/MN(B) archaeological cultures. Instead, these practices originated within MN(A) societies and were subsequently transmitted to CWC communities.

In both periods, northern Germany and Jutland stand out in supra-regional comparison for their high numbers of battle axe burials (Schultrich 2022, 444; 2025a, 49-54). The large numbers recorded during the CWC period may therefore reflect the expansion of practices that had already developed on a smaller scale during the MN (A).

This interpretation does not contradict the evidence for migrations during the third millennium BC. However, some cultural developments predate this migration horizon and cannot be directly attributed to it, as is often assumed (*cf.* Haak *et al.* 2023). Evidence for continuity between pre-CWC and CWC groups is consistent with regional studies emphasising the diversity of transformation processes during the third millennium BC, including marked ruptures (Madsen 2020), parallel societies (Kroon 2024), and strong elements of continuity (Nielsen and Johannsen 2023; Nielsen 2024; Schultrich 2023b).

Overall, these observations point to a broader development across Western, Central, Northern, and Southern Europe: the increasing social significance of valued objects and their association with human representation and identity. The emergence of the Danish face pots may therefore also be understood within this wider network of interactions.

The Danish face pots – part of a pan-European phenomenon

'*The face pots of the FBC must therefore be seen as a completely local, mainly Zealand-specific development – just as the other, individually isolated European face-pot groups must be seen today as the result of local developments*' (Ebbesen 1978a, 110).

Clausen (2020) argues that the eye motif represents the 'double sun' symbol, a phenomenon observed when the moon turns red during a lunar eclipse. Face pots are frequently associated with specific two-chamber passage graves, which Clausen likewise interprets as being linked to this double-sun symbolism. Consequently, he proposes that these developments have a distinct local origin and meaning.

Both researchers rightly emphasise the local significance of face pots. However, as demonstrated by the development of stelae in southern France and Italy, local traditions and external influences can coexist and jointly shape new cultural expressions.

Despite regional differences in detail, a broader geographical trend can be observed involving changes in burial rituals and the increasing significance of prestige objects such as daggers, halberds, and battle axes. These parallel developments suggest that geographically distant groups were interconnected through wider networks. While such connectivity is well established for this period (*e.g.* Klimscha 2017; Brozio *et al.* 2023; Müller 2023), its implications for the interpretation of face pots have received less attention.

Against this background, the near-simultaneous emergence of face pots and other anthropomorphic representations in several regions (Figures 2 and 3) is unlikely to have been purely coincidental. In particular, the detailed depiction of eyebrows – showing striking similarities between Denmark and the Paris Basin – suggests a shared understanding of which human features were considered significant (Figure 2.4-8). This paper therefore argues that the development of Danish face pots represents a local response to the broader cultural *Zeitgeist* of the period. Under this influence, regional practices gradually underwent a process of structural alignment while preserving regionally distinct traits.

Beyond the continental networks discussed above, there are also indications of a distinct Atlantic interaction sphere extending from the Iberian Peninsula to Denmark. The study of face motifs provides a promising starting point for further investigation of these early long-distance connections.

Part II: The Cradle of the Bell Beaker Network

The potential connection between Danish face pots and similar eye motifs in Spain was already discussed by early researchers (*e.g.* Wilke 1912; Müller 1918; Crawford 1957), but has been largely rejected in more recent scholarship (Ebbesen 1978a; Iversen 2024). Nevertheless, this early interpretation has prompted the search for indicators of interaction networks along the Atlantic façade during the late fourth and early third millennia BC.

The following section therefore examines specific attributes that have not yet been considered in terms of their supra-regional significance. In particular, it evaluates whether Danish face pots might be related to Mediterranean eye motifs, as proposed by earlier scholars. Rather than seeking to provide a definitive conclusion, the aim is to open a new perspective on the material and to stimulate further discussion and research.

The Bell Beaker Atlantic Network

Some scholars see evidence of human contacts along the Atlantic as early as the fifth millennium BC. This is suggested by the coastal distribution of early megalithic 'hubs' (Schulz-Paulsson 2019) and by specific rock-art motifs, such as crooks and whales, found in Brittany, Galicia, and Alentejo. Additionally, 'foreign' objects point to direct interactions, including Cangas axes in Brittany, Tumiac axes, and Castellic pottery in Galicia (Cassen *et al.* 2019, 313-318). However, not all scholars agree that these exchanges were primarily driven by maritime routes (Scarre 2020, 217-218). Nevertheless, the proximity of most of these attributes to the coast and the presence of motifs explicitly depicting whales and boats suggest the importance of seafaring (Cassen *et al.* 2019, fig. 10). Further support for this comes from the complex process of Neolithization in Great Britain at the end of the fifth millennium BC, which likely involved multiple voyages from various geographical starting points (Sheridan 2016, 227; Thomas 2022, 519).

In contrast, during the fourth and early third millennium BC, evidence for maritime or coastal travel declines. During this period, the British

Isles exhibit a marked insularity, meaning that while communication between different islands remained strong, interaction with the European mainland was limited (Vander Linden 2012, 74-76; however, see Graham [2025] for a critical review). A notable example is the absence of French Grand-Pressigny daggers in both the British Isles and Galicia (and the entire Iberian Peninsula) (cf. Ihuel et al. 2015). This contrasts the intensified continental communication networks of the fourth millennium BC, as outlined above.

The emergence of the BB complex around the mid-third millennium BC is associated to an unprecedented level of connectivity (Vander Linden 2024). The end of British insularity coincided with migrations from the continent, possibly originating in north-western Europe, particularly the Lower Rhine area (Olalde *et al.* 2018). A vast Atlantic exchange system now linked southern Spain, Atlantic France, the British Isles, the Netherlands, and Denmark (Prieto Martínez 2012; Vandkilde 2005; Wentink 2020). This is reflected in several cultural markers, including the characteristic bell-shaped pottery, specific decorative styles (AOO, AOC, and maritime motifs), and ornamentation techniques incorporating molluscs and comb impressions, all of which were widespread along the Atlantic coast during this period.

In particular, Galician and Breton BB ceramics show striking similarities (Nicolas et al. 2019; Prieto Martínez and Salanova 2009; Prieto Martínez 2012; Salanova 2016). Likewise, Beaker pottery from Brittany exhibits strong typological links to the British Isles and the Netherlands, both in form and decoration (Case 2001; Olalde *et al.* 2018; Wentink 2020).[5] Moreover, BB pottery from Jutland closely resembles Dutch styles while also incorporating continental attributes (Sarauw 2007; Vandkilde 2005). The area between the Dutch Veluwe and the Jutish hubs – specifically northern Schleswig-Holstein and southern Jutland – has little presence of materials assigned to the BB complex, with exceptions found mainly on the Frisian Islands, suggesting a maritime route (Kleijne *et al.* 2020, 72).

Further evidence of cultural connectivity is seen in the shared use of specific flint arrowhead shapes, copper, and gold objects, indicating that human groups along the Atlantic coast adhered to common practices and values (Sarauw 2007; Vandkilde 2005; Nicolas 2017; Wentink 2020).

Thus, from the mid-third millennium BC onwards, the BB phenomenon is associated a super-regional coastal network extending from Spain to Denmark, whose scale and intensity were unprecedented. However, there is reason to believe that the foundations of this vast Atlantic network, albeit on a smaller scale, began to emerge in the late fourth and early third millennium BC.

The Atlantic Network in the fourth Millennium BC

There is evidence to suggests ongoing links between certain regions along the Atlantic coast exchange systems in the late fourth and early third millennium BC (Figure 8). These connections are exemplified by several shared cultural features, including:

- Battle axes (a)
- Megalithic tombs, particularly those with lateral entrances (b)
- Pottery developments (c)
- 'Tiefstich' ornamentation and collared flasks (d)
- Face-like pottery decoration (e)
- Early Single Grave Culture flint axes (f)

(a) Battle Axes

Stone battle axes, particularly double axes, are widespread across many regions of France, the north Alpine foothills, southern and central Germany, northern Germany and Southern Scandinavia. These axes date to the late fourth and early third millennium BC (Schultrich 2022, 201-203). In France, especially many battle axes have been found in Brittany, along the Loire, the western coast and at the Garonne basin, (*ibid.*, 230; Figure 5).

Morphologically simpler versions have also been found in Galicia (Fábregas Valcarce 1991; Fábregas Valcarce *et al.* 2012). Whilst these axes are not precisely dated, there is clear evidence of their presence in pre-BB contexts (*ibid.*). It is hypothesised that these axes are reproductions of the French models (Schultrich 2022, 407-417). This

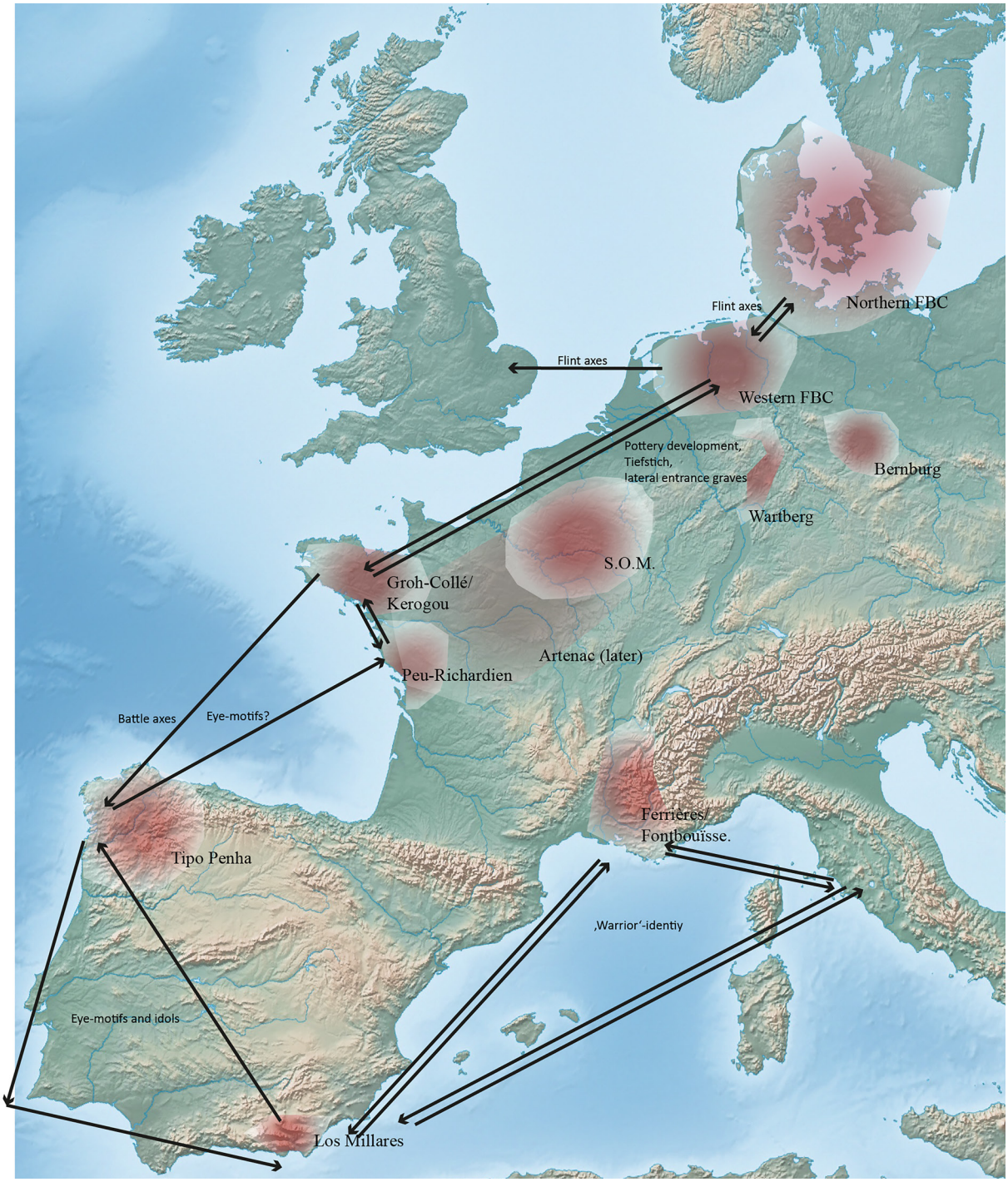

Figure 8. Western and Central Europe **c**.3100-2700 BC. Archaeological cultures mentioned in the text are indicated. The arrows point out the regions which are or seem to be more closely connected.

finding suggests the existence of a connection between the coastal regions of western France/ Brittany and Galicia prior to the emergence of the BB phenomenon (Fábregas Valcarce 1991, 85; Schultrich 2022, 417-423).

(b) Megalithic Tombs

Throughout the fourth millennium BC, a variety of burial structures emerged, including passage graves in northern Central Europe, gallery graves in Brittany, the Paris Basin, and western Germany, as well as rock-cut tombs in the Paris Basin and different kinds of dolmens in large parts of western, southern and eastern France and the Switzerland (Pape 2019; Schultrich 2022, 513-517; Sohn 2008). Many of these burials share common architectural elements, such as structured entrances, large

chambers for repeated use and were erected in the mid and late fourth millennium BC. In north-western Germany, gallery and passage graves often merge into hybrid forms (Laux 1991, 56). The construction period, conceptual design, and parts of the rituals are similar in this vast region, indicating a network of shared ideas (*cf.* Pape 2019). The only significant difference between gallery graves and passage graves is in the specific grave rituals, as outlined above.

In Brittany, *sépultures à entrée latérale* (collective graves with lateral entrances) likely originated in the late fourth or early third millennium BC, though their precise chronology remains debated (Laporte 2009). Due to the lateral entrances, these graves bear structural similarities to passage graves in northern Central Europe and connections have suggested from several researchers (Blanchard 2012, 355; Laporte 2009, 736; *cf.* Scarre 2015). However, the existence of a causal relationship remains unproven, and it is possible that the observed parallels have evolved independently.

(c) Pottery Developments

In large parts of central and northern France, Belgium, the north Alpine foothills, southern and western Germany, in the middle of the fourth millennium BC, coarse ware pottery styles appear (Iversen 2020, 129-130; Schultrich 2025b, 235-236). It is characterised by barrel-shaped, poorly fired, barely decorated (only small holes beneath the rim) pottery styles. In a later phase, the western and northern FBC groups (Brindley 6/7 and MN V) participate in the production of similar pottery (Brindley 1986; Iversen 2015). The mechanisms behind the shared patterns still remain unclear, but their presence is noteworthy and deserves further research (*cf.* Iversen 2020; Schultrich 2022; 2025b).

In the Lower Rhine region, the western FBC pottery is clearly related to the wider FBC horizon, albeit with local characteristics (Brindley 1986; Menne 2018; Mennenga 2019). In the very late phase, the Danish MN V and the late Brindley styles 6/7 share the development just described. In the Lower Rhine area, however, the forms remain more complex. The tall vessels are rather cone-shaped instead of barrel-shaped. The bowls have a bipartite appearance with the high point of inflection shifting towards the upper part of the vessel (Brindley 1986, 102-103; 2022, 114-116). Low bowls are also becoming increasingly common.

Based on a different background, similar pottery characteristics are developing in Brittany in the late fourth and early third millennium BC in the context of the pottery styles Kerugou and Groh-Collé of the *Neolithique recent* III/*Neolithique final* I (Blanchard 2012, 314-315). Thus, there is a parallel development leading to similar forms. However, it remains unclear if this parallel development is a coincidence, related indirectly (as both regions touch the coarse ware pottery distribution) or maybe directly related. Further research is necessary to analyse the pottery assemblages with greater precision, in order to test for potential relations.

At this time, the parallels are too vague to prove contact, and cultural-historical arguments should be avoided. Nevertheless, the mere highlighting of potential parallels in distant regions, a concept that is widely accepted in the context of the BB, is a recent development in this period and must be discussed in conjunction with the other proxies.

(d) Tiefstich Ornamentation and Collared Flasks

There is further evidence of communication between distant groups, reconstructed on the basis of pottery style patterns. In the early third millennium BC, a decorative technique known as *Tiefstich* appears in western France (Laporte 2009). The term is commonly used for similar techniques in the Netherlands and in north-western and central Germany (Brindley 1986, 94-100; 2022, 131; Diers and Fritsch 2019, 733).

As another notable feature, collared flasks (*Kragenflaschen*) were widespread across the FBC regions of Central and northern Central Europe (Klassen 2004, 197; Wunderlich 2011, 262). Early examples tend to be highly decorative and elaborate, while later versions appear more crudely made (Brindley 1986, 95-100; 2022). These late variants, which are poorly made and often badly burnt, are common in the Lower Rhine area, and occur in small numbers in the Paris Basin and Brittany. This distribution somewhat overlaps with that of gallery and passage graves, and that of double axes. It suggests communication between groups in regions

that are mostly not perceived as sharing pottery styles (Cassen 1991, 179; Cottiaux *et al.* 2014, 459-463; Huysecom 1986, 207).

After the collapse of the copper network around 3300 BC (cf. Brozio et al. 2023), the spread of battle axes (double axes) and collective grave rituals – albeit with locally distinct traits – suggests that formerly far-reaching network structures were extended to include parts of Western Europe (Schultrich 2025b). Pottery with 'coarse-ware characteristics' was already present in western Germany, the western Alpine region, and large parts of northern and central France, as demonstrated by Iversen (2020).

During this dynamic period, pottery in parts of northern Germany, southern Scandinavia, and the Netherlands appears to have lost some of its former function as an identity-related object (*cf.* Brozio *et al.* 2019, 127). It may be hypothesised that, as pottery lost its role as an identity marker, the likelihood of stylistic alignment with neighbouring regions increased. This process may represent one additional driver behind the emergence of coarse-ware pottery styles on the basis of FBC styles.

Taken together, these developments point to the existence of a loose network characterised by coarse-ware pottery, collective graves, and double axes. Against this background, more direct connections between human groups in the Lower Rhine region and Brittany may have emerged. Such links are suggested by the parallel development of pottery styles in Brittany and the Lower Rhine region, and possibly also by specific features of collective graves that developed in this context.

However, the shared development of pottery styles is partly obscured by differing terminologies. The term western FBC implies a direct connection with northern FBC groups. In reality, however, the archaeological record likely reflects multilateral influences resulting from human mobility in multiple directions. These processes shaped the complex material and immaterial cultural landscape of the late fourth and early third millennia BC in the regions considered here.

(e) Face Motifs in Pottery

Proper anthropomorphic and eye motifs also appear across the Iberian Peninsula, particularly in the Los Millares culture of Almería, from the late fourth millennium BC. Here, eye motifs, consisting of central dots encircled by radially arranged line segments, appear on stelae, pottery (Figure 3.5-6), and plate idols (Boaventura 2011, 166; Lillios and Thomas 2009, 143; Recchia-Quiniou 2017, 91-93; Scarre 2017, 886).

Thus, with the Danish face pots described above, proper face representations appear in two distant regions. In-between, no such distinct faces appear, but there is a spatially broad horizon of roundish elements of the pottery. '*A tendency towards decorations involving a series of circles or half-circles became widespread during the Late Neolithic in South-western Europe*' (Recchia-Quiniou (2017, 91-93). The Peu-Richardien pottery of western France (Figure 3.3-4) and the Ferrières, Fontbouisse, and Vautes traditions of southern and south-eastern France (Recchia-Quiniou 2017; Scarre 1998) feature distinctive paired depressions framed by multiple lines (Ard 2013, 376; Recchia-Quiniou 2017, 91-93). These may or may not represent eyes. However, as stressed above, their spatial and temporal appearance coincides with that of other human representations and a link of both phenomena are possible.

Late FBC pottery of the western groups is only rarely characterised by rounded elements. As emphasised above, it remains unclear whether these features resemble the Danish eye motifs.

In view of the other ceramic similarities discussed above, and the broader trend towards increasingly anthropomorphic representations in different contexts, it is conceivable that such rounded forms carried a symbolic meaning shared among different human groups, though not necessarily restricted to those along the Atlantic façade.

The available evidence therefore remains too limited to suggest direct relationships between the various eye, face, and rounded motif concepts found along the façade. In particular, the Danish and Iberian motifs are most likely unrelated. Nevertheless, they may form part of a broader cultural development – the *Zeitgeist* of the period – which appears to have encouraged the independent incorporation of anthropomorphic elements into several regional pottery traditions.

(f) Flint Axes and Maritime Connectivity

The production of large flint axes required primary flint sources, which were scarce in the Netherlands but available in northern Jutland and along the Baltic coast (Wentink 2006, 38; *cf.* Müller 2024). Their presence in the Netherlands suggests a direct link between Dutch communities and those in Denmark and/or eastern northern Germany during the MN(A) and YN/MN(B) (Wentink 2006, 37-38).

Notably, the insularity characteristic of the later Neolithic British Isles began to break down somewhat before the arrival of BB materials and the movement of people. Several dozen South Scandinavian flint axes – originating from Jutland, the Danish Islands, or northern Germany – have been found in the British Isles (Walker 2018, 106-120), possibly via the Netherlands (Schultrich 2023a, 72; *cf.* Wentink 2006, 37-38). Some of these axes belong typologically to early (*c.*2850-2600 BC) and middle Single Grave Culture types (*c.*2600-2450 BC) (Schultrich 2023a, 72; *cf.* Hübner 2005, 328-340). This suggests that cross-Channel contact was gradually re-established before the full-scale BB expansion (Schultrich 2023a, 70-72).

In this context, the only known British collared flask (Darvill 2010, 138) is particularly significant, as it suggests limited but ongoing exchange between the continent and the British Isles during the so-called 'gap phase'. Whether the Folkton Drums can be associated with this phenomenon remains unclear (*cf.* Jones 2017).

The Significance of the Network

The available evidence remains too limited to demonstrate direct relationships between the different face- and eye-like motifs along the Atlantic façade. Nevertheless, exploring this possibility has prompted a search for additional parallels in the respective regions. Some attributes appear to indicate directed connections along the façade, with certain intermediate regions seemingly bypassed. Tracing these phenomena suggests a chain of smaller networks extending along the Atlantic façade, linking Galicia with western France/Brittany, Brittany with the Netherlands, the Netherlands with Great Britain, and the Netherlands with Denmark/northern Germany (Figure 8).

This pattern points to potential roots of the BB network in the late fourth and early third millennia BC. Although Atlantic exchange expanded markedly with the emergence of the BB phenomenon, earlier finds – such as Galician battle axes or Scandinavian flint axes in the British Isles – may reflect small-scale 'visiting' or 'scouting' events.

Conclusion

In discussions of Beaker Cultures, supra-regional exchange and migration are often presented as the primary explanations for cultural development. As a result, the achievements of people in preceding archaeological complexes and their capacity for supra-regional communication are frequently overlooked. A structural comparison of Danish face pots and double axes from northern Germany and Denmark, however, highlights the wider significance of apparently local or regional phenomena at the transition from the fourth to the third millennium BC.

Although the 'Nordic' double axe is regionally distinct, human groups across Western, Central and Northern Europe shared the practice of using double axes alongside other types of battle axes. From a pan-European perspective, these objects bear striking similarities to artefacts classified as 'weapons' in Italian contexts, such as daggers, axes, and halberds. These items, like battle axes, were made of copper or stone, appear in rock art, and increasingly occur in burial contexts from the mid and late fourth millennium BC.

A similar pattern is evident in anthropomorphic art. Only on the Danish Islands did certain motifs develop into what Ebbesen (1978a) and others describe as 'true' face pots. While these face pots were probably not directly connected to the Atlantic façade, various forms of anthropomorphic art emerged across Europe – in northern Italy, southern France, the Paris Basin, and central Germany. These regions were linked, more loosely or closely, via continental routes during the late fourth and early third millennia BC, as indicated by the distribution of objects such as

double axes or, more generally, by the 'valued object/weapon symbology'.

The term *Zeitgeist* describes how local symbols gradually adapted to a wider symbolic repertoire, while regional variation persisted. Thus, the development of Danish face pots, alongside locally distinct types of double axes and related practices, represents a local response to the broader cultural *Zeitgeist* of the period.

Similar to interpretations of western Mediterranean contexts (*cf.* Jeunesse 2017), the significance of battle axes, combined with local interpretations of anthropomorphic representations, reflects changing perceptions of human identity – whether concrete or idealised – during the late fourth millennium BC in Northern and Central Europe. This development, however, is partly masked by the continued use of collective graves, which may have been less closely tied to collectively oriented societies than often assumed.

Taken together with research on technological innovations such as wagon transport (Klimscha 2017), the distribution of fine wares (Furholt 2009), and the copper network (4000-3300 BC) (Brozio *et al.* 2023), the results of this study reinforce the idea that intensive and geographically extensive networks were already established in Europe by the late fourth millennium BC – prior to the emergence of Beaker societies.

Beyond the continental network, this study identifies indications of a network along the Atlantic façade. By the late fourth and early third millennia BC, several loose links are evident, which may have laid the foundation for the later, extensive BB Atlantic network. In particular, the Lower Rhine region, with its connections to Denmark, Great Britain, and Brittany, remained a crucial hub for the subsequent BB network (*cf.* Schultrich 2023a).

These observations contribute to a growing body of research emphasising the local roots of CWC and BB attributes and highlight the active role of pre-Beaker societies in shaping emerging cultural patterns (Dunne *et al.* 2023; Furholt 2021; Hofmann *et al.* 2024; various contributions in Hofmann *et al.* 2025; Jeunesse 2017; Kolář 2020; Schultrich 2023b).

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Notes

1 According to Brindley's (2022) novel chronology this means *c.*3200 BC-3000/2975 BC (2022, 112). According to Mennenga (2019) this would rather mean *c.*3300-3200 BC (2019, 509).

2 The only artefact found was a flint axe with a hollow cutting edge (Seeberg 2020), which is typical for the MN V period (Fabricus and Becker 1996).

3 D-, R- and N-axes acc. Zápotocký 1992; Troldebjerg [A1], Fredsgårde [A2], Elmelunde [B1], Kjeldstrup [B2], Livø [B3], Svendborg [C1], Østerbølle [C2], D and M acc. Ebbesen 1975; additionally, lancet-shaped double axes (L) in southern Germany and the North Alpine Foreland [Schultrich 2022]) and so-called bipennes in France (Schultrich 2022).

4 Term adapted from philosophy: 'Spirit of the age'.

5 For beakers originating from Ireland, southern England, and the Atlantic coastline, there is a shared use of horizontal comb-impressions, small geometric symbols, cordons, impressions of fingernails, and molluscs (Case 2001, 363, 374). Similarly, the Lower Rhine BB groups and south-eastern English share the use of protruding foots (in the Lower Rhine connected with CWC), comb- and fingernail impressions, and late use of barbed-wire (ibid., 366-67).

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