**Original Study**

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# Rock Art and Trade Networks: From Scandinavia to the Italian Alps

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**Abstract:** This article uses rock art to explore potential bonds between Scandinavia and Italy, starting in the second half of the third millennium BCE with the enigmatic Mjeltehaugen burial monument in coastal western Norway and its striking rock art images, and ending in the first millennium BCE with ship motifs in inland Val Camonica, Italy. While the carved dagger on the Mjeltehaugen slab is unique in its Nordic setting, such weapon depictions are frequently seen on the Continent, e.g. in South Tyrol, and more often in later Nordic rock art. Strong evidence of trade relations between the Italian Alps and Scandinavia is found c. 1500–1100 BCE when the importation of copper from South Tyrol coincided with two-way transmission of luxury items, and again in a different form, c. 1000–700 BCE when strong similarities in burial traditions between the two areas may be seen as evidence of direct cultural connections or a shared cultural *koiné*. In order to understand the social fabric of these relations and how they unfolded through time, the authors discuss several different models of interaction. It is hypothesised that rock art practices played a role in establishing and maintaining durable social relations, through what we consider to be a two-way transmission of symbolic concepts and iconography during seasonal meetings related to trade and travel.

**Keywords:** Bronze Age rock art, west coast of Norway, Val Camonica, trade and travels

## 1 Introduction

Recent approaches building on provenance analysis of copper have contributed to widening our knowledge about the metal networks that the northerners got their copper and tin from during the Nordic Bronze Age (NBA). A series of analytical programmes addressing the provenance of copper reveals that copper reached Scandinavia from a range of ore sources (Ling et al., 2013; Ling et al., 2014; Melheim et al., 2018a; Vandkilde, 2017; Nørgaard et al., 2019). The identification of Welsh copper in Denmark in metalwork dating from the 16–14$^{th}$ centuries BCE, is interesting, but what is more surprising, however, is an established link with the Italian eastern Alps, and what seems to be a substantial influx into Scandinavia of copper from ore sources in South Tyrol from c. 1500 BCE (Melheim et al., 2018a; Reiter et al., 2019). Aiming at further contextualizing the data from metal analysis, this paper will approach rock art as a potential indicator of cultural contact and connections between Scandinavia and the Italian Alps through the second millennium BCE (Figure 1 & 5); connections that were also manifested through the exchange of luxury items and similarities in burial practices. This forces us to reconsider received theories about metal circulation, exchange mechanisms, and cultural transmission, and not least, the social aspects of these exchange relations, which are yet only partially explored and understood (Melheim et al., 2018b). Although similarities in material culture between Scandinavia and Italy have been noted in metalwork and pottery (Montelius, 1917, p. 29; Kristiansen, 1998,

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2016), cultural connections with Central and Eastern Europe have been more frequently accentuated as factors strongly influencing the Nordic Bronze Age, with the Carpathian Basin as a crossroads between temperate Europe, the Eurasian steppes, and the Aegean world (Vandkilde, 2014). The overall aim is to approach the social realities behind seemingly similar material expressions in areas that are far apart from each other. How did the northerners access copper trade networks? How were transactions organised? What kind of 'social fabric' was the metal trade a part of?


**Figure 1:** Map showing sites mentioned in the text marked with stars: Mjeltehaugen/Giske farthest to the north, then Kyrkje-Eide/Stryn and Unneset/Askvoll westernmost, and Val Camonica in Italy and Mont Bego in France.

Our take is partly theoretical – addressing theories of exchange and exchange systems – and partly an attempt at contextualising data from provenance analysis through an archaeological comparison of rock art imagery in the two areas. An interesting divide has occurred in mobility studies between those focussing

on systems and those focussing on individual enterprise, yet another much discussed conundrum is that of trade versus gift-exchange. Recently, Kristiansen (2016) has argued that the Italian Terramare culture was a trading hub which connected Central European and Nordic groups alike with the Mediterranean trading systems. Kaul (2018), on the other hand, has accentuated inland routes and personal relations in his theory about *xenia*, the ancient Greek concept of hospitality or guest-friendship. Looking at hitherto unexplored pieces of evidence; connections between rock art aggregation sites, seasonal exchange and travelling traders, this article maintains that both systems of exchange operated in tandem, that trade and gift-exchange cannot be readily separated, and that centuries of trade and travel between the two areas led to expressions of strong cultural similarity from around 1000 BCE.

## 2 Metal Circulation and Cultural Exchange – Setting the Agenda

In a recent provenance study of c. 100 Danish copper-alloy objects dated to 2000–500 BCE, 40% of the analysed artefacts were attributed to ore sources in the Italian eastern Alps and South Tyrol (Melheim et al., 2018a). This region has not previously figured as a potential source of metal to Scandinavia, but in this study it becomes clear that the region was a significant source of copper for the northerners during a period of more than five hundred years, c. 1500–900 BCE. A comparative study of Middle Bronze Age swords from Scandinavia, Germany and Italy confirms that after c. 1300 BCE the Italian Alps became the dominant supplier of metal for swords in all three regions, regardless of style (Ling et al., 2019). This may further be considered to indicate that copper was not first and foremost traded as finished objects, but as raw material/ingots, a result supported by the identification of oxhide ingot depictions in Scandinavian rock art (Ling & Stos-Gale, 2015, but see Nørgaard et al., 2019 for a different opinion). The full dataset from western Norway is not yet published, but the sword study may be taken as an indication that south Tyrolean copper spread across Northern Europe and far up the west coast of the Scandinavian Peninsula. Italian copper was identified in swords found from Agder and Rogaland in the south of Norway to Trøndelag in the northwest (Ling et al., 2019).

The exploitation of copper ores in the Italian eastern Alps in prehistory is documented through numerous smelting sites. Two main peaks of activity have been identified: one in the Late Chalcolithic (2500–2200 BCE) and into the Early Bronze Age (2200–1650/1600 BCE) and another during the Italian Recent and Final Bronze Age (1350/1300–950 BCE) (Cierny, 2008; Angelini et al., 2013; Addis et al., 2016; Artioli et al., 2016; Canovaro et al., 2019). A dynamic mining and trading system appeared already during the Chalcolithic, when copper trade networks had been established between central Italy and the Alps, connecting the early Copper Age cultures in the area (Artioli et al., 2017; Dolfini et al., 2020).

While the distance may at first seem daunting, exchange between northern Italy and Scandinavia is indicated as early as c. 4300–3800 BCE by the presence of imported jadeite axes in the western Baltic area (Klassen, 2004, pp. 83–89, 106–108). However, the scale of exchange indicated by the provenance studies of copper is unprecedented and indicative of the 'globalised' economy of Eurasia in the 2nd millennium BCE, with different yet interacting economic systems (e.g. Sherratt & Sherratt, 1991; Hall et al., 2011; Sherratt, 1993; Wilkinson, Sherratt, & Bennet, 2011). While the chiefdoms of the Nordic sphere can be classified as ranked systems of exchange (Kristiansen, 2012), the Mediterranean world was characterized by urban centers with full-fledged commerce, proto-currencies and mass-production of goods (Wengrow, 2011). In order to understand metal exchange and its cultural reverberations, we must allow for the coexistence of several different systems of exchange working simultaneously, and mechanisms for transformation of value between these systems.

Indeed, although gift-exchange remained an important political and social phenomenon, it seems that a process of increased commodification was spurred in the Nordic realm c. 1600 BCE, when archaeologists have noted a steep increase in the amount of metal in circulation and that at the same time locally-made metal objects outnumber imported objects (Vandkilde, 1996, p. 243). From this point in time, objects and raw materials gained through long-distance exchange were increasingly treated as commercial products. Two phenomena developing in the North may be seen as keys to understanding this process

of commodification: local value denominators/weight units tied to a wider, pan-European system and a thriving local metal industry producing metalwork with a distinguished Nordic style. Around 1500–1300 BCE, at the time when large-scale importation of copper from the Italian Alps started, specialized metal workshops appeared at coastal locations, possibly serving as 'ports of trade', landing and market places, and loci for the transformation of value between different value systems (Melheim, 2018). Because metal was a convertible store of value which could be endlessly transformed, it was ideally suited to maintain boundaries between systems while at the same time moving between them. The maritime orientation of the sites suggests that sea-based travel played an important role for these exchanges.

Archaeologists have followed the standard anthropological division between gifts and commodities when discussing differences between gift-exchange and trade systems when it comes to social obligations. Our point of departure here is that trade and gift exchange were coexistent in the Bronze Age and often interlinked, as in later periods (e.g. Kilger, 2008; Skre, 2011; Oka & Kusimba, 2008). Following Renfrew (1975), exchange in its widest sense is both an exchange of materials and a flow of information across cultural boundaries. Renfrew addressed the means mobilized to avoid friction between different economic systems. If we accept Renfrew's axiom, the flow of cultural information between two areas may be a measure of the type of contact that transpired. It is feasible that direct long-distance trade would involve stronger cultural integration than multi-line trade (Melheim et al., 2018b). Similarly, Barth (1969) argued that cultural boundaries, among other things, rely upon a constant flow of goods across them. Interestingly, Kneisel (2016) argued that the trade in amber and salt, amongst other things, was one of the factors behind the dispersal of the face urn burial tradition across Northern Europe in the Nordic Late Bronze Age. From c. 1000 BCE with the spread of house or hut urns, notable similarities occur in burial customs and funerary pottery between Nordic and Italian groups, a phenomenon described by Sabatini (2007) as a material *koiné* – a cultural space of shared values. In line with these previous studies, we consider trade, gift-exchange and other forms of cultural exchange to be mutually influential in shaping relations between Scandinavia and Italy during the Bronze Age.

Another core question is whether Bronze Age trade between the Mediterranean and Scandinavia should be modelled as multi-line or long-distance (Earle et al., 2015). Direct long-distance trade and travel may at first seem the more unlikely. Still, this has been suggested to be a plausible explanation for contacts with Iberia on the basis of similarities in rock art imagery (Melheim et al., 2018b). Early on, rock art stelae found in southwestern Norway were considered evidence of involvement by the northerners in a wider Atlantic exchange network (Møllerop, 1963, pp. 9–10). A connection to Atlantic metal networks has recently been further indicated by metal analysis carried out by one of the authors, who observed that trace element patterns in some Norwegian bronzes reflect those of the Acton Park bronzes in the United Kingdom (Melheim, 2015, p. 70), and that lead isotope patterns indicate that copper from Welsh ores, most notably the Great Orme mine, found its way to Scandinavia during NBA I–II (Melheim et al., 2018a). More surprising, perhaps, is the identification by the other author of a carved dagger of Italian type on a burial slab on an island on the northwestern coast of Norway, some 2 000 km away from their centre of distribution in the Alpine Range (Sand-Eriksen, 2015).

A growing literature on the significance of sea travel has been crucial for understanding Bronze Age trade networks (e.g. Needham, 2009; Earle et al., 2015; Ling et al., 2018). The emergence of strong maritime institutions in Scandinavia from c. 2500 BCE has been discussed as a key factor in the social and cultural developments that led to the breakthrough of the Nordic Bronze Age (Østmo, 2005; Kvalø, 2007; Prescott, et al., 2018). The predominantly maritime location of the rock art panels is a factor that should be taken into consideration as an indication of the significance of maritime practices in the north, besides the fact that ships are the second most popular motif after cupmarks. In a state-of-the-art-overview of metal production and circulation in Bronze Age Europe, Radivojević and her co-authors (2019) point out that Scandinavia received copper from a larger variety of sources than most other areas. Perhaps this can be explained as a consequence of the maritime capacities of the northerners, since they utilized maritime technologies as one of their comparative advantages. In the following section, we will explore further how the Nordic maritime groups used rock art to materialize their core values through an analysis of some possible evidence of travel and cultural meetings in rock art. Having ships or boats to travel and knowledge to navigate open water

is one thing, to be welcomed by people at your destination is a whole other thing. The rock art sites could have functioned as loci for exchange and networking, making them not only traces of different forms of interaction, but also what enabled and secured meetings.

## 3 Pan-European Rock Art – A Comparison Between the Italian Alps and Northwestern Norway

European Bronze Age rock art shares similarities across wide distances, as well as regional idiosyncrasies, and superficial similarities cannot be *a priori* taken for granted as signs of cultural contact. The fact that pan-European symbolism, and arguably also a pan-European ideology, is present in Scandinavian rock art is well established (Fredell, 2003; Harrison, 2004; Johannsen, 2014; Fredell & Garcia Quintela, 2010). Prominent among these are sun symbolism, where several singular motifs in Scandinavian rock art have been identified as materialisation of the myth about the sun's journey, but also a couple of more detailed retellings of the myth (Kristiansen, 2013, p. 73; Melheim, 2013). Less is known, however, about how such symbols and ideas were transmitted. Through comparisons of pan-European motives with rock art practices in the Nordic and Alpine spheres, we will approach this problem in light of the hypothesis of long-distance trade and travel between the two areas.

A rich and varied rock art tradition focussing on wild game is documented in Fennoscandia from c. 9 500 BCE but grew in importance during the Late Mesolithic, after 5500 BCE (Fuglestvedt, 2018, pp. 42–44). The Arctic or Northern rock art tradition was gradually replaced by the Bronze Age or south Scandinavian rock art tradition on the Scandinavian Peninsula, starting in the last half of the third millennium BCE. Panels with ships have a mainly coastal distribution, with around 12 000 images of ships spread across 30 000 registered rock art sites in Scandinavia (Goldhahn & Ling, 2013, pp. 270, 279, Table 15.2). It is, however, only recently that the predominance of ships has been understood as a key expression of genuinely maritime societies (see, however, Mandt, 1991; Linge, 2006; Ling, 2008), rather than religious symbols related to agricultural fertility rituals (Almgren, 1927). In light of established ideas about the worldview of the Nordic communities (e.g. Kaul, 1998), we contend that Bronze Age rock art exhibited core themes which reflect how the northerners established themselves as maritime societies. Opinions differ a little on when and where the first ship images occur, but some areas can be singled out as core areas for the earliest ship images belonging to the Bronze Age tradition, quite possibly depicting sea-going, plank-built boats. One of these is the west coast of Norway, with sites like Åmøy, Krabbestig, Askvoll and Mjeltehaugen (Wrigglesworth, 2011, pp. 203–204). Other compelling evidence of cultural connections between Scandinavia and the Continent is found in rock art within burial contexts. In Norway, such finds cluster along the western coastline, and especially in Rogaland with a concentration of 37 stelae/slabs (Figure 2), many of which are dated to NBA II–III through accompanying finds (Syvertsen, 2003). There are also indications of the sun-ship mythology existing in western Norway (Figure 2). Among these are the decorated grave slab from Skjølingstad/Karmøy in Rogaland county, with 12 semi-circles depicting a sun (see e.g. Nordenborg Myhre, 2004, p. 158), the depiction of a chariot drawn by two horses at Unneset/Askvoll (Prescott & Walderhaug, 1995, p. 270) and the depiction of a ship being drawn by two horses at Haustveit/Ullensvang (Wrigglesworth, 2011, p. 204), the latter two of which are in Vestland county.

Among the 20–30 regional centres with rock art in the Alps, Val Camonica and Mont Bego (Figure 1) are the two most important areas in terms of quantity, quality and chronological range (Fossati, 2015a, p. 857; Anati, 1976). Mont Bego, situated in France and bordering Italy, holds around 30 000 carvings, mainly consisting of horned and human figures, anthropomorphs and different kinds of weapons, such as daggers, halberds and axes (e.g. Bianchi, 2010, p. 70; De Saulieu, 2013, p. 301). In the large valley and important Alpine crossing place Val Camonica in northern Italy, c. 300 000 carvings are located, making it one of the largest collections in the world, and still growing, with new sites and panels being discovered every year. The rock art covers several different periods, spanning from c. 12 000 BCE until the arrival of the Romans in 16 BCE (Arcà & Fossati, 2006, pp. 51, 55; Fossati, 2007). As such, they illustrate modifications of style, themes and concepts over time, and reflect the interests and concerns of the particular time period – be they economic, religious, social, political or international (Anati, 2009, p. 15).

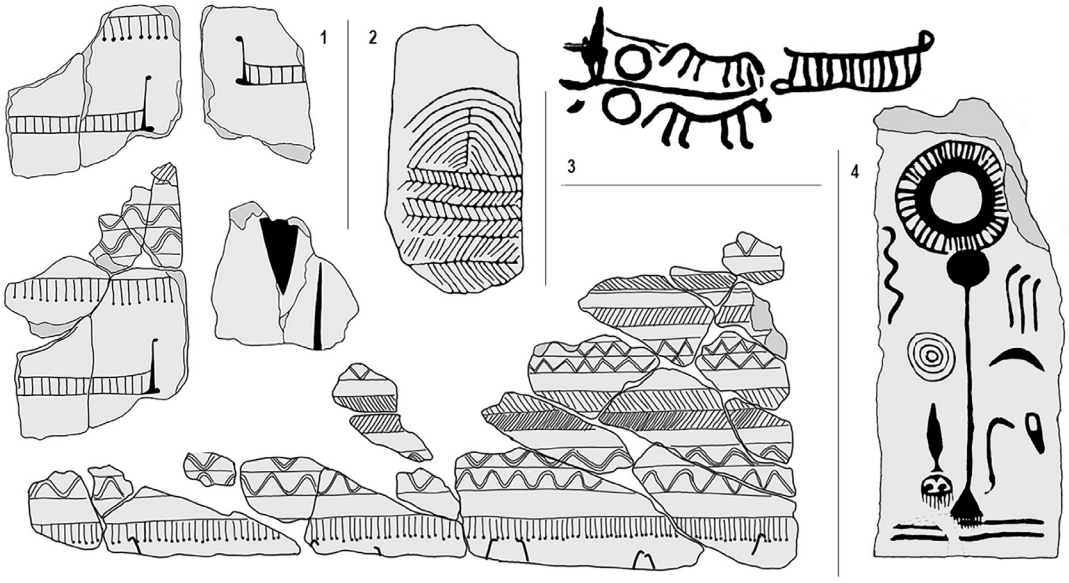


**Figure 2:** Rock art images western Norway; 1 Mjeltehaugen, Giske in Møre og Romsdal county, 2 Skjølingstad, Karmøy in Rogaland county, 3 Unneset, Askvoll and 4 Kyrkje-Eide, Stryn, both in Vestland county (1 and 2 Sand-Eriksen, 2015; 3 reworked after Prescott and Walderhaug, 1995, fig. 5; 4 reworked after Mandt, 1991, fig.12.40).

While many of the carvings are yet to be properly recorded and studied, some sites have been the subjects of detailed studies, making it possible to define 'phases'. In the earliest phases the rock art is heavily related to hunting, sharing stylistic and thematic similarities with the Arctic rock art in northern Scandinavia (Anati, 2009, pp. 13–18). The focus in this article will be on the rock art dating to the third and second millennium BCE, especially the Italian Chalcolithic (2500–2200 BCE) and beginning of the Early Bronze Age (2200–1650/1600 BCE). During the third millennium BCE the number of Alpine rock carvings multiplies dramatically (De Saulieu, 2013, p. 291), the focus shifts from animal or prey to humans, and the images show more complex economies and social organization (Anati, 2009, pp. 24–25). The rock art of the period is often referred to as monumental, both in terms of the medium used (stelae, menhir-statues, boulder, open-air rocks) and the composition of the motifs (Figure 3). Within this monumental art, weapons such as halberds, axes and daggers are numerous. The weapons are often representations of metal objects, attesting

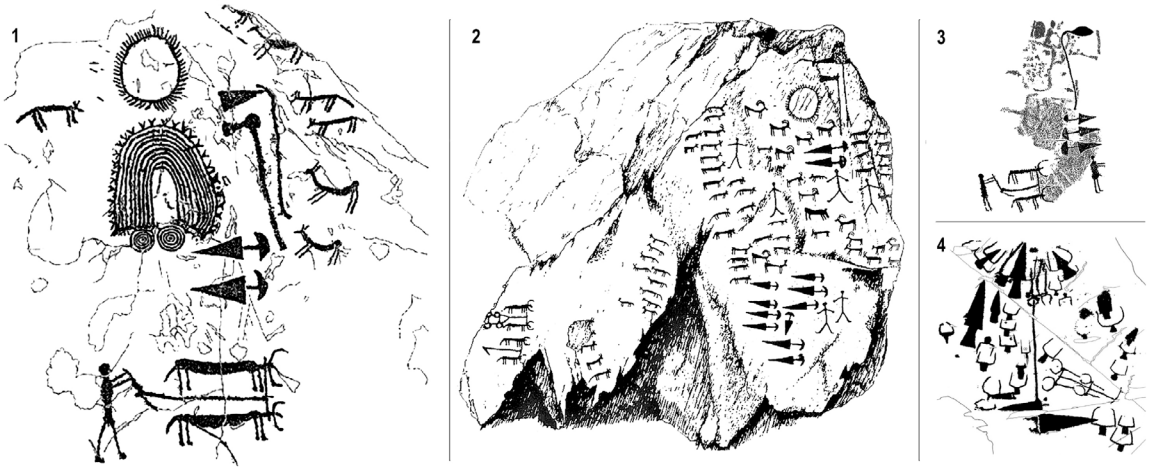


**Figure 3:** Rock art images Italian Alps; 1 Bagnolo 2 stela in Val Camonica, 2 Cemmo boulder in Val Camonica, 3 Borno 1B rock in Val Camonica, and 4 rock 19C in Mont Bego's valley of Marvels (reworked after Fossati, 2015a, fig. 45.2; Bianchi, 2010, fig. 4).

to the beginning of metallurgy in the area. These motifs are frequented by depictions of animals, geometric figures, small human figures, anthropomorphic figures, wagons/chariots, ornaments (e.g. necklaces and belts), as well as representations of the sun. Gradually, the sun becomes the dominant motif in the compositions, depicted in the form of a halo or even replacing the head of a human figure. Weapons are associated with the sun motif, an aspect interpreted to symbolize the emergence of hierarchy, with daggers referring to a male personage and necklaces to a female personage (Fossati, 2015a, p. 866). Many of the weapons are images of well-dated artefacts, enabling researchers to date individual motifs and study style and superimpositions. One of the major groups of weapon carvings are the numerous depictions of daggers of the Remedello type (De Saulieu, 2013, p. 294), recognisable by their well-defined triangular blade and crescent-shaped pommel (Harrison & Heyd, 2007, p. 160). As artefacts, they primarily appear in tombs of the eponymous Remedello culture and as stone carvings on stelae from large parts of the Alpine Range.

A recent study by one of the authors (Sand-Eriksen, 2015) discovered what seems to be a Remedello-type dagger on one of the slabs from the monumental Mjeltehaugen mound. The original aim of the study was to further explore the geometric motifs and contextualize the six heavily decorated slabs that form a large chamber or set of chambers. The decoration consists of six different geometric motifs arranged in several bands, and previous scholarship had suggested that it is affiliated with the decoration associated with the Bell Beaker Culture (cf. Prieto-Martinez, 2012, p. 44; Østmo, 2005, p. 70). The recent study, however, more precisely pinpointed the Mjeltehaugen mound's motifs to the Alpine Range (Sand-Eriksen, 2015, 2017). This connection became even more prominent with the (re)discovery of the dagger blade (Sand-Eriksen, 2015, pp. 46, 80). While this motif might have been observed earlier, it was perceived and interpreted differently: during the late 1800s as a 12 cm long figure resembling a vase (Lorange, 1879), and in the early 2000s described as a triangular-shaped figure, but portrayed in drawings as rough and irregular (Linge, 2007, pp. 48, 51–52). The latest observation, however, demonstrates that the motif is even, with smooth lines and marked corners, clearly resembling a (metal) weapon (Figure 4; Sand-Eriksen, 2015, 45ff, 2017, p. 13). The motif sits on the back of two damaged slab fragments, broken so the shaft and the pommel are missing, making it difficult to determine the exact type; however, the fragment is broken in a way that leaves diagnostic parts of the blade preserved. The general form of the motif is triangular-shaped with well-defined edges, much more reminiscent of a metal dagger than, for instance, any of the known flint dagger-types (Lomborg, 1973). The size and shape, that is the width according to length of the Mjeltehaugen dagger blade, is reminiscent of the Remedello daggers depicted on stelae in the Alpine Range. Taken together, this and the geometric motifs' affiliation to Bell Beaker decoration are strong indications of connections to Continental Europe. The slabs are not without local influence, however, which is represented by the rock art ships, probably one of the earliest occurrences of ships in the Nordic Bronze Age rock art tradition (e.g. Mandt, 1991, pp. 280, 330; see also Melheim & Ling, 2017). Furthermore, the ships articulate an adaption to the local maritime context, which together with the mound's monumental position overlooking the sea lane, express the importance of the sea as a mode of communication and source of power (Sand-Eriksen, 2015, 2017; Prescott et al., 2018).

The Mjeltehaugen ship type is referred to as A1 (cf. Mandt, 1991), or 'square ships', and dated to the Late Neolithic or Early Bronze Age. The depictions of A1 ships, among which Mjeltehaugen is considered the earliest, are mainly a coastal phenomenon, with known sites along the Norwegian west coast – from Rogaland County in the south to the Trondheim Fjord in central Norway (Sognnes, 2002, p. 6; Wrigglesworth, 2015, p. 110, with references) – and a few occurrences in the Østfold-Tanum region (Melheim & Ling, 2017). Ships are continuously present and numerically dominant in Scandinavian rock art until the transition to the Iron Age (Østmo, 1990, see however, Wickler, 2019). Although there are few direct traces of ships during the Nordic Late Neolithic and Early Bronze Age (Kvalø, 2007, p. 52), the development of new boat building technology specific to the Nordic region has been considered a precondition for the intensified interaction in the period (Østmo, 2012, p. 67), demonstrated by the movement of flint daggers and other objects between Jutland and Norway (Apel, 2001, p. 295).

Although a rare motif, ships do occur in the rock art of Val Camonica, both appearing and disappearing during the Italian Iron Age in the first millennium BCE (Fossati, 2015b, p. 119). The ships are either depicted as single or double, with or without vertical segments interpreted as oars, bird's head stems and inscriptions,

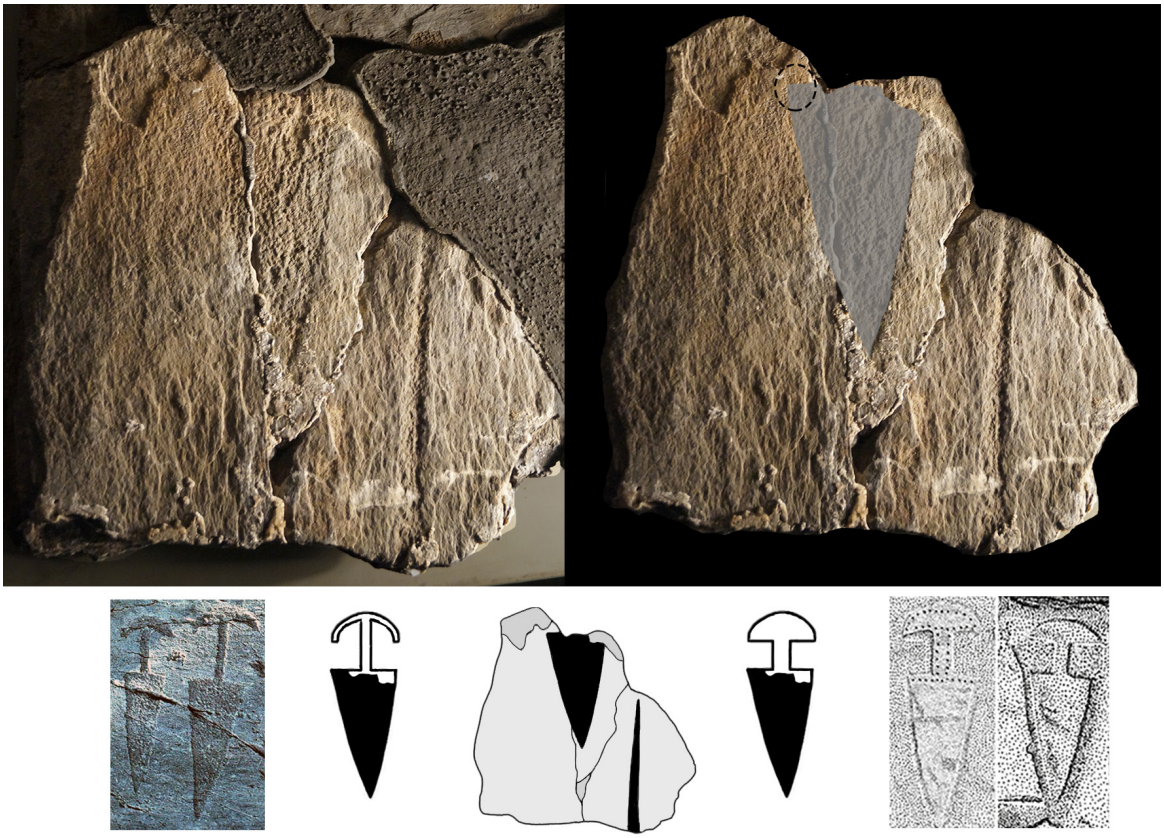

**Figure 4:** The Mjeltehaugen dagger blade (Sand-Eriksen, 2015); the small notch marked was a decisive feature in defining the carving as a triangular shaped metal blade. Below the missing shaft and pommel are suggested, with reference to Remedello daggers from Cemmo 2 in Val Camonica to the left (Casini, 2015, fig. 3.1) and Le Petit Chasseur in Sion to the right (Harrison and Heyd, 2007, fig. 24).

and seen as either real or mythical representations. Due to their vertical segments of oars, the double ships have a form resembling a ladder – something which has led to previous interpretations of them as actual ladders, bridges, fences and dancing people, but now seen as ships depicted from a bird's eye perspective. Such frontal viewpoints are well known in Val Camonica, observed in depictions of wagons and ploughs (Fossati, 2015b, p. 124). While in Val Camonica the vertical lines are regarded as oars, similar lines on Nordic rock art ships are interpreted as human figures representing the crew (Ling, 2012). The interpretation of the lines as oars in the north Italian ships is, according to Fossati (2015b, p. 124), due to their uniform length and distance between each segment. Many of the Scandinavian ships are just as uniform, and there is no apparent reason, that we can see, for the vertical lines not to represent human figures. That being said, oars and human representations may be considered to serve the same means, as a sort of 'dimensional code' indicating the size and capacity of the ship (cf. Ling, 2012, p. 473).

A striking similarity between the rock art in the two areas is the prominent relationship between ships and water bodies. In Val Camonica, depictions of ships with vertical segments are normally engraved in association with channels produced by the movements of glaciers, which are interpreted as representations of streams and rivers (Fossati, 2015b, p. 125). Glacier channels are features that are also present within the environment of Scandinavian rock art ships as one of several affiliations to water, others being the presence of the sea, rainfalls, streams down the rock, and the sound of nearby waterfalls (Goldhahn, 2002, p. 70). In many instances, this connection is still obvious today, such as at Unneset/Askvoll in western Norway, where the shore displacement has been very moderate; but also in other areas more exposed to the shore displacement phenomenon, such as northern Bohuslän on the west coast of Sweden and Østfold in southeastern Norway (Coles, 2005; Ling, 2008). However, even in western Norway, rock art is related to a number of different water bodies, not just salty water but also lakes and watercourses (Dodd, 2011).

Moreover, looking at the microtopography of panels, a recurrent phenomenon is the utilization by the carvers of, amongst other natural features, glacial depressions in the bedrock to illustrate water bodies (Nordenborg Myhre, 2004, pp. 177–180).

Another rock art motif depicting transportation or movement is the two- or four-wheeled vehicle, which occurs in large parts of Europe (Koch, 2013), though the spread of its usage is difficult to trace. Representations of wagons, carts, or chariots are the most widely found images in Eurasian rock art, possibly spreading from the Near East to Egypt, the Mycenae and across Europe and Asia (Jacobson-Tepfer, 2012). Prevailing interpretations of the images have been related to solar cults and the Indo-European chariot of the sun, but also more directly to the spread of Bronze Age cattle-herding (Jacobson-Tepfer, 2012, p. 2), and as associated with male warriors and the emergence of warfare (Anthony, 2007), or ritual symbolism (Sansoni, 2015). Depictions of wheeled vehicles, often as ploughing scenes, are a prominent theme in the Alpine rock art, especially in Val Camonica. They are mainly dated to the end of the second and the beginning of the first millennium BCE (Piggott, 1983), but they do appear as four-wheeled chariots in the Chalcolithic during the third millennium BCE (Sansoni, 2015, p. 138). Two- and four-wheeled vehicles are also a recurrent motif in the rock art of southern Scandinavia, especially in Bohuslän on the west coast of Sweden, but also in Scania in southern Sweden and Østfold in southeastern Norway. The vehicles are either horse or ox-drawn, respectively two- or four-wheeled (Vogt, 2012, p. 60), or without animals and/or driver. The motifs are mostly depicted from a bird's eye perspective; however, there are some exceptions where the image is in profile, such as the horse-drawn chariot depicted on one of the slabs from the Kivik grave/Scania, the depiction of ox-drawn ploughing at Finntorp/Bohuslän and the previously mentioned horse-drawn chariot in Unneset/Askvoll (Figure 2). This chariot is one of a kind in western Norway, and it is interesting how such a land-based means of transportation appeared on the typically maritime location of Unneset/Askvoll. Interestingly, the profile rendition, which is extremely rare in Norwegian Bronze Age rock art, may also tie the Unneset chariot more specifically to the chariots and ploughing scenes of the Alpine Range. Profile view is actually rather common here, with similar renditions occurring in, for instance, Cemmo, Foppe di Nadro and on the Bagnolo 2 stela in Val Camonica (Figure 3). The latter has a total of 16 engravings, ranging from Remedello daggers and axes to patterns interpreted as necklaces and pendants, as well as a sun, a dog and a ploughman with two oxen.

From c. 1000 BCE, connections between the two regions become even more pronounced, when the house urn burial tradition connected the two areas directly; having spread from Italy to groups in the north through transcultural connections (Sabatini, 2007). However, while houses are frequent motifs in Val Camonica rock art, the house concept does not seem to have interested rock art carvers in the Scandinavian realm. The house and face urn burial traditions seem, however, to be interrelated, and to have mutually influenced each other in the two main areas of distribution. Yet, the two traditions seem to form a binary chronological pattern, with the first occurrences of face urns in Denmark in NBA IV (1100–900 BCE), coinciding with the first house urns in Italy (Kneisel, 2016, p. 227). Complex face urns, most prominently those from Poland, carry some of the same motifs that we find in rock art – most notably wagons and ships (Kneisel, 2012). Interestingly, the few face urns found in Norway, from the southwestern coastline, bear strong similarities with the Polish face urns from the Szprotawa/Lubusz area, a simpler form without pictograms. One lid fragment with a face is considered to be reminiscent of Italian canopic jars from Chiusi in northeastern Etruria (Wendelboe, in prep.).

## 4 Rock Art Aggregation Sites as Loci for Exchange?

The overall maritime location of Scandinavian rock art has led to the interpretation of the rock-art sites as traces of seasonal meeting grounds or maritime ports (Ling, 2005, p. 434; Goldhahn & Ling, 2013, p. 280). The rock art might be implicit or explicit traces of different forms of interaction, either as a condition, manifestation or reflection of the social meetings (Ling, 2005, p. 453). By combining rock art and metal trade, Ling and Uhnér (2015) found that the Scandinavian rock art responds to changes in copper exchange patterns in a quite pronounced manner. They emphasize the images of bulls, wagons/chariots and bihorned

warrior figures, and they draw attention to recent findings of rock art oxhide ingots in Scandinavia that are quite similar to Late Minoan pillow ingots (cf. Ling & Stos-Gale, 2015; Sabatini, 2016). The ingots are also depicted during later phases, and Ling and Uhnér (2015, p. 30) suggest that the panels with the ingots, depicted alongside ships and warriors, may represent prominent meeting places (with reference to Fredell, 2003, p. 221) and possibly places where metal was brought in and then distributed further.

While Mesolithic and Bronze Age rock art belongs to communities that were wide apart chronologically and had different social organisations, the continued practice of carving rock art may indicate that some comparable functions may be assumed. For instance, following Lévi-Strauss, Fuglestvedt (2018) suggests that Mesolithic rock art expresses the community's core themes – motemes which constituted key elements in the world view and self-esteem of the Mesolithic groups – and that society was constituted in analogy with the big game depicted on the rocks. In light of established ideas about the worldview of Nordic Bronze Age communities (e.g. Kaul, 1998), it seems plausible that even Bronze Age rock art exhibited core themes, reflecting how the northerners established themselves as maritime societies. Similar to the function of Mesolithic rock art sites as seasonal aggregation sites, clusters of Nordic Bronze Age rock art at coastal locations and in proximity to landing places for ships may be interpreted as aggregation sites that attracted people from a larger catchment area to maintain, reproduce and introduce socio-ritual relations and structures, and to exchange goods and raw materials (Melheim & Ling, 2017). The fact that metal was imported from ore sources outside the regional sphere of interaction implies that a transformation of value from one system to another took place. As already mentioned, it has been hypothesised that the centralized metal workshops in the Nordic region, often maritime sites, served as landing and market places (Melheim, 2018). This is based on the theory of a local weight standard (perhaps even a proto-currency), tied to a wider weight standard and monetary system, that enabled transactions and transformation of value. An indicator for the existence of a common weight standard is found in, among other things, the standardized size of the crucibles at Nordic workshop sites. There is a tendency for these centralized workshop sites to occur in areas abundant in rock art and considered to be 'rock art centres'. Could congregations at rock art sites in the vicinity of such market and landing places have been a means to keep up trade networks? Could rock art itself have played a role in the establishment of social relations?

## 5 Two Takes on Exchanges Between the Italian Alps and Scandinavia: Sea-Based Long-Distance Trade and Travelling Individuals

The significant amounts of copper that reached Scandinavia from the Italian eastern Alps most likely followed sea routes as well as riverine/land routes. By combining these two efficient means of transportation new regions could be connected, but it would also promote competition and expand demand (Kristiansen, 2016, p. 158). The Terramare Culture (1600–1200 BCE) in northern Italy has been suggested as a bridgehead in movement between north and south, supported by findings of amber beads and other evidences of northern connections in sword types and pottery. As central meeting places, the Terramare settlements interacted systematically with the more complex societies in the Mediterranean, creating an economic world system of trade in goods and services, such as copper, tin, gold, amber, warriors and slaves, which also included closer and more distant peripheries (Kristiansen, 2016, pp. 170, 180).

A noted influx of Baltic amber in northern Italy towards the end of the Middle Bronze Age (Angelini & Bellintani, 2005, 2017), coincides with the importation of Italian copper to Scandinavia. In a recent contribution, Kaul (2018) uses a variety of finds, i.e. amber and blue glass beads, to map the route from Scandinavia through the Italian Alps and into the eastern Mediterranean during the Nordic Early Bronze Age (1700–1100 BCE). When it comes to cross-continental routes, the rivers running north-south from the North Sea (the Rhine, Weser, Elbe) and from the Baltic Sea (Oder and Wisla), connecting with the west-east running Danube and connecting roads, are often referred to as Bronze Age 'amber routes'. Further south, the route followed the Alpine valleys and passes leading to the Po Valley (Kaul, 2018).

The identification of these rivers as central for contact and trade in prehistory stems from older studies (e.g. De Navarro, 1925); however, Kaul (2018) argues that certain artefacts following these routes can be

explained through the concept of *xenia*. This concept, known from Greek epic poetry and often translated as 'guest-friendship', might shed some light on the social mechanisms behind travelling in prehistory. Around 1200 BCE, the era in question, travellers had to rely on the mercy of others. By invoking the code of *xenia*, and building on the recognition that one day the roles might be reversed, hosts and guests must treat each other with respect. The diplomatic significance of a *xenia* relationship means that it is superior to all other obligations (Bauslaugh, 1991, p. 61). While a *xenia* exchange has long-term expectancies, outside the context of a guest-friendship exchanges are more short-term and self-liquidating. *Xenia* may be expressed materially through gift giving or the bestowing of an artefact – a *xenos* – a formalization of the guest-friendship and a testimony of protection (Herman, 2002, p. 80). It is thus rather similar to how foreign artefacts can be regarded as testimonies of ritual friendship or exchange alliances (Kristiansen, 1998, p. 93). Kaul (2018, p. 25) argues that the institution of guest-friendship allowed travellers to move safely between regions during the Bronze Age, and that such ties helped keep trade routes open and the flow of goods steady even in times of hostility and strife. By carrying an artefact deriving from *xenia* exchange, the artefact could function as a 'passport'. In light of this theory, Kaul (2018, pp. 26–27) interprets finds of Nordic octagonal-hilted swords and local imitations of these in southern Germany and the Alpine region as results of *xenia* weapon exchange. He goes on to suggest that a gifted sword could be carried for generations, a token of a guest-friendship established between one's forefathers.

Recent provenance analysis suggests that the copper used to make octagonal-hilted swords did not derive from one but several different ore regions, and among these the Italian Alps (Ling et al., 2019). Interestingly, the copper identified as Italian in the Scandinavian data-set derives mainly from south Alpine ore fields (Addis, 2013; Artioli et al., 2014, 2016), situated in the area around present-day Trento, and south of the Brenner passage and the ancient Roman road Via Claudia Augusta. Both were frequently used by travellers for thousands of years before the Romans regularised the Alpine passes (Hyde, 1935). One of the southernmost finds of an octagonal-hilted sword (Kaul, 2018, fig. 17) is from the area around Trento, only 60 km east of Val Camonica and 48 km from Via Claudia Augusta, which again is a little under 60 km south of the Brenner passage. Another interesting item is the Naue II sword, first appearing in Italy around c. 1300 BCE, argued by Kristiansen and Suchowska-Ducke (2015) to represent a pan-European social group of warriors and traders. Several recently analysed Naue II swords found in Greece seem to be made of copper from the Trentino region, thus demonstrating that Italian copper circulated in the eastern Mediterranean around this point in time (Jung & Mehofer, 2013; Mehofer & Jung, 2017). A Naue II sword isotopically consistent with slags from the Italian eastern Alps near Trento is also present in the Danish data-set (Melheim et al., 2018a). These findings, indicating that both local and foreign sword forms found in the Alps were made of local copper, further underscore the complex interplay between exchange and cultural transmission.

Following this, the diffusion of raw materials, objects and material-culture concepts between Scandinavia and the Mediterranean must have been anchored in vibrant exchange relations which were upheld by travellers through centuries. We regard Kaul's take on trade relations as stimulating, since it goes to the very core of the social aspects of travelling and trading and hence has the potential of combining the two previously separated aspects of exchange, the personal and the commercial. In the following section we will argue that the concept of *xenia* may be transferable to rock art.

## 6 Discussion: Representations of Metal on Rocks – Testimonies of Travel and Exchange

The keys to understanding the interconnectedness of Bronze Age Europe are the figurative rock art motifs, i.e. weapons, oxhide ingots, chariots and representations of the sun, which may be seen as articulating more exclusive 'social codes' shared over large parts of the Continent, again demonstrating the interconnectedness of Bronze Age Europe (Ling & Uhnér, 2015, pp. 23, 30). Rock art images of metal objects may be interpreted as representational or even substitutes (Malmer, 1981), as sources of artisan inspiration (Marretta, 2015), or even as skeuomorphs imitating metal objects in a different media (Frieman, 2010). While weapons occur frequently on open-air panels in Scandinavia (Malmer, 1981; Horn & Potter,

2018), the number of stelae/slabs adorned with images of artefacts and weapons, like daggers, axes etc. so typical for other parts of Europe, is comparatively lower. Apart from ships, and again disregarding cupmarks, the most typical motifs on the Nordic slabs are foot soles, hand signs and geometric motifs (Goldhahn & Ling, 2013).

Two exceptions, with clear continental connections and references to metalwork, can be found in western Norway (Figure 2). One is the Kyrkje-Eide stela from Stryn in the northern part of Vestland county, dating to c. 1300 BCE (Mandt, 1991, p. 349; Engedal, 2010, p. 299). This stela gives a general impression of visually emulating a dress, alongside images of a dagger, an axe and a sickle, as well as other tools and elements, such as a belt-plate and what we would argue are depictions of arm-rings. The stela has a particular Nordic imagery, but it is also a splendid example of how the more northerly parts of Scandinavia display evidence of contact with Continental Europe, despite belonging to what is considered a geographical periphery of the main European arteries of communication. Previously, it has been argued that the Kyrkje-Eide stela contains similarities to the imagery on warrior stelae from the Mediterranean area dated to 1300–1200 BCE, and especially those from the Iberian Peninsula (see Harrison, 2004, pp. 59–65; Melheim et al., 2018b, p. 141). Although not denying these similarities, we would like to draw attention to some of the artefacts not included in the comparison with the warrior imagery. We especially wish to point out those artefacts referred to as other tools above, which could be depictions of precision tools used in metalworking, possibly specialized tools used when moulding wax models and hence evidence of lost-wax casting (Engedal, 2010, p. 299). These are not unlike bone and antler artefacts found in the Skrivarhelleren rock shelter (see Prescott, 1991, pp. 60–73), located some 50 km away from the Kyrkje-Eide stela (Melheim, 2015, p. 91). The evidence of metallurgy at Skrivarhelleren and this site's proximity to copper ore sources have inspired interpreters to consider the shelter as a prospector's base camp (Melheim & Prescott, 2016). The evidence of metallurgy in the region may strengthen the hypothesis of the Kyrkje-Eide tools as metalworking equipment.

Tying this all together, it may be argued that the Kyrkje-Eide stela showcases metallurgical knowledge and Continental connections. Based on this argument, we would like to draw a parallel between the Kyrkje-Eide stela and the famous 'Egtved-girl'. Lately, strontium analysis has sparked debate over where she originates from (Frei et al., 2015; Thomsen & Andreasen, 2019), where the latest studies argues that she is not of Jutish origin (Frei et al., 2020; Bergerbrant, 2019). In her study of the Egtved-girl and the grave goods, Bergerbrant (2019) opens up the possibility of a northern origin, i.e. southeastern Sweden or Rogaland county in western Norway. However, it is also stated that at present, without more concrete evidence, other European areas cannot be excluded. Therefore, Bergerbrant (2019, p. 33) argues that more detailed artefact analyses could have the potential to make a significant contribution, and that the results of such studies are eagerly awaited. Although it is not possible to study decoration and technical traits of the carved artefacts on the Kyrkje-Eide stela, we would like to call attention to the obvious resemblance between the artefact assemblage from the stela and the grave goods from the Egtved burial. In addition to the well-preserved costume consisting of a corded skirt and a woven blouse, as well as a disc-shaped bronze belt-plate, the burial also contained arm-rings, earrings, a comb and an awl. The belt-plate and the comb are characteristic Scandinavian objects, while the other objects are found as grave goods in a number of Scandinavia and European graves (Bergerbrant, 2019, p. 30). The large bronze belt plate, symbolizing the sun, has led to the interpretation that the Egtved girl was a priestess of a sun worshipping cult (cf. Kristiansen & Larsson, 2005, p. 298), and there is no denying that she must have played an important social role, perhaps as part of a political alliance or in establishing guest-friendships (Kristiansen & Suchowska-Ducke, 2015; Kaul, 2018). In Greek mythology, the sun-goddess drives the sun over the sky in a chariot drawn by horses, and she is often represented by a sun-disc. Such discs similar to the one in the Kyrkje-Eide case are also present as rock art images on stelea. It is believed that the transmission of the sun cult to northern Europe took place during the NBA I, and was fully adopted between 1500 and 1300 BCE (Kristiansen & Larsson, 2005, pp. 297, 302–3). Interestingly, another high-status female, the Ølby woman, while probably born and raised in Jutland, was buried in a traditional Scandinavian outfit with corded skirt and Nordic style jewellery. However, her grave contained other elements pointing to a wider network: glass beads from Egypt and the metalwork made of copper from

the Italian Alps (Reiter et al., 2019). Based on the similar expression, we would argue that the Kyrkje-Eide stela carries much of the same symbolism as these two elite burials. Whether the stela represents a particular female and is meant as a representation following her death (cf. Engedal, 2010, p. 301) or is meant as a more general representation of a powerful female is unknown; however, this stela's symbolism of contact between regions is undeniable. Just as the Egtved girl and the Ølby woman, the Kyrkje-Eide female possesses political power through her capacity to travel.

The Mjeltehaugen slab and its depiction of a metal dagger (Figure 4) has already been discussed above. Based on a comparison with European and Nordic grave contexts, it seems clear that the decorated slabs have little in common with other Nordic graves that contain rock art, but have rather clear parallels with Bell Beaker monuments (Sand-Eriksen, 2015, 2017). This connection was strongly reinforced by the discovery of a dagger blade similar to the Remedello daggers (Figure 4, Sand-Eriksen, 2015, pp. 46, 80; also Sand-Eriksen, 2017). Could such rare instances of a depiction of a metal dagger, in light of the above discussion about the guest-friendship as a way to seal long-distance relations, be regarded as a *xenos* artefact? The *xenos* artefact makes the relationship indisputable, but also effectively enhances geographic mobility, which is articulated in the *Odyssey* as "one who has a *xenos* abroad had an effective substitute for kinsman, a protector, representative and ally" (Finley, 1977, p. 102). The Mjeltehaugen rock art dagger might have been carved as part of the burial rituals to memorize a dead person's *xenia* and therefore achieved a similar function to a true *xenos* object (Kaul, 2018, p. 25). In a *xenia* relation, artefacts could be given as a testimony of protection and effectively seal a guest-friendship. Therefore, even if one of the people died, the *xenos* would not or could not die. This ritualised friendship not only bound individuals, but also included their respective lineages, hence mimicking kinship (Herman, 2002, p. 69).

When it comes to the Egtved girl, Kaul (2018, p. 28) considers her an active, possibly even indispensable part of a network of social relations. Her presence could have been instrumental in controlling, maintaining and securing the flow of supplies, such as copper and tin. The girl's possible foreign origin in combination with her typically Nordic burial can, according to Kaul (2018, p. 29), thus best be explained through the concept of *xenia*. However, according to the Greek sources, such relations could be carried on through ties of consanguinity after her death and burial. In light of this, we hypothesize that not only portable artefacts, but even monuments such as the Kyrkje-Eide stela and the Mjeltehaugen burial chamber, could be regarded as an adequate replacement of a personalised *xenos*. In this scenario, the carved motifs on the stela would have been equally instrumental in maintaining and reproducing socio-ritual relations. Within the concept of *xenia*, the carving would be the testimonial artefact, i.e. allowing and securing trade networks. Such established guest-friendships would help distinguish and avoid friction between different economic systems.

The Mjeltehaugen carving is an example of how a motif so typical of the Italian Alps, the Remedello dagger, was replicated in a context far north in the late third millennium BCE, in association with the most splendid means of transportation of that day, a newcomer in the late third millennium BCE: the plank-built ship. As mentioned above, some of the Val Camonica ship motifs are depicted with bird's head stems. Such ornitomorphic images of ships appeared for the first time in the Urnfield Culture during the 13$^{th}$ century BCE and spread widely within the area of present-day Italy (Fossati, 2015b, p. 126). The introduction of boat motifs in Val Camonica may well be tied to the Urnfield tradition and the *Sonnen Barke*, and hence the earlier noted spread of burial traditions (Kristiansen, 2016). It has, however, been pointed out that the sun boats and other prestigious symbols from Central European bronzework were reinterpreted by the Val Camonica carvers and translated into a local symbolical universe (Marretta, 2015). Others have argued that renditions in Val Camonica share close similarities with Scandinavian rock art, e.g. warriors with weapons, intercourse scenes and wagons, to mention a few (Sansoni, 2015). This regards not just single motifs, but the composition of scenes. Could the boat motif alternatively be seen as an influence from Nordic rock art, brought to Italy with northern traders visiting seasonal aggregation sites?

Contrary to interpretations focussing solely on the social prestige that ships, horses and wagons may have imbued, we consider these motives' social and mythological significance to be part and parcel of the same ideology. In western Norway, rock art's role in establishing durable social relations through

two-way transmission of symbolic concepts is exemplified through the depiction of a ship being drawn by two horses in Haustveit/Ullensvang and the depiction of a chariot drawn by two horses in Unneset/Askvoll (Figure 2). Although two- and four-wheeled vehicles are recurrent motifs in the rock art of southern Scandinavia, they are, in addition to being more common in Scania, Bohuslän and southeastern Norway, mostly depicted from a bird's eye perspective. As mentioned earlier, the chariot from Unneset/Askvoll is seen in profile rendition. This chariot is one of a kind in western Norwegian rock art, situated in a shoreline terrain, close to the sea. Perhaps the depiction of the wagon in its maritime context could be seen as a direct example of the combination of sea and land-based transportation? The motif in this specific location could be a material manifestation of how this combination made it possible to reach new regions and carry out long-distance travel and trade (cf. Kristiansen, 2016). There are few other examples of two-wheeled chariots with profile rendition in the southern Scandinavian rock art material, but there are some semi-profile/half bird's eye-viewed chariots, such as on the Staveneset panel in the region of Østfold in southeastern Norway (e.g. Lødøen & Mandt, 2009, p. 1, Fig. 1). The chariot from Unneset, on the other hand, has its closest parallels with the chariots and ploughing scenes of the Alpine Range. A similar viewpoint occurs on several panels and stelae in Val Camonica, for instance Cemmo, Foppe di Nadro and on the Bagnolo 2 stela (Figure 3). The Unneset/Askvoll area is a perfect landing location, situated in a sheltered bay with close proximity to the sea. In this area there are also numerous ship carvings (e.g. Lødøen & Mandt, 2009, pp. 179, 187), which further accentuates the importance of the sea. In western Norway, the relationship between sea and land has not changed much since the Bronze Age, and therefore several motifs, such as the ones from Unneset/Askvoll, lay close to the waterline and are to this day sprayed by sea water. The area itself is ideal as a place to bring in and distribute metal, where the rock art accentuates it as a meeting place and possibly a locus for exchange.

Just as the overall maritime location of Scandinavian rock art has led to interpretations of the sites as traces of maritime ports (Ling, 2005, p. 434; Goldhahn & Ling, 2013, p. 280), the rock art of Val Camonica is located and clustered in areas central to travel (cf. Figure 5). This placement of the rock art cannot be regarded as coincidental. We would rather argue that it occurs where it is supposed to be, namely in principle crossing zones in the Alpine Range. The Alps stand out from other mountain ranges in Europe because they are separated in mountain groups that form important points of passage. Alongside the Po Valley, which the Alpine Range envelops, several of these natural depressions in the mountain chain served as crossroads for the prehistoric Alpine people (De Saulieu, 2013, p. 291), and they were in use for thousands of years before the Romans started to regulate them early in the 1st century CE. This is also approximately the time when the c. 12 000-year-long Alpine rock art production came to an end (Arcà & Fossati, 2006, pp. 51, 55; Fossati, 2007), manifesting the close relationship between the Alpine people who used the area and the carvings they created. During the third millennium BCE the number of Alpine rock carvings multiplies dramatically. The figures can serve as parameters of the social, economic and ideological developments of the Alpine populations. A vital part in this development is the beginning of metallurgy in the area, explicitly illustrated by the imagery of daggers, axes and halberds (De Saulieu, 2013, pp. 291, 309). It is noteworthy that actual Remedello daggers do not seem to occur in the areas where rock art is made (Bertelheim and Pearce, 2015, p. 701), which is interesting in regards to the single motif of a metal dagger in western Norway. The question then is, *what was the rock art created for?* As places for feasting, seasonal meetings and exchange – aggregation sites – or special purpose sites used only for rock art? We contend that due to the sheer number of carvings in Val Camonica, the latter is not likely. The rock art in Val Camonica is mainly located in open air sites, spread and clustered within this c. 90 km long valley, forming the richest collection of rock carvings in the Alps, clustered in less than 30 regional centres. From the Brenner pass, Val Camonica can be reached by foot in a little over two days. The rock art in Val Camonica shares features with other aggregation sites, archaeologically identifiable by size, location in areas with resources and the many different artefact types represented, associated with a great number of activities (cf. Conkey et al., 1980, p. 612). Alpine copper may have been one of the products that were traded on these occasions, transactions being sealed perhaps with feasting and networking at rock art centers.


**Figure 5:** Map indicating main routes of transportation between Scandinavia and the Alpine region, with rock art centres and copper/tin regions marked (data assembled from Kaul, 2018; O'Brien, 2015; Melheim, 2015; Ling & Uhnér, 2014; Ling et al., 2014; Fossati, 2007, 2015; Mandt & Lødøen, 2005).

# 7 Conclusions

In this article, we have used rock art imagery to better understand the character of the social networks that enhanced travel and trade during the Bronze Age. We have argued that as prominent meeting places in areas with maritime ports or terrestrial passages and abundant natural resources, rock art centers may have functioned as loci for exchange. Various strands of evidence of cultural connections between Italy and the Baltic/Scandinavia pop up in the archaeological record during the Bronze Age, most prominently seen c. 1500–1100 BCE with the importation of copper from the Italian Alps to Scandinavia, and exchange of e.g. beads between the Baltic and Egypt/Mesopotamia, and again in a new form c. 1000–700 BCE when similar burial traditions occur in the two areas. As a hypothesis, and on the basis of the suggested two-way

transmission of symbolic concepts in rock art and burials between the two areas, we contend that the initial contacts may have been established by travellers through trade carried out at seasonal aggregation sites, and that more durable social relations and processes influencing rituals and burial traditions were established as a consequence of this. The demand for metal created long-distance exchange networks. These connections were personal and needed to be upheld through centuries by travellers. By applying the concept of *xenia*, we have argued that certain rock art monuments or motives could have functioned as *xenos* abroad or in absence of the *xenos* itself after a person had died. By possessing *xenos*, certain rock art motives effectively enhanced geographic mobility and maintained and secured trade relations for generations, hence avoiding friction between different economic systems. On this background, we consider trade and cultural exchange to be mutually influential in shaping relations between Scandinavia and Italy. It is noteworthy that some of the elements discussed in this article, which are evidence of exchange or cultural transmission across the Alpine passes, in a yet wider setting seem to have originated in the eastern Mediterranean area, in Greece and Egypt. Hence, the Italian eastern Alps may be considered one of those important cultural crossroads where travellers from the North could access wider networks.

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