

Abhandlung

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Anthropomorphised warlike beings with horned helmets: Bronze Age Scandinavia, Sardinia, and Iberia compared

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Zusammenfassung: Das Auftreten und die Darstellung gehörnter Helme im bronzezeitlichen Nordeuropa regt bis in die Gegenwart Diskussionen darüber an, was davon lokal und was fremd ist. Abbildungen gehörnter Helme finden sich in ganz Europa und dem angrenzenden Mittelmeerraum in einem Zeitraum von 1000–750 v. Chr. Diese Studie beschäftigt sich detailliert mit einer vergleichenden Analyse der Darstellung gehörnter Helme, ausgehend von der Frage, wie ähnlich sich die verwendeten Materialien, das Medium selbst und die kulturellen Kontexte sind. Sardinien, das südwestliche Spanien und Portugal (Iberische Halbinsel) sowie Südkandinavien sind innerhalb dieser Untersuchung von besonderem Interesse, da hier anthropomorphe kriegerähnliche Kreaturen mit gehörnten Helmen in der materiellen und ikonographischen Kultur auftreten. Die Analysen enthüllen Ähnlichkeiten und Unterschiede zwischen den drei Zonen in der Darstellung dieser gehörnten Figuren, der Art und Weise, wie sie dargestellt werden und der Eingliederung dieses Phänomens in Rituale und Alltägliches um 1000–750 v. Chr.

Obwohl auch lokale Eigenheiten deutlich herausgearbeitet werden können, ist eine Verbindung dieser drei Regionen nicht zu leugnen. Übergreifend betrachtet können die Hörner als Zeichen der Potenz des Helmträgers interpretiert werden. Sie gelten als Inbegriff eines Kriegers und visualisieren eine begrenzte Gruppe von kriegerischen Wesen. Ihre Bedeutung scheint eng verbunden

mit Riten, Orten und Überzeugungen und zeugt auch von einer engen Verbindung zu politischen Prozessen.

Wir schlussfolgern, dass die ins Auge fallenden Abbildungen von gehörnten Insignien tragenden Männern eine Kennzeichnung des „Besonderen“ sind. Sie könnten einerseits als ein Ausdruck oder die Verbildlichung für die lokale Kontrolle von Metallen zu sehen sein und sollten andererseits als ein Zeichen für die Übertragung neuartiger Überzeugungen und Kulte, die eine verkörperte Gigantisierung beinhalten, verstanden werden. Darstellungen gehörnter Figuren haben eine komplexe Geschichte im spätbronzezeitlichen Mittelmeer und entspringen der Levante. Der skandinavische Raum nimmt diese Elemente und teils auch Ideologien vermutlich um 1000 v. Chr. auf, zusammenfallend mit der metallgeführten phönizischen Expansion und Konsolidierung nach Westen. Dies führt zu einer Etablierung einer Mittelmeer-Atlantik-Seeroute, während die im 2. Jahrtausend vorherrschende transalpine Handelsroute immer inaktiver wird und schließlich verebbt. Bei der vergleichenden Auswertung von bildlichen Darstellungen, zum Beispiel der Felskunst und plastischen Darstellungen gehörnter Figuren, zeigte sich, dass diese teils an lokale Riten und Gebräuche angepasst wurden, auf andere jedoch sparsam oder gar keinen Einfluss hatten.

Schlüsselworte: Späte Bronzezeit, lokal vs. global, Krieger-Kult, Gigantisierung, Metallhandel und westliche Seeroute.

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Abstract: Horned-helmet imagery continues to raise questions about what is local and what is global in Bronze Age Europe. How similar is the imagery found on Sardinia, in southwestern Iberia and southern Scandinavia in material appearance, medium of representation, and sociocultural setting? Does it occur at the same point in time? Does it spring from or transmit a shared idea? Analysis reveals intriguing patterns of similarity and difference between the three zones of horned-helmet imagery 1000–750 BC. The results point to actors and processes at the local level

while also pinpointing interconnections. Across all three contexts, horns signify the potency of the helmet wearer, the quintessential warrior. Horns visualise a defined group of bellicose beings whose significance stems from commemorative and mortuary rites, sites, and beliefs – in conjunction with political processes. We suggest that the eye-catching imagery of very particular males wearing horned insignia relates on the one hand to local control of metals and on the other to the transfer of novel beliefs and cults involving embodied gigantisation. It is characteristic that the horned figure is adapted into some settings, but only sparingly or not at all in others. This imagery has a complex history, with Levantine roots in the LBA Mediterranean. The Scandinavian addendum to the network coincides with the metal-led Phoenician expansion and consolidation in the west from c. 1000 BC. A Mediterranean–Atlantic sea route is suggested, independent of the otherwise flourishing transalpine trading route.

Keywords: Final Bronze Age, local-global, imagery and narratives, warrior-cult, gigantisation, sanctuary, cult, political power, metal-control and western sea route

Riassunto: L'interpretazione iconografica di individui che indossano elmi cornuti continua a sollevare domande su cosa sia locale e globale nell'ambito figurativo dell'Europa dell'Età del Bronzo. Il presente contributo ha lo scopo di individuare gli elementi in comune e quelli di divergenza tra tre zone (Sardegna, Penisola Ibérica e Scandinavia) nel periodo 1000–750 a.C. Quali sono le somiglianze tra le rappresentazioni di età nuragica, quelle della Penisola Ibérica e il sud della Scandinavia per quanto riguarda il repertorio iconografico, il materiale utilizzato e il contesto socio-culturale? Queste somiglianze hanno origine in maniera indipendente, oppure sono frutto della trasmissione di idee tra le diverse regioni? Nelle tre regioni a confronto, la figura dell'elmo cornuto si adatta ad alcuni contesti, mentre risulta sporadica o del tutto assente in altri. L'iconografia presenta una storia complessa che ha origini in area levantina e si diffonde nel resto del Mediterraneo ed in Europa almeno dal Bronzo Recente. L'aggiunta della Scandinavia al network coincide con l'apertura di una nuova rotta atlantica e con la consolidazione dell'espansione fenicia motivata dalla ricerca di nuove risorse metallifere nel Mediterraneo occidentale (circa 1000 a.C.). I risultati dell'indagine supportano l'ipotesi che queste rappresentazioni scaturiscano sia da processi di tipo locale sia da elementi di interconnessione tra le regioni analizzate. In tutte e tre le aree, l'elmo cornuto viene utilizzato per esprimere la potenza dell'individuo che lo indossa, la quintessenza del guerriero. Le corna

diventano elemento per identificare un preciso gruppo di individui i cui simboli, spesso legati all'ambito bellico, vengono esibiti in rituali commemorativi di frequente legati all'ambito funerario. I valori associati alla parure bellica vengono celebrati all'interno di contesti nei quali processi di tipo sociale e politico si mescolano con l'ambito rituale del sacro. Tra i gli elementi comuni, la rappresentazione dello sguardo e elementi decorativi somiglianti di alcuni individui con elmi cornuti potrebbe associarsi a due fenomeni: da una parte la diffusione di simboli attraverso il commercio del metallo tra le tre zone e dall'altra la diffusione di credenze e culti associati al fenomeno della gigantizzazione dell'individuo.

Parole chiave: Bronzo Finale, locale-globale, immagini e narrativa, culto del guerriero, gigantizzazione, santuario, culto, potere politico, controllo del metallo, rotte marittime occidentali

Introduction to the horned-helmet theme

The only extant horned metal helmets are those from Viksø, Denmark¹. This pair of twin helmets communicates to the onlooker an extraordinary agency, suggesting that their wearers wielded power, whether perceived as god, human, or something in between. The Viksø helmets are not entirely unique, however. Similar imagery is portrayed, in differing media and on differing scales, both within and outside Denmark. The present contribution concerns representations of horned-helmet creatures in the Late Bronze Age and the earliest Iron Age². This specific figure is usually associated with weapons and gear calling to mind the concept of the warrior's beauty³, but the meaning of the figure in several respects transcends this. The horned-helmet figure is not a standard representation of later Bronze Age warriorhood: other helmet types and human-like figures also occur. Rather, it conveys specific meanings, both local and overarching, that are challenging to unveil. The horned figure will be termed 'warrior' in what follows, even if this term is not entirely comprehensive, and our use of the term 'imagery/image'

¹ See Norling-Christensen 1943; 1946a; 1946b; Hencken 1971; Thrane 1975, 62–66.

² Different terminologies are in use for the same chronological interval. Early Iron Age (EIA) in the Mediterranean corresponds to Late Bronze Age (LBA) in central and northern Europe.

³ Treherne 1995.

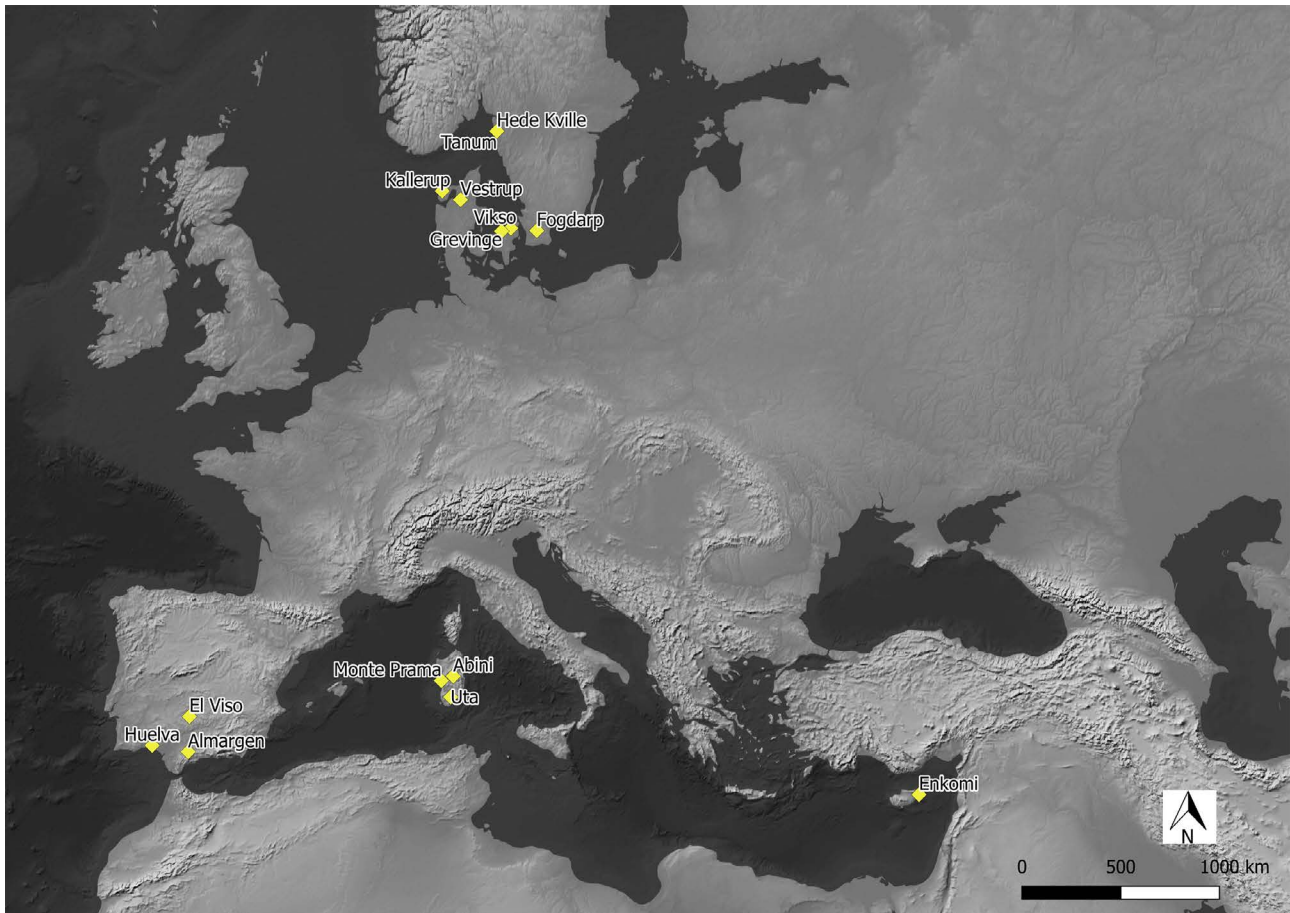


Fig. 1: The three geographical zones with horned-helmet representations analysed in this article: Sardinia, southwest Iberia, and southern Scandinavia, with selected key sites. The distinctly western European focus hints at connections between the western Mediterranean Sea, the Atlantic sea façade, and the Scandinavian part of the North Sea and inner waters. © V. Matta.

recognises a set of underlying ideas or situations. The geographical range of the figure reveals three zones – a southern zone in Sardinia and adjoining parts of Corsica, a middle zone in southwestern Iberia, and a northern zone in southern Scandinavia – thus highlighting three seas and potential movements over vast distances (Fig. 1). The horned warrior occurs in these three settings, but sparingly or not at all in the rest of Europe⁴ – except in the Near East and the east Mediterranean region, which boast a deep history of horned-helmet figures connected with divine rulership and with warfare at the time when the longstanding Bronze Age civilisation there was in rapid transition c. 1200 BC.

Three possible explanatory scenarios for the horns can be outlined: firstly, that they arose from autonomous local processes; secondly, that they were products of multidirectional culture flows in a phase of globalisa-

tion⁵; and thirdly, that they were the product of directional movements of goods and ideas as they were strategically appropriated by local culture and society. In the first two scenarios, the similarities between the figures are random and not directly connected, while in the third scenario, the interconnections are concrete and the result of planned movements.

If the figures are interlinked, their distinctly zone-specific occurrence may reveal relations between the Nordic Bronze Age, the Atlantic Bronze Age, and the West Mediterranean Bronze Age. This is not unlikely, as demonstrated by similar-style bronze objects present in parts of or across this huge area, with threads leading far into the east Mediterranean Sea: for example, Herzprung-type round shields, Carp's Tongue swords, swords of Monte Sa'Idda type, mirrors, Huelva-type elbow brooches, Atlantic type cauldrons, roasting spits and flesh hooks, British-type

⁴ Kristiansen 2014, 342–343.

⁵ Compare Appadurai 1996; Vandkilde 2016, 109–111.

socketed spearheads, and spearheads of Vénat type⁶. Furthermore, it has been suggested that copper from various ore provenances moved along these pathways⁷. Tin was a crucial travelling commodity, likely provided especially by Cornwall, an important hub from early on⁸.

Recent decades of research have strengthened the view that the Bronze Age was reliant on coveted metals traded in vast amounts and often long distance, hence connecting metal-rich tracts with regions poor in metals. Regular trade was made necessary by the unequal natural distribution of copper and, in particular, tin. The metals of gold, silver, and lead followed suit. Recent research has conceptualised this process, simultaneously local and global, as *bronzization*⁹. Other desirable commodities are known to have travelled far and wide, notably Baltic amber and Egyptian-Mesopotamian blue glass while exotic spices and cuisine culture have recently been added to the suite hence matching recent clear evidence of shared weighing technology from the east Mediterranean along the Atlantic façade as far as Britain and Scandinavia¹⁰. Such commodities were perhaps traded in return for or transported along with the metals. A shifting panoply of finished objects also travelled, notably weaponry and ceremonial drinking gear¹¹. Local production and the serial spread of material simulacra constitute a further layer of cultural exchange, if one that is generally less well understood. Several of the war-effective flanged-hilted swords of the later Bronze Age seem to be locally made, albeit they suggest an international style among a professional set of warriors¹². Similarly, large round shields in bronze appear in several variants¹³, and protective armour appears across Europe¹⁴. In other cases, objects present themselves as similar to an original in a manner that reveals leeway for local tradition and taste. Local Scandinavian emulations of Hajdúsámson-style metal-hilted swords and daggers were fashionable at an early stage of the Middle Bronze Age¹⁵. Beliefs tied to the sun-bird-ship motif likewise trav-

elled widely across Urnfield Europe, perhaps rooted in the Mediterranean post-Bronze Age world¹⁶. The overall picture suggests that raw materials, ready-mades, and religious ideas were able to travel long distance, while simultaneously demonstrating that there is a crucial level of local strategies to consider too.

Against this background, this article sets out to specify how similar the horned-helmet imagery is in material appearance, medium of presentation, and sociocultural context. What can be inferred about the chronology? Do these helmet figures spring from, or transmit, a shared idea at all? Why was the horned figure adapted into these three settings, but sparingly or not at all in others? The puzzling complexity surrounding these representations led us to perform the empirical comparative analysis presented below; and the results provide the scaffolding for a step-by-step discussion of the people and the processes behind the qualitative data patterns, at the local level as well as in the cross-linkages.

Research and debates: an overview

While previous studies have readily affirmed linkages between the imagery found on Sardinia and in southwestern Iberia, faraway southern Scandinavia is often mentioned only in passing¹⁷. Even though the research literature is vast, the relations between these three groups have not previously been investigated in a targeted manner to establish similarities and differences.

Although the Scandinavian horned-helmet representations stand out among the crowd of Nordic Bronze Age products, they are rather understudied as a group within a group: the Viksø helmets and the Grevensvænge figurines are often discussed with other similar representations within a universe of warriors and other figures¹⁸. In a recent fieldwork communiqué, Valentina Matta and colleagues¹⁹ acknowledged a relationship between the Sardinian and the Scandinavian imagery, drawing on Helle Vandkilde's reconsideration of the Viksø helmets²⁰. Close similarities between the rock carvings of Tanum,

⁶ Harrison 2004, figs 7,7; 7,10–11; 7,20; 7,23; 8,2–4; Kristiansen 1998, 77 figs 72–75; Cleary/Gibson 2019, fig. 4,19.

⁷ Ling *et al.* 2012; Ling *et al.* 2014; Ling *et al.* 2019; Melheim *et al.* 2018.

⁸ Berger *et al.* 2019; Vandkilde 2017, 142–175.

⁹ Vandkilde 2016.

¹⁰ Scott *et al.* 2021; Varberg *et al.* 2016. Ialongo *et al.* 2021; cf. Vandkilde 2021.

¹¹ For example Hansen 1995; Kristiansen 1998, 161–185; Thrane 1975.

¹² See Harding 2007; Jung *et al.* 2011; Kristiansen/Suchowska-Ducke 2015; Molloy 2010, 2018; Stockhammer 2004.

¹³ Uckelmann 2012.

¹⁴ Mödlinger 2015; 2017.

¹⁵ Sørensen 2012; Vandkilde 2014.

¹⁶ Kaul 1998, 277–284; Kossack 1954; Kristiansen/Larsson 2005, 306–319; Sprockhoff 1954.

¹⁷ For example Gonzalez 2018, 44–45; Norling-Christensen 1946a; 1946b; Thrane 1975; Vandkilde 2013.

¹⁸ Glob 1962, 1969; Kaul 1998; Norling-Christensen 1943; 1946a; Vandkilde 2013.

¹⁹ Matta *et al.* 2020.

²⁰ Vandkilde 2013.

Sweden, and the Iberian stelae have recently been noted²¹ while Alpine and Galician rock art may provide general matrix-like similarities that transcend these regions²². Richard J. Harrison²³ recognised only a structural similarity between the horned-helmet representations of the Iberian stelae, the Sardinian *bronzetti*, and the Monte Prama sculptures, also in Sardinia. He mentions the Viksø helmets fleetingly²⁴, but argues against their potential Atlantic-Mediterranean footing and connects them instead to Central European crested helmets and to an innate Scandinavian tradition of metalworking. In this respect, Harrison follows Henrik Thrane, who stated²⁵ that crested helmets have a wide distribution in Europe. It is indeed possible that the helmets from Viksø were locally made, or at least reworked to fit local styles²⁶.

Several studies deal with *either* the Sardinian *or* the Iberian depictions. Interrelationships are commented on now and again, recently by Ralph A. Gonzalez in a thorough study²⁷. With regard to Iberia, Harrison published most of the c. 140 Iberian stelae²⁸. He discussed the local context and provided a Mediterranean as well as Atlantic outlook. Several Spanish-language overviews and opinions also exist²⁹. In Sardinia, the Nuragic bronze statuettes (henceforth *bronzetti*) have been intensively studied and their production, function, and context discussed. Approximately five hundred *bronzetti* exist, among which mostly the Uta-Abini group interests us here³⁰. Supplementing this, the Monte Prama limestone giants are now also published³¹, although the site itself is still under excavation. It is now clear that horns in anthropomorphic and zoomorphic imagery have a deep ancestry, although it is accepted among researchers that Bronze Age versions often depict a cap or helmet to which the horns are attached, even in cases where this is not clear from the image, as on the Iberian stelae³².

Interpretations of the three geographical groups, separate or together, tend to follow parallel paths. In his

western Mediterranean opus, Gonzalez³³ pursues a generalised idea of intercultural communication increasing over time. Harrison concludes that a connection may have existed between the Iberian stelae and the hero cults emerging post-Bronze Age in Greece³⁴. Vandkilde³⁵ likewise has touched upon heroes and their cults against the background of Iron Age veneration of the Bronze Age past, traceable in Homer's epics and Hesiod's writings. There is a consensus that the Sardinian *bronzetti* were votive gifts offered at sanctuaries and were also connected with the sculptures at the Monte Prama *heroön* and with social change in Nuragic society post-1200/1100 BC³⁶.

Emerging political power³⁷ is a recurrent theme in the interpretations of the three groups, although social models based on tribal egalitarianism have also been advanced³⁸. Kristian Kristiansen and Thomas B. Larsson³⁹ associate bulls' horns attached to the head of male figures with divinities and sacred rulership; they find parallels for the Scandinavian cases in Cyprus (the Enkomi bronze statuette of a god or prince standing on top of an oxhide ingot) and in the ancient Near East (the Naram-Sin victory stela)⁴⁰. Marta Diaz-Guardamino with colleagues⁴¹ advocates landscape approaches, using contextual and biographical analyses of the Iberian warrior stelae to point to the importance of 'persistent place'. Such a localisation approach is the anchor of connectivity studies: the stelae as memorials and as markers of ritual activities and territorial boundaries, as well as their proximity to copper ore (Sierra Morena) and road infrastructures, all resonate with Kristiansen's views⁴². The present contribution now adds to all this a comparative analysis of horned-helmet representations in the three zones, in conjunction with a scalar perspective on analysis and interpretation. Unfolding the horned-helmet imagery may reveal essential characteristics of LBA Europe at the threshold to the Iron Age. The Scandinavian case, located farthest away and rarely considered, merits particular consideration.

21 Koch 2018; cf. Ling/Koch 2018.

22 Sansoni/Gavaldo 2015; Fredell *et al.* 2010.

23 Harrison 2004, 143–144.

24 Harrison 2004, 141.

25 Thrane 1975, see also Althin 1952, 382 ff.

26 Vandkilde 2013, 9; First results of a craft-technical investigation by H. Nørgaard indicate several phases in the design of the helmets (project in planning).

27 Gonzalez 2012; 2018.

28 Harrison 2004.

29 For example Barandiarán *et al.* 2017, 249–384; Pérez 2001.

30 Gonzalez 2012; 2018, 111–128; Lilliu 1966.

31 Bedini *et al.* 2012; Minoja/Usai 2014.

32 Brandherm 2008; Gonzalez 2012; Harrison 2004, 46. 143–144.

33 Gonzalez 2018.

34 Harrison 2004, 118–119; 176–177; compare also Pérez/López-Ruiz 2008, 485.

35 Vandkilde 2013.

36 Depalmas/Melis 2010, 171 Tab. 11,3; Lo Schiavo *et al.* 2009.

37 Cámara Serrano/Spanedda 2014; Diaz-Guardamino *et al.* 2019b; Diaz-Guardamino *et al.* 2019a; Ialongo 2013.

38 Gonzalez 2012; 2014; 2018, 349.

39 Kristiansen/Larsson 2005, 330–333.

40 See also Dikaios 1962; Schaeffer 1966; Thrane 1975.

41 Diaz-Guardamino *et al.* 2019b; Diaz-Guardamino *et al.* 2019a.

42 Kristiansen 1998, 157–160 figs 80–81.

Tab. 1. Outline of the chronology. Light grey denotes a first phase of motif exchange; dark grey denotes a phase of expansive motif transfer in tandem with ritual consolidation.

C. EUROPE	S. SCANDINAVIA	SW IBERIA	SARDINIA	GREECE	appr. BC	PHOENICIANS in the west
Ha C-D	NBA VI	EIA	EIA 2	Late Geometric-Archaic	750	
Ha B3	NBA V	FBA	EIA 1	Early-Middle Geometric	900	entrepôts
Ha B2	NBA IV/V		FBA 3	Proto-Geometric	1000	
Ha B1	NBA IV		FBA 2	Sub-Mycenaean	1100	westward trading
Ha A2	NBA III late	LBA	FBA 1	LH IIIC	1200	
Br D-Ha A1	NBA III		LBA 2	LH IIIB	1300	

Scandinavian horned-helmet imagery in outline

Apart from the two normal-sized helmets from Viksø (Sealand) and a horn from a similar helmet found in Grevinge (Sealand)⁴³, the Scandinavian repertoire of horned-helmet expressions consists of three sets of two figurines from Grevensvænge (Sealand)⁴⁴, Fogdarp (Scania)⁴⁵, and Kallerup (Thy, Jutland)⁴⁶. Additionally, there are a pair of figures on a razor (Vestrup Mark, Jutland)⁴⁷ and about forty images on rock in Bohuslän, western Sweden (SHFA)⁴⁸. In total, fifty horned-helmet images have been recorded for this study in southern Scandinavia, either made in bronze or carved on rock, mostly the latter (Tab. 2). The motif favours iconically represented horned twin warriors.

Weaponry (especially oversized battle-axes with a distinctly splayed blade) and the horse-drawn ship are mandatory ingredients in the archetypal theme of the horned warrior twins. Variations are especially visible on the rock-carved scenes: a sheathed sword is obligatory, battle-axe, round shield, and spear are commonly depicted, and archery is sometimes present. The twin warrior figures are presented alone or, more rarely, among a group of warriors. Special females are affiliated and portrayed as powerful sacred beings (with large gold eyes, accentuated calf muscles), kneeling or shown as acrobats jumping the

length of a ship, or otherwise engaged, for example, in scenes of *hieros gamos*⁴⁹. The oversized standing figure behind the twins on the Vestrup Mark razor is probably a woman⁵⁰. The association of these various figures with the night and day of the solar cycle is evident⁵¹. The entire ensemble was apparently attached to a wooden ship model with the stallions at the ship's bows⁵².

Importantly, similar horns also occur attached to snakes and horses (in the Fårdal setup of figurines at Viborg, Jutland, for example) and to horse-headed gold bowls. Similarly, the blowing horns or lurs, always in doubles, can essentially be perceived as a parallel way of portraying the horned twins, who are in fact sometimes depicted playing the lur⁵³. These representations multiply the actual number of horned creatures, evidently sharing in a context of sacredness. In many cases, just the paraphernalia of the twins occurs as an offering or imaging, with the rest of the assemblage likely implied, as *pars pro toto*⁵⁴.

Comparing chronology: coinciding trends towards politico-religious power (Tab. 1)

The chronology may possibly be less secure than sometimes claimed⁵⁵, and details are therefore debated⁵⁶. Much knowledge is still based on typo-stylistic series and assem-

⁴³ Norling-Christensen 1943; 1946a.

⁴⁴ For example Djupedal/Broholm 1953; Glob 1962; Thrane 1999.

⁴⁵ Larsson 1974; 2017.

⁴⁶ Photos of the Kallerup figurines are available on the website of Thy Museum. The website also describes basic find circumstances <http://museumthy.dk/nyheder/kallerupfundet.aspx>; <http://museumthy.dk/nyheder/kallerupfundet-paa-top-10.aspx>.

⁴⁷ Ahlqvist 2020b; Bradley 2006.

⁴⁸ Ling/Bertilsson 1994. <https://www.shfa.se/>

⁴⁹ Kristiansen/Larsson 2005, figs 106; 160; 163.

⁵⁰ Ahlqvist 2020b.

⁵¹ Kaul 1998, 2004.

⁵² Glob 1962.

⁵³ Kristiansen/Larsson 2005, 318.

⁵⁴ Fontijn 2020, 123 fig. 6,2; Kaul 2004.

⁵⁵ See for example Harrison 2004, 13.

⁵⁶ Brandherm 2008.

blage combinations; ^{14}C ranges might be more robust. This applies, to differing degrees, to all three regions. Current knowledge nonetheless allows a number of chronological observations.

Scandinavia

The Scandinavian horned-helmet figures date to the Late Nordic Bronze Age, NBA IV–V. Each period is distinct regarding style and object types, albeit ^{14}C indicates a degree of overlap. The combined range of NBA IV and NBA V is 1100–750 BC, as demonstrated by good radiocarbon coverage among burials that have otherwise been dated typologically to one of these periods⁵⁷. NBA IV, then, covers c. 1100–900 BC, and NBA V c. 900–750 BC. A period of transition 1000–900 BC should nonetheless be inserted⁵⁸. Most horned-helmet figures in bronze belong typologically to NBA V, as especially made clear by the markedly splayed cutting edge and the sometimes rolled-edge corners of the large shafthole-axes.

The Vestrup Mark razor (cf. Fig. 3) with two horned warriors is often dated stylistically to NBA IV⁵⁹, but the axes the warriors wield and the wavy snake-horse seem transitional to NBA V c. 1000–900 BC. Finally, in the Tanum rock art area, most images with horned figures are associated with NBA V ships, in accordance with Ling's ship typo-chronology⁶⁰. An exception is the horned figures near an NBA IV ship at Bro Utmark 3 (SHFA)⁶¹. Horned figures on rock often carry round shields of Herzsprung type, or derivatives very similar to the pile of boss-decorated shields at Fröslunda, near Lake Vänarn, Sweden, which have a ^{14}C date around 800 BC⁶².

Organic material from inside the horns of one of the Viksø helmets (B13552) was recently radiocarbon dated. The 20mg sample (laboratory sample identifier: MAMS-42233) was pre-treated by the ABA-method (Acid/Base/Acid) using washes of HCl, NaOH and again HCl in order to remove contaminations caused by carbonates and humic acids. The remaining sample material was combusted in an elemental analyser and reduced to graphite using a commercially available graphitisation system (IonPlus, AGE3). Radiocarbon determination was performed at CEZA (Mannheim, Germany) using a MICADAS-type accel-

erator mass spectrometer (AMS)⁶³. During measurement, the isotopic ratios of $^{14}\text{C}/^{12}\text{C}$ and $^{13}\text{C}/^{12}\text{C}$ from the sample, standards (Oxalsäure-II), blanks (phthalic acid) and control-standards (various IAEA standards) were measured. The dating results are reported as conventional ^{14}C dates, normalising to the standard delta- ^{13}C value⁶⁴ of -25‰ . The ^{14}C age of the organic remains inside the horn of helmet B13552 (years before present, i. e. 1950) was measured to 2791 \pm 21 years BP, which results in possible calibrated calendar date ranges from 1006–857 BC (with 95,4 % probability) and 976–907 BC (with 68.2 % probability), respectively. The *terminus ante quem* for the helmet's use before deposition is therefore 857–907 BC. Compared to the radiocarbon dates from cremated bones used by Jesper Olsen and colleagues⁶⁵ (who defined the phase transition from period IV to V) the Viksø helmets should be placed at the end of NBA IV – or, more precisely, within the transition period to NBA V (Fig. 2).

In summary regarding the Scandinavian chronology: Most of the horned-helmet imagery of this region dates to traditional NBA V, 900–750 BC. However, an onset c. 1000 BC in late NBA IV is likely now supported by the AMS date of the Viksø helmet. A further factor is that the Nordic horned-helmet imagery coincides with most of the region's rich hoard depositions and rock art images, and also with the emergence of what we may term sanctuaries: in this case, open-air sacred places with institutionalised cults serving a larger area. The NBA V metalwork is distinguished by emblematic traits that can probably be interpreted as the brand of a new social regime backed by a mixture of political and religious power⁶⁶.

Sardinia

Following Gonzalez⁶⁷, the Uta-Abini group of *bronzetti* were produced 1200–950 BC and their deposition at sanctuaries probably extended beyond 950 BC into the EIA. This first *bronzetti* tradition was succeeded by the so-called Mediterranean group, 950–750 BC, which shows much less attention to warriorhood, while the horned-helmet figure disappears. There are few, if any, ^{14}C dates to rely on. The head of a horned-helmet archer was found in a LBA twelfth/eleventh-century BC stratum at Funtana Cob-

57 Olsen *et al.* 2011; Vandkilde *et al.* 1996.

58 Olsen *et al.* 2011, 268.

59 For example Ahlqvist 2020b.

60 Ling 2008, 99–105, fig. 7,35.

61 Ling/Bertilsson 1994. <https://www.shfa.se/>

62 Hagberg 1988; Larsson 2011.

63 Kromer *et al.* 2013.

64 Based on Stuiver/Polach, 1977

65 Olsen *et al.* 2011.

66 Ahlqvist 2020a; Ahlqvist/Vandkilde 2018; Kristiansen 1998.

67 Gonzalez 2012, 2018.

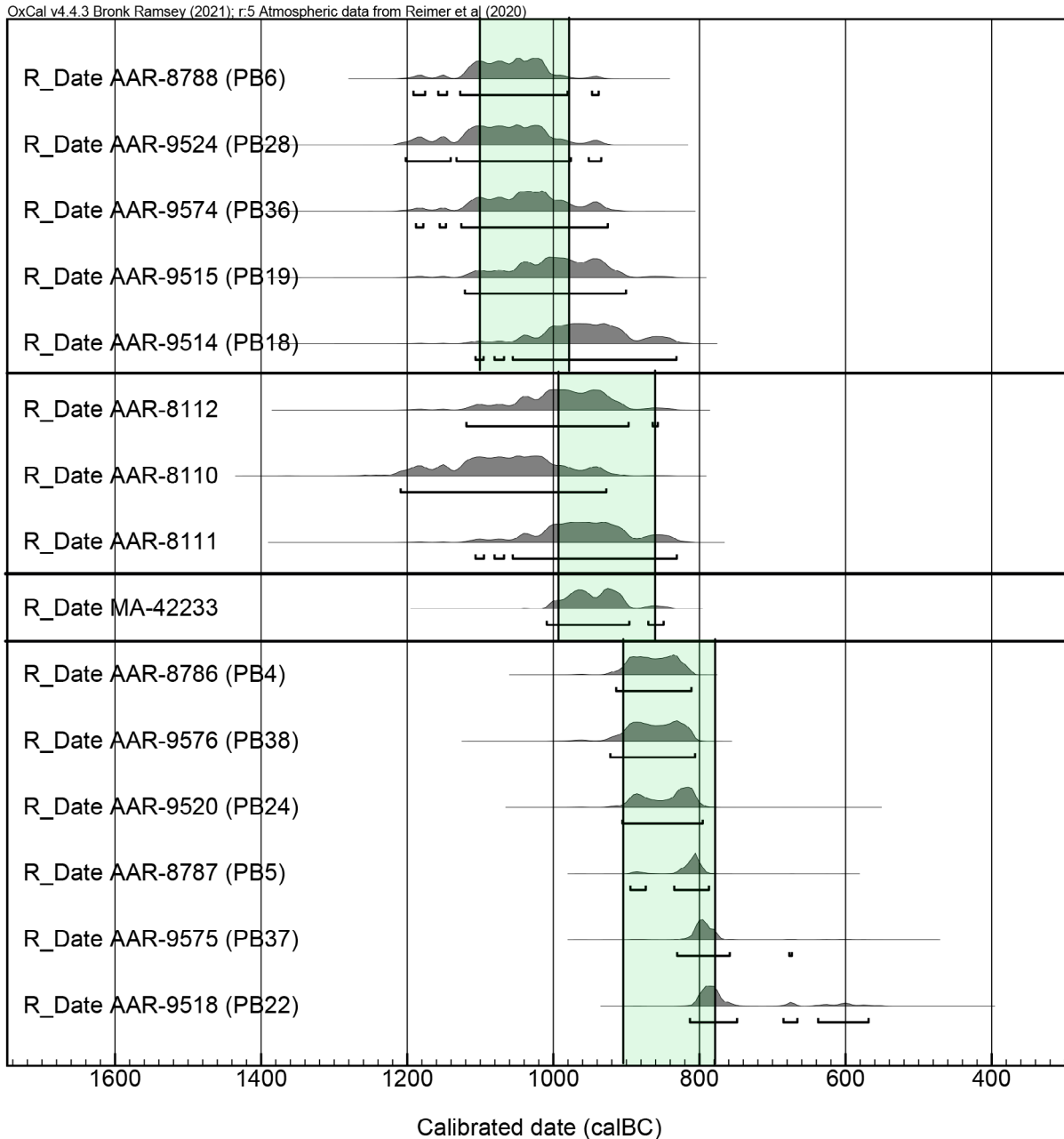


Fig. 2: Probability distribution of dating for the Viksø helmet (B13552) compared to radiocarbon ranges for bone and cremated bone from burial assemblages (Olsen *et al.* 2011) typologically dated to NBA IV and NBA V. The modelled multiple plot shows NBA IV as distinct from NBA V, but separated by the transition period also identified by Olsen *et al.* 2011. Horizontal black lines indicate the identified periods: NBA IV is presented by the ^{14}C dates of samples AAR-8788 to AAR-9514, while the transition period NBA IV/V is presented by the ^{14}C dates from samples AAR-8112 to AAR-8111. Here the Viksø helmet's AMS date shows the best fit. NBA V is presented by ^{14}C dates from samples AAR-8786 to AAR-9518. Calibration was performed using the IntCal13 dataset (Reimer *et al.* 2013) and software OxCal 4.2 (Bronk Ramsey 1995).

erta-Ballao⁶⁸. Gear affiliated with the Uta-Abini *bronzetti* supports the suggested date, and the gamma-hilted dagger, pistilliform sword, votive sword, and so-called Philistine crown support the LBA–FBA dating of the Uta-Abini group,

which in its early appearance seems similar to so-called ‘Sherden warriors’ at Medinet Habu, Egypt, dated to 1176 BC⁶⁹. Statue menhirs erected at south Corsican sanctuaries belong in the same category, even if such Bronze Age

⁶⁸ Gonzalez 2012, 89; Manunza 2008, 250–257.

⁶⁹ Gonzalez 2012, 90; 102; Jung 2009.

menhirs are peculiar to Corsica. In a limited number of the Corsican cases, notably at Filitosa and Cauria, horns seem to have been attached to a cavity on each side of the stone warrior's head/helmet, often dated c. 1300–1100 BC and sometimes coupled to Sardinian warriors⁷⁰.

The so-called 'Round-Eye Artist' is particularly associated with the giant Monte Prama sculptures of warrior archetypes. The Uta-Abini *bronzetti*, especially those made by the Round-Eye Artist, can plausibly be regarded, following Gonzalez⁷¹, as the prototypes of the Monte Prama sculptures, a development that can be dated to the ninth/eighth centuries BC because the cist burials beneath were constructed 941–838 cal. BC (sampled on bone and other materials)⁷². Sardinian *bronzetti* of the Uta-Abini type occasionally occur outside the island of Sardinia on the Italian mainland in tombs, for instance at Vulci c. 800 BC⁷³.

In summary, regarding the Sardinian chronology: The horned-helmet figure materialises prominently among the *bronzetti* 1200–750 BC; from c. 900 BC, it is additionally made in stone. The sequence of horned-helmet representations is consistent with long-term changes beginning c. 1200 BC as the Nuragic culture entered its final stage. The precise development is debatable, but may be described as follows: An altered demography and trends towards centralisation seem to be indicated and these trends may be visible in the now fewer and often enlarged Nuraghe settlements that commemorate the central Nuraghe towers as ancestral⁷⁴. These hubs seem intricately connected with the central sanctuaries that were on the rise during this period, when Sardinia emerges as a crossroads for metal production and trade in the greater Mediterranean between the Levantine east and the Balearic and Iberian west. At the end of the ninth century BC, Sardinia saw the first Phoenician entrepôts; these had been preceded by Levantine (Philistine or early Phoenician) quests for silver as early as 1100 BC⁷⁵.

Iberia

The Iberian stone stelae form a long chronological line. The question that interests us here is the chronological position of the horned-helmet figure occurring on some

of the warrior stelae. Differing interpretations⁷⁶ may be attributable to difficulties posed by matching the gear on the images with extant object types. Additionally, object assemblages like that at Ría de Huelva include early as well as later types, with quite a wide ¹⁴C range between 1100 and 900 BC⁷⁷. Herzprung and other round-shield types, also depicted on the stelae, have a long production and circulation time, beginning c. 1250/1200 BC and continuing post-900 BC⁷⁸.

There is a consensus on major developments here, including placing anthropomorphic stelae in the later part of the sequence: the first stelae only depict the warrior's gear, but over time the warrior himself is allowed into the scene and gradually grows in size and centrality. Following Diaz-Guardamino and colleagues⁷⁹, warrior stelae groups A, B and B+O develop simultaneously during the twelfth to tenth centuries BC; but only group A, with human figures depicted together with weaponry and accessories, continues into the ninth to eighth centuries BC (EIA). This approximate range is supported by a few stratified finds on stelae, and by ¹⁴C sequences of mortuary monuments at sites with stelae (i. e. not directly by the stelae). A Huelva-type sword (1130–1050 BC) was also found near the anthropomorphic warrior stela at Almargen⁸⁰. Within the total span of 1250/1200–750 BC, Harrison considers horned figures to be a historically late development. Dirk Brandherm⁸¹ likewise argues that the stelae with human figures, some of them horned, represent the final stage of Iberian stelae; based on object chronologies, he states that horned headgear was added to the repertoire no later than the end of the eleventh century BC. By comparison, Sebastián C. Pérez and Carolina López-Ruiz⁸² favour the ninth to eighth century BC for several of the anthropomorphic stelae with horned-helmet warriors, basing this on a number of new-found stelae with secure context⁸³. Bronze figurines in Iberia are a very late phenomenon 800–500 BC, 'oriental' in style and lacking horns⁸⁴.

In summary, regarding the Iberian chronology: Stelae with horned-helmet warriors are specific to southwestern Iberia. The first stelae with horned-helmet images may have appeared around 1200/1100 BC, but continued in

⁷⁰ Gonzalez 2012, 100–102; 2018, 276; 284–290; Leandri *et al.* 2015 (refers only to the Medinet Habu relief).

⁷¹ Gonzalez 2012, 95–96.

⁷² Lai *et al.* 2014; Tronchetti 2014; Usai 2015, 110.

⁷³ Gonzalez 2012, 98.

⁷⁴ For example Perra 2017; Ugas 2014; Usai 2015.

⁷⁵ For example Bartoloni 2017, 33; Ben-Yosef 2019.

⁷⁶ Brandherm 2008 versus Pérez/López-Ruiz 2008.

⁷⁷ Diaz-Guardamino 2019b, 13–14 fig. 8; Harrison 2004, 14.

⁷⁸ Harrison 2004, 124–134; Uckelmann 2012.

⁷⁹ Diaz-Guardamino *et al.* 2019b, 12.

⁸⁰ Diaz-Guardamino *et al.* 2019b; Diaz-Guardamino *et al.* 2019a.

⁸¹ Brandherm 2008, 482.

⁸² Pérez/López-Ruiz 2008.

⁸³ See also Murillo-Redondo *et al.* 2005.

⁸⁴ Gonzalez 2018, 259–261.

production and use until c. 800–750 BC. Importantly, the sequence coincides with the emergence both of what might be seen as political landscapes in the region and intensified metal-led activities, these last in part tied to Phoenician activities from 1000 BC. Notably, the anthropomorphic warrior stelae of group A occur distributed on either side of the ore-rich Sierra Morena mountain range. Some sites with stelae boast stone hammers, for metal crushing, as well as slags⁸⁵.

Comparative chronology according to current knowledge

Contemporaneity can be observed between the dates of horned-helmet representations in Scandinavia (1000–750 BC), Iberia (1200/1100–750 BC), and Sardinia (1200–750 BC). The appearance and evolution of these representations are contingent on societal change and, arguably, rising political forms of power in all three zones. From 1200/1100 BC, the focus of metal-trading had started moving westward in the Mediterranean Sea, highlighting Sardinia and the Iberian southwest, two zones that are naturally rich in metals. Scandinavia by comparison was completely dependent on imported copper.

In all three zones, the horned-helmet motif was long-lived, probably with shifting meanings over time but with the 900–750 BC period especially formative. When considering this motif, current chronological data suggests that Sardinia and Iberia were especially connected 1200–1100 BC at the transition to the FBA and onwards. The Scandinavian zone was a latecomer, perhaps joining the network 1000 BC at the earliest, then more substantially from c. 900 BC. At the time Monte Prama was built, the Phoenicians were consolidating their silver-led trading activities by establishing entrepôts throughout the western Mediterranean, with the Atlantic metal trade blooming correspondingly⁸⁶. This is the period when Scandinavian and Sardinian imagery in particular show similarity.

⁸⁵ Diaz-Guardamino *et al.* 2019b, fig. 9; Diaz-Guardamino *et al.* 2019a, fig. 16.

⁸⁶ Cleary/Gibson 2019, 105–109 fig. 4,19; Kristiansen 1998, 144–160, fig. 63.

Comparing appearances and media of representation

The comparative analysis rests on a semi-quantitative analysis of the figurative components in the three zones, including details of helmets, horns, and immediate surroundings. In total, 31 major figurative traits have been identified (Fig. 3, Tab. 2). These results are discussed and contextualised below through detailed qualitative comparison. Central features in the three zones have been evaluated in search of a shared or even systemic structure or carrying idea, as well as local foundations. Key aspects of the material appearance of the horned-helmet imagery, as well as its associations and the medium of representation, serve as a platform for further explorations into the characteristics and their associations.

Semi-quantitative analysis and result

The analytic procedure followed seeks to bring to the fore similarity and difference for the major figurative traits in all three geographical zones. Component variables comprise, first, material appearance – horns and helmet details, rendering of eyes, oversizing, twinness, phallic state, fellowships (groups), narratives/archetypes, weaponry, vehicles, animals/hybrids. Component variables also comprise, second, the media of representation – bronze figurines, stone sculpture, and images on stelae and rock. A simple quantitative scoring has been combined with observations stating whether a particular trait is absent (0) or recorded as merely present (1), well-known (2), or dominant (3). While this may lack absolute precision, it provides a visual overview of degrees of similarities and difference when comparing the three zones pairwise (Fig. 4A-C). Thereby, we gain insight into local as well as shared characteristics. It should be noted that the chosen medium of representation influences how horns, eyes, and warrior height are technically mediated by the artist to the onlooker. Thus stone and bronze are opposed from the outset. Some *systemic traits* are shared across the regions, notably oversize in whole bodies, body parts, and in weapons. A further systemic shared feature is that horned-helmet warriors seemingly form part of a community and a narrative, and that the horned-helmet warrior is represented as the central actor in this narrative. Various weapons, vehicles, and animals appear across the zones, with local preferences. Sword and round shield, however, are fully shared.

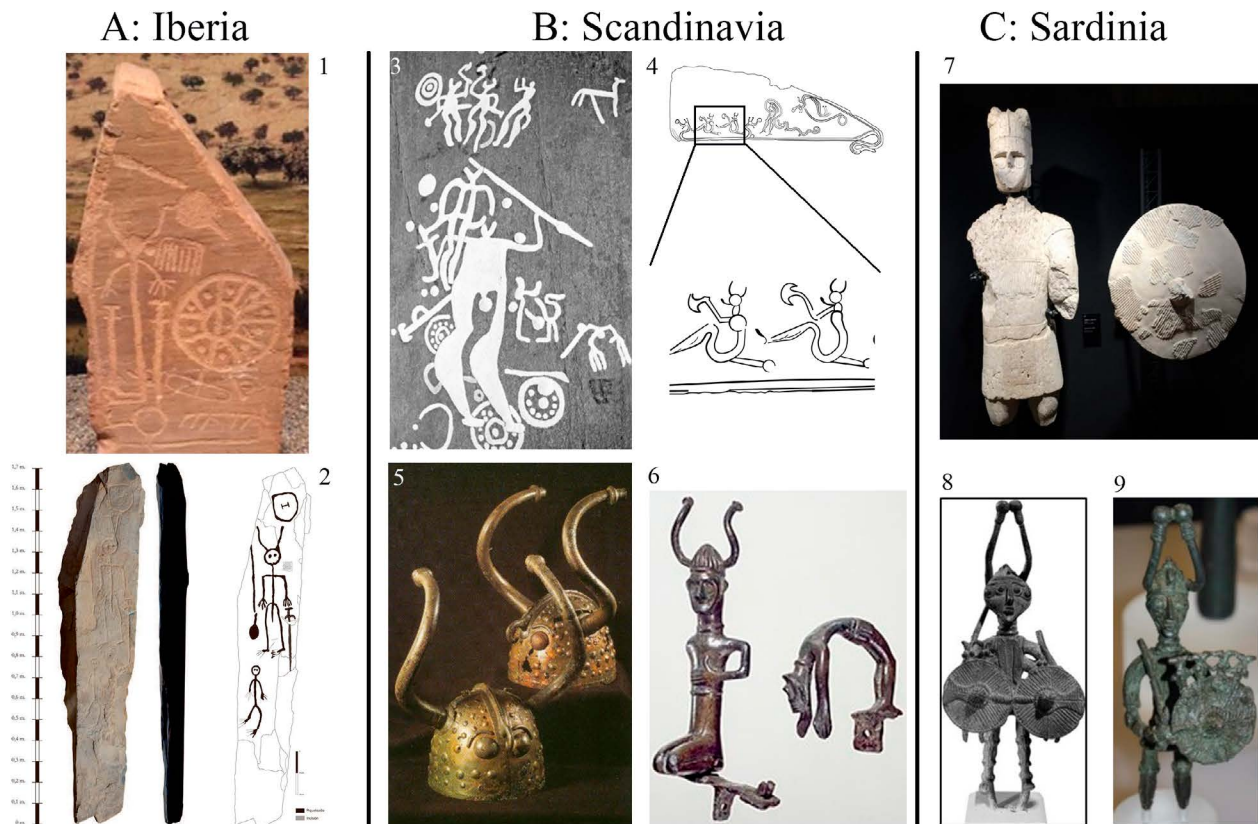


Fig. 3: Collage of horned-helmet presentations. **A. Iberia:** 1. El Viso I, Cordoba, H. 121 cm (H. Vandkilde photo, Museo Arqueológico Nacional, Madrid), 2. Esparragosa de Lares, Badajoz, H. 176 cm (Pavón Soldevilla/Duque Espino 2010, Fig. 4); **B. Scandinavia:** 3. Lövsåsen Tanum SHFA id 164 (Ling/Bertilsson 1994), 4. Vestrup Mark razor with miniature image of the twins and female (after Ahlqvist 2020b, fig.10), 5. Viksø helmets, Sealand (courtesy of the National Museum of Denmark, picture: Lennart Larsen under a CC BY-SA 4.0 license), 6. two preserved statuettes from Grevensvænge, Sealand, horned twin and female acrobat, probably originally attached to a wooden model ship (courtesy of the National Museum of Denmark, picture: Lennart Larsen under a CC BY-SA 4.0 license); **C. Sardinia:** 7. Sculpted horned-helmet warrior from Monte Prama, originally c. 2 m tall, horns removed in antiquity (H. Vandkilde photo, Museo Archeologico Nazionale di Cagliari), 8–9. *Bronzetti* made by the so-called Round-Eye Artist of the Uta-Abini tradition (Lilliu 1966). Not to scale.

Scandinavia and Sardinia (Fig. 4A) share miniature figurines in bronze as well as large figures made in/on stone. The way in which helmets and horns are represented is also similar. There are, furthermore, close similarities in how eyes are rendered as round and protruding, or drawn as a circle with a central circle or dot. The eye is often shown inside a recess in the face. Both areas have a preference for animal-headed ships. Among the 31 traits, 15 compare as dominant or present/well-known in both areas.

Scandinavia and Iberia (Fig. 4B) share horned-helmet figures on stelae/rock, with notable similarity in how the horns are shown standing upright and turned. Other helmet types occur in the vicinity of the horned-helmet figure. Furthermore, horned-helmet figures occur mostly/often as pairs (conceptualising the twin motif), and the spear, together with horse (chariot), is a favourite. Among the 31 traits, 12 compare as dominant or present/well-known in both areas.

Sardinia and Iberia (Fig. 4C) mostly share overarching features that glue all three zones together. Archery is a favourite in both zones. In this case, the analytic outcome has been impacted by the lack of bronze miniatures in Iberia and lack of stelae in Bronze Age Sardinia⁸⁷. Among the 31 traits, nine compare as dominant or present/well-known in both areas.

The analytic result demonstrates patterned similarity and difference between the three zones with horned-helmet imagery. Observed interrelationships are visualised as a network (Fig. 4D), serving to examine the degree of connectivity between the three zones' imagery. It is evident that the similarity between Scandinavia and Sardinia is,

⁸⁷ Chalcolithic menhirs depicting horned headdress and weapons are well known <https://www.menhirmuseum.it/fine-del-mondo-dei-megaliti>.

Tab. 2. A. Overview of data collected for the purpose of this article. B. Selected empirical traits.

A			
HORNED-HELMET FIGURES	min. number of H-H figures	Remarks about H-H background	Key references
Scandinavia (S 40)			Kaul 1998, 2004, 2005; Kristiansen & Larsson 2005
Viksö helmets	2 (3)	no other metal helmets (however one horn from Grevinge)	Norling-Christensen 1946; Vandkilde 2013
Vestrup Mark razor	2	several non-anthropomorphic pictorial razors from (male) cremations	Bradley 2006; Ahlqvist 2020b
Figurine anthropomorphs	6	5–10 other-type anthropomorphs (often decontextualised)	Glob 1962; http://museumthy.dk/nyheder/kallerupfundet.aspx
Rock-carved figures Tanum	39	several anthropomorphic images on rock	Ling 2008; SHFA – Svenskt HällristningsForskningsarkiv
Sardinia (S 107)			Lilliu 1966
Uta Abini bronzetti with horns	95	c.200 Uta Abini-type figurines in total	Gonzalez 2012, 2018;
Monte Prama	12	29 warriors/males aligned	Bedini et al. 2012; Minoja et al. 2015
Iberia (S 41)			http://www.estelasdecoradas.es/paginas/que_son.htm
Horned-helmet warriors on stelae	41	140 stelae recorded of all variants (A,B, B+O)	Harrison 2004; Diaz-Guardamino 2014, 2019a-b; Gonzalez 2018
B			
HORNED-HELMET FIGURES	transport vehicles	population & gender	therianthropic/zoomorphic
Scandinavia	ship, horse, chariot	warriors, females, unspecified others	common/common
Sardinia	ship (navicelle)	warriors, multiple gendered identities, roles, situations	exist/common
Iberia	cart, horse, chariot	warriors, females, unspecified others	rare/common

overall, strong. However, the Scandinavian rock carvings share common features especially with the Iberian stelae. Below, the matrix expressed in Figure 4 is elaborated by an in-depth comparative analysis contextualising the observations. A scalar dialectic has been revealed, which calls for further analysis and explanation.

Horned-helmet warriors among other archetypes in an ideal community

In all three zones, the distinct appearance of the horned-helmet warriors communicates exclusivity, above all through the horns, but also through other traits. The appar-

ent gender of our figure is male, as expressed sometimes by phallic imagery (i. e. intersecting with biological sex) as well as by associated material culture depicted alongside the anthropomorphs on stelae and rock panels. Within and across the zones, the horned-helmet figures refer not only to one another, but also to a wider community.

The 40 Scandinavian horned-helmet warriors reside within a wider community of anthropomorphic figures, both in bronze and on rock, including other males without horned insignia, females, and smaller, more ordinary-looking figures – all affiliated with the perpetual nature of the solar cycle indicated by circular imagery. A specific corpus of weapons, symbols, and vehicles is added.

Similarly, in Iberia, 41 horned-helmet figures are identifiable on warrior stelae in a total record of 140 stelae so far. In addition to horned-helmet warriors, the anthro-

COMPONENT VARIABLES	Scandinavia	Sardinia
1 upright standing horns	3	3
2 flat horns close to head	2	2
3 turned horns	3	3
4 horns with end knobs	2	2
5 horned helmet with crest	1	3
6 other helmet types	2	2
7 centrality of horned-helmet figure	3	3
8 protruding round eye or recessed circular eye with centr	3	3
9 figurines in bronze	2	3
10 image on stelae or rock	3	0
11 sculptured warriors	0	2
12 oversized figures	2	2
13 oversized body parts and/or weaponry	3	3
14 twins	3	1
15 warrior fellowships	1	2
16 phallic warriors	2	0
17 narrative involving archetypes	3	3
18 sword	3	3
19 roundshield	2	3
20 spear	2	1
21 battle-axe	3	0
22 dagger	0	3
23 archery	1	3
24 cart/chariot	1	1
25 ship/boat	3	2
26 body grooming tools	0	0
27 horse	3	0
28 dog	1	1
29 deer/ram/cattle	1	3
30 armour/leggings	0	3
31 therianthrope hybrids in vicinity	3	1

COMPONENT VARIABLES	Sardinia	Iberia
1 upright standing horns	3	3
2 flat horns close to head	2	0
3 turned horns	3	3
4 horns with end knobs	2	1
5 horned helmet with crest	3	0
6 other helmet types	2	3
7 centrality of horned-helmet figure	3	3
8 protruding round eye or recessed circular eye with centr	3	0
9 figurines in bronze	3	0
10 image on stelae or rock	0	3
11 sculptured warriors	2	0
12 oversized figures	2	1
13 oversized body parts and/or weaponry	3	2
14 twins	1	2
15 warrior fellowships	2	1
16 phallic warriors	0	1
17 narrative involving archetypes	3	2
18 sword	3	3
19 roundshield	3	3
20 spear	1	3
21 battle-axe	0	0
22 dagger	3	1
23 archery	3	3
24 cart/chariot	1	3
25 ship/boat	2	0
26 body grooming tools	0	3
27 horse	0	3
28 dog	1	2
29 deer/ram/cattle	3	1
30 armour/leggings	3	1
31 therianthrope hybrids in vicinity	1	0

COMPONENT VARIABLES	Scandinavia	Iberia
1 upright standing horns	3	3
2 flat horns close to head	2	0
3 turned horns	3	3
4 horns with end knobs	2	1
5 horned helmet with crest	1	0
6 other helmet types	2	3
7 centrality of horned-helmet figure	3	3
8 protruding round eye or recessed circular eye with cent	3	0
9 figurines in bronze	2	0
10 image on stelae or rock	3	3
11 sculptured warriors	0	0
12 oversized figures	2	1
13 oversized body parts and/or weaponry	3	2
14 twins	3	2
15 warrior fellowships	1	1
16 phallic warriors	2	1
17 narrative involving archetypes	3	2
18 sword	3	3
19 roundshield	2	3
20 spear	2	3
21 battle-axe	3	0
22 dagger	0	1
23 archery	1	3
24 cart/chariot	1	3
25 ship/boat	3	0
26 body grooming tools	0	3
27 horse	3	3
28 dog	1	2
29 deer/ram/cattle	1	1
30 armour/leggings	0	1
31 therianthrope hybrids in vicinity	3	0

Fig. 4A–C: Cross-zone comparison between horned-helmet imagery employing semi-quantitative scoring of 31 component variables in the three zones: Variable absent 0, variable present 1, variable well-known 2, and variable dominant 3. The matrix of similarity and difference is visualised through colours. Yellow shows consistent systemic traits shared by all three zones; blue shows distinct features shared between Scandinavia and Sardinia (A), between Scandinavia and Iberia (B), and between Sardinia and Iberia (C) respectively.

pomorphic group of stelae includes warriors wearing a crested or pointed conical helmet (sometimes combined on the same stela with the horned individual highlighted) in addition to smaller, anonymous-looking figures, including children and (it is assumed) women wearing a diadem or crown headdress. Like the Scandinavian figurines and rock carvings, some of the Iberian scenes appear as a narrative⁸⁸. Both zones depict the horns in the same manner,

and from the scenes depicted it also appears that horned figures occur as the central and dominant component and that they are sometimes staged within a well-known narrative, a repetitive prescribed scheme.

In Sardinia, of the 200 Uta-Abini anthropomorphic figurines, about half are warriors, most of whom wear horned helmets⁸⁹. To these can be added 12 warriors/archers with horned headgear among the Monte Prama

⁸⁸ Harrison 2004: 57–58; Ledesma 2007.

⁸⁹ Gonzalez 2012, 86.

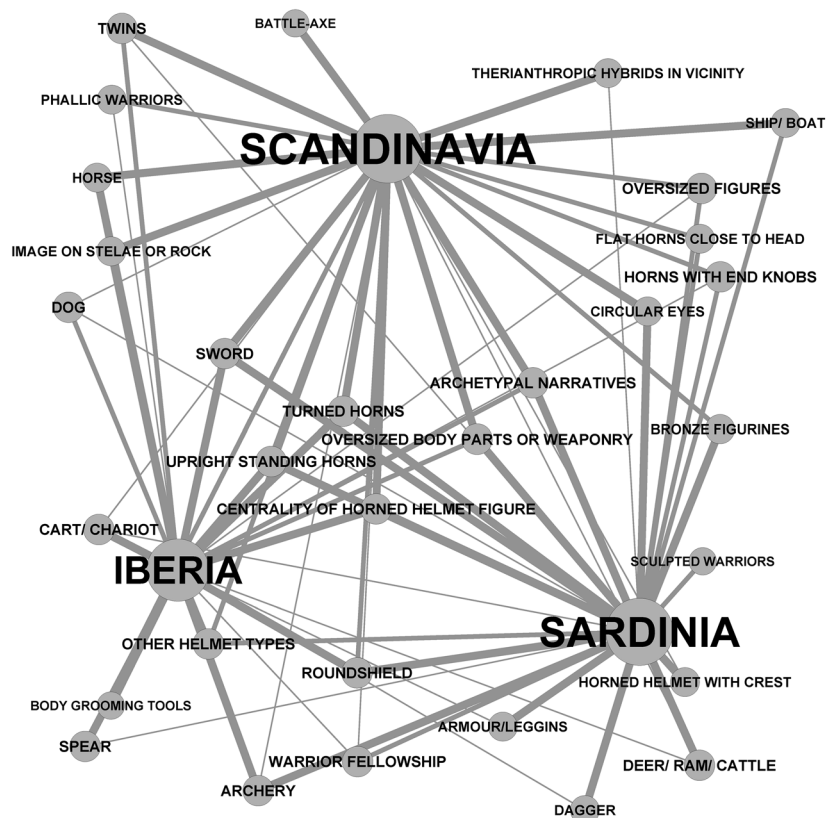


Fig. 4D: Degree of connectivity of the variables presented in Figs. 4A–C. Network Analysis (NA) is a useful tool for visualising common traits among the three regions at distinct levels. In the NA diagram, the elements common to all three areas are located in the centre of the network, while the less common, or variables shared by only two of the three regions, are located at the periphery of the network. The intensity of the connections is expressed through different shades of grey. Darker (thicker) lines indicate strong connections or shared elements, whereas lighter (thinner) lines means few elements in common, i. e. weak ties. The software used for the NA is Gephi (Force Atlas the algorithm).

crowd of 29 males, accompanied by 16 Nuraghe models of limestone⁹⁰. The *bronzetti* in particular represent a rich world of several archetypal identities, signified through specific material appearances – female and male genders, children, and subdivisions of warrior males – along with a standard panoply of objects and vehicles for transport. Monte Prama, by comparison, depicts a world of *exclusively male* archetypes, already known *en miniature* in bronze, and all of them participants in one or several interrelated narratives.

Although the number of horned representations per region differs, with the largest number of specimens in Sardinia (Tab. 2), it is striking that in all three zones, the horned-helmet warriors stand out within a population of female or male companions. Both locally within each zone and transversely across them, the horns signify the potency of the helmet wearer, the quintessential warrior.

In addition, there are vehicles for transport, chariots or ships, various kinds of gear for war, and several species of animals. Altogether, it seems we are presented with an ideal society composed of archetypes⁹¹. Both within and across zones, the horned-helmet figures refer not only to each other, but also to a community of human-like and animal beings, as well as a familiar panoply of objects. The Sardinian community is the most complex and varied of the three cases of an archetypal narrative.

Helmets, weaponry, and other items

In the medium of bronze, helmet appearance is strikingly similar in Sardinia and Scandinavia, with a similar variation range in terms of length, turn, and the position of the horns on the helmet. Frequently occurring are short,

⁹⁰ Gonzalez 2018, 133.

⁹¹ For example Gonzalez 2012; Ialongo 2013.

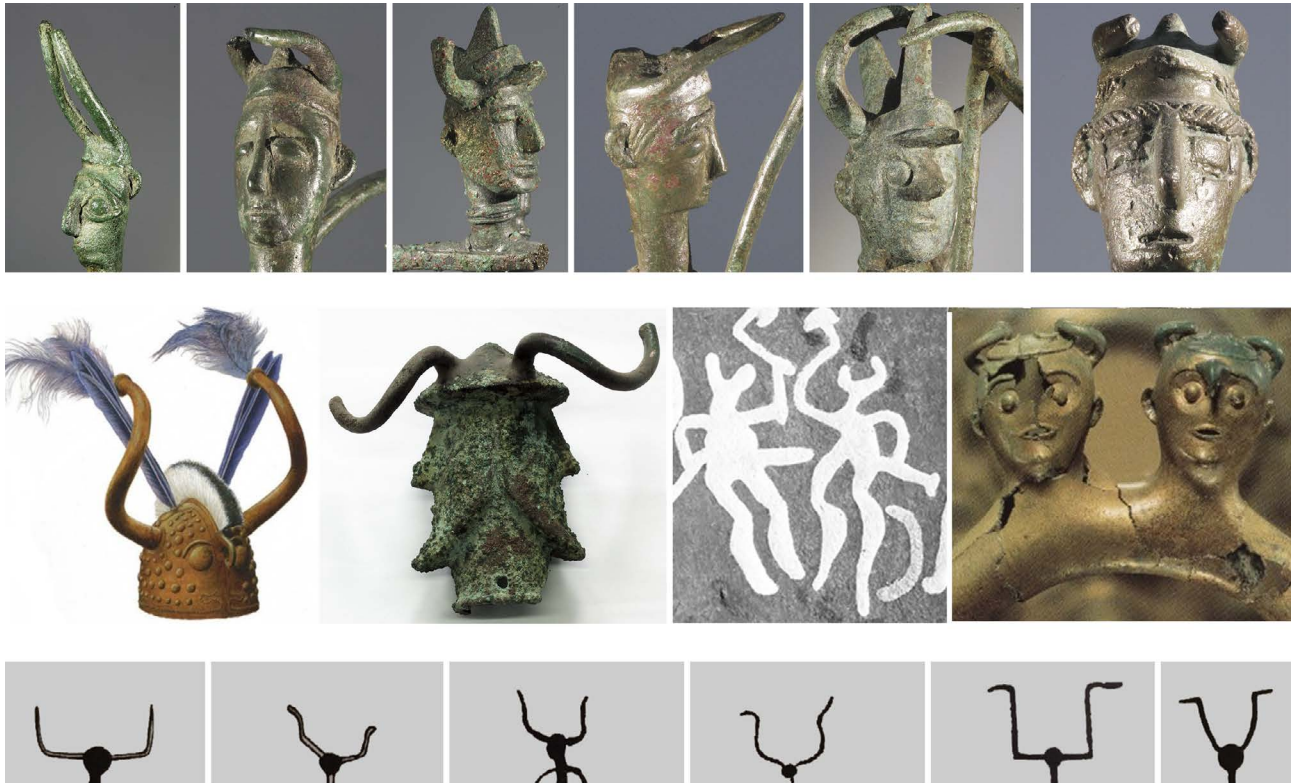


Fig. 5: Ways of representing the helmet horns in the three zones. **Upper row:** Sardinian *bronzetti* (photo: H. Nørgaard photo with permission by Museo Archeologico Nazionale di Cagliari). **Middle row:** Scandinavian figures from left: Viksø reconstructed (Kaul 2010; drawing Thomas Bredsdorff, National Museum of Denmark), Kallerup, Thy (photo: H. Nørgaard by courtesy of Museum Thy), rock carvings from Hede Kville, Tanum (SHFA: Ling/Bertilsson 1994, picture Åke Fredsjö 1973 under a CC BY-SA 4.0 license) and Fogdarp in Scania (after Larsson 1990). **Lower row:** Iberian horned helmets from stelae (based on Harrison 2004). Not to scale.

stubby horns with a forward cline close to the head, long horns standing erect, and the ends of horns sometimes sealed with distinct knobs. Stubby, forward-pointing horns occur on several of the Sardinian *bronzetti* and on the Scanian Fogdarp twins. Sardinia has the largest variation range of the three zones, including unique versions with longhorns pointing in different directions (Fig. 5). The Iberian stelae and the Tanum rock imagery of horned creatures are not devoid of similarity, however: horns always stand erect and may turn in various directions, and their more stereotypical appearance seems to have been dictated by the stone medium rather than stylistic preference. It is notable that the combination of crest and horns on the Viksø helmets matches the Sardinian *bronzetti* helmets⁹² (Figs 3; 5; 7). The Sardinian helmets of Uta-Abini style, which usually incorporate horns, sometimes supplement the horns with special effects that point forwards or backwards. This compares with bird feathers inserted

on the Viksø helmets on either side of the crest⁹³. Turned horns occur across all three zones.

Body aesthetics are priorities in all three zones, although only in Iberia are the warrior's grooming tools depicted in addition to jewellery and even weights and lyres. While all weapon types are associated with the horned-helmet warriors, the sword is ubiquitous across all three zones. The extra-large battle-axe is seemingly standard gear for the figurine Nordic twins; on the rock carvings, round shield and spear are frequent in addition, and even archery is mastered by the horned warrior. This matches very well with Sardinia and Iberia, although in those two regions the imagery of archery and archers is much more frequent than in Scandinavia. The weaponry of the LBA world is often classifiable into types of supraregional coverage, although localised types and preferences are also on the agenda.

⁹² As for example shown in Gonzalez 2012, fig. 2a–c.

⁹³ E.g. Vandkilde 2013.



Fig. 6: **A.** Sardinian *bronzetto* boat (navicelle) with bull/ram-headed bow and birds onboard (photo: V. Matta; Museo Archeologico Nazionale di Cagliari), 1000–700 BC. **B.** Nordic horse-headed ship from Sotetorp in Tanum (SHFA; Ling/Bertilsson 1994, picture G. Milstreu 2006 under a CC BY-SA 4.0 license), 900–750 BC. Note the aggrandised horned twins, female acrobat, and anonymous crew (of newly dead?). Not to scale.

Armour and leggings are common in Iberia and Sardinia, but evidently absent in Scandinavia⁹⁴. On rock, the warriors appear to be naked, and now and again phallic. The latter feature sometimes also appears on Iberian stelae to indicate the sex of the horned figure, e. g. Esparagosa de Lares II, Extremadura⁹⁵ (see Fig. 3).

The ship is conspicuously absent from the Iberian representations, which favour chariots and horses. In Sardinia, it is the horse that is absent; instead, the 146 *bronzetti* boats – navicelle – often have bull- or deer-shaped sterns, sometimes reinforced by birds (Fig. 6)⁹⁶. This matches the ever-present horse-prowed ship in Scandinavia, where a swan or monstrous beings sometimes substitute the horse, as exemplified by the two ships (one for each twin) depicted on the Viksø helmets⁹⁷. Overall, the pre-eminence of the *bronzetti* boats underlines the sea-going domain in Nuraghe society, comparable to the numerous ship carvings in maritime Scandinavia (where, however, chariots also occur on rock)⁹⁸. The Nordic materialisations of the twins are, as mentioned, almost inevitably associated with a horse- or swan-pulled ship.

Twin or double representations

The iconic Nordic identical twins appear to be deeply entrenched in locally or regionally rooted cosmology and beliefs⁹⁹. It is thought-provoking, however, that doubles or mirror-images of warriors with and without horned helmets are depicted in all three zones. Representation in doubles (four eyes, four arms, and a double-up of weaponry) occurs among the Sardinian *bronzetti*¹⁰⁰ (Fig. 3) and is also often found on Iberian stelae, although in neither region as consistently as in Scandinavia. There, even rock carvings highlight the horned twins, but sometimes also depict what look like small warbands of horned warriors fighting bird-faced warriors (Fossum, Tanum SHFA¹⁰¹ 255:1)¹⁰². This latter appearance is interesting because the bird-like beaked faces or masks call to mind the horned Viksø helmets, which have a crest as well as a frontal peregrine-like beak¹⁰³. From these depictions, supernatural in disposition, we may infer mythical stories of amiable or hostile connections between classes of particular warriors.

Distinct therianthropic traits are visible among the Scandinavian depictions and depositions. This could resonate with the animistic shape-shifting components of the sun-cycle NBA religion¹⁰⁴, which differs from the Sar-

⁹⁴ However, see Lundström 2009.

⁹⁵ Pavón Soldevilla/Duque Espino 2010, fig. 4; Ledesma 2007.

⁹⁶ Depalmas 2005; Salis 2014.

⁹⁷ Vandkilde 2013.

⁹⁸ Johannsen 2010.

⁹⁹ For example Kristiansen/Larsson 2005; Vandkilde 2013; 2014.

¹⁰⁰ Gonzalez 2012, fig. 2b; Lilliu 1966.

¹⁰¹ Ling/Bertilsson 1994. <https://www.shfa.se/>

¹⁰² See Goldhahn 2019.

¹⁰³ Goldhahn 2019; Vandkilde 2013.

¹⁰⁴ Ahlqvist/Vandkilde 2018.



Fig. 7: A. No. 5 Hede Kville (Tanum): two horned creatures, one bigger than the other (SHFA; Ling/Bertilsson 1994, picture Ellen Meijer 2013 under a CC BY-SA 4.0 license). B. Monte Prama giant with encircled eyes and crested horned helmet, horns destroyed in antiquity (photo: H. Vandkilde, Museo Archeologico Nazionale di Cagliari). C. Grevensvænge horned creature with similar recessed and encircled eyes, though in statuette format (photo: H. Nørgaard). Not to scale.

dinian and Iberian cases. As a result, the horned warrior twins of the North can be found in disguises that deviate radically from their anthropomorphic appearance.

From mini in bronze to maxi in stone: gigantisation

Common to both Sardinian and Scandinavian horned-helmet imagery is the occurrence of bronze figurines along with translations into stone/rock. Both bronze and rock, moreover, show elements of aggrandisement. In the Tanum rock panels, the entire warrior figure sometimes appears in giant format, in all his might¹⁰⁵. This mighty creature is often shown by oversized feet, hands, or calves, in addition to enlarged weaponry (e.g. Bro Utmark 3 at Tanum: SHFA)¹⁰⁶. In the Scandinavian context, the choice between metal and rock is impacted by differing geologies in the north and south of the NBA hotspot area. In Sardinia it should be taken into account that Monte Prama is archaeologically unique so far. It is nonetheless striking that, in both zones, miniature bronze representations are connected with corresponding larger presentations in stone.

Sardinia and Scandinavia, then, share an interest in bronze miniatures suitable for votive offerings. Some of these figurines are also quite similar across both regions in select stylistic features, size and – it seems – innate idea. The statuettes in bronze seem *en miniature* to conceptualise giant beings. This gigantisation in two modes

of representation, in bronze and stone, follows partly parallel tracks whereby the full-blown size in or on stone ultimately materialises at a particular point in time. The stone medium can accommodate the giants in perceived actual size – in entirety, or through chosen body parts. Enlarged or distinct hand signs, with four fingers tightly pressed together and kept separate from the accentuated thumb, is a widespread LBA–EIA symbol (of divine presence?). This symbol recurs both on the Grevensvænge figurines and on several of the Sardinian *bronzetti* and on S. Scandinavian rock carved slabs – in one case forming part of a temple-like construction¹⁰⁷.

Oversized round eyes are another aggrandising trait in the bronze miniatures that recurs in both regions, with the eye rendered either as protruding or encircled. A case in point is the *bronzetti* produced by the Round-Eye Artist, who designed a major group among the Uta-Abini *bronzetti* in Sardinia and seems to have inspired the Monte Prama sculptures (Fig. 7)¹⁰⁸. Similarity is particularly salient when the recessed circular eyes with a dot or inner circle depicted on the Grevensvænge twins are compared with those on the giant warriors of Monte Prama. Do these accentuated eyes signify supernatural sight? If so, they could be thought of as the eyes of divine creatures, as interestingly suggested by Joakim Goldhahn in a Nordic context¹⁰⁹. Miniature-making and simplification enable a population to understand and control both the items and what they represent¹¹⁰. Similarly, aggrandisement can visualise what is beyond human control – or beyond the

¹⁰⁵ See Ling 2008, figs 8,30; 8,33; 10,20–10,22; 11,3; 12,6; 11,3.

¹⁰⁶ Ling/Bertilsson 1994. <https://www.shfa.se/>

¹⁰⁷ Compare here Gonzalez 2012, fig. 2g–l. See also Kaul 1987; Dam Hansen 2019.

¹⁰⁸ Gonzalez 2012, 95; Rendeli 2014, 188.

¹⁰⁹ Goldhahn 2019, 129 ff.

¹¹⁰ Bailey 2005.

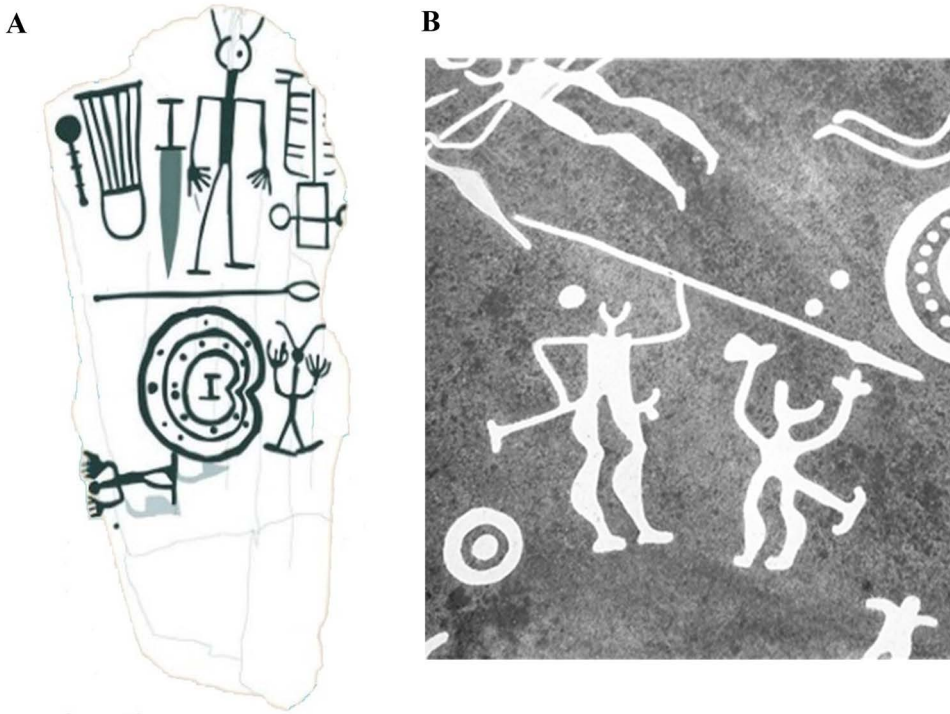


Fig. 8: Aggrandised spears and horned or unhorned creatures of various sizes. **A.** Jeres de los Caballeros, Badajoz (Ledesma 2007). **B.** Kville Hede 124, Tanum (SHFA; Ling/Bertilsson 1994, picture Åke Fredsjö 1973 under a CC BY-SA 4.0 license). Not to scale.

control of *ordinary* human beings. Overall, the likeness between Sardinian and Scandinavian imaging is striking.

In Iberia, the horned-helmet figure is depicted only on stelae, most of which are 130–150 cm tall, which means that they depict human-like figures at less than normal size¹¹¹. Oversized body parts reappear nonetheless. The shape of the Iberian horns varies in a manner also found on the Tanum rock carvings. Big hands with spread fingers and large feet are also similar, and the horned-helmet figure is shown significantly larger than other human-like beings, including his twin. Thus, while the aggrandising tendencies are not systematically present in Iberia or represented by the accentuated calves often seen in Scandinavia, weapons do occur in aggrandised form, notably as spears of exaggerated length (Fig. 8).

In partial conclusion, the above comparison reveals similar traits in appearance, associations, scenes represented, and medium of representation. This is consistent with an indication that directional movements underlie the observed resemblance. While general similarities are revealed, likeness also resides in small details. Interestingly, the imagery embeds ambiguity, in that humanness and otherworldliness are depicted intertwined. Taken together, the observed congruence is too great to be gener-

ated purely from local processes or randomly from multidirectional culture flows in a phase of globalisation¹¹². The latter scenario would likely show as a geographically scattered dispersal, rather than a detached triple distribution with a western cline (cf. Fig. 1). Distinct local traits nevertheless exist in each zone, entrenched in local tradition.

Comparing the sacred places of horned-helmet warriors and associates

We have identified horned-helmet imagery belonging within an array of archetypes that was probably well known to a wide public. The appearance of these images is anthropomorphic, rendered divine. Below we will show that horned-helmet imagery in all three zones is tied to sanctified places exhibiting mortuary and commemorative characteristics. As expected, local trends materialise strongly in these ritualised contexts, but Scandinavia and Sardinia in particular share a structural similarity that is interesting in light of the material likenesses revealed in the above.

¹¹¹ As for example Harrison 2004, fig 3,2.

¹¹² Vandkilde 2016.

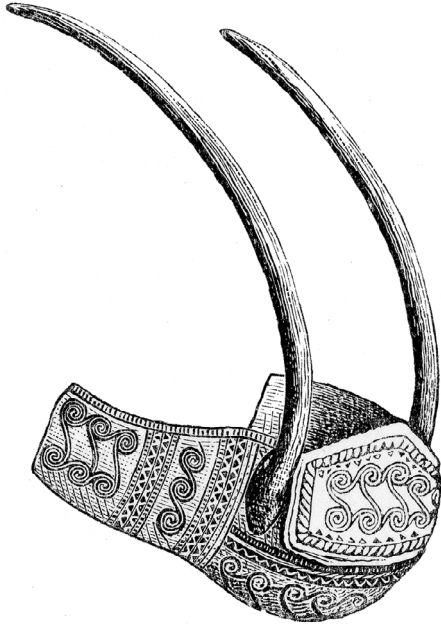


Fig. 9: The horned headdress of bronze with gold foil from a bog at Hagendrup, west Sealand, NBA II c. 1400 BC. Width 12–16 cm (after Worsaae 1882).

Scandinavia

The Vestrup Mark razor, depicting the characteristic ensemble led by the horned-helmet warrior twins, stems from a burial (cf. Fig. 3)¹¹³. This establishes a connection between the mortuary domain and the wetland depositions that, notably, include the Viksø helmets and the Grevensvænge archetypal setup of male and female figurines. In recent years, a number of special dry places have emerged dating to c. 1000/900–750 BC. Fogdarp exemplifies this innovation in place: the two horned male and two female heads on yokes were deposited with lurs and horse gear in elevated dry terrain *near water*¹¹⁴.

On the one hand, these places were used ritually, possibly relating to venerations of the sun, setting in motion the figurines of horned twins, their entourage, and/or affiliated gear, normally sized or oversized. Before deposition, these items may have been presented in ceremonial processions, perhaps as a way to connect with and venerate godlike beings or imagined ancestors from a distant past¹¹⁵. On the other hand, mortuary or commemorative activities were probably interwoven with the procession. Such sites may deserve the label ‘sanctuary’, ‘sacred land-

scape’, or ‘ceremonial gathering site’¹¹⁶. The Tanum rock panels may be understood in a similar light¹¹⁷.

These sacred sites attracted extraordinary depositions of gold and bronze items, as well as other ritual activities involving few or several people. Generally, the rich wetland depositions of NBA V should be understood as integrated parts of particular sacred landscapes, notably comprising ceremonial activities reflected in multiple fire pits¹¹⁸. The Mariesminde hoard (Funen) exemplifies such a linkage between wet deposition and fire pit rows nearby. The metaphorical twins are conceptually present as golden bowls with handles shaped like the horned sun-horse, all deposited inside a bronze cauldron adorned with the sun-bird-ship motif¹¹⁹. Such offerings and affiliated rituals likely refer to the horned-helmet warrior twins, often represented by their paired gear, as well as respectively to their broader community of male and female companions through *their* markers. Borgbjerg Banke (west Sealand)¹²⁰, Fårdal (central Jutland), and Voldtofte (southwest Funen) are prominent sacred landscapes and special sites for cult activities, and perhaps should even be thought of as central sanctuaries appearing around the time of the horned-helmet imagery. Funerary or commemorative rites are rather distinct at Fårdal and Voldtofte¹²¹.

Five km from the coast at the sacred place of Voldtofte, pairs and collections of gold ornaments – perhaps linked to the horned-helmet twins and associates *pars pro toto* – were deposited on the so-called Gold Mound presumably worshipping a claimed descendant buried there in the midst of other dynastic mounds¹²². Rich ritual depositions of gold and bronze objects furthermore mark the landscape surrounding the Voldtofte site. The Lusehøj mound pinpoints the uppermost social stratum that such lavish worship may have targeted. Two cremation graves of prominent males were retrieved: a bronze-adorned wagon grave, and another grave centred on an imported bronze cauldron containing cremated bones and a series of items in gold, bronze, and amber carefully wrapped in cloth¹²³. The tight cluster of giant mounds at Voldtofte are statements of power that link up with the nearby wealthy

¹¹³ Ahlqvist 2020b.

¹¹⁴ Larsson 2017; Lindblad 2019.

¹¹⁵ Kaul 1998, 20–30; cf. Whitley 1995, 13–18.

¹¹⁶ Henriksen 1999; 2005; 2019; Mikkelsen 2011.

¹¹⁷ Goldhahn/Ling 2013; Ling 2008.

¹¹⁸ See i. e. Henriksen 2005

¹¹⁹ Jensen 2011; Thrane 1989.

¹²⁰ Jensen 1981; Kaul 2014: at the foot of the gold-rich hill of Borgbjerg Banke there is a sacred well known for its curative powers in Medieval times.

¹²¹ Henriksen 2014; 2018; 2019; Mikkelsen 2011, 47–59.

¹²² Henriksen 2014; 2019; 2021.

¹²³ Thrane 1984.

settlement at Kirkebjerg, where swords, lurs, and ornaments were manufactured and where red-painted clay lining for walls was retrieved¹²⁴. The Voldtofte rulers evidently networked with metal-trading partners both near and far in the period 1000–750 BC.

In sum, the traditional emphasis on the medium of water in ritual depositions and cults has a chthonic ambience, hinting that underground water was the imagined place of afterlife for particular creatures of the past¹²⁵. Numerous outstanding objects, often in pairs, ended up in wetlands. It emerges that in NBA V an ancestral tradition was renewed by further institutionalisation, namely major cults on dry land, which seem to maintain a mortuary connotation. This may be termed a tomb or ancestor cult¹²⁶. This Scandinavian development, moreover, resonates with what we can extract from the Sardinian archaeology.

Sardinia

Bronzetti in the form of anthropomorphs and zoomorphs were produced at the Sardinian sanctuaries and exhibited there as votive offerings at monumental sacred wells (*pozzi sacri*). Fixed in lead, *bronzetti* were placed in groups along the dromos of the well that led underground. The subterranean water that sourced these wells may point to a connection with chthonic forces¹²⁷. Perhaps each sacred well was thought of as a monumental temple accommodating powerful ancestors. *Bronzetti* offerings would then be a way to connect with and venerate these imagined ancestors of a past age¹²⁸. The models of nuraghi towers located in the middle of the Nuragic villages of the FBA–EIA would similarly become objects of commemoration and collective memory, as reminders of a mighty past¹²⁹.

It may well be that when Monte Prama was built c. 900 BC, this mortuary connotation was maintained: the warrior sculptures were erected on top of the cist graves¹³⁰ as if to protect and honour the ancestral dead with a divine or semidivine presence in a traditionalising setting of Nuraghe ‘towers’. The *heroön* character of the Monte Prama sanctuary is unique in Sardinia, and its coastal position, near the Phoenician *entrepôt* of Tharros at the tip

of the Sinis peninsula, points not only to a further institutionalisation of ancestral cults, but also to an exogenous impact, given the easy access from the sea¹³¹.

Iberia

The warrior stelae were erected in densely settled LBA–EIA landscapes, with small stelae groups across a region. There were fortified hillforts, with conspicuous ritual depositions made in the same landscapes¹³². A few warrior stelae have an archaeologically attested mortuary affiliation, which can be generalised into assuming that they were initially grave markers and thereafter were commemorated in a manner difficult to specify due to sparse information about primary contexts. It is likely that at least some stelae were originally associated with burial mounds¹³³. A stela at Cortijo de la Reina (Andalusia) was found in a ditch covering an LBA urn¹³⁴, and the stela at Gomes Aires (Portugal) reportedly covered a cremation pit¹³⁵.

Consistent with most interpretations, we suggest that the stelae were raised to honour special male deceased, likely an active warrior, whose body was presented on the stone slab together with a collection of his gear. The archetypal character both of each individual element and of the group is striking, as is the way the main character seems to have been praised by the use of simple codes of supreme warriorhood¹³⁶. This paper rephrases some of these codes as aggrandisement, or gigantisation. Diaz-Guardamino and colleagues¹³⁷ emphasise the commemorative role and the mortuary dimension of the warrior stelae in a proximate landscape with settlements, burial mounds, drove-ways, fords, and water resources. In this setting of the everyday, stelae would have been important as durable and visible landmarks. Weapon deposition and warrior imagery may, as in Scandinavia, have had interchangeable meanings related to the element of water¹³⁸. Unlike Sardinia and Scandinavia, however, no sanctuaries have so far been retrieved in southwest Iberia prior to the appearance of sanctuaries in Phoenician *entrepôts* in the eighth and seventh centuries BC in the EIA¹³⁹. The long-

¹²⁴ Thrane 1984; 2015.

¹²⁵ For example Hansen 2008; Vandkilde 2014.

¹²⁶ Whitley 1995.

¹²⁷ Fadda 2013; 2014; Gonzalez 2012, 98; Lilliu 1988.

¹²⁸ Ialongo 2013; Vella Gregory 2017; Whitley 1995, 13–18.

¹²⁹ Perra 2017; see also Whitley 1995, 17.

¹³⁰ Rendeli 2014, 190.

¹³¹ Tronchetti 2015; Tronchetti/Van Dommelen 2005.

¹³² Diaz-Guardamino *et al.* 2019b; Diaz-Guardamino *et al.* 2019a; Harrison 2004, 35.

¹³³ Diaz-Guardamino *et al.* 2019a, 6126.

¹³⁴ *Ibid.*

¹³⁵ Harrison 2004, 310.

¹³⁶ Harrison 2004, 59–65 fig. 4,5.

¹³⁷ Diaz-Guardamino 2014; Diaz-Guardamino *et al.* 2019b, 21.

¹³⁸ Gonzalez 2018, 246; Harrison 2004, 25.

¹³⁹ Gonzalez 2018, 177.

term production of stelae including aggrandising elements and special gear may suggest ongoing ancestral commemoration or even heroisation among peers, but perhaps not institutionalised cults as in Scandinavia and Sardinia.

In brief: Each of the three cases demonstrates ritualisation aligning with local practices and traditional beliefs tied to particular local landscapes. The pictured weaponry and other gear are well known from burials and hoards, both locally and in the LBA supraregion. Sun worship interfused with animistic notions seems to be a Scandinavian speciality. There are, at the same time, broad correspondences across the three ritualised contexts, which may indicate that ideas about cults, sanctuaries, and narratives moved along with material exchanges and entered local environments from the outside. An underlying political drive emerges still more persistently. Sardinia and Scandinavia in particular share exhibition and deposition of figurines and associated gear in dry as well as wet settings, and both seem to undergo a development from deeply anchored ancestral veneration to institutionalised cults of geographically broader reach. This may have progressed in tandem with local political processes. This celebrated warriorhood and ample depositions of arms points to a professionalised fighting force, conflict and violence in Final Bronze Age Europe, as several reports indicate¹⁴⁰.

Indigenous roots, innovation, and politicisation

Our three zones adopt, invent, or reinvent the horned figure – unlike other regions at this time. In asking the question ‘why’, it is relevant at this point to outline the local traditions and how they evolved prior to the appearance of the horned anthropomorphs. In general terms, the horned armed figure signals both bellicosity and a preoccupation with bulls/cattle. All three of these regions thrived on animal husbandry among other economic niches, and they flagged warlike material culture and values. However, professionalised warriorhood and mixed economies of agriculture and husbandry were universal across much of LBA Europe. Local preferences and rooted tradition may nevertheless be a factor in the decision to embrace the horned-helmet imagery. Which relics of the past in the three zones might have facilitated the inclusion of the horns?

¹⁴⁰ See for example Dolfini *et al.* 2018; Kristiansen/Horn 2018; Uckelmann/Mödlinger 2011.

Scandinavia

Over time, Nordic Bronze Age tradition underwent change roughly in accordance with the rhythms of those parts of Europe that were delivering metals to the North in exchange for amber¹⁴¹. The cyclical solar framework of the belief system in this region, with Neolithic roots, is innately resilient, and thanks to Flemming Kaul’s detailed studies¹⁴² and several other contributions is well understood¹⁴³. The tripartite cosmological scheme remained fixed. The gradual implementation of cremation, c. 1400–1100 BC, does not seem to have altered belief in the sun cycle, but rather to have reinforced belief in its mortuary significance, now shared by a broader group of people than previously. In Kaul’s interpretation, the sun cycle was believed to require assistance from a collegium of animal and human-like helpers, who pulled the sun nightly through the watery underworld into the sky-covered daylight, while they underwent bodily transformations along the way¹⁴⁴. It is possible that people understood their own life/death cycle in a parallel manner throughout this long period¹⁴⁵, and that burials and depositions retained an ancestral and commemorative core.

The twins and other figures leading the sun’s journey were likely paramount throughout the Nordic Bronze Age. They occur, implicitly for the most part, in the numerous depositions of multiple or paired objects in wetlands, *pars pro toto* in the sense that these godlike characters are usually not rendered present as persons but imagined or performed by human deputies (shamans/priests, community heads). For this reason the human ritual actions, social obligations, and political strategies behind the depositions should not be underestimated¹⁴⁶. During key periods of NBA II and NBA V, this principle of imagined or performed presence during depositional acts becomes reinforced, with the sacred agents themselves emerging ‘personified’, that is, conceptualised in the form of bronze figurines or depicted on stone as persons. In NBA II a few person-like beings occur, notably in the *hieros gamos* scene on a stone slab at the Sagaholm monumental mound (Småland)¹⁴⁷ and with the twin male figurines in the Stockhult deposition (Scania). Kristiansen and Larsson¹⁴⁸ add horns to the

¹⁴¹ Nørgaard *et al.* 2019; 2021.

¹⁴² Kaul 1998; 2004; 2005.

¹⁴³ For example Bradley 1998; Bradley/Nimura 2013.

¹⁴⁴ Ahlqvist/Vandkilde 2018.

¹⁴⁵ Kaul 2005.

¹⁴⁶ Fontijn 2020, 112–129.

¹⁴⁷ Goldhahn 1999; 2016.

¹⁴⁸ Kristiansen/Larsson 2005, 312 fig. 143.

twins' hats, but despite small holes in the brim, a horned reconstruction is doubtful. Horned helmets are absent in NBA II. However, both the Hagendrup headdress (Fig. 9) and the Wismar drinking horn in bronze¹⁴⁹ may indicate a partiality towards horned creatures, which might help to explain the later adoption of innovative horned-helmet imagery from abroad.

This was a twofold innovation dating around the transition to NBA V, c.1000–900 BC. Firstly, we see a new embodiment of the twins, now wearing horned helmets and staged within the archetypal community of anthropomorphic beings and their zoomorphic translations. These are now conceptualised as 'gigantic', whether rendered as miniatures in bronze or blown up much larger on rock. Secondly, special places of commemoration now emerge (see above), in which the sun-cycle narrative merges with large-scale mortuary and commemorative activities, often involving gear of gold and bronze of unprecedented flamboyance. Both these instances may well have been motivated by political ambition for control, as evident especially at Voldtofte.

Sardinia

The changes undergone by the Bronze Age Nuragic tradition were sensitive to the rhythm of its neighbours. Especially after 1300 BC, local metalworking developed a high level of sophistication that was dependent on both its own and imported metal sources¹⁵⁰. As in Scandinavia, the belief system appears to have been resilient into the long term. The tradition-bound obsession with cattle horns is archaeologically conspicuous. Indeed, Sardinia is often understood specifically in terms of bulls' imagery, creatures around which the religion pivoted¹⁵¹, as amply expressed in the rock-cut bucrania that frequently adorn the Neolithic tombs. This tomb imagery in stone may have had multiple functions and meanings¹⁵², even if the mortuary setting points to an ancestral coupling. Cattle were also central to the Nuragic economy¹⁵³. For Lilliu, Nuragic society was strictly embedded in pastoralism, as expressed in the 'king–shepherd' title he gave to the so-called Capotribu of the *bronzetti* at Uta-Abini¹⁵⁴. Horned animals including bulls, stags, and rams are frequent in the Uta-

Abini group of *bronzetti*; these probably embody a reference to an ideal society of the past, predating the social changes that set in around 1200 BC.

At this time, the warrior *bronzetti* with horned metal helmets materialise on the scene. Their distinctly humanised embodiment *en miniature* is a completely new addition to Sardinian metalwork production, though consistent with rooted tradition. One might speculate that a proximate inspiration for this turn could perhaps have been Sardinian military troops with their horned caps. Although no such horned headgear has been preserved, the pharaonic imagery at Medinet Habu (1165 BC) holds similar headgear. No certain evidence however exists that connects those warriors with Sardinia. The south Corsican anthropomorphic menhirs may point in the direction of a regionally shared tradition of horned caps among warriors and leaders¹⁵⁵. Such 'Sherden' warriors may have inspired the votive *bronzetti*, which despite their small size may have been perceived as gigantic (see above). Oxhide ingots were traded into Sardinia from Cyprus, so Cypriot horned figurines like those from Enkomi (LC III) could have been a parallel source of inspiration¹⁵⁶.

The grandiose format of armed males at Monte Prama indicates a consolidation of institutionalised cults c. 900 BC and calls to mind colossal figures in the Near East and the Levant. The Monte Prama development of ancestral commemoration may also tie in with Levantine activities along the western coasts of the island¹⁵⁷. Although emerging in negotiation with local tradition, the *de facto* gigantisation of entire bodies in stone seems in tune with cults of divinities, rulers, or special ancestors.

Iberia

The warrior stelae here belong to the Atlantic–West Mediterranean Bronze Age region. The local antecedents are Neolithic anthropomorphic portable idols and menhirs, as well as earlier Bronze Age stelae depicting weaponry in much the same way as the earliest series of warrior stelae¹⁵⁸. Hence the chosen medium for the large group of Iberian later Bronze Age stelae merely continues, or rather reinvents, a rooted tradition for commemoration through the erection of stone memorials in the landscape.

149 Kristiansen 2004.

150 For example Giunli-Mair/Lo Schiavo 2018; Lo Schiavo 2014.

151 For example Lilliu 1958; Minoja *et al.* 2015.

152 Robin 2017.

153 Usai 2014, 49–50.

154 Lilliu 1966.

155 Leandri *et al.* 2015.

156 See Gonzalez 2018, 43 fig. 3.

157 Usai 2014, 56–57.

158 See Ángeles Del Rincón 2017, figures 3,4; 3,9; Diaz-Guardamino 2014; Diaz-Guardamino *et al.* 2019a; 2019b; Koch/Palacios 2019, fig. 3,9; Martí 2017, fig. 2,11.

The horned-helmet figure, however, is an outsider to the region. Its first appearance was likely due to LBA connections with Sardinia – perhaps fleeing military units in the course of the twelfth century BC, or brought by trading partners. The subsequent Phoenician expansion in the west could have further reinforced the significance and centralised position of the horned-helmet motif, as well as its aggrandising effects, which are consistent with the mortuary or commemorative dimension noted by several authors. Overall, the Iberian warrior stelae are embedded in a strong local tradition, while the horned-helmet warrior and his companions are intruding characters, whose appropriation locally may connect to ongoing territorialisation and control of copper and other minerals, notably in Sierra Morena, which attracted stelae on the settled plains to either side¹⁵⁹.

Summarising discussion

The animated headgear of the horned helmet advertises the personal muscle of the wearer, and perhaps even cohesion among a group of peers. This is apparent in all three of our zones. Warfare and warriorhood, however, do not suffice as explanations. In addition, local traits pre-exist in the three zones that help to explain the adoption of horned-helmet imagery. The imagery appears self-consciously Nordic, Sardinian, and Iberian, if only because innovative exogenous traits were merged into a syncretic product suiting local culture, beliefs, and political climate. Such a reinvention of tradition may be associated with crisis or post-crisis consolidation of a new regime¹⁶⁰. Even so, of the three zones, the Sardinian development has the clearest local foundation, and it may well be the main source of the other two zones' preoccupation with the horned-helmet warrior and novel ideas of gigantisation. The link between Sardinia and Scandinavia seems especially clear-cut, reinforced by comparable political processes, in which cults played a role.

The horned symbol of Near Eastern origin likely appeared attractive to elites in need of legitimisation. Horns attached to the head were associated with divinity, rulership, or both; the motif underlined mastery both of war and of chthonic powers¹⁶¹. Key meanings – including martiality, exclusivity, superpowers, authority, and divine descent – seemingly diffused into Sardinia, Iberia, and

Scandinavia. Ideas of a glorious past with horned warriors, gods, or rulers may have circulated in ways that made sense locally as a unifying collective memory, aligning with cultural tradition in each zone.

The ambiguous status of the horned-helmet figure with his entourage – not quite human, not quite divine – may perhaps point towards some form of hero cult. Founding ancestors may over time have been elevated to a cult of heroes, as argued by Kristiansen and Larsson¹⁶². However, a hero cult in the Greek sense is difficult to apply, even if attached to mortal male warriors believed to dwell underground and to be able to transcend worlds owing to semi-divine descent¹⁶³. In Greece, hero cults *per se* did not gain ground until the eighth/seventh century BC. Coinciding as they did with the very beginning of Greek expansion in the western Mediterranean, this periodisation seems too late to have influenced the developments described. Whitley's¹⁶⁴ broader 'ancestor-tomb cult' is a better fit: it is not restricted to Greece, and encompasses commemorations of the long-gone or recent dead, posthumously heroised to establish a genealogy of divine origins or territorial rights. Post-Mycenaean examples of ancestor-tomb cult notably include the Toumba heroön at Lefkandi of the tenth century BC, which concurs with the development witnessed in the three zones.

Conclusion

The above analysis has demonstrated that horns were used emblematically in Sardinia, Iberia, and Scandinavia to visualise an exclusive group of anthropomorphised warlike beings whose significance was tied to commemorative or mortuary rites, sites, and beliefs, in tandem with political trends. This is true for all three of the zones investigated. Each case portrays a localised version of a narrative intended for collective sharing about an archetypal community including human-like beings, their animal helpers, vehicles, and gear relating to war as well as peace. The imagery of very particular warriors wearing horned insignia relates on the one hand to the transfer of novel beliefs involving embodied gigantisation and on the other hand to local control of metals that were still in high demand. The three zones stand out as metal-rich, either through natural resources or through trading.

¹⁵⁹ Diaz-Guardamino *et al.* 2019b; Diaz-Guardamino *et al.* 2019a.

¹⁶⁰ Hobsbawm/Ranger 1983.

¹⁶¹ For example Gonzalez 2012, 102.

¹⁶² Kristiansen/Larsson 2005: 210, fig. 95; compare also Harrison 2004, 176–178; 143–146.

¹⁶³ Albersmeier 2009; Whitley 1995, 54–57.

¹⁶⁴ Whitley 1995, 53–61.

Otherworldly products can be strategically designed as support for an ongoing political process aiming to legitimise and consolidate power¹⁶⁵ and to unite rather than separate; they can be a statement of deep anchorage in situations where it was convenient to draw on the past to legitimise a changing present. It may be that our three cases can be boiled down to political domains in need of legitimisation through claimed genealogical relations to the archetypal narrative. The horned figure was appropriated very selectively, together with its narrated values of exclusivity, gigantisation, and community. The pasts of the three zones give hints of receptiveness to such a novel package in conjunction with local tradition.

These correspondences in horned-helmet imagery and the transfer between three separate zones with a distinct western cline refute one-sided explanations that privilege local processes or random culture flows. Similarities have been shown to occur on several levels, from minuscule details to the content of ideas and coinciding with politico-religious processes. The analysis has revealed a distinct core of similarity, and thus connectedness, despite long distances of transportation. Given the particular geographical spread, the most plausible link between the three zones is directional movements through a western maritime route. Association with metal-trading post-1200/1100 BC is consistent with recent research¹⁶⁶. The Scandinavian addendum to this network from c. 1000–900 BC coincides with the metal-led Phoenician expansion and consolidation in the west. The Phoenician capacity for sea travel and trading should be kept in mind¹⁶⁷ although of course other actors such as the Scandinavians and Sardinians could have contributed¹⁶⁸. A Mediterranean–Atlantic sea route emerges; the otherwise flourishing transalpine trade route seems to have been inactive in disseminating the image of the horned warrior hero. In this connection, it is significant that large quantities of Baltic amber reached Sardinia¹⁶⁹ and were transported along the western sea route, the transalpine route, or both. Overall, our findings tally with recent reviews of the Bronze Age as a globalisation-like assemblage of multiple communities, glued together by a desire for, and dependence on, coveted metals.

¹⁶⁵ Earle/Kristiansen 2010, 15; Earle 1997, 150–155.

¹⁶⁶ Ben-Yosef 2019; Thompson/Skaggs 2013; Eshel *et al.* 2019; Wood *et al.* 2020; Ialongo *et al.* 2021.

¹⁶⁷ Aubet 2001.

¹⁶⁸ Compare Ling *et al.* 2018; Cunliffe 2001.

¹⁶⁹ Bellintani 2010; 2016.

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