

# Understanding Bronze Age Scandinavian Rock Art: The Value of Interdisciplinary Approaches

## Introduction

In this article, we employ an interdisciplinary approach to explore the possibility that Scandinavian Bronze Age rock art was created by warrior-trader secret societies as part of the ritual practices associated with long distance exchange activities. Additionally, we suggest that secret societies may have been responsible for the creation and maintenance of a Supra Regional Network that linked the Limfjord/Jutland and Tanum/Bohuslän areas together in Western Scandinavia. (Fig 1). In short, we propose that rock art depictions of warriors represent individuals engaging in activities and rituals conducted by secret societies. Interestingly, these warrior images are often accompanied by depictions

of supernatural beings, large ships, the wearing of ritual gear especially with bird-like attributes, bi-horned helmets, masks, and other exotic items characteristic of secret societies (Hayden 2018; Ling et al. 2018, nd).<sup>1</sup> (Fig. 2). In addition to being a boat building location, we posit that the Tanum/Bohuslän area was also an ancient secret society pilgrimage location (c.p. Hayden 2018). These assertions are supported by ethnohistoric and ethnographic observations from various groups in which the relationship between secret societies and the creation of rock art is firmly established. Additionally, we suggest that ethnographic analogies can help to explain some of the rather enigmatic Scandinavian



Figure 1. Map showing the location of the Supra Regional Network encompassing the Limfjord/Jutland area in Denmark as well as the Tanum/Bohuslän region of West Sweden.

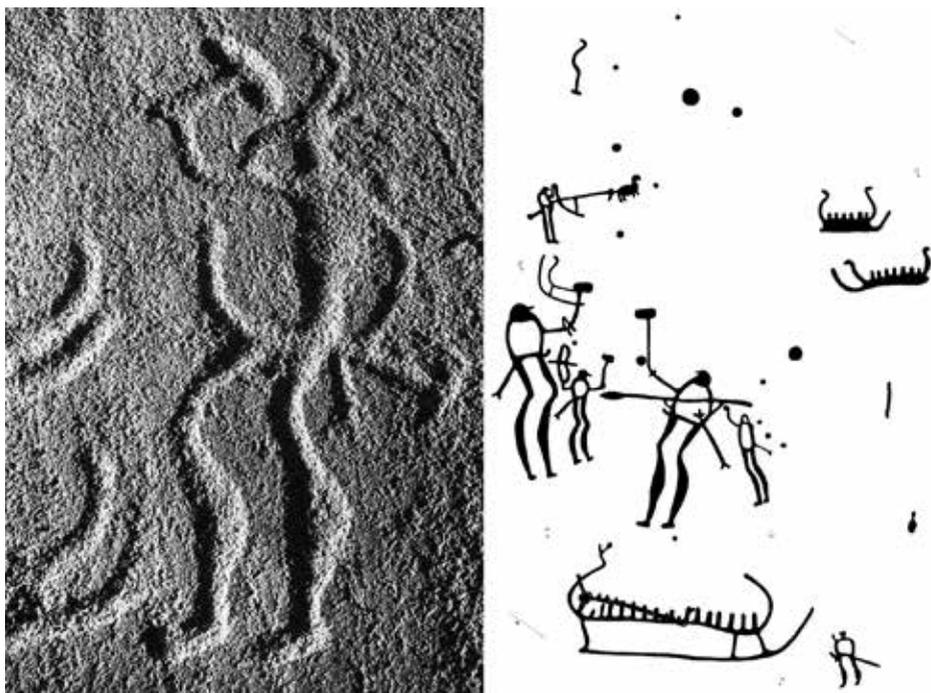


Figure 2. Images of warriors with bird like masks brandishing weapons from Bronze Age Scandinavian rock art locations at Tanum. To the left, the “shaman warrior” from Lövåsen. Photo by B. Almgren. Source: SHFA. To the right, warriors with bird like masks brandishing axes, spears, swords, and bows from Tegneby. Documentation by T. Högberg. Source: SHFA.

Bronze Age feature, often located close to the Bronze Age shore line, commonly referred to as ‘cooking pits’ (Pettersson 2009).

We hypothesize that Bronze Age Scandinavian rock art panels feature individuals from secret society boat-building and seafaring guilds whose members included warriors, traders, mariners, ritual specialists, and boat-building craftsmen who engaged in maritime long distance exchange. Moreover, the processes outlined in this investigation may account for the widespread similarities in Scandinavian Bronze Age art together with its distribution and shed light on how social complexity may have developed in Scandinavia during the Bronze Age.

Our approach incorporates cross-cultural analyses along with theory from the fields

of archaeology, cultural anthropology, sociology, and history (Chacon and Hayward 2017; Earle 1997, 2002; Hayden 2018; Ling et al. 2018b). We believe that engaging in such comparisons for the purpose of creating and testing various archaeological models is a valid endeavor (Reybrouck 2000; Melheim et al. 2016). This approach is most appropriate given our focus on social evolution, political economy, social interaction, social inequality and complexity in pre-state societies. We hold that analogies can be useful in the evaluation of various archaeological models (Earle 2013; Ling et al. 2018b). Thus, with this understanding, our theoretical framework is informed by ethnographic analogies, particularly when maritime factors and/or warfare are involved. We also hold that such cross-cultural comparisons reveal specific geographical, socio-cultural, economic, political, technological, and

environmental conditions that have repeatedly shaped humanity's ability to inhabit coastal locations. However, before we proceed any further into these topics, we turn to describing the characteristics of secret societies.

## Secret Societies

The term "secret society" is in reality, a misnomer. In fact, a more proper way of describing this type of sodality would be to refer to it as being "a society with a secret"--a secret that conferred power, protection, and wealth on members. Secret societies were relatively common in traditional cultures on five continents and formed an important aspect of ethnographies by many of the leading ethnologists of the last century, including Boas, Drucker, Kroeber, Lowie, Fortune, Wissler, Speiser, Evans-Pritchard, and Talbot (see Hayden 2018). In these societies, it was generally necessary to pay very large amounts to be initiated into these voluntary and very exclusive societies in order to learn the secrets which usually claimed to provide special supernatural knowledge, experiences, protection, and powers. Thus, secret societies are found in societies that are capable of producing substantial surpluses and wealth, as typified by Scandinavian Bronze Age societies and transegalitarian or chiefdom societies in general (Hayden 2018; Ling et al. 2018).

Secret societies could also take the form of warrior organizations which warfare literature sometimes refers to as *Gefolgschafts'* or "brotherhoods" (Vandkilde 2006; Raffield et al. 2015). An important defining feature of secret societies is also that of forming an exclusive "ingroup." An ingroup refers to "[a]ny group in which an individual is a member; these can be based on chosen or nonchosen characteristics..." (Heinzen and Goodfriend 2019:271). Social psychology research shows that ingroup members tend to discriminate in favor of their own ingroup and they are likely to share a belief in the existence of similarities among fellow ingroup members

(Hagtvedt and Johnson 2018). These socio-psychological dynamics operating within ingroups, such as secret societies, greatly enhance the ability to coordinate group effort in an effective manner and thus create significant advantages for such groups in any competitive context, and certainly there was often considerable competition between secret societies for dominance and members.<sup>2</sup> Along these lines, Raffield and co-authors hold that the formation of the Viking fighting units could be understood in light of this ingroup concept (Raffield et al. 2016:37).

Secret societies also operated at regional levels. As documented in many geographical areas from North America to Oceania to Africa, the interaction of secret society members on regional or greater geographic scales is one of their major features. It may be especially important in understanding the regional and supra-regional character of rock art in Scandinavia. Secret societies not only provide a motivation for regional interaction and exchange, but also the motivation and ability for creating art together with the means for safeguarding passage to distant communities (see Hayden 2018).

Members of secret societies typically acted to concentrate wealth and power in their own hands and sometimes directly controlled trade in all valuable goods as with the Poro of West Africa (Harley 1968). As such, they also typically dominated or controlled local and regional political organizations. Special task-orientated groups were often part of secret society roles and ranks as well, sometimes involving incipient specialization of labour that included war bands/units, carvers or other artists, mariners, hunters, herders, smiths, or others (Hayden 1995; Birx 2006). Significantly, Bronze Age Scandinavian rock art, is generally associated with most of these activities (Goldhahn and Ling 2013). The location of rock art with ritual themes, is moreover, clearly spatially linked to maritime locations (Ling 2008). Moreover, several scholars maintain that Scandina-

vian Bronze Age rock art depicts staged social (and ritual) dramas that aimed to assert a specific social order (Coles 2005; Ling 2008; Goldhahn and Ling 2013). We would add that establishing a hierarchical social order was precisely what secret societies were trying to do. Along these lines, Hayden states that “Secret society private and public performances constituted ritual theatre in which stage magic proliferated. Like good actors everywhere, they played their roles consummately... Shows and claims of power were meant to *impress audiences* and to try to make them believe in the powers claimed by secret society members...” (Hayden 2016:12 [emphasis added]). Many of these public performances may have included power battles between ritualists or “shaman” members in order to demonstrate who was the most supernaturally powerful, as perhaps depicted in some Scandinavian rock art. Shamans engaging in dramatic contests designed to demonstrate their alleged supernatural abilities have been widely documented among native peoples such as the Maidu, Yokuts, Sioux, and Potawatomi (Gayton 1930; Kroeber 1925; Landes 1963). These competitive encounters have been described as instances of “ceremonial jousting” (Landers 1963:559). More specifically, Hill Maidu ritual specialists held shamanic contests in which “[t]hey gather in the [secret society] dance house *from long distances*...[and] Power is exerted by a supernatural shooting or transmission” (Kroeber 1925:424, emphasis added). Another example can be found in the spectacular ritual battles that took place among the Yokuts. These contests “consisted of the magical killing of shamans who were arranged in opposing rows and ‘shot’ at each other with magic ‘air-shot.’ Only the doctor [shaman] who projected the fatal shot into a fallen opponent could withdraw it. If the shot were not removed the victim would not regain consciousness, and would die within a few days” (Gayton 1930:401).

Finally, it needs to be recognized that secret societies, while not universally present

in traditional societies at the transegalitarian (ranked) or chiefdom level of political organization, were, nevertheless very common cross-cultural occurrences in these ethnographically-documented societies. Therefore, we should expect to find them frequently occurring in prehistoric societies including many of those in Europe at these levels of political integration. We think that many of the characteristics of Scandinavian Bronze Age maritime societies are indicative of secret society organizations.

### Secret societies and rock art

The association between secret societies and rock art is widespread, and secret societies in general were one of the principal creators of art in various media, especially masks. For example, in North America, ethnographic evidence links secret societies to both masks--like the renowned Northwest Coast masks--and rock art. According to Drucker (1940:221), the carving of petroglyphs by initiates was part of the ritual activity required for admission into certain secret societies of the Tsimshian on the Northwest Coast. Given the nature of secret societies, only Northwest Coast Tsimshian secret society members would have possessed the esoteric knowledge of the underlying meaning/symbology of this rock art.

The following example from the maritime based Northwest Coast Bella Coola of British Columbia not only provides additional ethnographic evidence linking secret societies like the *kusiut* society with the creation of rock art but it may also shed light on its function in these societies. In addition, the landscape documented by McIlwraith helps elucidate reasons for the locations of Bronze Age rock art in the Scandinavian landscape.

Bella Coola chiefs would always call for a meeting whenever a new member was to be initiated into the *kusiut* secret society. Near every village is a place where the chiefs hold such

meetings. All the inhabitants know the general locality, but there is such dread of the supernatural powers possessed by members of the kusiut society that none would dare go there. If an uninitiated person should do so, he would formerly have been either killed or initiated into the society. The meeting-place of the Qomqo-ts chiefs is on a ledge or rock jutting out over a waterfall about a quarter of a mile from the village. The stream winds down a narrow cleft of the mountain side, screened by dense vegetation, and suddenly falls into a cauldron, so hemmed in by cliffs that no sunlight can enter. The ledge is immediately above the brink of the falls, one of the most awe-inspiring places imaginable. The meeting-places of other villages lack such natural settings, though all are at the bases of cliffs, or near some easily distinguished feature. Some of them are decorated with *rude carvings, pecked into the stone*. The meaning of the designs is not known to any of the present inhabitants. Some of them were made, long ago, by chiefs when they were composing tunes; they picked out the rock in time to the music forming in their minds. Others were mere memorials of certain events. If a chief gave an important ceremony, he, or one of his friends, carved a figure, perhaps that of a man, perhaps of some animal connected with the rite, to recall the occasion (McIlwraith 1948:177-178, emphasis added).

Importantly, for the Bella Coola, the rock art associated with highly esoteric secret society initiation rituals was located at some distance from village sites. The fact that the rock art was created away from settlements, and that access was probably hidden and prohibited to non-members, has also been stressed in terms of the Scandinavian Bronze Age rock art (Goldhahn and Ling 2013). This is further illustrated by Figure 3.

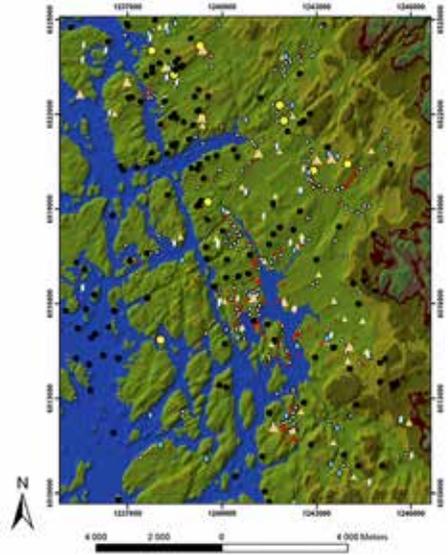


Figure 3. Map showing different Bronze Age sites in the Tanum/Bohuslän region and showing a shoreline about 15 m higher than presently. Red dots = rock art sites; white dots = cup mark locations; black dots = cairns; large buff triangles = settlement finds (carbon dates, ceramics, or other features) dated to the Bronze Age; small buff triangles = indicate settlements from the Bronze Age; yellow dots = bronze items; blue diamonds = flint daggers; white flashes = flint sickles. After Ling (2014).

Other scholars also report links between rock art and secret society initiation rituals as indicated by the following: “The magical fraternities [i.e., secret societies] of the North American Indians hold a most important place in the social and religious life of the people. Candidates for initiation give much attention to the preparation of the songs and chants sung by members at the lodge meetings or at the public performances of the [secret] societies. By means of elaborate rituals and songs, by *pictographs* and sand paintings, the religious traditions concerning the ancestors of the tribe are carefully preserved” (Webster 1908:179, emphasis added).

Links between rock art and secret society ceremonies can also be found in other parts of the world. For example, the rock art found at the Kanamuget site

in Uganda is associated with Sor secret society spirit mediums (Namono 2017). Additionally, the Nyau secret society members of central Malawi and eastern Zambia were known for their tradition of creating rock art (Smith 2001). Moreover, some investigators report the existence of a nexus between rock art and “secret male unions” (i.e. secret societies) in Siberia and the Lower Amur region (Lapshina 2016:1331). “In the Lower Amur basin, there are numerous monuments of rock art. They are characterized by the pre-dominance of skull masks. The semantic content of these artifacts allows [us] to identify them as the main attributes of the rituals of the secret male unions [secret societies]...” (Lapshina 2016:1320). The highly decorated petroglyph panels in Yalo Cave on Malekula Island (Vanuatu) appear to have been created by secret societies (Hayden 2018:230), while Condor Cave in Southern California was decorated with paintings related to the winter solstice and was used by secret society specialists for rituals at the winter solstice (Hudson and Underhay 1978:53, 55, 69-70).

Many factors link the propagandistic and esoteric nature of Bronze Age Scandinavian rock art to Hayden’s (2016) assertion highlighting the motivation on the part of secret societies to *impress audiences*, whether consisting of society members, ritual guests, or the public. We will return to this topic after further examining the characteristics of secret societies. In sum, these sodalities are often found in association with several distinctive characteristics/practices, which may have been present during the Scandinavian Bronze Age. These included:

1. Ritual activity involving theatre, sacred masks, dances, along with a shared symbology with an esoteric meaning.
2. The making of rock art in the form of petroglyphs and/or pictographs.
3. Power iconography of ritual importance featuring war canoes, warriors,

fighting, solar depictions, and metals (Ling 2008).

4. A regional or supra-regional iconography focused on power animals, myths, or regional interaction, and shared art styles (Goldhahn and Ling 2013).
5. Strong associations with warriors and publically or ritually staged supernatural or martial contests between individuals.
6. The procurement of exotic ritual paraphernalia, particularly metals for rituals and for fighting.
7. The creation of regional or supra-regional networks with ritual participation and exchanges.
8. Focus on surplus production and gift exchanges to establish networks of power and alliance (Earle et al. 2015; Ling et al. 2018).
9. Control of trade in valuable goods (Earle et al. 2015).
10. Esoteric knowledge about martial arts, navigation (including astronomy), and cosmopolitan affairs (Ling et al. 2018).
11. Requirements of wealth and power for membership.
12. Warriors able to raid, trade, protect, and to intimidate (Ling et al. 2018).
13. Simple decentralized ranked and/or chiefdom levels of sociopolitical organization (Kristiansen and Earle 2014; Earle et al. 2015; Austvoll 2018).

The common association between warriors and secret societies would have been particularly attractive for Scandinavian Bronze Age adventurers because society rituals proffered supernatural protection for individuals who were engaging in combat so as to ensure victory (Hayden 2018). Horned helmets may have been part of the ritual paraphernalia that was supposed to confer supernatural powers on combatants or at least in ritualized contests (see Fig. 6). Seafaring in island environments is another likely association with secret societies due to the dangers and risks involved in excursions made to attend regional rituals, procure exotic

ritual paraphernalia (as on the American Northwest Coast and Island Southeast Asia), or to control trade in valuable materials as exemplified by West African Poro secret societies (Harley 1968; Hayden 2018). Warrants of supernatural protection could have been given all such ventures. In the following section, we examine the war-related rock art themes in Bronze Age Scandinavia and its link to secret societies.

### Scandinavian Bronze Age rock art

Generally, Scandinavian localities with high concentrations of rock art depicting warriors and weapons are located in coastal areas.<sup>3</sup> These regions were all, in the Bronze Age, linked to water transport. (Fig 4). The impressive rock art in the Tatum/Bohuslän region of Sweden faced the North Sea, while Scania, Uppland faced the Baltic and even Norrköping was linked directly to the Baltic Sea. Regarding the dating of the south Scandinavian Bronze Age rock art, various techniques have been used over the years. Currently, a dating sequence of 1700-500 BC is accepted

by most scholars (Kaul 1998; Ling 2008, 2013).

There is no other Bronze Age region in Europe where rock art images of violence are so numerous, varied, and pronounced as in Scandinavia. This imagery includes staged fights in watercraft, combat scenes on the ground, and scenes depicting the act of killing. Most of the rock art panels that include war-related scenes were created during two separate chronological phases of the Bronze Age, Period II (1500-1300 BC), and Period V (900-700 BC) (Ling and Cornell 2015). Interestingly, these phases correlate with the circulation of the greatest amounts of metals in Scandinavia. Thus, the representation of violence on these panels dovetailed with the Bronze Age society's investments in long distance exchange of metals that in turn, spurred social inequality (Vandkilde 2006; Ling 2008; Earle and Kristiansen 2010; Ling et al. 2018). It is also important to point out that the Scandinavian Bronze Age is associated with an increased number of actual weapons being recovered along with a large number of rock art panels depicting conflict (Thrane 2006).

Figure 4. Map showing the regions in Scandinavia marked by the presence of rock art depicting boats (after Ling and Cornell 2015).



Since research findings indicate that Scandinavian societies obtained metal from various regions of Europe, we posit that the warriors depicted on rock panels in Scandinavian regions represent Bronze Age actors engaging in activities associated with the acquisition and/or distribution of metal that was highly coveted (Ling et al. 2014). Forming a specialized sodality of Bronze Age Scandinavian society, these “warriors” were likely involved with maritime trade, warfare, and long distance exchange (Kristiansen and Larsson 2005; Kristiansen 2016). We suggest that these warriors likely formed a type of “warrior/trader/secret society” (more on this below).

Importantly, the war-related motif is only one of several other recurring themes present in Scandinavian rock art. This war-related rock art may have functioned as a type of advertising or showing-off involv-

ing society myths or displays of bravado. However, it may have also been associated with actual violent events or ritual battles (Ling and Cornell 2015). Advertising or showing-off, whether to the public or to potential or real adversaries, have been and continue to be, important strategies in times of warfare and it is tempting to interpret these warrior images as a component of military propaganda (Ling and Cornell 2015). To use a contemporary analogy, one may consider modern day large military parades as being designed to advertise/show-off an army's strength as a type of military propaganda.

Additionally, as previously mentioned, we propose that important sectors of Scandinavian Bronze Age rock art may have formed part of a secret society's esoteric ritual practices. For instance, the majority of the panels at Tanum/Bohuslän were sculpted on horizontal rock outcrops forming the ground surface. They were not placed vertically like billboards, but were rather invisible on the landscape unless standing directly around them. This indicates that they were meant to be viewed by a select number of people who knew exactly where the sites were located, and that their symbolic content was linked to the esoterica (whether myth or history) of those standing at the site.

While there are only a relatively small number of panels on bedrock with slopes of 45 to 90 degrees, even these cases support this interpretation. The reason for this stems from the fact that locations with panels on bedrock with slopes of 45 to 90 degrees had very limited visibility of images. Today, Scandinavian Bronze Age rock art sites are often considered as being in relatively inaccessible locations. However, these sites would have been visible by boat in the Bronze Age because they would have been found along the ancient shoreline (Ling 2008). This is a result of the shore displacement and sea level change phenomena. Even if the images were painted, for which there is no concrete evidence, they would still not have been

visible from the sea beyond 10-30 m. Thus, viewing such images would have been restricted to individuals with access to marine craft as well as knowledge of where to find specific rock art sites.

Therefore, the overall placement of the rock art in southern Scandinavia suggests the possibility that warrior/trader/secret society members from larger and perhaps even distant polities gathered and interacted at these locations. It should be stressed that the rock art was primarily a regional medium, with certain regional styles, connected to a Supra Regional Network. Additionally, the prominence/abundance of Scandinavian Bronze Age coastal rock art at certain localities indicates that these areas could also have functioned as rendezvous points for the sharing of esoteric knowledge among secret society members made up of warrior/traders that would have included individuals with expertise in boat construction and navigation as well as esoteric ritual knowledge. This is evident by cosmopolitical depictions of warriors (often dressed in ritual attire), weapons, boats, chariots, supernatural beings, the sun, and other ritual features on rock art panels or associated with boats (Kaul 1998; Kristiansen 2004; Harrison 2004 Goldhahn and Ling 2013). Indeed, some panels like the Fossum scene (Ling 2008), appear to represent congregations of 12 or more substantial boats which must have represented a gathering on at least a regional scale. (Fig. 5 and 6).

### **The Maritime Component of Scandinavian Rock art and Secret Societies**

Many warriors and combat scenes depicted in Scandinavian rock panels have been carved in association with boats indicating a link between warriors and watercraft. As previously mentioned, much of this rock art was created close to the Bronze Age shoreline. To be more precise, at Tanum/Bohuslän, 70 percent of the known rock art sites are found at or adjacent to the Bronze Age shoreline.



Figure 5. Boats and warriors from the famous Fossum site at Tanum. Note warriors in "ritual battle" holding ritual axes of the Skogstorp type. Documentation by G. Milstreu. Hällristningsmuseum Underslös. Source: SHFA.

Figure 6. Cosmopolitan codes and features from different parts of Bronze Age Europe. Top: warriors depicted in Spanish rock art marked with the letter 'C.' Swedish rock art to the right (unmarked). Mid-section: horned figurines from Grevesvænge, a horned helmet from Viksø, and a stool from Guldhøj, Denmark. Bottom left: Acrobats and bulls from the Mycenaean world and from Scandinavian rock art. Bottom right: Nuragic warrior figurines compared with Scandinavian rock art (after Rowlands and Ling 2013).



In this context, it is notable that the rock art in general seems to have been located on the perimeter of the inner skerries in rather sheltered places, close to or at the shore of rather large inlets, bays, lagoons or natural harbors, or at straits, isthmuses, peninsulas, and small islands (Ling 2008). During the Bronze Age, much of it would have been only visible from the water.

To date, no Scandinavian Bronze Age boats have been found, however, most scholars recognize major similarities between the Hjortspring boat (dated to 340 cal BC), and the Bronze Age vessels shown in Scandinavian rock art. This indicates a long boat-building tradition in the region (Crumlin-Pedersen 2003; Kaul 1998). As inferred from rock art depictions, the average Bronze Age boat held a crew of 7-20 individuals while some images show large vessels with crews of 40-60 individuals in boats that were likely war canoes and/or ceremonial watercraft (Ling 2008). (Fig. 7).

With regards to aggrandizers, it is tempting to associate these types of individuals with the images of very large warriors depicted on many elevated rock panels at Tanum/Bohuslän. The rock art at this location has features that may reveal the agency of special task-oriented groups. In terms of the location of Tanum/Bohuslän rock art, the following characteristics are prevalent:

- The rock art is found along coastal or maritime locations.
- Most rock art is found at ground level on bedrock outcrops that are poorly visible from a distance.
- Boats are often depicted in rock art.
- Rituals/performances are often depicted in rock art in association with boats.
- Anthropomorphic figures brandishing weapons are often depicted in rock art.

It is possible that rock art carved along coastal or maritime locations show scenes from 'maritime initiation' rites or other

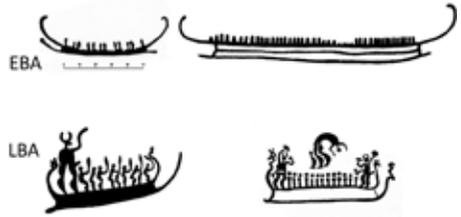


Figure 7. Crewed ships from the Early Bronze Age (top) and Late Bronze Age (bottom). Documentation by T. Högberg and G. Milstreu at Tanum. Hällristningsmuseum Underslös. Source: SHFA.

rituals that were part of a secret society of warrior/traders. That is, the initiation into this sodality may have involved the creation or display of rock art. It is likely that only members of the warrior/trader/secret society would have been allowed to witness and/or take part in esoteric initiation rites and that members were marked for recognition as initiated members with tattoos or scarification patterns as occurred in many ethnographic secret societies (Hayden 2018). Thus, this sodality or 'brotherhood' could have provided the social mechanism by which highly specialized navigational skills, boat construction methods, and likely, rock carving techniques were passed from one generation to the next.

Along these lines, we think that there are good reasons to consider that the coastal Scandinavian Bronze Age rock art depictions of warriors may represent individuals engaging in rituals characteristic of secret societies. Such depictions of "warriors" are often accompanied by images of large ships, specific ritual paraphernalia, and other exotic items. This suggests the existence of a Supra Regional Network possessing exclusive access to esoteric and exotic materials and knowledge including the use of metals as materials imbued with supernatural qualities (Ling et al. 2018, nd; Austvoll 2018).

### Rock art, boat building guilds, and a Supra Regional Network

Ling et al. (2018, nd; Austvoll 2018) hypothesized that ambitious households

from the wealthy rich agro-pastoral Limfjord/Jutland region of Denmark sent their own wood craftsmen and ritual specialists to establish a timber extracting and boat building settlement in the Tanum/Bohuslän area. Some settlers could have been sent in a first wave of settlement during the Late Neolithic to Early Bronze Age while local wood craftsmen and agro-pastoralists would have likely been recruited from pre-existing local Tanum/Bohuslän communities.

The following findings point to interaction between the Tanum/Bohuslän and Limfjord/Jutland regions. Eighty-one flint daggers were recovered at Tanum/Bohuslän (Ling 2008) dating from the Late Neolithic to Early Bronze Age and these items were produced and imported from the Limfjord/Jutland region (Apel 2001). Additionally, bronzes found at Tanum/Bohuslän dating from the Early to Late Bronze Age show strong typological ties to bronzes found at Limfjord/Jutland (c.p. Baudou 1960; Vandkilde 1996). As in the case of the flint daggers, it is reasonable to assume that most of the bronzes found in Tanum/Bohuslän were transferred from the Limfjord/Jutland region during the Bronze Age. Moreover, the Limfjord/Jutland area has far more bronze finds than the Tanum/Bohuslän region. About 500% more in comparison (Kristiansen 1978; Randsborg 1968). Furthermore, lead isotope analyses carried out on the bronzes found at Tanum/Bohuslän compared with the ones recovered in the Limfjord/Jutland area show that they derive from the same copper sources, that is, from Atlantic Europe and from the Italian Alpine region (Ling *et al.* 2014, 2019; Melheim *et al.* 2018). Additionally, the Limfjord/Jutland area may have also served as a major transit zone for the metals arriving from central European networks via the Elbe River (Ling *et al.* 2019, fig 21). Thus, the relatively high number of bronzes found in the Limfjord/Jutland area as well as their shared metal signatures indicates that Limfjord/Jutland region served as the major transit zone for the distribution of metal in the direction

of west Sweden (i.e. the Tanum/Bohuslän region) during the Bronze Age. The theory of the interaction between the said regions is further confirmed by the subsequent rise in magnitude and frequency of rock art and cairns in the Tanum/Bohuslän area and the rise in metals and barrows, along with the expansion of settlements in the Limfjord/Limfjord area during Period II, III and V (Ling 2008:151pp)

These are also the Periods when evidence of environmental degradation appears in the Limfjord/Jutland region. For example, pollen analysis of western Jutland samples (dating to the beginning of 1500 BC) show evidence of rapid deforestation resulting from the expansion of local agro-pastoral activities (Andersen 1999). Moreover, during Period V, there was an overall overexploitation of the soils in southern Scandinavia that spurred migration to less impacted areas (Kristiansen and Rowlands 1998). Therefore, during this time, the Tanum/Bohuslän region would have been an ideal location for Limfjord/Jutland polities to establish themselves especially given the richness of timber in the area. Moreover, in this context, it is significant to stress that Limfjord/Jutland had a considerably higher population density than Tanum/Bohuslän during these periods (Holst *et al.* 2013). Therefore, the combined desire for land for agro-pastoral activities, fish, and not the least timber, made the settlement of the Tanum/Bohuslän region an attractive endeavor.

Additionally, there are good indications of boat building activities at Tanum/Bohuslän in the form of what have been termed "cooking pits." Such archaeological features occur along the former Bronze Age shoreline in western Sweden. Recent excavations revealed a number of these features in the Tanum/Bohuslän area, all dated to the Bronze Age (Cleasson 2014; c.p. Lönn and Cleasson 2007; Petersson 2009). However, their characterization as "cooking pits" is undermined by the fact that archaeological excavations of the pits located by the Bronze Age shore line have



Figure 8. Large Bronze Age elongated “cooking pit” from Tossene parish in Bohuslän, West Sweden. This site, containing fire cracked stones, wood fragments, and charcoal, was excavated and documented by Johan Ling (after Ling and Ragnesten 2009).

rarily included food remains but rather, they contained burnt wood, fire cracked stones, and charcoal (Cleasson 2014; Ling et al. 2021; Lönn and Cleasson 2007; Petersson 2009; see also also <https://www.kcaw.org/2016/10/06/canoe-steaming-carriers-tingit-haida-tradition>). Therefore, we suggest, in line with Petersson (2009), that these fire-cracked elongated stone pits were associated with boat building activities and we provide the following support of this interpretation. (Fig. 8).

For similar use of fire in the building of boats particularly for the expansion of the log that constituted the bottom plank of planked built watercraft, see the the Hjortspring boat. (Fig. 9). Analyses of the wood found in these Bronze Age shoreline pits show that the types of wood are similar to the types that were used in the construction of prehistoric boats (Petersson 2009). Moreover, ethnographic studies document the use of fire-heated stones for the steaming of wood to be used in boat building particularly for the keel and the side portions of traditional watercraft (Clausen 1993; Ling et al. 2021). This interpretation finds additional support from the following ethnographic information collected among the Haida.

In order to gain a better understanding of traditional boat building techniques, several of the authors of this article conducted ethnographic investigations among the Haida of British Columbia during the summer of 2018. A Haida craft specialist named Christian White, who currently builds boats, informed us that traditionally, Haida boat builders used fire to heat stones which, in turn, would be placed in water.<sup>4</sup> Steam emanating from the heated water would be used to bend the wood used in the construction of boats. According to this traditional Haida boat builder, small fires were built near boat construction sites for the purpose of heating the stones that would be used in the wood bending process. Given these observations we think that the Scandinavian Bronze Age ‘cooking pits’ documented by Petersson (2009) are probably the remains of fire pits constructed for heating stones that were employed in boatbuilding activities.<sup>5</sup>

Returning to the nexus between Limfjord/Jutland and the Tanum/Bohuslän regions, as previously stated, we posit that Limfjord/Jutland aggrandizing households would have secured badly needed timber for boats from an extractive settlement at Tanum/Bohuslän (Ling et al. nd). This settlement would not only have provided timber for boat construction but also for

Figure 9. Photo the The Hjortspring laug (the Hjortspring boat building team) in the process of bending a log by using heat and steam emanating from an elongated fire pit. This log will serve as the hull for a log boat. Photo by The Hjortspring laug.



export.<sup>6</sup> Additionally, settlers would have likely included individuals with practical knowledge of boatbuilding (i.e. craftsmen) along with secret society ritual specialists possessing the esoteric knowledge (i.e. chants, magic, etc.) deemed necessary for successful outcomes.

In light of this, we suggest that some of the Scandinavian Bronze Age rock art at Tanum/Bohuslän could have formed part of specific rituals conducted for successful boatbuilding, expeditions, and/or actual events that may have taken place during the course of long distance trade expeditions. Ethnographic observations from the Trobriand Islands support this argument. For example, many rituals were conducted in association with the construction of canoes that were to be involved in the Kula Trade organization which exhibits many similarities with secret societies. According to Malinowski (1922), at every stage of the Kula Trade, starting from the toppling of the trees that were to be fashioned into canoes, specific rites were conducted by ritual specialists to ensure successful outcomes.

Tangentially, since ritual specialists and individuals with rock carving skills most likely formed part of crews, these individuals may have created images of actual events and/or foreign/exotic technologies that they had witnessed. For example, the Bronze Age rock art panel at Backa contains unmistakable images of chariots that are very similar to the chariots depicted in Iberia (Harrison 2004). To date, no Bronze Age chariots have been recovered in Scandinavia. It is possible that the chariots depicted at Backa represent a form of technology that a long distance warrior/trader/ritual specialist carefully observed and then faithfully rendered on a Scandinavian outcrop during the Bronze Age. (Fig. 10). As previously mentioned, it also seems likely that secret society members incorporated practical features of a 'brotherhood' in which they shared practical knowledge involving navigation, boat construction and watercraft maintenance.

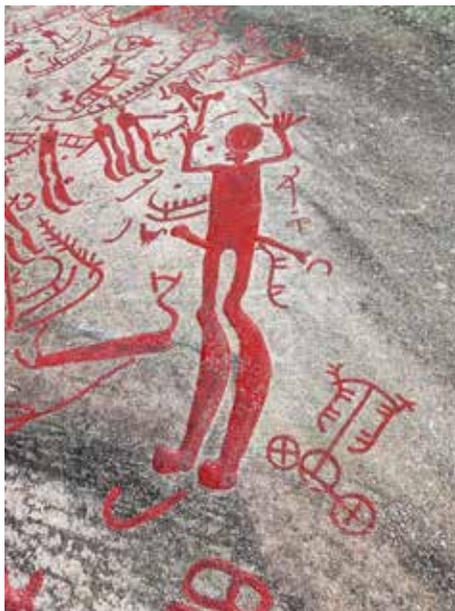


Figure 10. Depictions of warriors and chariot from Backa, West Sweden. The Bronze Age chariot carvings are very similar to the chariots depicted on Iberian rock art and also similar to archaeologically documented Mycenaean chariots. Source: SHFA.

Of considerable importance, members of such a sodality would have been guaranteed safe passage while travelling through a region inhabited by fellow secret society members.<sup>7</sup>

Along these lines, we posit the likelihood that Scandinavian Bronze Age rock art panels may have served as a form of cryptic messaging designed to convey esoteric information and/or foundation myths to fellow sodality members. This position finds support in the *secret language of signs* that Liberian Poro secret society members employed to communicate with associates inhabiting distant locations. Despite belonging to different ethnic and linguistic backgrounds, all Poro members recognized and honored the social standing of high ranking Poro secret society members who could thus securely travel throughout a very large region (Harley 1968). We suggest that the presence of a transregional and inter-ethnic means

of communication in the form of rock art could have facilitated long distance travel and exchange throughout the Supra Regional Network operating during the Scandinavian Bronze Age.

### **Pilgrimages and Secret Societies**

In addition to associations between secret societies and rock art, boats, warriors, and long distance exchange, we also would like to suggest that the dense rock art locality in the Tanum/Bohuslän region may have served as a pilgrimage location for a wider region in western Scandinavia. It is clear from the ethnographies that major ritual events put on by local secret societies drew other members of the society to attend from large regions, hundreds of kilometers in radius (Hayden 2018). Where these gatherings were routinely held in or near the same village, they might be termed elite or secret society pilgrimage locations, and they may well have involved the creation of shrines, architecture, and art of various types including rock art. In Sweden, during the Iron Age, the site of Old Uppsala served as a political and ritual location where elites seasonally traveled long distances (up to 500 km) to negotiate, to compete for power, and to engage in ritual activities (Alkarp 2009; Sturlasson 2018). Other Indo-European cultures had such ritual centers like Chartres which was used for Celtic intertribal gatherings for Druids; and Druids fit all the characteristics of secret societies, including contributing their magical efforts to battles. The Phoenicians who sent out ships to procure metals, too, had a type of secret society for traders with Melqart as a patron deity. The cult priests constituted an exclusive group from the richest and most important families; they were hierarchically organized and had great political power; priests became ecstatically possessed, and they engaged in human sacrifices. They established temples at their entrepôts in the Western Mediterranean where all trading transactions took place (Aubert 1993:128-9,232-5).

With these considerations in mind, we would like to raise the possibility that Tanum/Bohuslän served on a seasonal basis as a suitably remote trans-regional meeting location where secret society groups, from a wider area, gathered and made some of the rock art. The ritual activities that took place at this location would have included the initiation of new members or advancement of existing members up the hierarchy; the transmission of knowledge relating to sociopolitical affairs involving ritual, power, and warfare; and the transmission of practical knowledge related to ritual or prestige craft technology, navigation, boat construction, and watercraft maintenance. Astronomical knowledge, in particular, seems to have been an important component of the esoteric knowledge of many secret societies elsewhere in the world and would have been indispensable for navigation in the open ocean. Many scholars have also stressed that certain Bronze Age Scandinavian rock art carvings and images may be associated with arcane astronomical knowledge. For example, cup marks, ring crosses, circles, and wavy lines may denote the movements of celestial bodies and in particular, the passage of the seasons (Kaul 1998; Tilley 1999).

The kind of ritual gathering that we propose finds archaeological support in the fact that similar remote sites with elaborate art have been advanced as the best candidates for Supra Regional secret society ritual sites, including Gobekli Tepe, Lascaux Cave, and Chavin de Huantar among others (Hayden 2018). Tanum/Bohuslän appears to have been less strongly developed, but operating with the same dynamics. In addition, many items depicted on the rocks in the Tanum/Bohuslän region include bronze ritual objects, such as bronze horns, ritual axes, and ritual shields (see figure 5). See figures 11 and 12. These types of objects have not been recovered from this region presumably because of the short sojourns at this location and the subsequent dispersal of wealthy initiated members (who possessed most



Figure 11. Bi-horned warriors from the Late Bronze Age blowing bronze horns at the Kalleby site at Tanum 405. Documentation by G. Milstreu, Tanum Hällristningsmuseum Underslös. Source: SHFA.

of the bronze) to their respective destinations carrying their bronzes with them after the termination of the ritual gathering. However, the rock art that displays their bronzes remained in place for all members to see. The secret society would have vaunted its ability to acquire and use a sacred metal like bronze. In contrast, bronze objects such as bronze horns, ritual axes, and ritual shields have been found in the Limfjord/Jutland area which consisted of permanent residential communities that engaged in rituals and displays of bronze in their homes, villages, cemeteries, and regional centers (see also below).

This finding suggests that elites from the Limfjord/Jutland region probably would have participated in the seasonal brotherhood gatherings in the Tanum/Bohuslän region to engage in major regional rituals in which rock art played a central role.

### The importance of location

Geographically speaking, the Limfjord/Jutland region was situated in a very strategic location in the Bronze Age. Moreover, the possession of sea worthy boats by local aggrandizing households, would have permitted raiding parties to ply Scandinavian

Figure 12. The Kville 124 rock art site. Warriors brandishing ritual bronze shields with an acrobat nearby. Documentation by G. Milstreu, Tanum Hällristningsmuseum Underslös. Source: SHFA.



coastlines with the goal of taking captives. In turn, these same boats would probably have transported slaves and badly needed timber from northern Scandinavia to Jutland in the south.<sup>8</sup>

Limfjord/Jutland households which sponsored the settlement of Tanum/Bohuslän would likely have distributed many types of prestige goods to supporters including boats and timber along with a portion of captured slaves. Profits generated from these transfers could be used in turn to fund costly long distance trading expeditions to secure metals from the south. Such expeditions would have used boats built in the Tanum/Bohuslän area. These watercraft appear to have been manned by warrior/traders along with ritual specialists. The bulk of the slaves (that were captured along northern European coast) and perhaps other commodities such as amber were likely transported southwards in exchange for metals. We think it is worth considering that many, if not all, crew members (or their closely affiliated kin and/or supporters) on these long distance exchange expeditions may have been members of a secret society. Alternatively, only the owners of the boats and high ranking members of the crew may have been secret society members with the rest of the crew and specialists simply being contracted to perform services.

In summary, Limfjord/Jutland's strategic location allowed local ambitious households access to a network that would have given them the ability to obtain coveted metals originating from sources to the south. This would have been the case because the Danish isles held a favorable position in terms of metal supply coming through the riverine routes of the Oder and Vistula and overland routes from Central Europe.<sup>9</sup> Moreover, permanently resident and wealthy Limfjord/Jutland aggrandizers in all probability would have fostered loyalty by rewarding faithful appointees in the Tanum/Bohuslän settlement with gifts of metal obtained from the south. This hypothesis provides a possible explana-

tion of why so many depictions of metal artifacts appear on Tanum/Bohuslän rock panels (i.e., functional and ritual swords, axes, lurs, shields, broaches, etc.) while relatively few metal artifacts have actually been recovered in this region (Malmer 1981). In contrast, numerous metal objects have been recovered in the Limfjord/Jutland district (Kaul 1998). The metal objects appearing on Tanum/Bohuslän area rock panels may simply represent the use of such items in oral histories of events back in Limfjord/Jutland, or representations of *items and outcomes that were highly valued and desired* by the sponsoring Limfjord/Jutland households and secret societies. Moreover, secret society members may have carved panels showing historical, mythological, or hoped-for victorious warrior/traders/ritual specialists returning from distant battles with captives or, as depicted in one instance, a boat appears to be transporting a metal "oxhide" ingot from a trading expedition. (Fig. 13).

As previously mentioned, successful expeditions/raids provided ambitious Limfjord/Jutland households with the necessary commodities (boats, slaves, and timber) needed for securing metals from the south. The subsequent distribution (likely in the form of potlatch-like competitive feasts) of highly coveted metals originating from the south mostly went towards the supporters of the sponsoring aggrandizing households residing in or near the Limfjord/Jutland district. It is reasonable to propose that members of the households that underwrote ship building and seafaring expeditions also occupied leadership positions in local secret societies together with local political structures.<sup>10</sup> With this hypothetical scenario in mind, the rise of power of certain ambitious households in northern Jutland's Limfjord district during the Bronze Age can be considered as a logical outcome, as discussed below.<sup>11</sup>

## Discussion and Conclusions

This interdisciplinary approach involving archaeology, ethnology, history, sociology,



Figure 13. Depiction of an oxhide ingot on a ship dated to 1400–1300 BC, from a rock art panel in Norrköping, Sweden. Photograph by Catarina Bertilsson. Source: SHFA.

and ecological data has yielded findings indicating that during the Bronze Age, ambitious agro-pastoralist households from the deforested Limfjord/Jutland area established a timber extracting settlement in the Tanum/Bohuslän region. As one of the most productive and rich locations in Bronze Age Scandinavia, the Limfjord/Jutland region had considerable wealth that may have been used to establish secret societies involving other Supra Regional groups to promote and control maritime trade. As the premier ship-building region, Tanum/Bohuslän may have been chosen for major ritual gatherings involving other regional “chapters” of the secret society that formed a Supra Regional Network. The most important role of this ritual sodality was probably to facilitate the socio-economic and political interactions that took place in the area, settle disputes, and guarantee safe passage, lodging, and transactions for all members throughout the network (Ling et al. 2018, nd).

In our reconstruction of the maritime complex which is being considered here, the extractive Tanum/Bohuslän settlement likely included agro-pastoralist families that could have provisioned a sodality of warrior/traders/ritual specialists who built and navigated boats, secured timber, and raided for slaves. Ambitious Limfjord/Jutland households appear to have directed the importation and subsequent distribution of timber in the Limfjord/Jutland region. By doing so, many Limfjord/Jutland co-residents which had received timber would have become indebted to these households. In turn, the socially, politically, and economically upwardly mobile Limfjord/Jutland households would have been able to count on support from their indebted co-residents who would have provided help in organizing and provisioning long distance metal-securing trading expeditions to the south.<sup>12</sup> Upon the return of a successful expedition, these same aggrandizing Limfjord/Jutland households would have overseen the distribution of

metals to local supporters and to a relatively small number of loyal appointees who were probably fellow secret society members in the Tanum/Bohuslän settlement.<sup>13</sup>

Through these actions, certain ascending Limfjord/Jutland households operating in the Supra Regional Network (forged by secret societies), successfully made use of both agro-pastoral and nautical sectors of the economy. Through time, these ambitious Limfjord/Jutland households generated large profits via the importation and distribution of timber, slaves, and metals. The accumulated wealth, prestige, and power of these timber-slaves-metals exporting/importing Limfjord/Jutland households (which we suggest also occupied leadership positions in local secret societies and dominated local or regional politics) grew over time while the indebtedness of timber, slaves, and metal consuming co-residents also increased.<sup>14</sup> This trend allowed these aggrandizing Limfjord/Jutland households to eventually consolidate political power. We believe that this was the process that transformed Bronze Age Scandinavian societies of the Limfjord/Jutland region into ranked and perhaps, even chiefdom level polities (Ling et al. nd).

Lastly, we wish to reiterate the value of employing an interdisciplinary approach when seeking to understand the nature of Bronze Age Scandinavian rock art or when trying to comprehend how social complexity may have developed in the region. As is illustrated in this article, such collaborative approaches can greatly enhance our ability to understand the possible processes that took place back in prehistory.

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## Notes

<sup>1</sup> Interestingly, animal pelt headdresses (particularly those that included birds) often also formed part of the sacred regalia of Mississippian secret societies (Dye 2017).

<sup>2</sup> For a rigorous study of secret societies, consult Hayden (2018).

<sup>3</sup> The Scandinavian landscape has been transformed by shore displacement. This displacement indicates that many rock art sites (which are found inland today) were located along the coast during the Bronze Age.

<sup>4</sup> According to this Haida master craftsmen, this process was not without its hazards as super-heated rocks would sometimes crack when placed in water and individuals standing nearby during this process could be struck by rock fragments traveling at high speeds (R. Chacon's unpublished fieldnotes, n.d.).

<sup>5</sup> There is a major difference between the traditional Scandinavian plank-built boats and the traditional log boats of the Haida, even if they are of the same size generally speaking. Haida boats are cut from a single log while Scandinavian watercraft are comprised of several parts. However, both boat building traditions employ the same elementary steam techniques to either bend the bottom plank and to soften the planks so they can be

bent in the direction needed or to expand the boat.

<sup>6</sup> According to Ling (2008), Scandinavian Bronze Age boats could carry up to 1 ton of cargo so the transporting of large quantities of timber during this time period was most certainly possible. In order to reduce weight, timber could have been transported as wooden planks or logs could have been floated alongside the hull.

<sup>7</sup> The Chumash Indians of southern California conducted maritime exchange using a native plank canoe (*tomol*) that was capable of traveling great distances over open ocean. Among this indigenous group, existed an institution known as the "Brotherhood of the *Tomol*" which afforded safe passage to its members. Given the fact that the Chumash engaged in warfare and ritual violence, the presence of this type of secret society likely facilitated trade in the region (Blackburn 1980; Fagan 1995; Johnson 2007).

<sup>8</sup> Consult Ling et al. (2018, nd) for evidence of slavery in Scandinavia during the Bronze Age.

<sup>9</sup> This scenario finds support in the following: According to recent research, a high percentage of Early Bronze Age metal found in Sweden originated from Central and Western European sources such as the Alpine region, the British Isles, and Iberia (Ling et al. 2014).

<sup>10</sup> According to Hayden (2016:11), "... secret societies typically used expensive paraphernalia often from distant sources; they controlled and consumed vast resources; they were regional in scope; they provided regional mobility...[they] engaged in feasting, the largest events being used to publicly display their supernatural and profane powers."

<sup>11</sup> This hypothesis also explains the relative paucity of Bronze Age metal artifacts recovered in the Tanum/Bohuslän area. Additionally, since timber harvesting

and boat building could only have taken place during warm periods, it is likely that inhabitants of the Tanum/Bohuslän settlement only resided at this isolated location during the summer months. This hypothesis also explains the scarcity of large settlements in the Tanum/Bohuslän region during the Bronze Age.

<sup>12</sup> See Chacon and Hayward (2017) for documentation of how aggrandizers operating in transegalitarian settings, employ debt to forge large and powerful coalitions.

<sup>13</sup> These distributions likely took the form of potlatch-like competitive feasts which not only enhance a sponsor's prestige but place all receivers of 'gifts' in debt. For an ethnographic example of this strategy, see Chacon and Hayward (2017).

<sup>14</sup> According to Dye (2017:85), "[t]he successful ritual sodality member, based on their acquired powers through dreams/visions mediated by animal dream-spirits, enjoyed honor, prestige, and social visibility, attributes which opened political leadership opportunities."

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