

Rock Art and Nautical Routes to Social Complexity

Comparing Haida and Scandinavian Bronze Age Societies

“Western art starts with the figure: West Coast Indian art starts with the Canoe”
(Shadbolt 1998:112).



Figure 1. Images of war canoes related to this study. Top left, the war canoe from Hjortspring, Denmark, at the exhibition at the National Museum of Denmark. Top right, Haida Canoe from the Haida Gwaii Museum in the town of Skidegate. Bottom left, depiction of war canoe from Lövsåsen, Tanum, Sweden. Source SHFA: Frottage by Gerhard Milstreu. Bottom right, Haida war canoe with crew holding paddles upright. Photo taken by Jags Brown in Haida Gwaii.

Introduction

In this article, we argue that efforts aimed at understanding some of the main features of the maritime system that emerged in Scandinavia during the Bronze Age, such as the social organization behind the building and crewing of boats along with the making of rock art boats in the

landscape, would greatly benefit from the incorporation of cross-cultural and interdisciplinary approaches. Thus, this article seeks to understand the role that watercraft technology, rock art and long distance maritime exchange played in the development of social complexity in Scan-

dinavia during the Bronze Age by way of cross-cultural comparison with the Haida of North America. While occupying different chronological and ecological settings, both culture areas shared numerous similarities. The Haida of the Northwest Coast and Scandinavian Bronze Age societies were ranked, engaged in long distance maritime exchange, waged war, possessed seaworthy watercraft technology capable of transporting large numbers of people along with heavy cargoes over long distances, and created rock art (Jeness 1934; Arnold 1995; Johnson 2007; Kroeber 1976; Ling et al. 2018a). Moreover, the carving of rock art was part of the ritual activity required for admission into certain secret societies among Northwest Coast peoples (Drucker 1940:221). Furthermore, slavery constituted a major component of the Haida political economy (Arnold 1995) and some scholars argue that this also could have been the case in Bronze Age Scandinavia (Mikkelsen 2013, Ling et al. 2018a-b). Before we proceed with this topic, however, we must emphasize some theoretical aspects of comparative approaches.

Our theoretical approach includes comparative perspectives and theory taken from archaeology, ethnology, anthropology, and history (Chacon and Hayward 2017; Earle 1997, 2002; Kristiansen 2016; Hayden 2018; Ling et al. 2018b). We hold that it is useful to make cross-cultural comparisons in order to discuss different archaeological models despite ongoing debates on how and why cross-cultural comparisons should be made (Reybrouck 2000; Melheim et al. 2016). This debate is most relevant because it relates to various aspects of our theoretical approach about social evolution, political economy, social interaction, and social complexity in pre-state formations. We think analogies can be illuminating in comparative evaluation of differing archaeological models (Earle 2013; Ling et al. 2018b). Thus, with this understanding, our theoretical framework is informed and enhanced ethnographic analogies, especially when it comes to

maritime or antagonistic matters. We hold that such cross-cultural analyses reveal specific spatial, social, economic, technological, and environmental conditions that have repeatedly shaped humanity's ability to live and thrive by the sea.

More specifically (while still in line with the above theoretical argument about the importance of comparative approaches), since similar modes of political organization (i.e. ranked societies) were shared by the Haida and Scandinavian Bronze Age peoples, it is fair to assume that they also possessed similar social structures. Moreover, in regards to the Haida, ethnohistorical records and oral histories involving the production and use of traditional watercraft in long distance maritime exchange are extant (Arnold 1995).

Importantly, using traditional tools and materials, the Haida maintain traditional watercraft construction practices (Reid 2011) Therefore, the analysis of ethnohistoric data, the recording of boat-related oral histories along with the interviewing and observation of contemporary Haida boat craftsmen may shed light on the production and use of traditional watercraft in Scandinavia during the Bronze Age. It is important to note that we are not the first scholars to note the similarities between certain Native American and Scandinavian peoples. Anthropologist Diamond Jeness described the Haida as the "New World Vikings" (Jeness 1934:243). Others have made a more general comparison between the Haida, the Vikings, and Scandinavian Bronze Age societies (Ling et al. 2018a-b).

Furthermore, data on the rituals associated with Native American boat construction, launching, and operation was documented by this project's Investigative Team (see below). Comprehending such rites may prove useful for understanding the ritual practices that were held in association with boat construction and launching in Scandinavia during the Bronze Age. Some scholars contend that certain Bronze

Age Scandinavian rock art carvings depict ritual events associated with watercraft involved in long distance maritime exchange (Ling 2008; 2013). The Scandinavian Bronze Age societies were engaged in long distance trade of metals and about 1-2 tonnage of copper were imported annually. All copper and tin was imported from distant regions in Bronze Age Europe and boats and crew were needed for this activity (Ling et. al 2014; Ling et al. 2018a). Our fieldwork among the Haida addressed the following questions: *How was Haida society organised in order to engage in long distance exchange? How did they build and crew the boats? How labour intensive was this process? How far did they travel? What role did rock art play in this process?*

Scope

Thus, this comparative research project involved data collection from an indigenous maritime culture from the west coast of North America: The Haida of British Columbia. Haida ethnographic data was collected in accordance to standard fieldwork protocols. Ethnohistorical data was also collected and analyzed. During the course of fieldwork, we inspected sites that are representative of prehistoric and historic Haida occupation of various ecological zones. Of particular importance was the documentation of how boat builders constructed watercraft employing traditional technology and materials. Special emphasis was also placed on analyzing the role that watercraft technology and long distance maritime exchange played in the establishment and maintenance of social complexity. Prehistoric and historic coastal settlement patterns and boat related ritual activity were also documented. Additionally, Investigative Team members studied Haida artifacts curated in Vancouver area museum collections.

The aims of this study can be summarized as follows:

- Gain first-hand knowledge of the various stages and processes of traditional watercraft construction.
- Understand the role that watercraft technology and long distance maritime exchange played in the establishment and maintenance of Haida social complexity.
- Understand the role that rock art played among the Haida with special emphasis on the association between rock art, long distance exchange, and warfare.
- This investigation allowed us to test and refine our theoretical models. Most importantly, our fieldwork among the Haida greatly enhanced our understanding of the relationship between boat building, long distance marmite exchange, rock art, and the evolution of social complexity in Scandinavia during the Bronze Age.

The Haida Case

The Haida inhabit the island territory called Haida Gwaii that forms part of British Columbia.

This region, formerly known as the Queen Charlotte Islands, is approxi-

Figure 2. Map of North America with the island territory of Haida Gwaii marked with a red circle.



mately 10,180 km² in size. All in all, this archipelago covers roughly the same length as the west coast of Sweden.

Our fieldwork was conducted on Haida Gwaii's two largest islands: Graham Island and Moresby Island. The Haida are known for their wood working skills, especially for their war canoes but also for their expertise in long distance maritime navigation, trading, and raiding (Reid 2011). Regarding local canoes, the literature documents four basic kinds:

"1) Freshwater or River canoe; 2) West Coast and Makah; 3) Coast Salish; 4) Northern: Kwakwaka'wakw, Tsimshia, Haida, Tinglit" (Reid 2011:23).

However, Haida people were the main producers of the Northern-style canoe and it constituted their most important export item. They exchanged canoes with most of the coastal communities along the western coast for typical inland commodities and

items that could not be found on Haida Gwaii (Reid 2011: 34). These canoes were regarded as items of great social value and were used for a wide range of purposes; for display and competition in feast and Potlaches, for dowries and bride price, in warfare, and slave raids. The boats were considered living beings and therefore, they had to be fed in accordance to the animal with which they were associated. For example, a canoe with a bear head in the bow it would be fed berries (Reid 2011:46).

Haida polities were ranked with chiefs and noble warriors at the top of the social ladder, commoners in the middle, and slaves at the bottom (Arnold 1995; Donald 1997). Elites engaged in warfare and one of the goals of combat was to obtain slaves (Jeness 1934; Arnold 1995; Donald 1997). The Haida were considered as fierce raiders because of their boat guilds that

Figure 3. Large Haida war canoe from the Haida Gwaii Museum. Photo by J. Ling.



conducted trading and raiding expeditions along the west coasts of Alaska and British Columbia. Large seagoing canoes, made from enormous red cedars and manned by large crews of paddling warriors, were known to cross open waters over great distances (Donald 1997). In fact, the Haida were known to conduct raids ranging from Sitka, Alaska, to the Fraser River in Canada, but also in Southern California (a distance of over 2000 km). According to Jenness,

“[t]hose were stirring times...when the big Haida war canoes, each hollowed out of a single cedar tree and manned by fifty to sixty warriors traded and raided up and down the coast from Sitka in the north to the delta of the Fraser River in the south. Each [canoe] usually carried a shaman or medicine man to catch and destroy the souls of enemies before an impending battle; and the women who sometimes accompanied the warriors fought as savagely as their husbands. As far away as the delta of the Fraser River the Indians palisaded their villages and kept a watch each summer against the island raiders from the north. One group of Haida even went so far as to pillage an American schooner and enslave its white crew, who were subsequently redeemed by the Hudson Bay Company” (Jenness 1934: 243).

Haida culture is widely known for its distinctive social practices, such as gift exchange, the potlach (Mauss [1925] 2016), and for its sodalities or secret societies. Regarding the gift exchange system, this is based social and moral contracts made in the form of a gift, centered around the obligations to give, receive, and most importantly, the obligation to give a gift in return (Mauss [1925] 2016). The potlach is recognized as the institution of the gift-based exchange system and it is driven by principles of competition and antagonism, which also feeds

into social ranking, and conflict along with the destruction of wealth in an extravagant manner. Both potlach and gift exchange are regarded as societal modes of “total prestation” in that the entire clan labours for the whole group (Mauss [1925] 2016). Thus, these actions did not solely include the exchange of transportable goods or resources, but, above all socially significant events/items such as pleasantries, banquets, rites, military service, women, children, and not least slaves (see Mauss [1925] 2016 for further data on this particular topic). In terms of the potlach, this system was characterized by the use of totem poles. Each chief communicated the number of potlaches he had successfully organized through various symbols found on the totem poles he had raised. The societal characteristics of the Haida culture could be summarized as follows:

Figure 4. Totem pole from the Haida Gwaii Museum.



- Stratified decentralized ranked society
- Matrilineal descent system
- Low population density
- Slave economy
- Marine utilisation
- The making of war canoes
- Long distance exchange
- Raiding for slaves
- Substantial flow of wealth
- Strong warrior ethos
- Gift exchange system
- Potlach
- Rock art
- Secret societies

Another important feature of Haida society was the presence of secret societies.

Haida secret societies were greatly feared because of their role in organizing long distance exchange, seagoing warriors, and devastating slaving raids. Such raids captured slaves who served the chiefs in political exchanges and ceremonial events (Donald 1997).

Secret societies played a role in organizing such activities because these sodalities transcended kinship by forming 'fictive' supra-kinship organizations along with extensive networks and regional organizations for conducting activities such as long distance exchange (Hayden 2018). Secret societies focused on extracting surpluses, ostensibly on the behalf of the community and were responsible for the creation of some of the most notable ritual monuments along with their respective iconographies (Hayden 2018). Both historical and ethnographical data connects boat-building guilds with secret societies (Hayden 2018). The members of these guilds included warriors, traders, mariners, ritual specialists, and boat-building craftsmen who engaged in maritime long distance exchange (Malinowski 1922; Ling et al. 2018a) For example, Malinowski (1922) documented a wide range of rituals that were conducted by boat guilds in association with the canoe building and long distance exchange. According to Malinowski (1922), at every stage of the Kula

Trade, starting from the toppling of the tree that will be fashioned into a canoe to the return trip home, specific rituals were conducted by ritual specialists so as to ensure successful outcomes. The above mentioned activities have also been connected to the creation of Bronze Age Rock art in Scandinavia (Ling et al. 2018a).

The following information recorded by McIlwraith from the maritime based Northwest Coast Bella Coola of British Columbia not only provides additional ethnographic evidence linking secret societies with the creation of rock art but it may also shed light on the function of the Bronze Age rock art panels on 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. Moreover, Bella Coola and Scandinavian Bronze Age rock art share several characteristics. First of all, as is the case among the Bella Colla, Bronze Age Scandinavian rock art in Scandinavia is often all located away from the settlement sites and the locations are often linked with water (Ling 2008). Secondly, many scholars argue that the rock art formed part of esoteric rituals and meetings or that they memorialized certain actions and/or events conducted by groups in the landscape. But what about the use of rock art among the Haida and its connection to secret societies? We found no literature on this topic, however, rock art has been recorded at several locations on Haida Gwaii. Some examples local rock are presently curated at the Haida Gwaii Museum in the town of Skidegate. These examples consisted of relatively small boulders with a few abstract designs carved into them (Figure 5). Rock art sites have been recorded along seashore and therefore, it is tempting to suggest that they were created in association with maritime rituals. Along these lines, we interviewed a knowledgeable Haida leader named Stacy Jaggs who informed our Investigative Team that non-recorded sites with rock art existed in isolated locations on Haida Gwaii. Jaggs told us about one site that was located along the coast. This particular location contains a rock art image of a boat. Additionally, he told us



Figure 5. Boulder with rock art on display at the Haida Gwaii Museum.

that he believed that the image in question was probably associated with maritime long distance trading expeditions. He also stated that only Haida individuals are allowed to visit such isolated rock art locations (Stacy Jaggs, interview August 18, 2018). Thus, given the secretive component of this rock art along with its suggested relationship to long distance exchange, it is not farfetched to relate this “secret” rock art site to the esoteric activities of a local secret society.

We will return to the topic of rock art but before doing this, we will present data on traditional Haida war canoes and boat building techniques obtained from a tribal leader named Gwaai Edenshaw (Guujaaw) who lives in Haida Gwaii.

Smallpox, forest canoes, and traditional boatbuilding techniques

The smallpox epidemic of 1861-1862 had a catastrophic effect on the indigenous peoples of the Northwest Coast and the Haida were not spared from the effects of this devastating event. The disease caused the death of thousands of native peoples, the abandonment of entire villages, and the disruption of trade along with many other disturbing events (MacDonald 1993; Ostroff 2017). Not surprisingly, the arrival of smallpox to Haida Gwaii also caused the manufacturing of cedar canoes to come to a grinding halt and this development



Figure 6. A left and forgotten war canoe, in situ in the forest near Port Clemens in Haida Gwaii.

provides the historical context for following scenario:

While hiking in the dense forests of Graham Island, Investigative Team members encountered multiple cedar canoes (in various stages of construction) at sites located several kilometers away from the shoreline. Some of these forest canoes still bear the marks of the stone adzes that were used in their construction. These decaying watercraft serve as silent testimonials to the disruptive effects of aforementioned 1861-1862 smallpox epidemic. These canoes were simply left behind *in situ* by their Haida builders (Figure 6). Had the disease not arrived, slaves would have been compelled to drag these watercrafts to designated costal locations where their transformation into seaworthy canoes would have been completed. Instead, work parties (perhaps weakened by disease) simply left these unfinished watercrafts in place and abandoned the area. These forest canoes were rediscovered by local timber industry personnel at several

locations on Graham Island. Efforts are currently underway to survey the area in order to locate, record, and map these abandoned reminders of this tragic chapter of Haida history (MacDonald 1993; Ostroff 2017).

These abandoned forest canoes are made from large cedar trees that commonly grow up to 60 meters in height and 2 to 3 meters in diameter on Haida Gwaii. Additional evidence of Haida boatbuilding activity exists in the region in terms of boreholes (as 'test pits') drilled into large trees (Figure 7). The goal of these "tests" was to probe the interior of trees in order to ascertain the quality and state of the wood before going to the trouble of felling a large tree. During the course of our relatively limited forest survey, we encountered dozens of tree boreholes and so it is reasonable to assume that a comprehensive survey would reveal the presence of hundreds of such probes in the region. Most forest canoes we encountered were not hollowed out and many are located



Figure 7. Large cedar tree with boreholes (as “test pits”) drilled into the tree in order to “test” the quality and state of the wood before going to the trouble of felling the large tree.

next to the tree stump from which they had been separated. Forest canoes vary in length and size because they were designed for various purposes. For example, canoes made for fishing were usually only 2 meters long and so called “family canoes” were up to 10 meters in length. While the Investigative Team members found all forest canoes to be compelling, war canoes proved to be the most captivating. These watercrafts measured up to 20 meters in length (Figure 8).

As previously stated, we had the opportunity to interview a highly respected Haida traditional boat builder Gwaai Edenshaw (Guujaaw) (Figure 9). In addition to being a canoe builder of great renown, Guujaw is an accomplished artist and president of the Council of the Haida Nation (Reid 2011:10). Guujaw learned boat building skills from Bill Reid who, in life, ensured the continuation of traditional Haida boatbuilding techniques.

“Reid expressed awe for the traditional Haida canoe and what it represents, visually, symbolically and culturally. To him,

Figure 8. Our guide Dale Lore measuring the width of the in situ war canoe in the forest near Port Clemens.





Figure 9. Photo of Gwaai Edenshaw (Guujaaw), a renowned canoe builder, artist, and president of the Council of the Haida Nation. At this location, Guujaw informed us about boat building processes and rituals that were associated with the manufacturing of traditional watercraft.

the canoe was more than a means of transportation; it was art” (Reid 2011:14). Additionally, Reid was convinced the canoe played an important role in the evolution of Northwest Coast art and he once stated that “Western art starts with the figure: West Coast Indian art starts with the Canoe” (Shadbolt 1998:112).

We met with Guujaaw at the spot where one of these forest canoes is found in situ. At this location, Guujaw informed us about boat building processes and rituals that were associated with the manufacturing of such watercraft. For example, the boatbuilding team for a large war canoe was comprised of about 20-30 persons. Most of the workforce was made up by slaves. A master carver controlled the entire process, from selecting the right tree, cutting down the tree, hollowing out of the canoe along with the steaming and expansion of the watercraft. The master carver was also in charge of taking all measurements during the entire construction process. This task was of critical importance.

During the process of steaming and expanding the canoe, Haida boat builders used fire to heat stones which, in turn,

would be placed in water. Then, steam emanating from the heated water would expand the boat in width up to 0.5 meters. The master carver had to ensure that the boat did not expand too much as this would cause it to crack.

These steps often took place along the seashore at locations that were protected from the wind. In this context, is interesting to refer to similar features from Bronze Age Scandinavia found at similar locations on the landscape. Such features are commonly referred to as “cooking pits” which contain fire cracked stones and these features are located along the Bronze Age shoreline at locations in the landscape that were likewise protected from the wind (Figure 10). Recent excavations revealed a number of these features, all dating to the Bronze Age (Petersson 2009). However, the characterization of these features as “cooking pits” is misleading because archaeological excavations have never recovered any food remains from these Bronze Age seaside pits (Petersson 2009). The reason for the calling these features “cooking pits” stems from the fact that relatively similar features (with evidence of food remains) have been found on higher ground, close to settle-

Figure 10. Large “cooking pit” from Tossene parish Bohuslän, West Sweden, dated to the Late Bronze Age. Excavated and documented by one of the authors, containing fire cracked stones, coal, and burnt wood (after Ling and Ragnesten 2009).

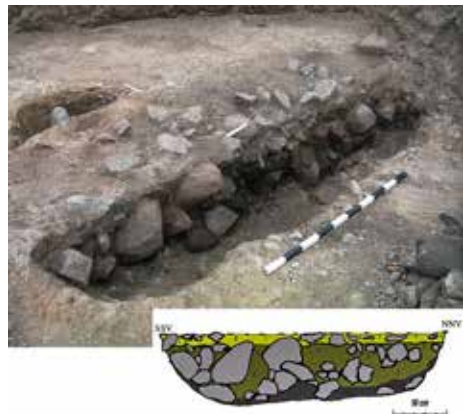




Figure 11. Photo of The Hjortspring laug (The Hjortspring boat building team) expanding the log boat Bjørkebåten with heat and fire. A similar technique must have been used when expanding the hull, the bottom plank for planked built boats such as the Hjortspring type or Dover type. Photo by members of The Hjortspring laug.

ments sites (Pettersson 2009). However, this is not the case with the ancient shoreline pits. Moreover, plenty of burnt wood of similar type that were used in the construction of prehistoric boats has been recovered at these Bronze Age shoreline pits (Pettersson 2009). Therefore, due to the ethnographic data we collected among the Haida and due to the findings put forth by Pettersson (2009), we hold that these ancient shoreline pits (containing fire-cracked stone) were associated with Bronze Age boat building activities particularly for expanding the log for dugout canoes or the log that constituted the bottom plank of planked built boats such as the Hjortspring boat (Figure 11), dated to 350 BC (Crumlin-Pedersen 2003). The side planks also needed to be steamed by heat so they could fit on each side of the of traditional watercraft (Clausen 1993).

We also gained important knowledge with regards to tools used for boat building. Haida had hafted metal adzes /axes, similar to the pal staves axes of bronze that are common feature in the Scandinavian Bronze Age (Ling et al. 2014). Another notable feature in Haida boatbuilding was the use of stone hammers consistent with splitting timbers for boat building. Such tools have been frequently recorded from Scandinavian sites, often found along ancient shorelines and rivers, which indicate that these could have been used for the same purpose (Austvoll 2018).

This finding shows the value of employing a cross-cultural analysis when seeking to understand the activities that took place during the Scandinavian Bronze Age. Another important phenomenon are the similarities between the boat found in Hjortspring in Denmark dated to 350 BC



Figure 12. Comparison of war canoes from (left) Hjordtspring Denmark dated to 350 BC from the exhibition at the National Museum of Denmark. (Right), Haida canoe at the Haida Gwaii Museum. Photo by J. Ling. Bottom, the reconstruction of Tilia Alsie, a Hjordtspring type of boat. Reconstruction and photo by Hjordtspringbådens Laug, hjordtspring.dk. © Copyright 1997 - 2020 Hjordtspringbådens Laug.



(Crumlin-Pedersen 2003) and large Haida canoes. In this context, it should be mentioned that most scholars argue that the Hjordtspring boat stems from the Bronze Age (Kaul 2003; Ling 2008). Since the Hjordtspring watercraft and large Haida canoes share the similar proportions in terms of length and width index, they are believed to be war canoes. The Hjordtspring boat had a length of about 20 meters which is also common for large Haida war canoes (Figure 12).

Moreover, both the Hjordtspring boat and large Haida war canoes measure about 2 meters in height amidships (Crumlin-Pedersen 2003). The major difference between the Hjordtspring vessel and large Haida war canoes was that the Danish vessel was plank built while a Haida canoe is a dugout made from a single log. Despite these differences, findings indicate that the war canoes from different time periods and geographical locations, likely had the same capacity in terms of long distance maritime ventures. Unfortunately, there are no informants from prehistoric Denmark who could tell us about the capacity of the boats, how far they could go or how they manned the boats. However, experiments have been made based on reconstructions of the Hjordtspring boat which have provided some interesting data (Crumlin-Pedersen 2003). Fortunately, we do have access to ethnohistoric and ethnographic data on Haida war canoes.

In the next section, we will concentrate on information we collected on the Haida war canoes in terms of travel capacity, warfare, and exchange.

Sociological aspects of war canoes with relevance to Scandinavian rock art

We obtained very interesting sociological data on the actions of individuals who were onboard the boats.

Interesting parallels can be drawn and compared with the depictions of various actions taking place in boats that appear in Scandinavian rock art. The following account is based partly on interviews with Gwaai Edenshaw (Guujaw) and Jags Brown. (Jags was Bill Reid's foreman in the canoe making process (Reid 2011:10).

First of all, larger war canoes and/or long distance trade canoes were comprised of a crew of 15-25 maritime warriors while medium sized canoes (owned by households/families) that were for relatively short sea journeys, were comprised of 6-12 persons. Finally, the smallest canoes, designed

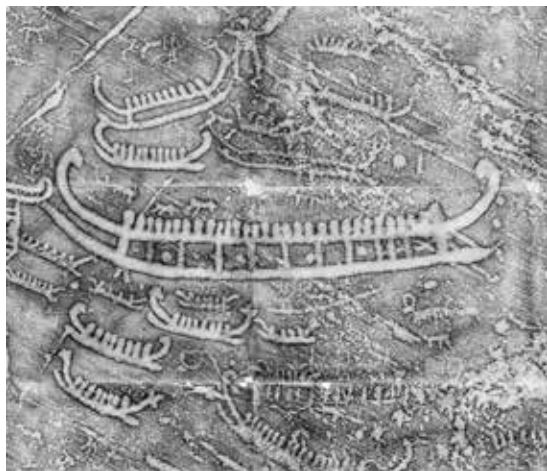


Figure 13. Left, frottage of a large war canoe with a crew of about 25-26, surrounded by medium sized canoes with crews of 6-12 individuals from the site Tanum 25:1. Source SHFA: Documentation by Tanum Rock Art Museum Underslös. Figure 13, Right, image of two small fishing canoes that includes a crew of 2 from site Kville 151:1. Source SHFA: Photo by Torsten Högberg.

for fishing and hunting, held a crew of 2 persons (Boas and Codere 1966; Reid 2011:25). This data may shed light on what is depicted in the Scandinavian Bronze Age rock art. For example, the larger canoes that are carved onto Scandinavian rock art panels commonly include crews of 15-25 individuals (Figure 13, left).

We hold that these watercrafts represent war canoes (see also Kaul 2003, Ling 2008). Additionally, the most commonly depicted boat in Scandinavia, covering most phases of the Bronze Age, depict crews of 6-12 persons. Thus, in accord-

ance with Haida canoe crew patterns, it is tempting to suggest that these boat images represent medium sized canoes (owned by households/families) that were designed for relatively short sea journeys. Lastly, depictions of boats engaged in fishing which are crewed by 2 persons, appear in Bronze Age Scandinavian rock art (Figure 13, right). These relatively small boats, crewed by 2 persons, are similar to the 2 person fishing canoes made by the Haida.

The maritime activities conducted by the Haida include active paddlers occupying

Figure 14: Haida war canoe with crew holding paddles upright. Photo taken by Jags Brown in Haida Gwaii.



set positions in their boats (Figure 14). These dynamic displays took place at specific, charged social events, such as competitive feasts, initiations, and in times of war by several maritime Northwest Coast peoples (Boas and Codere 1966; Holm and Quimby 1980; Hayden 1995).

The actions depicted in Bronze Age Scandinavian rock art include boat crewmembers engaging in similar displays. Some of the boat-related images include depictions of crew members holding paddles in manner not conducive to propelling the boat. However, crew members seem to be brandishing paddles as a means of displaying strength and/or status (Ling 2008), see also figs-15 and 16 for depictions of crews holding their paddles in an upright position from Bro Utmark reminiscent of this action.

Other accounts of Haida war canoes based on interviews are of particular value when seeking to understand Scandinavian rock art. While the exact meaning of the carvings may be difficult to ascertain, the following information provides food for thought. In the following, we will juxtapose quotes concerning Haida actions taking place on boats with images of Bronze Age Scandinavian rock art.

“Haida canoe paddlers always occupied the same seat in the boat. Upon returning from a raid, if a warrior had been killed in battle, as they approached their village, the oar of the fallen man would be placed upright in the location of his seat. Thus, from a distance, villagers would be able to tell who had been killed in battle” (Jags Brown, interview August 8, 2018).

“Canoe crews always traveled naked with their bodies covered by a mixture of ashes and bear grease which protected them from sunburn. This mixture also helped them stay dry because it was water repellent” (Jags Brown, interview August 18, 2018). See fig 17 for a depiction of a paddling crew on the site from Skee, Strömstad.



Figure 15. The maritime activities conducted by the Haida include active paddlers that occupied similar positions on their respective boats to those depicted in the Scandinavian rock art. Rock art boat from Bro Utmark, Tanum. Source SHFA. Documentation by Evers, Dietrich.

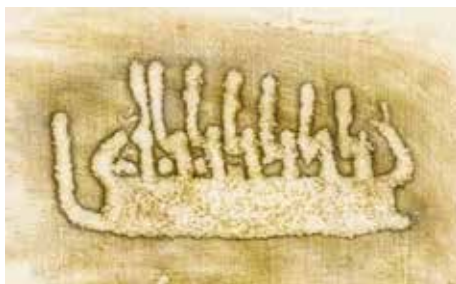


Figure 16. Depiction of a paddling crew from Bro Utmark, Tanum reminiscent of this action. Source SHFA. Documentation by Evers, Dietrich



Figure 17. Rock art from the panel Skee 1539, northern Bohuslän. Source SHFA. Documentation by Broström & Ithrestam.

“When returning from a raiding expedition, the Haida would mount any severed heads that they had taken in battle on the tops of their oars” (Jags Brown, interview, August 18, 2018). See fig 18 for depictions of crew onboard a boat with possible human trophy heads from the rock art site of Lövåsen Tanum.



Figure 18. Depiction of crew onboard a boat with possible human trophy heads from the rock art sites of Lövåsen, Tanum. To the left of the boat, a bi-horned and masked human figure, typical attributes associated with secret societies. Source: SHFA. Documentation by Tanum Rock Art Museum Underslös.



Figure 19. Image of a boat from the site of Lövåsen, Tanum with a bi-horned anthropomorphic being (possibly a chief or shaman). Source SHFA. Documentation by Gerhard Milstreu.

Figure 20. Depiction of a “wedding couple” onboard a boat from the site of Hästholmen, Östergötland. Scenes with so called wedding couples are common features in Scandinavian rock art. However, relatively few wedding couples are depicted in boats. In this scene, the larger anthropomorphic figure is interpreted as being a male while the smaller figure is considered to be a female. Source SHFA: Source SHFA: Photo by Peter Skoglund.



Among Northwest Coast peoples, typically, each canoe carried a shaman to catch and destroy the souls of enemies before going into battle (Donald 1997). See fig 19 for a depiction of a boat from the site of Lövåsen Tanum with a bi horned anthropomorphic being (possibly a chief or shaman).

“Aboriginal people (Haida) considered canoes as living entities with deep symbolic significance. Canoes are hungry and are fed food appropriate to their name. If a bear is carved at the bow, it will be fed with berries” (Reid 2011:46).

Most boats depicted on rock art panels feature an animal head on the bow which, in turn, indicates that boats likely were considered to be living beings. See figs. 13, 15, 17, and 19 for depictions of boats with animal heads in the bow.

“Empty boats were brought during long distance slave raids in order to fill them with captives” (Jags Brown, interview August 8, 2018).

A common feature in the Scandinavian Bronze Age rock art are depictions of empty boats along with crewed boats. It is tempting to assume that this illustrates boats used for the transportation of captives as stressed by the quote from Jags Brown. See fig. 18.

Canoes also played an important role in the way traditional marriage alliances were arranged and conducted (Reid 2011:46).

Some rock art sites include scenes of copulation taking place onboard boats. See fig. 20 for a depiction of a wedding couple onboard a boat from the rock art site of Hästholmen, Östergötland. (Figure 20).

“Canoe – borne emissaries traveled to distant tribes to woo the daughters of the daughters of chiefs. Inviters called the tribes by canoe, and the invited guests arrived in great fleets drawn up in a line, with dancers in the bows and all paddlers singing” (Holm 1993:91).

Many Bronze Age rock art sites depict fleets of boats with ritual and/or possible celebratory activities. See fig. 21.

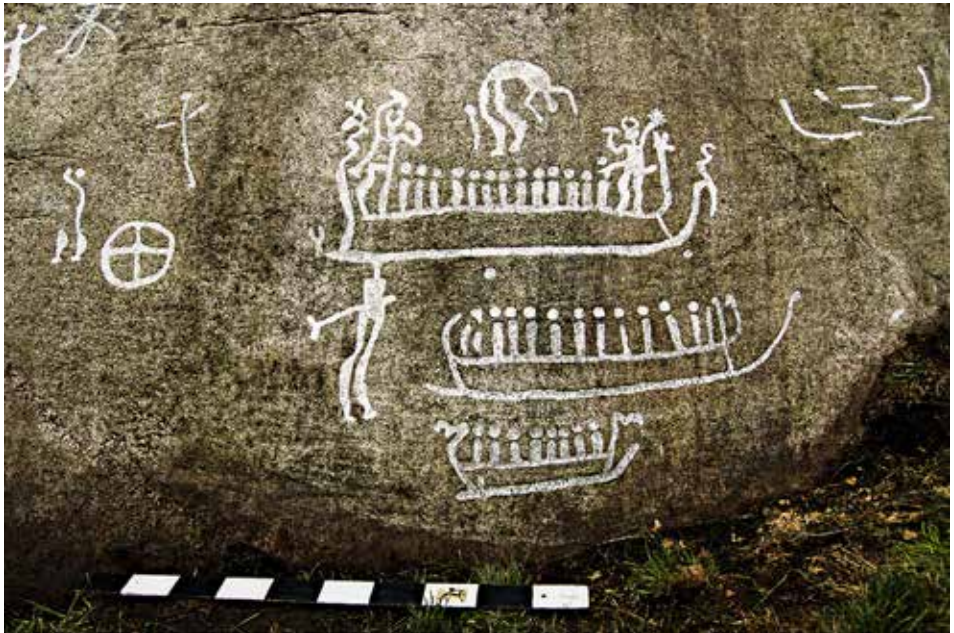


Figure 21. Photo of the site Tanum 356 showing a fleet of boats drawn up in a line with extravagant scenes of acrobats and dancers jumping above the ships. Source: SHFA. Documentation by Tanum Rock Art Museum Underslås.

Discussion and Conclusion

In this article, we have demonstrated the usefulness of incorporating interdisciplinary and cross-cultural approaches in order to understand the role that watercraft technology, rock art and long distance maritime exchange played in the development of social complexity during the Scandinavian Bronze Age. This comparative research project collected and/or analyzed archaeological, ethnohistorical, and ethnographic data from two distinct cultural traditions: Scandinavian Bronze Age society and the Haida of the Northwest Coast.

In fact, the Scandinavian Bronze Age witnessed the rise of social stratification based on elite control over long distance exchange (Earle et al. 2015). In effect, the control over long distance exchange spurred the advent of coercive ranked and/or chiefdom level polities. Increased profits from exchange created a comparative advantage for coastal maritime orientated societies possessing watercraft

building capabilities, navigational abilities along with the warriors necessary for the protection of boats (Earle et al. 2015, Ling et al. 2018b, Austvoll 2018). Thus, the more coercive Scandinavian polities that appeared after 1700 BC included specialized warriors and traders with leaders who invested in watercraft construction for long distance maritime trade expeditions (Kristiansen 2016, Ling et al. 2018a-b). Moreover, gift-based exchange system connected to elite driven ritual practices of consumption governed the Scandinavian polities (Vandkilde 2014, Kaul 2015) and evidence of extravagant feasting manifested in funeral rituals, hoarding of metals and rock art, whose context certainly is reminiscent of the potlach, occurred all over southern Scandinavia (Kaul 2004, Kristiansen 2016). As in Haida, slavery was possibly also a significant part of the political economy in the Bronze Age of Scandinavia (Mikkelsen 2013, Ling et al. 2018b). As we stressed in the beginning of this paper, both the Haida and

Scandinavian Bronze Age societies were ranked, engaged in long-distance maritime exchanges, waged war, possessed seaworthy watercraft technology capable of transporting large numbers of people along with heavy goods over long distances, and produced rock art.

Conducting ethnographic fieldwork among the Haida has enhanced our understanding of traditional boat building techniques, the manning of war canoes, and of the use of watercraft in long-distance exchange. Additionally, this investigation has shed light on the important ritual and ceremonial aspects of traditional canoes. Thus, this work has opened up new avenues of knowledge which, in turn, can be applied to further our understanding of the complex maritime social organization that emerged in Scandinavia during the Bronze Age.

Over the course of our study on the rise of social complexity, we uncovered a number of similarities between the development that took place in Bronze Age Scandinavia and the development that took place among Haida. Thanks to the information we collected during our ethnographic fieldwork, in future publications, we will further analyze these similarities that exist between these distant societies. Lastly, we hold that this cross-cultural and interdisciplinary approach presented in this article, has the potential for shedding light on how social complexity arose in other prehistoric maritime systems.

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