Fading Boundaries

Social Networks in Southern Norway During the Mesolithic and Neolithic

By

Annikken Sophie Eide Næss

Candidate number: 1010

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Department of Archeology, Conservation and History

Faculty of Humanities

University of Oslo

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Table of Contents

Figures and tables

Figures

Tables

Abbreviations

STP = Shovel test pit

EM = Early Mesolithic

MM = Middle Mesolithic

LM = Late Mesolithic

EN = Early Neolithic

MN = Middle Neolithic

LN = Late Neolithic

C14 dating = Carbon 14 dating

BC = Before Christ

BP = Before Presence

m a.s.l. = Meter above sea level

Chapter 1 Introduction

Similarities and differences in the archeological material has for a long time been studied in relation to different groups and identity. Previous archeological studies on social organization, such as the identification of social territories, regionality and ethnic boundaries, has greatly rested upon the distribution of raw material and style across southern Norway during the Mesolithic and Neolithic in order to identify different groups and societies. As previous archeological research has focused on archeological artifacts and lithics, the study of social organization shall here be tackled from a different point of view by focusing on the significance of waterways and resource opportunities at archeological sites in relation to regional interaction and communication.

Originating in the wish to compare social organization in Mesolithic and Neolithic Norway to ethnohistorical material from a similar environmental area, the issue regarding the different understandings of social organization became evident. When considering the ethnographical and archeological material from the Coast Salish of southern British Columbia as comparative to the Norwegian archeological material based similar environmental settings and landscape, it became evident that the academic understanding of social organization differed between the two areas. While the studies of social organization rested upon the concept of boundary within the Norwegian archeology, the concept was given less attention within Canadian archeology. Social network, on the other hand, was a much more discussed element in relation to the distribution of raw material and artifacts thought the Coast Salish landscape. However, if the distribution of raw material was connected to social networks, could that also have been the case in prehistoric Norway? Moreover, could the distribution of artifacts and raw material previously considered to represent social territories and ethnic boundaries rather represent the extent of different social networks within the prehistoric Norwegian landscape?

In this thesis I therefore wish to nuance the previous understanding and identification of social organization within Norwegian archeology by reconsidering the concept of boundaries and recognizing the significance of social network. Social network can to some extent be considered as an alternative to the term social territories, ethnic boundaries and boundary areas inasmuch as it may be regarded as intrinsic to social organization. I will here argue that social networks are relevant in the discussion regarding social organization as it involves the extent of human interaction and communication rather than distinguishing between different groups

of people. As this thesis aims at nuancing the previous understanding of social organization in prehistoric Norwegian archeology, it became relevant to consider sites located in southern Norwegian which has on previous occasions been studied in relation to social territories and boundary areas during the Mesolithic and Neolithic. The archeological sites are located in the southern half of Norway, south of the Trondheimsfjord, which will hereby be referred to as southern Norway.

Thesis outline

The chronological framework, environmental setting and previous studies on social organization during the Mesolithic and Neolithic in southern Norway shall be presented in Chapter 2. In Chapter 3, the theoretical framework shall be set forth as the concept of ethnicity, culture and identity within archeological theory is acknowledged and the concept of social network is presented. Chapter 4 is divided into two sections. The first section tackles the issues concerning the use of ethnographical material and models in archeological analysis. Subsequently, the premises for the justification of the use of ethnographical material in the combination of archeological material is presented in addition to the Coast Salish of British Columbia, Canada. In the second section, the method shall be described as the criteria for the selection of the archeological sites will be set forth. In Chapter 5, the Norwegian archeological sites shall be described and new information relevant to the previous assumed social territories, ethnic boundaries and boundary areas, shall be presented. The Norwegian archeological sites will be analyzed and discussed in relation to similar Coast Salish sites and areas, subsequently considered in relation to social networks in Chapter 6. In Chapter 7, the discussion of the Norwegian archeological sites and the relevance of the social network concept is summarized.

Chapter 2 Background

In order to discuss the concepts of social organization, some fundamental elements need to be considered in relation to the Mesolithic and Neolithic world and the previous studies on social organization within this timeframe. In the following pages, the establishment of a chronological timeframe shall be presented. Thereafter, the environmental conditions and the landscape of Norway during the Mesolithic and Neolithic will be considered, in addition to dietary trends and sedentism during this time. Finally, the status quo on the archeological study of social territories, regionality and ethnic boundaries identified in the Norwegian archeological landscape, shall be presented and discussed.

Chronology

Within Norwegian archeology, the chronological framework previously used in distinguishing the archeological material into different periods has greatly rested upon typological characteristics within the archeological material from specific areas (Bjerck 2008c). As such, a comparison between different parts of Norway, such as west and east Norway, has been deemed problematic due to different and independently changing technological trends across and within these regions. This is illustrated in Table 1 below, where Håkon Glørstad's (2002) chronological timeframe distinguish between the Fosna, Tørkop, Nøstvet and Kjeøy, which all represent the typologically distinct archeological cultures from east Norway. Although not corresponding to archeological cultures, both Knut Andreas Bergsvik (2002a) and Asle Bruen Olsen's (1992) chronological timeframes also represent typological trends, but from west Norway. Due to these previous chronological frameworks' reliability on typological trends in the archeological material, the chronozones put forward by Hein B. Bjerck (2008c) will here be considered as the Mesolithic timeframe. Bjerck's chronozone framework is chosen as the distinction of the different periods is independent from archeological typology, thus creating a framework applicable when the entirety of southern Norway is to be considered. Bergsvik's (2002a) shall be used to distinguish between the different Neolithic periods, as it largely corresponds to both the eastern and western frameworks proposed by Olsen (1992), Glørstad (2002) and Bergsvik (2002a). As such, the chronozone framework of the Mesolithic and Neolithic that is established in regard to this thesis is presented in the far-left column in Table 1 below.

Bjerck (2008c) and Bergsvik (2002a)		Glørstad (2000)		Bergsvik (2002a)		Olsen (1992)	
EM1	9500-9000 BC						
EM2	9000-8500 BC			EM	9200-8100 BC	Early Mesolithic	9200-8200 BC (10000-9000 BP)
EM3	8500-8000 BC						
MM1	8000-7500 BC						
MM2	7500-7000 BC	Middle Mesolithic/ Phase 2/ Tørkop	8250-6350 BC (9000-7500 BP)	MM	8100-6400 BC	Middle Mesolithic	8200-6400 BC (9000-7500 BP)
MM3	7000-6500 BC						
LM1	6500-6000 BC						
LM2	6000-5500 BC						
LM3	5500-5000 BC	Late Mesolithic/ Phase 3/ Nøstvet	6350-4650 BC (7500-5800 BP)	LM	6400-4000 BC	Late Mesolithic	6400-4000 BC (7500-5200 BP)
LM4	5000-4500 BC						
LM5	4500-4000 BC	Late Mesolithic/ Phase 4/ Kjeøy	4650-3800 BC (5800-5000 BP)				
EN	4000-3300 BC	Early Neolithic	3800-3300 BC (5000-4500 BP)	EN	4000-3300 BC	Early/Middle Neolithic	4000-2300 BC (5200-3800 BP)
MNa	3300-2600 BC	Middel Neolithic A	3300-2700 BC (4500-4100 BP)	MNa	3300-2600 BC		
MNb	2600-2300 BC	Middle Neolithic B	2700-2350 BC (4100-3800 BP)	MNb	2600-2300 BC		
LN	2300-1800 BC	Late Neolithic	2350-1800 BC (3800-3500 BP)	LN	2300-1800 BC	Late Neolithic	2300-1800 BC (3800-3500 BP)

Table 1. Overview of previous archeological timeframes. From the left: Bjerck (2008c) and Bergsvik (2002a) time chronozones; Glørstad (2002) representing an eastern Norway timeframe; Bergsvik (2002a) representing a western Norway timeframe; Olsen (1992) representing an additional western Norway timeframe.

Following the establishment of the chronological framework and chronozones, the different chronozones will hereafter be presented in an abbreviated way, such as MNb instead of Middle Neolithic B and LM instead of Late Mesolithic. Furthermore, the dating of the archeological material which will be put forward in Chapter 5 shall be presented in calibrated BC, which will be abbreviated to BC. However, the Coast Salish material will be presented as calibrated BP, due to the lack of alternative dates and the limiting factors, such as the reservoir effect, when attempting to convert dates from BP to BC without sufficient information. Furthermore, the Coast Salish material are not to be directly compared to the Norwegian archeological material and the different timescale is therefore insignificant.

Moving on to the paleoenvironmental chronological time periods, the Holocene epoch began around the beginning of the EM, marking the end of the Pleistocene and the Paleolithic. The

Holocene can be furthermore divided into several different climate chronozones which closely aligns with the different time chronozones. The Pre-boreal chronozone is considered to roughly be equivalent to the EM period. The following Boreal covered the timespan of MM, while the Atlantic is considered to have lasted from LM and continuing approximately 200 years into the EN. Subsequently, the Sub-Boreal, following the Atlantic chronozone, continued into the Early Bronze Age (Bjerck 2008a; Fuglestvedt 2018; Nyland 2016; Solheim 2012; Warren 1994).

The Mesolithic and Neolithic World

Landscape and climate

During the later Pleistocene, the average temperatures were rising around the world. As the large ice sheets covering northern and southern landmasses began to melt, both the sea and the previously covered land areas began to rise (Bjerck 2008a). Whereas the sea-levels rose due to the melting and outflow of ice water, the relief of the weight and pressure due to the melting ice led to isotactic rebound of the landmasses. In Norway, the extent of isostatic rebound and the relative sea-level varied between different regions, leading to different shoreline displacement curves, which is used to identify the changing shoreline throughout the regions in correlation with different time periods (Fuglestvedt 2018:16; Bjerck 2008c:75-76). The difference between the shoreline displacement is especially prominent when comparing eastern and western Norway during the Mesolithic. While eastern Norway, along with the majority of the central and inland areas on the Scandinavian peninsula, was generally and predominantly affected by isotopic rebound, western Norway was predominantly affected by the increasing sea-levels, known as Tapes transgression. The Tapes transgression reached its maximum around 6,000 BC (LM). As such, the majority of the coastal bound archeological sites in western Norway utilized prior to 6,000 BC were submerged during the Tapes transgression period, which explains both the amount of water rolled artifacts found at these sites, as well as LM locations situated at more elevated terrain in the landscape (Warren 1994:30; Bjerck et al. 2008; Bergsvik 2002a; Olsen 1992). Regional shoreline displacement curves are therefore relative to the different regions of Norway, based on both isotopic rebound and the Tapes transgression. Local shoreline displacement is therefore used as a baseline for the chronological assessment of archeological material in different parts of Norway.

Although generally considered as rugged, the glacial erosion created a very distinct landscape along the Norwegian coast consisting of an abundance of skerries, small and larger islands,

channels and fjords cutting deep into the mainland (Bjerck 2009; Warren 1994). The warmer temperatures of the late Pleistocene and early Holocene led to a change in the climatic landscape in Norway. Although both present day Norway and prehistoric Norway consisted of different regional climatic zones, the overall average temperature in southern Norway during the Pre-boreal phase was warmer than at present time and the arctic landscape gave way to warmer conditions, although the cold climate of the northern regions persisted. During the mid-Pre-boreal phase, the Norwegian Atlantic current became persistent along the Norwegian coast (Breivik 2016:59-61). By the beginning of the Boreal phase, the arctic climate previously dominating the Norwegian landscape had evolved into a woodland landscape predominantly consisting of hazel trees, which gave way for oak-dominated woodland areas during the Atlantic phase (Fuglestvedt 2018:16). The average temperature in southern Norway was about 2-3 degrees higher than today's temperatures and over the course of the Boreal and Atlantic phases, the average temperature started to slowly decrease. During the sub-Boreal phase, the temperature dropped more rapidly with 1-2 degrees, establishing the present-day average temperatures[1] (Glørstad 2010:44-47; Solheim 2012:57).

Diet and sedentism

The amount of human remains from Stone Age Norway is relatively scarce. While isotope samples have been extracted and analyzed from the few human remains that have been recovered, the study of paleodiet in Norway is mainly based on the archeological material and faunal material. However, the few samples that were successful in providing samples for carbon and nitrogen isotope analysis were extracted from Mesolithic human remains discovered at Hummervikholmen in Søgne (southern Norway) and the Viste cave in Randaberg (western Norway). Although the material from the two sites represent people living in quite different areas and during different parts of the Mesolithic (respectively MM and LM1), the isotopic analyses indicate that these individuals consumed a highly marine-based diet (Eggen and Nymoen 2014; Schulting et al. 2016).

The preservation of organic material is overall less preferable in Norway due to the generally acidic soil conditions and leaching (Glørstad 2010:71). Thus, larger bones such as those from both aquatic and terrestrial mammals are more likely to be recovered as opposed to smaller bones from fish for example, which are less resilient and will break down faster. This is

[1] See Appendix 1

especially evident in eastern Norway where soil conditions are generally very poor and mammals dominate the faunal assembly as opposed to western and coastal Norway, where conditions can be more preferable and where fish dominates in the faunal assembly from MM-MN (Bjerck 2010; Glørstad 2010:71-72, 82; Hjelle et al. 2006). In addition to the limitation in the faunal material caused by the generally poor soil condition, the ratio between mammals and fish in the faunal assembly may also be deceiving in relation to dietary preferences, even at sites where both are present. The Viste cave is a great example of this, although the majority of the faunal material found in the cave were from terrestrial fauna[2], the isotope analysis preformed on the human remains from the same site and Mesolithic layers indicate a highly marine-based diet (Schulting et al. 2016:24-25).

The topic of faunal assembly and dietary preferences has previously, and to some extent, been considered in relation to a change in settlement patterns, especially during the LM and the Neolithic. Hjelle et al. (2006), for instance, considers the increase of terrestrial mammals in the Neolithic faunal assembly from western Norway as a consequence of people becoming more sedentary. The issue regarding the extent in which people were sedentary during the Mesolithic and Neolithic shall not be succussed here, as it is beyond the scope of this thesis. However, there is a general agreement within the archeological field in southern Norway that during the course of the Mesolithic, and especially LM, people were becoming more semi-sedentary (Bergsvik 2001a, 2001b; Fuglestvedt 2018:17; Hufthammer 1992; Olsen 1992; Solheim 2012). The concept of sedentism will to some extent be touched upon in Chapter 4 in connection with Lewis R. Binford (1980) and James Woodburn's (1982) mobility systems. However, sedentism shall not be further discussed as it is beyond the scope if this thesis.

Status Quo: **Social organization during MM to MN**

In the earlier stages of the establishment of the archeological discipline there was a great focus on systematically identifying different, previously existing human groups and the areas they occupied. The developments and changes within archeological theory shall be considered more in depth in the next chapter. However, this way of thinking became the foundation for the following consideration and distinguishment of different social groups and units.

[2] The predominance of terrestrial fauna in the faunal assembly recovered at the Viste cave has been suggested by Schulting et al. (2016:24-25) to be due to either the lack of sufficient recovery methods given the early excavation of the site or possibly that predominantly fish had been processed beyond the close perimeters of the cave.

Although Graham Clark (1975) had a Culture-Historical approach to the archeological material and its relation to ethnic groups, he takes a functional orientated approach when examining the first human colonization of Scandinavia. By developing a territorial model, Clark's attempts explain the stylistic and artifactual differences across the region in relation to social organization and mobility. The territorial model is a hierarchal model suggesting that there were four levels of territories: the home-base territory, the annual territory, the social territory and the techno-territory. The home-base territory encompasses an occupational site and essential food sources. The totality of the territory is likely to cover an area up to a 10 km radius; however, the size may be smaller or greater due to different modes of transportation and natural obstacles. As various food sources are seasonal, mobile groups may occupy different home-base territories which correspond to seasonal exploitation of local resources. The total area covered during a year, consisting of several seasonal home-base territories, is considered the annual territory. The social territory encloses several annual territories, and thus several mobile groups. A social territory therefore coincides with a larger social grouping in which each mobile group has access to material supplies, in addition to other forms of food supplies, through exchange networks with other mobile groups. As a result of such an exchange network, a social territory should, according to Clark (1975:14, 71-72), be visible in the archeological material through the geographical distribution of idiosyncratic traits. While social territories can be recognized through social interaction, which is manifested stylistically in the archeological material, techno-territories are the total areas in which the archeological material bares similar characteristics, as they share the same basic form of technology. Based on this territorial model, Clark identifies the presence of three different social territories in northern Europe during the upper paleolithic based on a shared lithic tradition.

Previous archeological research on social territories in Mesolithic Norway has primarily focused on spatial distribution of stylistically distinguishable artifacts and lithic materials connected to specific quarries. Asle Bruen Olsen and Sigmund Alsaker (1984) published one of the first archeological research papers identifying two distinguishable social territories located in western Norway during the Mesolithic. This argument was based on Graham Clark's theory of social territories and the spatial correlation between raw materials and the stylistic feature of adzes made of greenstone from the Hespirholmen quarry located in Bømlo, and diabase from the Stakaneset quarry in Flora. Olsen and Alsaker briefly mentions that the distribution of these adzes may be a result of social networks and communication between groups within a social territory, but leaves it at that. However, as the differences in form and

style of the adzes are considered non-functional, and thus likely to be the manifestation of different group identities or cultural preferences, the extent of these artifacts' distribution has been considered significant in the recognition of boundary areas between different social territories.

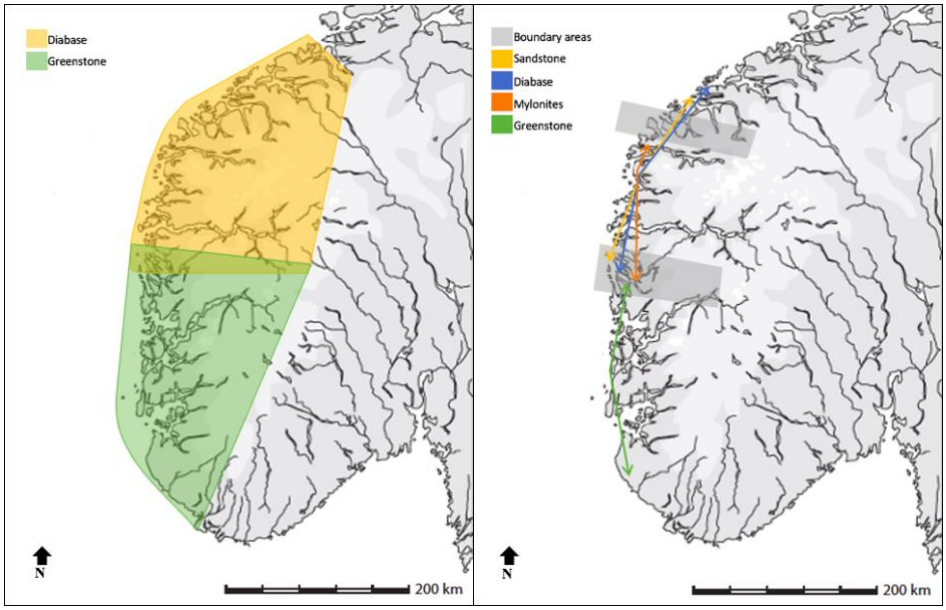

Figure 1. Previously proposed social territories and boundary areas in the Mesolithic western Norway. Left: Map over distribution of diabase and greenstone axes and adzes based on Asle Bruen Olsen and Sigmund Alsaker (1984). Right: Distribution of raw minerals and boundary areas proposed by Guro Skjelstad (2003). Illustration: Based on illustrations in the referred publications. The background illustration of Norway presented by Astrid Nyland (2016: Figure 9.4, page 280) in *Humans in Motion and Places of Essence* was used as the base for the creation of the figures. Minor modifications are done by the present author.

Gro Skjelstad (2003) later nuance this idea of two distinguishable social territories in western Norway during the Mesolithic. According to Skjelstad (2003:117-119), the differences in the utilization of different raw material across western Norway during the Mesolithic is not necessarily the manifestation of different group identities, but rather reflects the locally available raw material in the different areas. However, she considers the overall distribution pattern of different raw material, lithic artifacts and lithic technology in relation to areas representing ethnic boundaries. In addition to distribution patterns, Skjelstad considers rock art and different settlement patterns as a potential boundaries phenomenon. Specifically, she examines patterns in different regions, and thereby suggests boundary areas based on the correlation between different patterns occurring within the same area. By doing so, Skjelstad identifies a boundary area which correlates with Olsen and Alsaker overlapping area of the two social territories (Figure 1). Furthermore, she also suggests an additional boundary area existed

further north, just south of Stad. Based on the distribution patterns, she concludes that the archeological site of Kotedalen existed within the southern boundary area, while Skatestraumen was located just south of the northern boundary area.

Although more concerned in identifying ethnic boundaries in Neolithic Norway, Knut Andreas Bergsvik's (2006:120-123) reexamination of the greenstone material previously considered by Olsen and Alsaker, prevailed flaws in their argument for two social territories on the southwest coast of Norway during the Mesolithic. The reexamination was based on a new reference system Bergsvik developed while working on the Skatestraumen excavation in Sogn og Fjordane in 2002. This new reference system entailed a more detailed distinction of lithic material based on elements such as detailed description of colors (Bergsvik 2002a). Furthermore, the reexamination of the material also involved both visual classification and isotope analysis of the rock material. While the visual classification gave the same results as previous examinations, the isotope analysis did not. The isotope analysis revealed that the source and procurement location of the majority of the greenstone adzes previously examined was indeterminable, and therefore could not be trace back to one specific quarry. Thus, determining the materials source based on visual classification was less reliable than what had previously been thought. Nevertheless, isotope analysis does not provide any sufficient answers in regards to where these greenstone adzes were quarried, as the chemical composition of rock material at different locations can be identical although located several kilometers apart. This is due to the fact that the source of the rock material at different locations may have originated from the same geological event, such as the same volcanic eruption (Nyland 2016).

Despite uncertainties regarding the sourcing of greenstone material, Bergsvik (2006) considered early Neolithic western Norway to consist of several distinct groups and ethnic boundaries based on both raw material geographical distribution, as well as distinct cultural behaviors and lithic technologies on either side of these ethnic boundaries. As such, Bergsvik suggests a further six different ethnic boundaries in western Norway that existed during the EN. It should also be noted that Skjelstad (2003) and others (e.g. Gundersen 2004; Solheim 2007) have consistently based their discussion regarding regionality and the presence of ethnic boundaries in Mesolithic/Neolithic western Norway upon Bergsvik's (2002a) lithic reference system, thus focusing mainly on the lithic material in connection with identifying boundary areas. Consequently, in adopting Bergsvik's (2006) concept of ethnic boundaries, Steinar Solheim (2007) recognized the same ethnic border as those previously proposed by Bergsvik

in western Norway during the EN. However, Solheim propose an additional seventh ethnic boundary situated in the south, by Lista (Figure 2). Notably, Solheim uses the terms social identity and socially constructed boundaries as alternative terms for ethnic identity and ethnical boundaries.

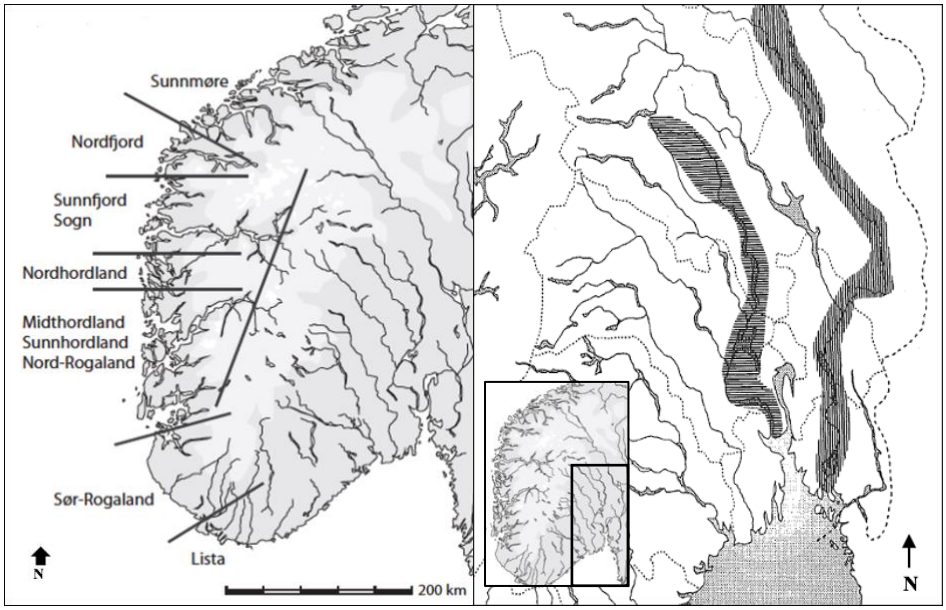

Figure 2. Previously proposed ethnic boundaries in Early Neolithic western Norway and social territories in Mesolithic southern Norway. Left: Ethnic boundaries in western Norway during the Neolithic, based on Bergsvik (2006) and Solheim (2007). Illustration: Based on illustrations in the referred publications. The background illustration of Norway presented by Astrid Nyland (2016: Figure 9.4, page 280) in *Humans in Motion and Places of Essence* was used as the base for the creation of the figure. Minor modifications are done by the present author. Right: The two social territories following the Glomma (right) and Randsfjorden-Dokkfløy (left) drainage system. Illustration: After *The Flint-using Group at Svevollen in the Interior of Eastern Norway* by Ingrid Fuglestvedt 1998, figure 5, page 67. Minor modifications to the map are done by the present author.

Joel Boaz (1999), Ingrid Fuglestvedt (1998, 2006) and Håkon Glørstad (2010) are some of the few who have drawn attention to possible social territories and regional groups in eastern Norway during the Mesolithic. Fuglestvedt (2006) identified two social territories situated along the separate Glomma and Randsfjord-Dokkfløy drainage systems, based on the distinct raw materials utilized within the two areas. Whilst flint was the dominating raw material used in the Glomma area, quartz appeared to be the more common raw material along the Randsfjord-Dokkfløy drainage system. Consequently, Fuglestvedt draws attention to the significance of drainage systems as a means of waterways and thereby regional communication systems. In a later study regarding Mesolithic rock art, Ingrid Fuglestvedt (2018) recognizes distinct design patterns in the rock art as related to clan landscape, which again can indicate

different clan territories. However, in this setting she constitutes that a clan landscape represents a place within a clan territory and can possibly also be an area between several territories. In relation to her previously proposed social territories between Glomma and Randsfjord-Dokkfløy drainage systems, Fuglestvedt (ibid) recognizes that the rock art found in the two areas display a common design pattern of vertical lines. Combining the two previously propose social territories and the recognition of similarities in rock art, Fuglestvedt interprets these two areas as likely to have belonged to the same clan territory but representing two different sub-clans. It is intriguing, however, that in relation to similarities between rock art patterns and style, Fuglestvedt also considers these as possible traces of long-distance connections across the Norwegian landscape during the Mesolithic.

Whilst Håkon Glørstad (2010) drew attention to east Norway in relation to the distribution of Nøstvet axes during the Mesolithic, his perspective differs from that of Olsen and Alsaker (1984) in relation to greenstone and diabase axes and adzes. While Olsen and Alsaker consider specific axes and adzes in relation to two social territories, Glørstad focuses on the implication of the distribution of Nøstvet axes as a result of regional contact and communication. Thus, he does not consider the axes to represent a specific group of people. During the EN in eastern Norway, Solheim (2012:26-27, 247, 248) describes the lack of identified social boundaries to be due to the homogenous selection of raw material within the area. As such, the same type of regional distinctive patterns, and thereby the possible identification of social differentiation, as is evident in the western material, is not possible to be identified in the eastern material. Thus, the concept of ethnic boundaries previously considered by both Bergsvik (2006) and Solheim (2007), is non-applicable in the Neolithic eastern material.

In the most recent publication concerning Mesolithic territories, Lotte Selsing (2021) propose that southern Norway was divided into four main territories and one central main territory thought to have been utilized by the four surrounding main territories (Figure 3). The concept of main territories differs from that of social territories as they are considered to represent the total area occupied by a dialectal tribe. Selsing argues that southern Norway may have been inhabited by people belonging to a language family, which could be subdivided into dialectal tribes correlating to the different main territories. According to Selsing, these dialectal tribes consisted of different bands, or groups of people, sharing a common culture and social organization. The different bands may occupy different territories, which thereby were enclosed within a larger main territory. The identification of these main territories and the

boundary areas separating them rests upon the distribution of specific raw materials and Nøstvet axes, drainage systems and food resources, such as the distribution of ungulates. Selsing argues that the correlation between these elements within the main territories and the difference between the different main territories indicate different dialect tribes. Selsings identifies the boundary between the Northern and Eastern Main territory almost exclusively on the distribution of Skardlia jasper, which source is located within the Eastern Main territory. However, as Selsing herself acknowledges, "the material culture used to define the boundaries of a territory is also often found outside this territory" (Selsing 2021:6). Thus, the extent of the distribution of raw material, or in this case jasper, might not represent a specific territory, but rather the extent of regional interaction (see discussion in Chapter 3). Nevertheless, Olsen and Alsaker's two social territories and Skjeldstad's boundary area of the west coast was defined by Selsing as territories encompassed in the Western Main territory, despite the previously argument regarding Skardlia jasper.

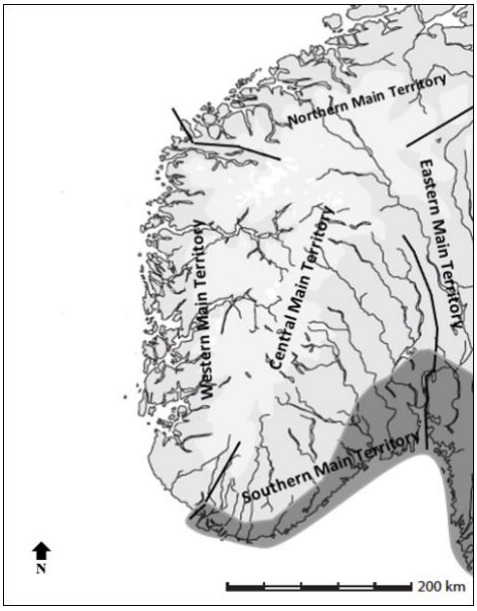

Figure 3. Main territories in Mesolithic southern Norway proposed by Selsing (2021). Illustration: Based on figure presented in the referred publication. The background illustration of Norway presented by Astrid Nyland (2016: Figure 9.4, page 280) in *Humans in Motion and Places of Essence* was used as the base for the creation of the figure. Minor modifications are done by the present author.

According to Selsing, rock art sites can be considered a boundary phenomenon that could have acted as a potential boundary marker. Similarly to Skjelstad (2003), she identifies the territorial boundary between the Western and Northern Main territory to correlate with the rock art site at Vingen and the distribution of diabase from the Western Main territory. Recognizing that

rock art may be a manifestation of identity or boundaries, Selsing suggest that variation in the imagery of specific animals may additionally indicate territorial boundaries between different bands or smaller group units. However, Selsing appears inconsistent in her regard of rock art sites as boundary phenomenon as the area in which Skjelstad suggested the more southern positioned boundary area based on the distribution of different raw material on either side and the presence of several smaller rock art sites is incorporated into the Western Main territory by Selsing. Disregarding the conflicting view of rock art sites role in relation to territorial boundaries, what is essential in Selsing's research compared to previous research on Mesolithic territories is the shift in the archeological material considered. Whilst considering both distribution patterns in relation to some specific lithic and raw material, Selsing also draws attention to the importance of drainage systems in connection with communication and migration, as well as considering the access to the different ungulates as a food resource. Although the importance of ungulates as the main dietary resource is questionable in relation to the heavily marine-oriented tendencies seen in isotope analysis from Mesolithic human previously mentioned, it is nevertheless an intriguing addition to the archeological material considered in relation to social organization. Notably, the majority of the previous studies on social organization is building on the concept of boundaries and social unity which shall be discussed in more depth in the following chapters.

Conclusion

Following the chronological framework proposed by Bjerck (2008c) and Bergsvik (2002a), the Mesolithic time period lasted from 9500-4000 BC and the Neolithic from 4000-1800 BC. During this time, the climate was generally warmer, and the landscape was changing as a result of the melting of ice sheets previously covering large land areas around the world. This created different levels of isotactic rebound and shoreline displacement throughout the Norwegian landscape. The few isotope analyses of Mesolithic human remains from coastal areas in Norway suggests heavily marine-based diets. During the Neolithic, it has been suggested that there was an increase of terrestrial input in the diet as corresponded with a change in settlement patterns as people may have become more sedentary. Status quo on the previous studies done on social organization indicate that the distribution of raw material and stylistically distinguished lithic artifacts created the foundation for the identified social territories, regional and ethnic boundaries in Mesolithic and Neolithic southern Norway. Although other elements, such as food resources and waterways, has later been recognized to some extent, the

distribution of distinct stylistic artifacts and raw material is still at the center of the discussion. In the following chapter, the archeological theory behind previous and present-day studies of social organization shall be presented and discussed.

Chapter 3 Ethnicity, culture and social groups

The concept of ethnicity and culture can be considered as some of the key elements and also the building blocks of archeology as a discipline. As will be demonstrated below, ethnicity, identity and culture are concepts which have been frequently redefined within the archeological field. Firstly, the changing definitions of the concepts of culture, identity and ethnicity shall be presented in relation to the theoretical shifts within the archeological field, along with contemporary theoretical trends within both the anthropological and sociological field. Subsequently, the concept of style, boundary and identity within archeology and anthropology shall be discussed, and the concept of social networks is put forth as an alternative understanding of human relation and connection.

Culture and Ethnicity in archeology

Culture-History

In the 1920s, the concept of culture entered the archeological discipline as archeologists became more concerned with the people "behind" the artifacts, as well as the artifacts themselves. One such scholar was Vere Gordon Childe. According to Childe's work, a cultural group was a specific group of people which could be identified in the archeological material when specific types of archeological remains occur together systematically (Childe 1929; Olsen 1997). The Culture-Historical tradition in archeology, a tradition which Childe has been recognized as one of the leading scholars, generally recognized a cultural group, often referred to simply as a culture, as an ethnic group which shared ideas and beliefs. These shared ideas and beliefs could be identified in the archeological material. These cultural groups were thought to have lived in specific areas which was visible in the archeological material as there were similarities in the artifacts found within these large areas (Jones 1997:16-26; Trigger 2006:233; Olsen 1997:31-40).

Processual archeology

The idea that an archeological culture represented a specific group of people and their tools and artifacts, continued as a common idea within the archeological field until the 1960s and 70s (Jones 1997:5, 26). Originating as a critique of the Culture-History tradition in archeology, the New Archeology tradition, also referred to as processual archeology, led to a shift of focus within the archeological field. The new school of thought stressed the need for a more scientific and anthropologically influenced form of archeology. Instead of following the previous

tradition where questions such as ‘where’ and ‘when’ was essential, it was now believed that archeology should rather emphasize on questions such as ‘how’ and ‘why’, especially in relation to cultural changes (Jones 1997:26; Trigger 2006:314; Renfrew and Bahn 2012:40-41). Following the general norm of the social sciences, processual archeology stressed the importance of generalization as a factor relevant in the analysis of past societies (Johnson 1999:17, 65; Trigger 2006:407). Within the processual archeology tradition there was a conceptualization of the culture concept, and the culture concept acquired a new meaning and significance within archeology. Culture was no longer considered only in relation to the archeological material belonging to specific ethnic groups, but rather it was more explicitly thought of as a functional system that was created through different processes (Jones 1997:26-27, 107-108, 113; e.g. Binford 1962; Kristiansen 1998; Clarke 1978). Although processual archeology discarded the term archeological culture, the concept of cultural units continued to be used for describing and classifying the archeological material based on stylistic variation. Style was thereby considered as passively communicating distinct cultural units. Thus, the Culture-Historical concept of culture was to some degree maintained, but only inasmuch that it had a functional aspect for the studying of the past. As such, ethnicity became a topic less associated with the concept of culture within processual archeology. Rather, ethnicity became viewed as an aspect of social processes and social organization (Jones 1997:5, 26, 28; Johnson 1999:20-27).

Post-processual Archeology

In the 1970s, a new movement was developing within the archeological theoretical field. Similar to processual archeology, post-processual archeology drew on contemporary anthropological theories in order to analyze and understand the significance of archeological material (Trigger 2006:444-478; Johnson 1999:101). Having grown frustrated with the limitations of processual archeology, archeologists such as Ian Hodder looked for new ways to understand the cultural meaning behind elements of material culture. Carrying out ethnographical studies in Sub-Saharan Africa, Hodder’s (1982) work in Kenya had a great impact on the post-processual archeology movement and further provided a springboard for the development of ethno-archeology in which ethnographical fieldwork is considered a significant part of the archeological examination and material. The study prevailed that among the groups he was working with, specific artifacts and style had an active role in communicating both social relations and ethnicity. Although Hodder’s book *Symbols in Action* (1982) does not include any refences to anthropologist Fredrik Barth and his concept of ethnic

boundaries and its implications (see below), there are great similarities in the two scholars understanding of ethnicity and its functional role. Nevertheless, the idea that post-processual archeology holds in relation to material culture as having an active role in social interactions is a vast contrast to the idea held by the previous processual archeology where material culture and style were seen as purely functional (Olsen 1997:61-63; Jones 1997:113). Now recognizing culture as a cognitive process interlinked with human behavior, post-processual archeology also highlighted the importance of understanding human mentality and understanding the world from the perspective of the individuals (Trigger 2006:444, 477, 478; Johnson 1999:101-108).

Social anthropology and ethnicity in the Processual era

In processual archeology, as ethnicity was set aside within the archeological school of thought and the concept of culture was rather diminished into something of a process, the very definition of ethnicity was being questioned by anthropologists of the time (Jones 1997:51-52). One of these, and perhaps the one most famous for doing so, was Fredrik Barth. In Barth's notoriously famous introduction in *Ethnic Groups and Boundaries* (1969), he emphasizes how ethnicity is both self-ascribed and ascribed by others. Furthermore, what distinguishes different ethnic groups from one another is relative, as different ethnic groups considers different objects, ways of thinking and behaving as significant in communicating ethnicity. Thus, the study of ethnicity should not simply focus on the cultural differences between groups, but rather the ethnic boundaries that are identified by the groups themselves through the confrontation with other recognized ethnic groups (Barth 1969:13-15). Additionally, Barth's concept of ethnicity was distinct from most contemporary work on ethnicity in anthropology because he identified ethnicity as a social process which was the result of mobility and contact with other people, and not through isolation as previously thought (Barth 1969:9-10). Describing ethnicity as a boundary phenomenon, Barth (1959, 1969) considered ethnicity as situational and depended on personal interest, specifically related to economic or political gain, and is therefore often considered as having an instrumental approach to the concept of identity. This new understanding of ethnicity made way for a new theoretical approach to thrive, namely the instrumentalist approach, as shall be discussed below.

Theoretical approach to ethnicity in anthropology

As post-processual archeology started to dominate within the theoretical field of archeology, a new approach to ethnicity was becoming more recognized within the field of sociology and

anthropology. Previously, the 'primordial' theoretical approach had been the primary approach to ethnicity within these fields of study but was now being challenged by the new 'instrumentalist' theoretical approach.

The 'primordial' theoretical approach to ethnicity emphasizes the psychological and biological dimensions of ethnicity as an identity ascribed at birth through early processes of socialization (Jones 1997:65-72; Jenkins 2008:46-50; Urban and Schortman 2019:186). Through such processes the individual acquires what is considered cultural characteristics, including but not limited to language, names, descent, origin stories, religion and nationality. According to the primordial approach, ethnic identity is composed of these cultural characteristics which are also considered predetermined and instinctive. A significant disadvantage of the primordial approach is how it fails to recognize ethnicity as being fluid and situational. Furthermore, it overemphasizes the role of cultural characteristics in the development of ethnic groups and thereby not recognizing the consciousness and agency of the individual.

Unlike the 'primordial', the 'instrumentalist' theoretical approach to ethnicity regarded it as a fluid and situational form of identity which exist as a functional feature of human organization (Jones 1997:72-79; Jenkins 2008:46-50; Urban and Schortman 2019:187). This approach which has gained much recognition since the 1970s, viewed ethnicity and ethnic affiliation as having an underlying economic and political function. Ethnic affiliation was therefore considered contemporary and only created when it is favorable. By doing so, the instrumentalist approach has been criticized as the entire concept and definition of ethnicity becomes a situational phenomenon, which has often led instrumentalist approaches to reduce the concept of ethnicity to a mobilized or politicized group identity. As a result of this, ethnic groups can easily be confused with collective-interest groups. Furthermore, the instrumentalist approach also fails to recognize the cultural aspect and psychological dimensions of ethnicity as it is reduced to a functional aspect of society, involving personal gain of the individual or a collective.

Recognizing the limitations of both the primordial and instrumental approach to ethnicity as mentioned above, Siân Jones (1997) attempted to develop an approach uniting the two perspectives, which would additionally account for bridging the concepts of the objective and subjective perspective, and culture and ethnicity. Combining the functionalistic aspect of the instrumental approach with the psychological and cultural aspects of the primordial approach,

Jones argues that ethnicity is grounded in the shared practices and experiences of a group, in other words, a shared habitus. Furthermore, ethnicity can be considered a functionalistic aspect of society as it created through the confrontation and the opposition to 'others' (Jones 1997:90, 94, 115, 128). Habitus, a term borrowed from Pierre Bourdieu (1977), "… is the unconscious internalization of the objective norm and rules of society…" (Lewellen 2003:187) which determines how a person acts (see Hylland Eriksen 2010:97-98; Jones 1997:88). According to Jones (1997:91, 97, 116, 117, 123-124), the manifestation of ethnicity in the archeological material can be recognized through stylistic attributes associated with a specific ethnicity. However, stylistic attributes as manifestation of ethnicity may be situational as they can be manipulated or maintained depending on social context and interaction as they are products of human agency. In this remark, Jones' notion of identifying ethnicity in archeological material by recognizing stylistic attributes is similar to that of the post-processual archeologists. However, the fundamental principle of her argument is that ethnicity is a phenomenon that is created through the encounter with others (Jones 1997:128).

Style and boundaries as manifestations of identity and ethnicity

As briefly touched upon in the previous pages, the concept of style has had a significant role in the identification and distinction of ethnic groups and cultures, especially within archeology. According to Martin Wobst (1977), style can be informative as different artifacts in the material culture can carry stylistic messages conveying social identity or ethnicity. However, not all form of variability in style is functional as a means of communicating identity as such artifacts must be considered to be visible to other groups or people. Polly Wiessner (1983), influence by Wobst concept of style as being communicative, identified, to some extent, this concept and pattern amongst the Kalahari San. Based on an ethno-archeological study she conducted among several different language groups commonly referred to as the Kalahari San, Wiessner recognized a correlation between these groups and the different stylistic features on projectile points. This correlation, Wiessner argues, demonstrates that the stylistic variation found among the projectile points is the result of style being used as a means to transmit social information regarding identity to others.

Through the publication of several articles, James Sackett (1982, 1986a, 1986b) questioned the previously established concept of style in the archeological discipline. He describes the previous definition of style as diagnostic as it only considers the formal variations in the

archeological material, such as decoration and other non-functional aspects of an artifact. Consequently, style was recognized as distinguishable from the functional aspect of an artifact. Sackett argues that the functional and stylistic aspects of an artifact needs to be considered as interdependent and entangled, and thus introduce the concept of "isochrestic" variation. The term "isochrestic" is Latin and means "equivalent in use". Recognizing variability in material culture as the manifestation of ethnic groups, Sackett refers to this variability as isochrestic variation inasmuch as it represents style defined as both the way of doing something and the form of an object. In this way, style is not only a formal aspect of an artifact, but it is embodied in the functional aspects though the means of specific actions and choices taken during its production.

As demonstrated above, Wobst, Wiessner and Sackett represent a processual approach to style which was common in the late 1970s to early 1980s. This approach regarded formal variation in the stylistic properties of an artifact as a means of communicating ethnicity and identity. Ian Hodder (1982), representing a post-processual approach to the concept of ethnicity, stresses that ethnic identity may be expressed though stylistic differentiation, and through everyday objects less visible to other groups, as oppose to Wobst argument. Furthermore, stylistic variation in the material culture may not communicate ethic identities but rather social relations.

According to Knut Andreas Bergsvik (2003, 2006), the issue regarding identifying ethnicity among prehistoric groups is that archeologists previously put too much emphasis on style as a means of either passively or actively communicating ethnic identity. As a result of this, the distribution of specific artifacts with distinct stylistic attributes and raw materials were assigned a much more important role in expressing ethnicity than what might have been the case. The limited conceptualization of ethnicity as reflected by stylistic variation in the material culture in archeology resulted in the study and identification of prehistoric ethnic groups based solely on the distribution of singular types of artifacts. Although Bergsvik criticize the amount of focus that stylistic variation has been given within the archeological field as signaling ethnic identity, he does not dismiss the idea all together. Leaning on Barth's concept of ethnicity as a boundary phenomenon, Bergsvik (2006:18) stresses that in order to study prehistoric ethnicity, archeologists need to focus more greatly on local contexts and conditions, combined with the geographical distribution of a variety of different artifacts. As such the previous studies in which stylistic differences in material culture were thought to signal ethnic identity should not

be dismissed as they are relevant in relation to geographical distribution. In relation to style, stylistic variation in the cultural material could have provided the basis for a local groups ethnic identity to take shape, and thus had the potential to be conceived as an expression of ethnic identity by another group.

Bergsvik's recognition of ethnicity as a social process and his emphases on boundaries appears to be heavily influenced by Barth's ethnic boundary concept. The issue concerning Barth's boundary theory is his instrumental approach to ethnicity and how he regarded ethnic categories as all-encompassing and relatively fixed, despite the movement of individuals across physical and social boundaries. Although employing Richard Jenkins definition of ethnicity as the "collective identification that is socially constructed with reference to putative cultural similarity and difference" (Jenkins 2008:52), Bergsvik continues to reproduce the same limitations in his argument for boundaries as Barth did, by failing to recognize that ethnic units or social boundaries might exist on multiple levels, encompassing several different boundaries and thereby identities for both individuals but also larger groups of people. I agree with Jones that "ethnic groups are not neatly packaged territorially bounded culture-bearing units…" (Jones 1997:104). The core of Barth's concept of ethnicity still stands, from an anthropological point of view, inasmuch as ethnicity is the result of social processes, and founded on contact between people who experience themselves as distinct from one another. Nevertheless, in an archeological context, the boundary concept can be considered as too literal. Similar to Bergsvik, I agree that distribution of variable artifacts may create the preconditions of a common feeling of ethnicity to originate. Even so, regarding the extent of such distribution patterns as representing any form of boundaries in itself is restricted as it builds on the notion that ethnicity is an all-encompassing unit.

As acknowledged above, the preconditions for ethnicity is human interaction, as ethnicity can be recognized as a social process. Stylistic variation might therefor be regarded as communicative either by the producing population, or by other groups which come to recognize stylistic differences as communicating identity. Either way, the baseline of the argument rests on human interaction and passive or active communication. Therefore, geological distribution patterns and local context, as Bergsvik argues, is still relevant as means of recognizing and identifying human interaction both on a local and regional level. However, although such patterns can be interpreted as the preconditions of ethnic feeling and identity, they are more objectively results of what can be described as social networks or networks of communication

between corporate groups. The term social network is in this context defined in terms of people interconnected through social relationship and interactions (Mitchell 1969). This concept can be fruitful in relation to mapping or simply identifying human interaction, rather than ascribing cultural material and thereby stylistic variation a communicative role. The concept of ethnicity is not dismissed; however, it can be argued that such a concept belongs on a macrolevel when the concept of social identity is to be discussed in relation to prehistoric societies. By promoting the use of the concept of social network, more emphasis is put on human interaction on a microlevel. The fall-off areas and distribution limits which Bergsvik sees as elements of boundary formation might therefore also represent the extent of a specific social network or several networks. Either way, it represents the extent of a communication network that may have connected large areas and several groups through a web of human relations and interaction.

Considering social networks is not a new topic within Norwegian archeology. However, social networks have previously been considered mostly in relation to trading network and has only been briefly considered in connection to social groups (see Olsen and Alsaker 1984; Skjelstad 2003; Solheim 2007). Although Olsen And Alsaker (1984) recognized the existence of social networks within a social territory, Bergsvik (2002b) explicitly recognizes social networks in relation to the spread of ideas and archeological artifacts. However, considering the definition of social networks as too vague and thus problematic to use in an archeological context, he deems the concept inadequate as the questions regarding the infrastructure and the active persons role within these social networks remains unanswered. Aiming to answer these issues, Bergsvik redirects his attention to the concept of 'task group mobility' as a more suited alternative to the questions. However, in doing so, it becomes evident that Bergsvik's definition of the concept of social networks differs from the one put forward above, as he considers individuals and smaller groups movement, rather than the intertwined communication network which integrates several people within the same social networks. The significance of social networks as an alternative to the previously more common concepts of boundaries shall be further disused below in regard to Coast Salish from the Pacific Northwest Coast.

Conclusion

In the previous pages, the shifting understanding of the concepts of ethnicity, identity, culture and style has been presented. Particularly interesting is the changing understanding of the

concepts of ethnicity and culture from something regarded as equivalent to each other, and specific groups of people, to distinct aspects of the social human. Archeological theory has generally evolved following different inputs from the simultaneously changing theoretical trends in both anthropology and sociology. As such, the more recent theoretical understanding of culture, ethnicity and identity within archeology rest upon anthropological and sociological theories. Within archeology, the concept of culture became perceived as imbedded in different cognitive processes, manifested in the archeological material through stylistic variation. Furthermore, the concepts of identity and ethnicity in archeology are subsequently regarded as the result of social processes. However, previous archeological studies on social organization fails to recognize that ethnicity and ethnic boundaries were may have been contextual. Moreover, ethnicity and ethnic boundaries may have existed on several levels and may not have been considered as all-encompassing units as previously thought. As such, the concept of social networks has been proposed in order to lift and further the discussion regarding social organization in Norwegian archeology as it highlights communication and interaction. The boundary concept and social network shall be discussed further in the following chapter as the use of ethnographical studies and Coast Salish ethnohistory is considered.

Chapter 4 Method: Ethnographical models, comparative premises and criteria

The study of hunter-gatherers and prehistoric societies rests heavily on previous anthropological theory and models. As such, the use of ethnographical studies has previously been considered less preferable and constricting in regards the interpretation of archeological material. However, ethnographical studies can still be regarded as a productive and important part of an archeological analysis as long as its limitations are acknowledged and the premises for a comparison is justified. The following chapter is divided into two parts, the first half concerned with the use of ethnographical models and studies in relation to archeological analysis of prehistoric societies, which in the second half, will ebb into a method description. Firstly, the study of hunter-gatherers and previously proposed ethnographical models shall be described and discussed. Subsequently, the limitations of ethnographical material used in an archeological analysis shall be discussed. Following the recognition of such limitations, a set of conditions are set forth to appease the concerns and improve the conditions in which comparative analysis can be regarded as a justified tool within the field of archeology. Thereafter, the Coastal Salish of Pacific Northwest Coast is presented, and the concept of boundaries is subsequently revisited. Finally, in the second half of this chapter, the method shall be presented in order to discuss and establish the premises for the selection of the archeological material presented in the next chapter.

Anthropological theory and ethnographical models used in archeology

Hunter-gatherers are a core element within anthropological study and theory. When anthropology was first established as a discipline in the nineteenth century, hunter-gatherers were thought of as un-evolved societies representing an earlier state of social organization of human society (Kelly 2013:4-7). In the early twentieth century, Alfred R. Radcliff-Brown and Julian Steward formed some of the first foraging models, identifying social organizational structures among hunter-gatherers. These models were based on Radcliff-Brown's study of the Australian Aboriginals and Steward's study of Native American groups inhabiting the Great Basin area (e.g. Radcliffe-Brown 1930-31; Steward 1938). Steward (1938) identified three different forms of group structures amongst the Native American groups he studied, namely patrilineal bands, composite bands and family bands. Dismissing composite band and family band as a result of modern influence on hunter-gatherer societies in *Primitive Social*

Organization published in 1962, Elman R. Service (1971) exchanged the term patrilineal band with patrilocal band in order to put a greater emphasis on post-marital residency. Unlike Radcliff-Brown and Steward, and representing an evolutionary theoretical approach, Service considered the social organizational structures of band to be a universal idea. He considered band organization to represent the most fundamental level of social organization as band organization was commonly identified among hunter-gatherers in different parts of the world. As band societies were found all across the world, Service believed that this form of social organization represented the simplest and most primitive form of social organization, thus considered to also be representative for prehistoric societies (Service 1971:46, 52-53). Service created a universal classification model using different ethnographically documented hunter-gatherer groups in order to create a baseline. Thus, based on three sets of characteristics, hunter-gatherers could be identified as displaying social organization of bands, tribes or chiefdoms. Bands were characterized as consisting of small family groups, usually from 25 to 100 individuals, with close kinship and marriage ties, acquiring wild food by the means of foraging. Although considered to be without any formal economy and leadership, status and division of labor was connected to age, sex and affinity. Not describing the extent of mobility among bands, Service did, however, recognize the presence, and importance, of band exogamy, marital residency and that bands inhabited specific territories (Service 1971: 54-98).

During the symposium Man the Hunter that took place in Chicago in 1966 (see Lee and DeVore 1968a), an extensive amount of recent ethnographical studies and social anthropological research from all over the world was presented and it became apparent "…that the patrilocal band is certainly not the universal form of hunter group structures that Service thought it was" (Lee and DeVore 1968b:8). Aiming to highlight the difference between the then more general term band, replacing Service's patrilocal band, and hunter-gatherer societies, Lee and DeVore put forth a set of characteristics identifying a Nomadic style hunter-gatherer society. These characteristics were based on the assumptions that hunter-gatherers were highly mobile, small groups of people, and exhibiting elements suggesting an egalitarian society, in which territorial ownership and food storage was absent (Lee and DeVore 1968b:11-12). As such, these characteristics needed to be fulfilled if a group were to be identified as a nomadic band, living a hunter-gatherer way of life. However, as noted by some later scholars (Kelly 2013:9-15; Rowley-Conwy and Piper 2016; Shott 1992), the characteristics of the Nomadic style societies seems to be mainly based on Lee's own studies on the Kalahari hunter-gatherers (Lee 1968). Nevertheless, following the symposium and the publication of Lee and DeVore's Nomadic

style society, the concept became nuanced and the diversity and complexity of hunter-gatherer societies became more highlighted towards the 1980s (Kelly 2013:9-23). Subsequently, human behavior within hunter-gatherer societies gained more attention, and new models were less limited as they often considered several factors, thus represented a spectrum rather than boxes into which hunter-gatherers could be categorized and placed.

Focusing on hunter-gatherer mobility, Lewis R. Binford (1980) presented the distinct mobility patterns of what he referred to as foragers and collectors. Based on ethnographical studies on the San people, Binford's foragers have many similarities to Services' band societies. Foragers were thought to be highly mobile hunter-gatherers that frequently moving from one resource area to another. Additionally, the consumption and procurement of food was thought to have occurred on a daily basis. Collectors, on the other hand, relied on food storage which enabled food to last a long period and greater parts of the year. Based on Binford's work with the Nunamiut Inuit, collectors were considered more sedentary than foragers as these hunter-gatherers tend to only occupy a few different seasonal residential areas throughout the year. As such, the collectors represented a logistically organized system in which different task groups systematically left the residential location in order to procure specific resources from specific locations. Furthermore, collector societies could consist of several groups which took up residence together, or disbanded, depending on the seasons. In the archeological record, both foragers and collectors are considered to be visible based on sites identified as residential base sites, displaying production and maintenance activity, in addition to 'locations' which are short time occupied procurement sites. Additionally, the collectors' strategy was evident in the archeological record because of food storage, field camps, which produce similar archeological material as the residential base but on a smaller and more limited scale, and stations.

Seeking to further classify different hunter-gatherer societies, James Woodburn (1982) separates hunter-gatherers into two distinct categories, namely societies with immediate-return systems or delayed-return systems. Woodburn's immediate-return system convey similar characteristics as Service's band societies and Binford's foragers societies. Societies with immediate-return systems were highly mobile societies, involving immediate food procurement and consumption. These groups were egalitarian and although occupying specific areas utilized and inhabited during an annual cycle, the areas and the access to resources within areas were not socially restricted. Societies with delayed-return systems also had some fundamental similarities with Binford's collectors as both were though to practice the storing

of food and the procurement of resources from specific locations. However, within a delayed-return system society, access to procurement sites was limited as people could claim ownership over different valued assets. As such, the delayed-return systems promote hierarchical differences based on kinship and ownership over resources, which is quite different from the egalitarian immediate-return system (Woodburn 1982:432). In this way the delayed-return systems promote and may be intertwined with the concept of territorial ownership.

Concerned with the limitations of the previous hunter-gatherer models Peter Rowley-Conwy and Stephanie Piper (2016) stresses the importance of environmental and geographical factors in relation to social systems and organization. Specifically, Rowley-Conwy and Piper discusses both Woodburn and Binford's models in relation to different ethnographically documented groups from both the Pacific Northwest Coast and the Canadian Arctic, as well as prehistoric societies inhabiting similar environmental areas. Recognizing the issues of previous models, primarily as the majority were based on hunter-gatherer groups inhabiting terrestrial and subtropical areas, Rowley-Conwy and Piper draws attention to the contextual significance of coastal habitation. Thus, the role of boats and canoes as an important means of transport in coastal areas is considered, as well as the possible importance of boats and canoes is also recognized within more inland areas too. By employing the Saxe-Goldstein hypothesis, which states that less mobile groups with a high population and stable resource areas are more likely to create cemeteries, Rowley-Conwy and Piper suggest that specifically delayed-return groups could be possible to distinguish and identify in the archeological material.

Overall, the study of hunter-gatherer's rests upon previous ethnographical studies and consequently created models, which is subsequently employed by archeologist studying prehistoric societies. Although Rowley-Conwy and Piper raises an important point in relation to the significance of the environmental and geographic landscape of hunter-gatherers, which shall be considered later on, the first issue to be tackled below is that of the use of ethnographical material within an archeological analysis, and its limitations.

Constructing the framework for the use of ethnographical material

Fundamental within the anthropological discipline and widely used by archeologists, ethnographies are source materials that are not to be considered too lightly and to be employed without any reflection of their limitations. Ethnographies can not only be considered restricted

by their purpose of documenting relatively recent societies by foreign researchers, but also in relation to individual bias. Any form of documentation and writing will always inhabit elements reflecting the mindset of the author and the historical period in which they were written (Hylland Eriksen 2010:4, 16, 17, 37). Furthermore, the selection of a particular subject or subjects in itself produces limitations in the ethnographical material as it rests on the ethnographer's choice of subject or subjects. While the choice of, for example, a hunter-gatherer group based on the assumption that they may represent a more "traditional" hunter-gatherer group as opposed to others, an additional factor that needs to be considered is associated with human interaction. Because unless a group was living on a remote and isolated island, it is highly likely that they to some extent has been influenced by other nearby groups and possibly in a more modern setting, indirectly affected by external forces through the ripple-effect (see Bird-David et al. 1992). Therefore, by using ethnographies and ethnographical models in the interpretation of the archeological material, the biases and limitations of ethnographies can become intrinsic to the archeological research (Stahl 1993). Furthermore, another limitation is that ethnographic models encompass defining elements of specific societies. Interpretations of archeological material based on ethnographies and ethnographical models, are therefore governed by the scope of the ethnographical sources as it represents a specific behavior, at a specific time, in a specific situation and not the total extent of all human behavior (Wobst 1978). In other words, by blindly following the ethnographic models as a means to an end in an archeological analysis, one runs the risk of reproducing the specific patters evident in the ethnographical source, in the archeological material. This was famously described as the tyranny of ethnography by Martin Wobst (1978). Although aiming to more carefully bridge the archeological material with modern social theories through the use ethnographical studies, Binford's "middle-range theory" faced similar limitations (Olsen 1997:53, 63, 97-99).

Despite the many limitations to the use of ethnographical data within archeology, ethnographies can still be argued to be an asset if they are used respectively and productively. Bias is a fundamental part of ethnographies that is never going to be eliminated. However, by considering the writers background and the era in which the ethnography was written, bias may and should be acknowledged. Ann Brower Stahl (1993) suggests that in addition to acknowledging limitations concerning ethnographies and ethnographical models, further steps may redeem the use of ethnographies as the source in analogical reasoning. Recognizing and considering the differences between a specific archeological material and the ethnographical

source can unearth new information about the past which differs from the previously assumed ethnographical models. Stahl (1993:246-252) argues that by acknowledging such differences, and by taking source-criticism into account, it can lead to a reinterpretation of the archeological material. Moreover, a reinterpretation of the archeological material may again alter the interpretation of the ethnographical material, and thereby lead to modifications of analogical models. Therefore, taking Stahl's argument into consideration, it could be argued that combining and discussing ethnographical and archeological material from the same area ("A"), which is then used in a comparative analysis of a different set of archeological material from a different area ("B"), could be fruitful as it leads to reflections concerning both the material within a specific area ("A"), and between two different areas ("A" and "B"). Thereby challenging not only the ethnographical material but also the interpreted archeological material. This shall be illustrated throughout this thesis as ethnographical, ethnohistoric and archeological studies of the Coast Salish of British Columbia will be used as the baseline for the analysis of the archeological material from southern Norway. Here, the term ethnohistoric represent the combination of ethnographical, archeological, historic and often linguistic studies. Henceforth, the combination of ethnographical, ethnohistoric and archeological studies and material will be referred to as the Coast Salish material.

The premises for a comparative approach: ethnographical material

Looking back at the concerns put forwards by Rowley-Conwy and Piper above, if ethnographical material is to be used and beneficial in the interpretation of archeological material, similarities within the different contextual conditions needs to be considered. By this it is meant that similarities in the environmental setting, geographical landscape and subsistence patterns between the ethnographical and archeological material need to be considered. These elements should therefore form the framework in which a comparative approach is possible. Environmental setting and the geographical landscape can be considered an independent aspect of a hunter-gatherer society as these elements are not significantly affected by human activity in this context. However, every aspect of the human life is connected to the surrounding environment and landscape (Bourdieu 1977). Although mostly focused on the establishment of a terrestrial model for hunter-gatherers, Lewis R. Binford (2001) explicitly argues for the importance of environmental settings in relation to a comparative study of the archeological material, using ethnographical references. Similarities in environmental settings can be essential as it sets the premises for the human presence and

utilization of the inhabited area. Likewise, the geographical landscape is significant as it creates the similar premises in relation to mobility and communication. As seen above, the difference in the landscape between terrestrial/inland and coastal areas is especially significant in relation to the use of waterways as means of transport and communication. Although the use of waterways may be significant for terrestrial groups, it can be considered essential for people inhabiting the coastal areas. Building on the argument for similarities in both environmental settings and geographical landscape, the combination of the two elements also create the premises for utilization and extraction of different resources, important in relation to different subsistence patterns and such. Similarities in subsistence patterns between the ethnographical source and archeological subject should be considered as these may have a significant impact on both the social and the cultural aspect of a society, as well as settlement patterns.

Premises for a Coast Salish comparison

There are several areas around the world bearing similar costal landscape to that of Scandinavia, such as the southern tip of South America, New Zealand and North America. In addition to the elaborately documented archeological material, these areas are also well documented and described by a vast number of ethnographies. Based on similar environmental conditions as those put forward above, Mesolithic Norway has previously been compared to Tierra del Fuego in Argentina (Bjerck 2009; Zangrando et al. 2016; Bjerck and Zangrando 2016). The present author, however, has chosen to use archeological and ethnographical material from the Pacific Northwest Coast of Canada, specifically of the Coast Salish of southern British Colombia. Subsequently, the geography, climate and diet presented below is derived from both archeological and ethnographical research within the respected areas.

Although the extent of the areas does not exist within a strict set of perimeters (see below), the Coast Salish area covers the central region of the Pacific Northwest Coast, specifically the areas surrounding Strait of Georgia, located in southwest British Columbia and western part of Washington, including Puget Sound and parts of the Olympic Peninsula (Drucker 1955:11; Thom 2005, 2009). The landscape of the Pacific Northwest Coast of Canada is rugged, dominated by high mountains, deep fjords, inlets, islands and skerries (Suttles 1990; Matson and Coupland 1995; Ames and Maschner 1999; Morin 2012:64-65). Similar to Norway, the area was covered by ice during the Pleistocene and subsequently, the melting of the ice covering these areas caused isotactic rebound and high tectonic activity in the area, which again caused regional fluctuations in the local shorelines during the Pleistocene/Holocene (Mackie

et al. 2018; Bjerck 2009). The climate of southern British Columbia is to some extent similar to that of southern Norway (see below and appendix 1). Within the Coast Salish area, the effective temperature (ET) suggests that at presence, the area consists of a boreal climate (Binford 2001:65, 70). The present-day cool and wet climatic conditions of the Northwest Coast were established around 2550 BC and 1550 BC. The preceding climate was generally warmer with summer temperatures around 3℃ warmer and somewhat colder winters from 7050 BC to 5050 BC, representing both warm and dry conditions. Subsequently, the climate became warmer and more damp before reaching the levels of today's climate in the area (Moss 2011; Moss et al. 2007; Walker and Pellatt 2003; Whitlock 1992).

There is a limited amount of data regarding the dietary choices of the people occupying the Coast Salish area during the early Holocene. This may be due to a number of external factors such as poor preservation conditions, high tectonic activities causing earthquakes and the shifting shorelines (Chisholm 1986:124; Moss 2011; Erlandson et al. 2008). Nevertheless, based on stable isotope analysis preformed on human remains from the southern half of Strait of Georgia, the people inhabiting the Coast Salish area had since around 3,550 BC mainly obtained a marine diet with some terrestrial input (Chisholm 1986; Ames 1994; Mackie et al. 2011; Schwarcz et al. 2014). Some small variations were visible between the people of the different areas, specifically between coastal versus river mouth/coastal areas. However, these differences were minor and have previously been identified as likely to be due to a higher consumption of mollusks or small fish in the coastal regions (Schwarcz et al. 2014:464). Despite the lack of earlier human samples from the Coast Salish area, the overall archeological research on paleodiet from across the coastal Northwest Pacific areas suggests a diet mainly consisting of marine resources. Ethnographies and ethnohistorical research among the Coast Salish also indicate a marine and aquatic dominated diet, with some intake of terrestrial resources (Ames 1994; Suttles 1987; Barnett 1955). Notably, salmon has been recognized as central in both the social organization and cultural identity of the Salish cultures (Miller 1996; Ritchie and Angelbeck 2020). There is therefore a similarity between the Coast Salish and the Mesolithic/Neolithic population of southern Norway as it appears that both marine and aquatic resources appear to have been the most significant food resource in both areas based on human isotope analysis and the archeological material.

Overall, the similarities between the geography, climate and diet conditions between the Coast Salish of British Columbia and the Mesolithic/Neolithic people inhabiting southern Norway

fulfills the preconditions for a comparison to be fruitful. Moreover, as will be demonstrated below, considering the Coast Salish as a point of refence in the archeological analysis also prevailed certain limitations concerning previous theories regarding territories and the boundary concepts. Consequently, this demonstrates the significance of considering social networks rather than ethnic boundaries and social territories in relation to social organization.

The Coast Salish and boundaries

Reconsidering the concept of boundaries and territories discussed in previous chapters, Coast Salish research has prevailed and demonstrates how the previously established concept of boundaries is limited in regard to a western world view. Previous ethnographical mapping of the Coast Salish people relied on distinguishing different territories and creating boundaries between these based on language and dialect distinction, or areas utilized or owned by the different communities (Thom 2005:341-354). Although language, property, identity and residence are relevant in the Coast Salish understanding of territory, their concept of boundaries is more complex than the western concept of boundaries. The Coast Salish concept of boundaries is tied to social contexts as "… ideas and practices of kin, travel, descent and sharing makes boundaries permeable" (Thom 2005:384). As such, the Coast Salish concept of boundaries does not build on exclusion and limitation of physical areas contrary to others, although it should be noted that the extent of territorial openness is contextual and based on kinship relations. Such openness is also relevant in relation to resource areas such as fishing ground and beaches. Notably, access to such areas could be withheld by the local community in prevention of over-exploitation of resources at times (Thom 2005:388). Boundaries were therefore intangible and the permeable territorial "boundaries" were contextual and ever shifting. The implication of the imposed western concept of boundaries by the government is an issue that First Nation Coast Salish and other indigenous groups around the world are still facing especially in relation to reclaiming land area and indigenous rights. The issue at hand is that indigenous groups have to adapt to the imposed boundary concept in situations involving access to land, land claims and treaty negotiations in order to negotiate with the state government (see Thom 2005, 2009). Additionally, in situations regarding land claim, First Nation Coast Salish people also face the issue of overlapping land claims when negotiating with the state government as boundaries are not only seen as intangible but as they were relative and contextual, as well as several communities may have previously shared specific areas.

The Coast Salish issues regarding boundaries and territories suggests that Fredrik Barth's previous concept of boundaries needs to be re-evaluated. In a more recent publication, Barth (2000) stresses the need to recognize the implication of the boundary concepts in relation to bias, especially as the foundation of the concept of boundary rests upon the premises of distinction and enclosure. Such a notion of boundaries is embedded with a western understanding of nature and land as both a commodity and a tangible concept (Morrison 1997). This previously assumed normative understanding of territories and boundaries has later been challenged as demonstrated above, especially in relation to indigenous rights to land and mapping of indigenous territories.

Based on the implications of the boundary concept and the Coast Salish, the boundary concept that constituted the foundation of the identification of territories and regionality in Mesolithic/Neolithic Norway mentioned in Chapter 2, may need to be reconsidered. Not only does the identification of such areas build upon an anthropological theory projected onto the archeological material, but it also rests on the assumption regarding the overall distinction between people according to the area they inhabited. In some way it can be argued that the previously identified social territories and regional areas demonstrates Wobst biggest concern with ethnography as a point of reference for archeology, inasmuch that they reproduce the overall idea of the existence of boundaries within the Mesolithic/Neolithic society. However, in the Mesolithic/Neolithic context, the boundaries are not fully embodied as a single line drawn between groups, but as boundary areas separating the different populations. Nevertheless, separation and distinction between the archeological material and areas still transpire. Taking the Coast Salish issues with the boundary concept into consideration, the previously assumed boundary areas identified based on variation within the archeological material might have been the manifestation of permeable and everchanging boundaries in the area throughout the Mesolithic and Neolithic. On the other hand, these variations might also be the manifestations of groups and their relations to the neighboring groups and networks, shifting throughout the generations. Furthermore, if we eliminate the concept of boundaries all together during the Mesolithic/Neolithic, could these areas display how the connection to different groups and communities fade out and intertwine within or across an area? Moreover, if the concept of boundaries is not a universal concept, and if it is intangible as it is connected to social relations, then how can we see the manifestation of such in the archeological material?

The previous archeological studies on territories and regionality in Mesolithic/Neolithic Norway has generally focused on the concept of boundaries between people, and thus the seclusion and limitation of other areas. If, as illustrated above, the concept of boundaries is not a universal way of understanding and organizing the world, social networks might be a more productive aspect in the study of prehistoric regional social organization. Social networks, as we can recall from Chapter 3, is used to describe how people are connected to one another through social relationships (Mitchell 1969). Interestingly enough, the existence of social networks has become a given as it is a normalized term and concept used for studying historical and pre-colonial regional social organization among the Coast Salish (Kennedy 2007; Ritchie and Miller 2021). Therefore, by shifting the theoretical focus of regional social organization during MM-MN in southern Norway from considering boundaries and boundary areas to one concerning social networks, there is also a shift from focusing on exclusivity and identity to considering connection and interaction amongst people. Social networks, and thereby elements associated with communication and interaction, forms the backbone of the method that shall be described next. Furthermore, the Norwegian archeological material shall also be analyzed and compared to similar sites in the Coast Salish derived from archeological and ethnohistorical material.

Method

Having considered the implication of the use of ethnographical material in an archeological analysis, and the purpose of using the Coast Salish as a point of reference in an archeological analysis, the focus shall now shift towards the archeological material. In accordance with the aim of this thesis, the majority of the archeological sites considered in the next chapter were chosen based on the fulfillment of the criteria considered below, in addition to the site's previous consideration within the discussion on social territories, ethnic boundaries and main territories. The archeological material that shall be presented in the next chapter encompasses Norwegian archeological sites that have been chosen based on several criteria. Firstly, sites were selected based on activity which could be dated to a time within the timeframe of MM to MN. Secondly, recognizing drainage systems and waterways as an essential means of communication and transport, locally accessible dietary resources and the environmental landscape surrounding these sites was considered. Thirdly, the continual use of these sites was acknowledged by the presence of thick cultural layers and/or dwelling structures. Fourthly,

contemporary sites in the associated area surrounding these sites was recognized in relation to the potential importance or significance of these sites on at a more regional level.

The archeological sites were selected based upon activity being evident from within the MM-MN timeframe. As recognized in Chapter 2 (Table 1), the dating chromosomes based on Bjerck (2008a) and Bergsvik (2002a) has been used as a baseline for determining the different periods within the Mesolithic and Neolithic. The different methods used for determining the age of the different archeological sites consisted of shoreline displacement, C14 dating and lithic typology. In the early stages of this thesis, only shoreline displacement and C14 dating was considered. However, shoreline displacement is relatively restricting as it can only determin the time in which a site would be accessed. Furthermore, shoreline displacement curves are only determined based on a few specific places along the Norwegian coastline, thus making the scope of this method of dating to some extent limited in terms of regional and local differences. Additionally, the extent of C14 dating can be limited in determining dates as it relies on the recovery of organic material, which is especially demonstrated by the archeological sites from eastern Norway considered in the next chapter. Furthermore, C14 dates can be considered as representing only a snapshot of one specific event at one specific time. Incorporating lithic typology was there for essential as to determine both the timespan in which a site was utilized and when activity ceased at the sites. The environmental landscape in which the sites are located was acknowledged and discussed in relation to waterways and dietary resources. Recognizing drainage systems and waterways as a means of communication and transport, archeological sites situated along waterways and in coastal areas were one of the key components that connects the archeological sites to the concept of social networks, which shall be discussed further in chapter 6. As Coast Salish material shall be considered in the discussion of the archeological sites, the potential dietary resource identified at each site shall be recognized as not simply something that is similar between the two areas, but also as a factor relevant to the plausibility of considering social networks in the Norwegian Mesolithic/Neolithic.

The third criteria, continuity, was based on the presence of either archeological dwelling structures and/or thick cultural layers at the sites. Originally, only sites with dwelling structures were chosen as the archeological material to be presented in this thesis. However, as contemporary sites in the associated areas were to be considered later on, and it became apparent that soil conditions needed to be considered in relation to the recovery of structures

at the sites, it seemed more prudent to include sites with thick cultural layers as well. The presence of dwelling structures and cultural layers, in connection with social networks, was considered important both in relation to the indication of a continued used of a specific waterway and settlement area. Furthermore, the presence of dwelling structures indicates an investment in the site through the construction of permanent shelters. According to Bergsvik (2002a:14, 2006:52-53), a cultural layer is a fatty and blackish layer that is created by the accumulation of decomposed organic material, charcoal, lithics, fire-cracked stones and possibly bone fragments. A thick cultural layer is here considered any cultural layer thicker than 10 cm. Although thickness of cultural layers has previously been considered in relation to long-term settlement sites in the discussion regarding sedentism during the LM, it shall here be considered as an indication of a continued use of specific areas connected to waterways, and thus in connection with social networks. Furthermore, as both the thickness of cultural layers and archeological structures, as well as contemporary sites in the surrounding area is considered, could suggest that different areas were continually used by people over an extensive period. As such, contemporary sites in the associated area surrounding the different archeological sites shall be recognized in connection to the potential of social networks, but also as they indicate the importance of a total area connected by waterways and dietary resources.

Conclusion

In this chapter, the use of previous ethnographical models and the limitations of such has been presented and discussed. In addition to the generalization aspect of previous hunter-gatherer models, Rowley-Conwy and Piper (2016) also criticize the previous hunter-gatherer models for overlooking the significance of the surrounding environment and landscape. Subsequently, recognizing the significance of ethnographical material being used to creating such models, the importance of source criticism was highlighted. While ethnographical material has previously been used for the analysis of archeological material, the combination of archeological and ethnographical material from one area may be more fruitful as the source in the analysis of other archeological material. Having established the need to combine ethnographical and archeological material as the source in a comparative analysis, the premises for a favorable comparison was established. These premises built on similarities in communication and dietary resource opportunities, and similar environmental setting and landscape. The Coast Salish area of British Columbia was chosen based on the similarities to both past and present-day southern

Norway. However, in relation to the concept of boundaries, the Coast Salish material led to a reconsideration of the previously established concept, as they were considered permeable and less all-encompassing than previously recognized in previous archeological study on social organization in Norway. Furthermore, the concept of social network is common with the Coast Salish material in relation to the study past social organization. In the second half of this chapter, the premises for the selection of the Norwegian archeological material were presented. The Norwegian archeological are presented in accordance with the sites dating, environmental landscape, continuity and contemporary sites in the associated areas, which is presented in the following chapter.

Chapter 5 Archeological material

In the following pages, five archeological location and areas from the MM-MN, situated in southern Norway, shall be presented. Each location is given its own subchapter in which the four criteria dating, environmental landscape, continuity and contemporary sites in the associated area are presented and considered. Thereafter, new information relevant to the previous research of these archeological locations shall be considered, which again will be relevant in the following discussions in the next chapter.

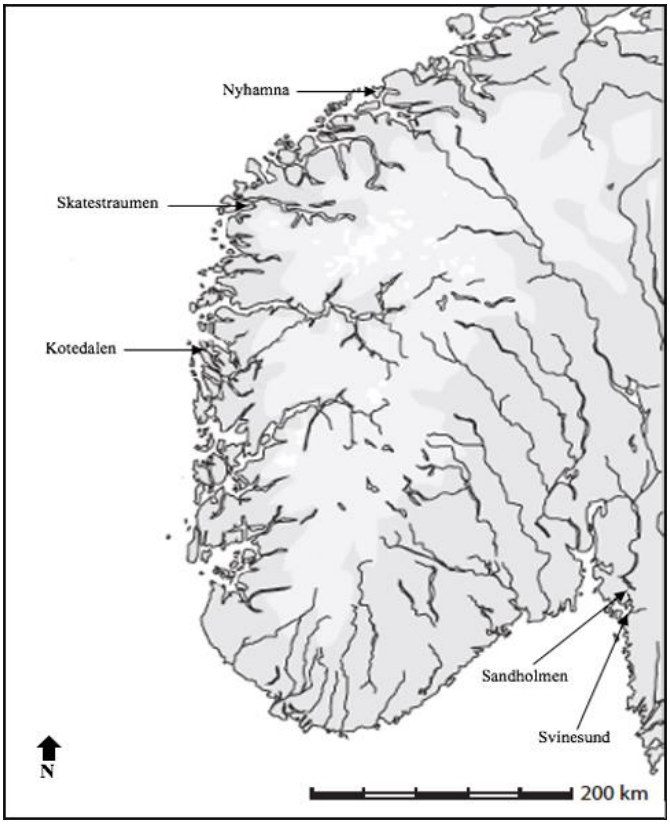

Figure 4. Map over southern Norway, highlighting the location of the archeological locations Nyhamna, Skatestraumen, Kotedalen, Sandholmen and Svinesund. Illustration: The background illustration of Norway presented by Astrid Nyland (2016: Figure 9.4, page 280) in *Humans in Motion and Places of Essence* was used as the base for the creation of the figure. Minor modifications and inclusion of the archeological site names are done by the present author.

Fosnstraumen: Kotedalen

The Kotedalen site is located at Straume, on the northside of the inner coastal island Radøy, in Alver municipality, Vestlandet (Western Norway). The site is situated in close proximity to Fosnstraumen, a strait with a strong tidal current separating the islands Radøy and Fosnøyna, connecting the Lurefjord to the Atlantic Ocean. The site was first registered by Egil Bakka in

1962 and following a survey of the site in 1985, an excavation lead by Asle Bruen Olsen took place in 1986 and 1987 (Olsen 1992:5, 13, 20).

Dating: The site was divided into two areas; the southern area was situated in a slightly higher terrain than the northern areas. The southern area represented activity dated to different Mesolithic phases, while the northern area represented Neolithic activity phases (Olsen 1992:24). Based on C14 dating, a total of 16 settlement phases were identified at Kotedalen, each corresponding to a stratigraphical/cultural layer. As cultural layers are the same as phases in the Kotedalen context, it will henceforth be referred to as phases. The C14 dating from the different phases suggested human activity at the site in EM and from LM to the end of MNa (see Olsen 1992:190-223). Whereas one phase (phase 1) was dated to EM, a total number of nine phases (phase 2, 3, 4, 5, 6, 7, 8, 9, 10) were dated to LM. Phase 11 provided samples which could be C14 dated to somewhere between the end of LM and EN. Phase 12, 13 and 14 represents different EN phases, while phase 15 and 16 is thought to represent MNa, although the distinction between these two phases relatively is uncertain (Olsen 1992:38).

Environmental landscape: The Fosnstraumen carries a strong tidal current, making the area an optimal fishing area, in addition to the good harboring conditions during the time in which Kotedalen was utilized (Bergsvik 2001b:17-18). At the time the activities at Kotedalen subsided, the harbor area associated to the site had become less optimal as the bay had by that time become dry land (Olsen 1992:47). In relation to locally acquired resources, the Fosnstraumen offered great fishing opportunities for the people in the area as is evident not only by the large number of fishbones, but also the presence of artifacts such as fishhooks and the 49 fishing weights/sinkers found at the site (see Warren 1994; Hufthammer 1992; Hjelle et al. 1992).

In relation to waterways, the Lurefjord offers a more protected costal route between the Sognfjord and southern areas. From north, the Lurefjord can either be entered through the narrow sounds of Bakkastraumen and Kilstraumen, which connects the Lurefjord to the Fedjefjord, or the wider sound at Fosnstraumen which is located in the north-western part of the fjord. However, entering the Lurefjord from the south is only possible though the narrow channel of Alverstraumen, based on today's sea-levels. However, it is possible that some of the countless small inlets around the Lurefjord might have offered some other ways in and out of the fjord, but which are not clearly visible in the present-day landscape. Considering the

three mentioned gateways in and out of the Lurefjord, it seems that the eastern side, passing Fosnstraumen, might have been the most direct, and thus preferable route. Furthermore, any traveling by boat across the fjord would in any case likely be visible from the Fosnstraumen area as there is a stretch of open waters between the south-eastern and north-western end of the fjord which is visible from the Fosnstraumen area. All in all, the Lurefjord offers a more protected route as opposed to the outer coastal areas west of Fosnstraumen, and it could potentially have connected the Sognfjord and more northern areas with the more intercoastal areas consisting of several islands and small fjords just south of the area.

Continuity: The continual use of the site is evident both on the presence of postholes, as well as the close and overlapping C14 dates of the different cultural layers, each correlating to specific phases. In phase 2 (6560-5980 BC), cultural layer MH, a total number of 14[3] postholes were identified, in addition to another 9 uncertain postholes (Olsen 1992:68). The size of these postholes ranged from 5-20 cm wide and 3-15 cm deep. Phase 2 was the only phase in which postholes were documented. Nevertheless, the presence of any structure does suggest that some extent of investment in the site took place, and it may indicate a longtime investment in the site. Interestingly enough, the phase 2 cultural layer is only measured to be around 5cm, being the thinnest layer at the site. The general trend, however, was that the average thickness of the different phases measured from around 15 cm to 25 cm thick (Olsen 1992: Table 1).[4] The calibrated C14 dates from each phase provides an overlapping timeline as the range of the C14 dates are overlapping between the over- and underlaying phases (see Olsen 1992: Appendix 4, pg. 266). However, this does not indicate a continual occupation at the Kotedalen site, but rather that the site was reoccupied throughout the LM to the end of MNa, which subsequently led to stratigraphically distinguishable phases (Warren 1994:275-276). Whether the different phases represent seasonal or year-round occupation and activity, shall not be discussed here (see Warren 1994; Hufthammer 1992; Olsen 1992; Bergsvik 1995; Bergsvik 2001a). The Fosnstraumen area, with its many LM and N sites, will be considered from a macro-level below.

Contemporary sites in the immediate area: Despite the discontinuation of activity on the

[3] Olsen (1992:68), mentions only 13 postholes. However, as 14 are listed in the list of structures from phase 2 (see Olsen 1992:194), and Elizabeth Warren (1994:143, 144, 148) also recognize 14 postholes from this phase, the present author has chosen to interpret this in a conservative way, choosing to recognize a total amount of 14 postholes.

[4] Although phase 16 is an exception with a cultural layer of 10cm, the present author is reserved in recognizing this phase as the distinction between phase 15 and 16 was uncertain.

Kotedalen site from MNb, the area surrounding the Fosnstraumen was not completely abandoned, as there are a number of locations in relatively close proximity to the strait that indicate human activity at the same time as Kotedalen and after. Including the Kotedalen site, a total number of 66 localities had been identified in 1995, which has been divided into eight[5] areas: Bøneset, Grøndalen, Hopland, Illdalsneset, Kotedalen, Ramsvikneset, Rappesneset[6] and Snekkevik (Fig. 5).[7]

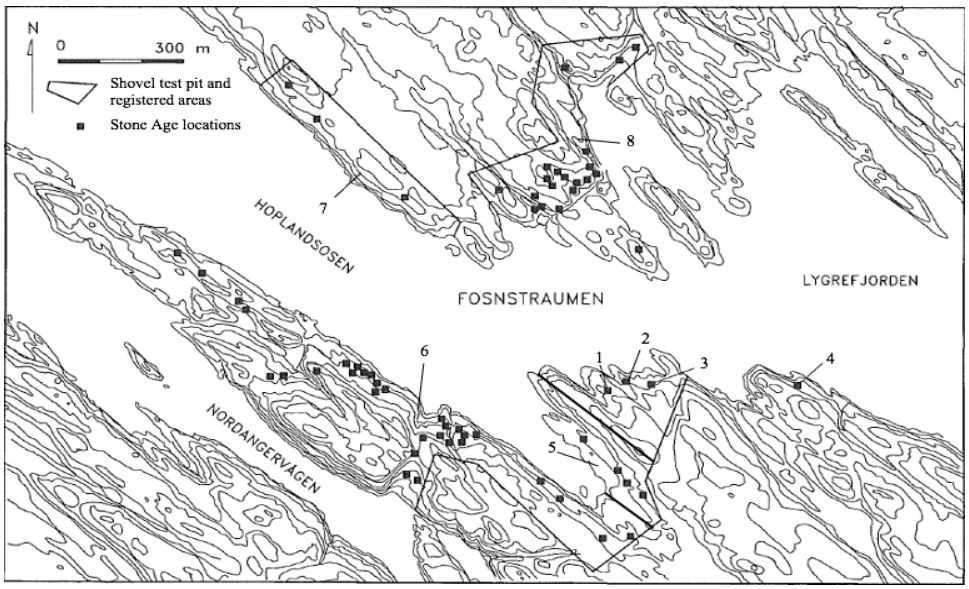

Figure 5. Registered and excavated sites in the Fosnstraumen area, separating Radøy and Fosnøyna, in Alver/Austrheim municipality, Western Norway. The areas and specific sites are distinguished by numbers: 1. Ramsvikneset, 2. Illdalsneset, 3. Kotedalen, 4. Grøndalen, 5. Bøneset, 6. Rappesneset, 7. Hopland, 8. Snekkevik. Illustration: Based on *Strømmer og steder i vestnorsk steinalder* by Knut A. Bergsvik 2001b, page 17. Minor modifications are done by the present author.

Including the Kotedalen site, a total of six sites, one at Rappesneset and four at Snekkevik, have been dated to EM (Bergsvik 1995: Figure 2). Another sixteen sites situated at Rappesneset, Snekkevik, Hopland and Ramsviknest are considered to indicate LM activity in the area. The number of locations more than doubles in EN/MN, in which thirty-three sites has been registered in the seven areas located around the Fosnstraumen strait (ibid). Interestingly enough, Rappesneset lok. 22 is, as far as the present author is aware of, the only other site,

[5] The number of areas is derived from a comparison of Olsen (1992), Bergsvik (1995) and Kulturminnesøk.no.
[6] Olsen (1992:17) mention a site called Straumsvågen. This site is, however, located at the exact same spot as Rappesneset 32 in Bergsvik (1995: Figure 2). The present author has chosen to interpret this as indicating that these are two different names given to one site and therefor regards it as such, choosing the name Rappesneset 32 as it is consisting with the area surrounding the location.
[7] The names of the areas are obtained from Kulturminnesøk.no as Bergsvik (1995) only included abbreviated names of the localities and not mentioning the actual names of the areas.

besides Kotedalen, that indicate human activity in both the EM, LM and EN/MN (ibid). However, any further information regarding this specific location has been unobtainable, as was any additional information regarding Rappesneset, Bøneset and Hopland.

Ramsvikneset was excavated under the leadership of Egil Bakka from 1962 to 1963 and was the largest excavation of a settlement site at the time (Bakka 1964, 1993; Olsen 1992:17). A great number of fishbones, as well as bird-, whale-, and larger animal bones were found at the site, and the area has provided good harbor conditions up until present day (Bakka 1964:161; Olsen 1992:47). Based on typological and C14 dating, the activity on the site has been dated to EN and MN. According to Olsen (1992:244), human activity on the Ramsvikneset site ceased in the beginning of MNb and was thereby abandoned only a few hundred years after Kotedalen. The Illdalneset site was located between Kotedalen and Ramsvikneset. Gøndalen and Illdalneset, both with thick cultural layers, were used periodically from EN to the end of MNB, and thus "outliving" both the Kotedalen and Ramsvikneset sites (Olsen 1992:17, 47, 48, 244; Bergsvik 2002a:313). Similar to Ramsvikneset, the two sites were positioned relatively close to the shore and areas providing good harbor conditions. Compared to Kotedalen site, the Snekkevik area is located on the opposite side of the Fosnstraumen, on Fosnøyna. The area consists of 27 archeological sites, dated to EM, LM and EN/MN, with some sites consisting of cultural layers from both LM and EN/MN (Bergsvik 1995: Figure 2). Similar to the majority of the site areas considered so far, the Snekkevik area provided and still provides fairly good harbor conditions (Bergsvik 2006:62).

Ormen Lange Project: Nyhamna

Nyhamna is an area located on the northeastern side of Gossa, an outer coast island located in Aukra municipality, Møre og Romsadalen (northwestern Norway) (Bjerck 2008c:72). Prior to the expansion of the gas processing plant at Nyhamna, a total of 26 archeological sites[8] were excavated in 2003 and 2004, as a part of a large project called the Ormen Lange Project (Bjerck 2008b; 2008c:83; Bjerck et al. 2008). The 26 sites were estimated to coverer a total area of 13,440 m^2 (Bjerck 2008b:6). However, 40,401 m^2 was inspected and 2,959 m^2 was excavated in 2003/2004 (Bjerck 2008d:Table 5.1).

[8] In Bjerck et al. (2008), the original number of sites was 28. However, as site 48 and 72, and site 50 and 68, were later recognized as two sites, they shall here be considered as such, making it a total of 26 sites. The sites will hereby be referred to as site 48/72 and site 50/68.

Dating: Based on C14 dating, lithic typology and shoreline displacement, stone-age activity was identified at 24 sites, some of which could be dated to the Mesolithic, the Neolithic, or both. A few sites also indicated activity continuing in the Bronze Age and Iron Age (Bjerck et al. 2008; Meling 2008a, 2008b). At six sites[9], settlement structures such as postholes, housepits and tent rings suggested human settlement at the sites some time during the EM, LM, EN, MNa and MNb. Another three sites[10] only contained undetermined structures, such as stone packings or depressions containing charcoal or bones, whose purpose is unclear.

Environmental landscape: The island in which Nyhamna is located, Gossen, is situated in the northwest costal area of Norway where the two ocean currents the Norwegian coastal current and the North Atlantic Drift dominates and overlaps. This coastal area in known for its unique marine biodiversity and is still highly recognized as an excellent fishing ground (Bjerck 2008c:72). This is to some extent reflected in some of the archeological material found during the Ormen Lange project, as 20 fishing weights and a few fishhooks were found during the excavations (Bjerck et al. 2008). Although no bone material was identified in relation to specific species, at least two contemporary sites from the immediate area of Grynnvika (site 18 and 19), and one site located at Skatvika (site 45) contained a total of 16,959 fishbones[11] (see Åstveit et al. 2005: Figure 82, Figure 216, Figure 222). In addition to the great resource opportunities the surrounding ocean offers, as Gossen is a part of the Strandflat landscape, it offers great harboring condition with shallow bays, which were still significant during the LM-MN in both Nyhamna and in the immediate areas (Bjerck et al. 2008).

In terms of waterways, the continued use of the island could be significant, as the sound between Gossen and the mainland and onwards to Midfjorden offers a more protected route along the coast. Furthermore, as any movement between the northern and southern area by boat most likely passed by Gossen, settling at the island could have been both a strategic choice in relation to marine resources but also regional communication. In the intercoastal area, southeast of Gossen, is Romsdalsfjorden. Rauma river drains into the Romsdalsfjord from the Lesjaskogsvatnet lake and could potentially have been a waterway that connected this part of the coast to the inland areas in the Mesolithic. This might have been plausible considering the

[9] Site 29, 30, 34, 50/68 63, 69 (ibid)
[10] Site 36, 48/72, 67 (ibid)
[11] This material was collected from shovel test pits at these three sites during the registration of archeological sites in the area in 2001, prior to the excavations in Nyhamna in 2003-2004 (see Åstveit et al. 2005).

elevated sea levels in the area surrounding Gossen at the time and the potentially slow draining of the glacial lake Store Dølasjø into Lesjalake and onwards into Rauma river (see Hesthagen and Kleiven 2016:38-40). Even if this was not the case, the valley in which the Rauma river flows through could still have been a used as trail rather than a waterway into the inland.

Continuity: Human activity in the Nyhamna area of Gossen can be dated back as far as EM, with site 48/72 dating back to 9000-8800 BC based on C14 dating and shoreline displacement (Bjerck 2008e:254). This site may also represent the earliest settlement excavated in relation to the Ormen Lange project, as stones surrounding three different hearths has been identified as possible tent rings (Bjerck 2008e:218-256). Based on C14 dating, shoreline displacement and/or typological distinction, thirteen sites all bare some indication of EM activity. Although two sites, site 29 and 62N, yield C14 samples that dates cultural layers at the site to MM3, the MM material is in general disperse and scarce in the area, most likely due to Tapes transgression. During this period, about 7500-6000 BC, the sea rose from around 4 to 13 m a.s.l., stabilizing around 10-13 m a.s.l. by 4000 BC before sinking down to present sea levels (Bjerck 2008c:75-76). Due to the submerging of previous activity sites, the majority of MM artifacts are water rolled.

During the LM, 15 structures have been identified at four different sites, site 29 and 30 Fredly, 50/68 and 69 Søndre Steghaugen (Bjerck et al. 2008) (Table 2). Although the structure at site 29 is only recognized as one posthole, the thick cultural layer (< 40 cm) and the lithic assembly suggest extended activity at the site during LM (Åstveit 2008c:108-109). Another two sites, site 36 Håhaugne and site 62 Litle Gynnvika Nedre, also contains thick cultural layers from LM (Bjerck et al. 2008). Six dwellings were discovered in the LM cultural layers at site 30. At site 50/68 and at site 69, two dwellings have displayed distinct layers within the dwellings (Åstveit 2008b:404-408; Jørgensen 2008:428-430). C14 samples reviled sequential accumulation layers within these dwellings, which has been interpreted as representing different phases, indicating that these dwellings were reused over time. Among the LM structures, one tent ring dated to approximately the same time as dwelling 1, phase 3, was identified at site 50/68. The sites 50/68 and 69 are situated together in the eastern area of Nyhamna, while site 29 and 30, which are situated in close proximity to one another, are situated on the western side of Nyhamna (Figure 6). The structures in these areas suggest overlapping human activity as it is likely that the two distinct areas were occupied at the same time. The structures between the two areas differ to some extent as the presence of wall mounds

surrounding the dwellings has so far not been identified at either site 29 or 30. Notably, wall mounds were identified as a part of the "Fredly-house" at site 30. However, as there is a great uncertainty in whether or not the "Fredly-house" does in-fact represents a dwelling, it was not considered as such during, and in the aftermath of the Ormen Lange project (Åstveit 2008a:154). In addition to the four sites with LM dwellings, four other sites excavated as a part of the project, could be dated to LM based on the lithic material[12].

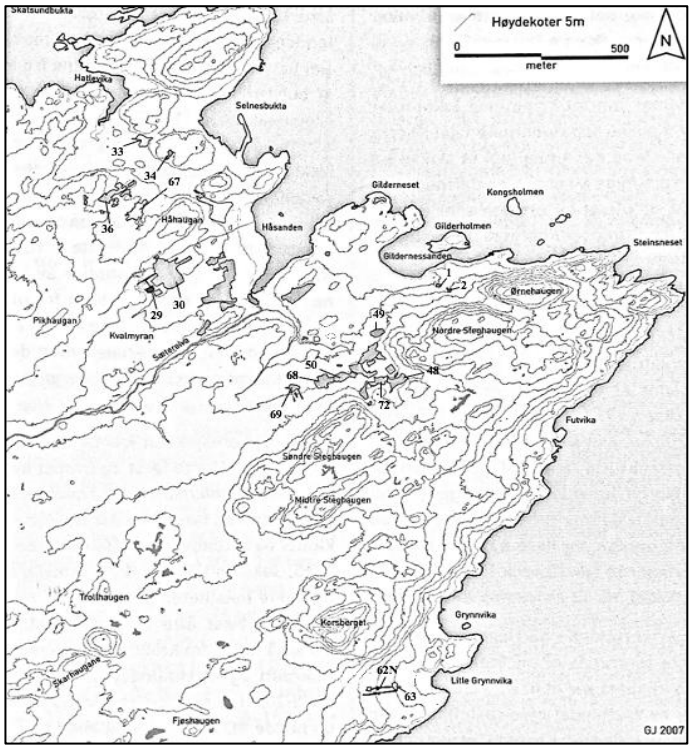

Figure 6. Map of the sites excavated at Gossen as a part of the Ormen Lange Project. The sites considered in this thesis are identified with numbers. Illustration: After *Mellommesolittisk tid (MM) 8000-6500* by Leif Inge Åstveit 2008d, page 571. Minor changes have been made by the present author.

In addition to the four sites with identified dwelling structures considered above, another two sites (site 62N and 36) contain thick cultural layers indicating a great amount of activity and the continued use of these sites despite the lack of identified dwellings. The six sites with either identified dwelling structures and/or thick cultural layers demonstrates the continued use of Nyhamna, and the overlapping dates of the dwellings could indicate periods of excessive use of the area. In the EN, structures such as dwellings are only represented by phase 4 in dwelling 1 at site 50/68, and phase 3 in dwelling 1 at site 69 (Table 2). Besides these possible settlement phases, there is generally very little archeological material dated to EN found at Nyhamna

[12] Site 31, 36, 49, 62 (Bjerck et al. 2008)

(Åstveit 2008f:588). During the MN, there was once again an increase of activity in the area, demonstrated by the increase of artifacts and lithics at a number of sites such as site 1, 2, 29 and 30, as well as structures such as tent rings identified at site 34, and a number of postholes at site 63 and 67 (Bjerck et al. 2008).

Period	Archeological site	Structures	Cal. BC/AD	Additional notes
LM1	Site 29	Posthole S32	6175-6015 BC	Thick cultural layer and lithics indicate continued LM activity at the site.
LM2	Site 30	Dwelling 94	5980-5845 BC	
	Site 68	Dwelling 1 phase 1	5840-5620 BC	Located in the site 68 area of site 50/68. Based on C14 sample from hearth (see Åstveit 2008b:412, 420).
	Site 30	Dwelling S128	5675-5590 BC	C14 dating derived from same strati-graphical level (Layer 4), as no direct C14 samples were taken. The structure is generally confirmed to be from LM (see Åstveit 2008a:148 and table 3.18, pg. 168; Åstveit 2008e:581).
LM2-LM3	Site 30	Dwelling S32	5600-5400 BC	
		Dwelling S1	5570-5445 BC	
		Dwelling S31	5565-5440 BC	
	Site 68	Dwelling 4	5565-5440 BC	Located in the site 68 area of site 50/68.
LM3	Site 50	Dwelling 2	<5500 BC	Located in the site 50 area of site 50/68.
	Site 68	Dwelling 1 phase 3	5500-5200 BC	Located in the site 68 area of site 50/68.
	Site 69	Dwelling 1 phase 1	5380-4840 BC	
	Site 68	Tent ring	5300-5200 BC	Based on C14 dates derived from posthole and flooring. Located in the site 68 area of site 50/68.
LM3-LM4	Site 50	Dwelling 1	5190-4470 BC	Located in the site 50 area of site 50/68.
	Site 30	"Fredly-house"	5100-4900 BC	Uncertain dwelling. Consists only of possible wall depressions.
LM4	Site 30	Dwelling 1132	4950-4690 BC	
	Site 68	Dwelling 5	4760-4470 BC	Located in the site 68 area of site 50/68. Based on C14 sample from hearth (see Åstveit 2008b:412, 420).
		Dwelling 2	4600 BC	Based on dating of nearby strati-graphical layer (Åstveit 2008b:409). Located in the site 68 area of site 50/68.
LM5-EN	Site 68	Dwelling 1 phase 4	4225-3820 BC	Located in the site 68 area of site 50/68.
EN	Site 69	Dwelling 1 phase 2	3760-3520 BC	
MNa	Site 34	Tent ring S6	2885-2615 BC	
MNb	Site 34	Tent ring S1	2590-2460 BC	
		Tent ring S3	2555-2325 BC	

Table 2. An overview over the LM-MN structures identified during the Ormen Lange project at Nyhamna. The sites are color coordinated as to easily distinguish between the different sites and to highlight the continual use of each site over longer periods. Table after *Vedlegg 6: C14-dateringer Ormen Lange Nyhamna Kronologisk rekkefølge*, page 640-645, in Bjerck et al. 2008 NTNU Vitenskapsmuseets arkeologiske undersøkelser Ormen Lange Nyhamna.

Contemporary sites in the immediate area: Originally, during the registration of archeological sites in the surrounding area of Nyhamna in 2001, the northeastern area of Gossen was divided into four sections called Grynnvika/Futvika, Skatvika/Selnesbukta, Nyhamna and Steinneset (see Åstveit et al. 2005). However, only some of these sites were excavated as a part of the Ormen Lange project, and although the majority of sites were situated in the Nyhamna area, some were also located at Gynnvika (site 62 and 63) and Selnesbukta (site 33, 34, 36 and 67). In addition to the sites excavated, a total of 13 other sites registered in 2001, indicated human activity some time during the LM. At least one site, Hatlevika 35, indicated specifically EN activity. However, a total of 16 other sites that bore evidence of Neolithic occupation and activity, were identified in the 2001 rapport (Åstveit et al. 2005).

Sandholmen

Situated on a small islet in Norway's longest river, Glomma, a few km southwest of the lake Øyeren, is the Sandholmen site. Located in Askim municipality, Viken county, eastern Norway, the site was partially excavated by Anja Mansrud, Per Person and Torgeir Winther in 2015 (Mansrud and Persson 2016; Winther and Persson 2016). This was the first time any physically invasive activity in the form of excavation has been done at the islet, although Sandholmen has on previous occasions been inspected by means of fieldwalking and subsequently been discussed by other scholars (Fuglestvedt 2006; Hansen 2003). To date, a total of 25 depressions have been identified on the islet, with the majority being considered to represent pit dwellings, measuring from 6 to 10 meter in diameter (Mansrud and Persson 2016:5; Fuglestvedt 2006:49). Two of the depressions, known as dwelling A and B, situated on the southern part of the islet, on the Glomma riverside, bore evidence of being exposed to erosion from the river which led to the rescue excavation of these two dwellings as to prevent further loss and harm to the structures. Furthermore, during the excavation, a third depression, dwelling C, was discovered at the eastern side of the islet. However, as the dwelling was already highly damaged by erosion and only visible when the water levels were at its lowest, the dwelling area was only documented through the collection of lithic material in the surrounding area. The entirety of Sandholmen site was not fully excavated as it was not considered in immediate danger of any further destruction. The excavation mainly consisted of STP, excavating the eroded part and creating a profile cutting through dwelling A, as well as a shaft cutting through parts of dwelling B and the surrounding area. The excavation was done using mechanical layers and no cultural layers were identified during the excavation. The three depressions examined were confirmed as dwellings/house pits, based on the greater presence of lithic material within, rather than outside, the dwelling (Mansrud and Persson 2016:14).

Dating: Dwelling A provided three radiocarbon samples, all from layer 5 (40-50 cm) in the same STP (PS2), dating from ca. 7,500-6,100 BC, and hence indicating a MM3-LM1 dwelling (Mansrud and Persson 2016:2, 17, 32; Winther and Persson 2016:5; Eigeland et al. 2016:8). Dwelling B and C, however, were dated based on lithic typology (Winther and Persson 2016:26). Bearing similarities with the lithic material found in association with dwelling A, dwelling B was identified dating to MM/LM. Dwelling C was typologically dated to MM based on the lithic material.

Environmental landscape: The rapids located on the northern side of Sandholmen could have made the islet an ideal site in relation to fishing, as much during the Mesolithic as it is at present time. However, due to isostatic uplift, migrating fish such as salmon may not have reached as far up as Sandholmen at the time in which the dwellings were occupied (see Mansrud and Persson 2016:36-37; Mjærum and Mansrud 2020 :287-288; Sørensen 2015). Moreover, it may be possible that the number of salmon declined due to land transgression after the first habitation phases on the islet which may have led to its abandonment. This is not unthinkable as it is possible that the other dwellings on the islet might be older than dwelling A. However, for the site to be abandoned due to the lack of salmon or other migrating fish in the rapids is more questionable as lake Øyeren, situated just north east of Sandholmen, likely contained an abundance of freshwater fish while Sandholmen was still inhabited (Mansrud and Persson 2016:36-37). Furthermore, the site may also have be inhabited longer than the time period that the three dwellings represent. Unfortunately, only two small burnt bone fractions were found at the Sandholmen site, and while these prevailed dates within the dwelling timeframes, it was not possible to identify the species from which these bones derived from.

Overall, the Sandholmen location in the landscape can be considered ideal in relation to waterways and drainage systems connecting the coast areas to the inland. The part of the Glomma river that flows through the narrow passage at Sandholmen from lake Øyeren, is the only river outlet connecting the Glomma drainage system, and thereby the inland areas, with the coast. In addition to small rivers and streams, the drainage system consists of the rivers Glomma, Lågen and Vorma, as well as several lakes such as Mjøsa and Øyeren lake (Selsing 2021; Glørstad 2010:50). The Glomma river is Norway's longest river and is roughly 600 km long, running southwards from Aursunden lake, located in Røros municipality, and into the Oslofjord inlet just south of the city of Fredrikstad (Solheim 2012:55). Prior to reaching the Oslofjord, the Vorma river flows into the Glomma river at Årnes, Nes municipality. The Vorma river connects lake Mjøsa, Norway's largest lake, to the Glomma drainage system as it is Mjøsa's only distributary river. The Lågen river runs from lake Lesjaskogsvatnet, located in Lesja municipality, and is lake Mjøsa's main tributary river. The Glomma drainage system is, in other words, a vast and far-reaching system, and which is only connected to the coastal areas by passing the Sandholmen islet. Despite the promising element of Glomma in relation to waterways running past Sandholmen, land transgression poses a waterway hinderance for the LM people. At present time, Sandholmen is situated approximately 101 m a.s.l. Though the site might have been shore bound ca. 7800 BC, by the time of the earliest C14 date from the

site, land transgression had made the distance between the dwellings and the riverside around 100 meters apart, situated at 16-41 m a.s.l. (Mansrud and Persson 2016:17, 33; Mjærum and Mansrud 2020:287). As such, by the LM, the waters passing Sandholmen were not ideal for traveling by boat due to its low water levels, and the increased number of rapids and steep waterfalls that came into view with the regressing water levels (Fuglestvedt 2006:56). However, what is important to note is that lines of communication following a drainage system probably went both up and down these waterways. It could therefore be possible that when the river in this area became less ideal for traveling by boat, the journey would be taken by foot, following the river. Then again, the abandonment of the dwellings at Sandholmen might have been due to the low water levels in the rapids around the islet, causing the strategical importance of Sandholmen in relation to waterways to diminish.

Continuity: Despite the lack of data from the Sandholmen site, elements indicating some level of continuity on the site can be recognized. Firstly, the presence of housepits in itself indicate an investment in the site considering the time and energy that goes into not only constructing but also possibly maintaining such structures. Furthermore, as 25 depressions are identified at the site, and even if only half of these turns out to be housepits, they still represent a great amount of labor at the site as such depressions did not form naturally. Based on the present material, whether these dwellings represent a small group of people occupying the islet over a long period, or a large group or groups occupying it over a short period is so far uncertain. Moreover, these dwellings and depressions could have been reused in intervals. Either way, the overall presence of dwellings at Sandholmen suggest that some time was spent at the site before it was abandoned. Secondly, the C14 samples collected from the same level in the same STP in dwelling A can indicate that some human presence on the site during a time span of around 1000 years.

Contemporary sites in the immediate area: The well-known LM sites of Svevollen and Rødsmoen, both containing several housepit dwellings, are situated along Glomma, approximately 190 and 240 km north of Sandholmen (see Fuglestvedt 1992, 1995, 2006; Boaz 1997). There are generally few excavated Mesolithic sites south of lake Øyeren. Nevertheless, Mesolithic artifacts found along the Glomma and the surrounding areas are more plentiful, which is especially prominent if one visits the website Kulturminnesøk.no and look at the registered archeological elements in the area. Still, there are a few closely situated sites south of Sandholmen which are considered to have been inhabited around the same time.

The Kjelås II site is located around 6.5 km downstream from Sandholmen (Mansrud and Persson 2016:9). The site is situated on the eastern riverside of Glomma and was inspected in 1964 by Odd Ertsås. Based on the lithic assembly, the site was dated to the Tørkop phase (MM) by Egil Mikkelsen (1975, 1978:99). During the excavation at Sandholmen in 2015, the site was revisited in the hopes of identifying any form of depressions, and thus possibly dwellings, that had not been registered in 1964. No such depressions were however identified at the site (Winther and Persson 2016:9).

Located approximately 12,5 km as the crow flies, southeast of Sandholmen, is the Eidsberg prison site. Prior to the expansion of the nearby situated Eidsberg prison, a large area was excavated, revealing three clear depressions in the Mesolithic cultural layers (Mjærum 2018). The depressions were categorized as housepits and based on C14 dating from all three, they were utilized sometime between 7450-7050 BC (MM2), which is within the timeframe of dwelling A at Sandholmen. Furthermore, during the MM, the area in which the site is located, was coastal bound as the shoreline in this area was about 75 meters higher than today's sea-level. As such, the Eidsberg prison site was only located 1,3 km away from the shoresides of the Glomma fjord (Mjærum 2018:8-9).

Skatestraumen

Skatestraumen is a sound separating the island Bremangerlandet and Rugsundøya, located in Bremanger municipality, in the outer coastal area of Vestland county (Bergsvik 2002a:9). The sound is situated in close proximity to Nordfjorden, located north of Skatestraumen, which is one of Norway's largest fjords. Furthermore, southeast of Skatestraumen is Vingen, an area with a great amount of rock art and settlement sites from LM (Bergsvik 2002a:9; Bergsvik and Ritchie 2020:257; Fuglestvedt 2018:4, 304). Registration of archeological sites at Skatestraumen occurred in four different phases, first in 1989, then in 1990, 1991 and 1993. During this time, a total of 154 archeological sites had been registered, and these sites were all organized in to 17 different areas/districts laying on either side of the Skatestraumen sound (Bergsvik 2002a:24). Over the course of 10 years, from 1989 to 1999, investigations and excavations took place along the sound due to the planned construction of a bridge connecting the Bremangerlandet to Rugsundøya and the mainland (Bergsvik 2002a:9).

Dating: The 154 registered sites at Skatestraumen show human activity in the area stretching from LM to the Late Iron Age (ibid). All the Skatestraumen sites were dated based either on C14 dating, chronological trends in relation to utilized raw materials and lithic technology, as well as lithic typology and shoreline displacement in the area (Bergsvik 2002a:9, 10-12). As such, a total of 49 sites were considered to display LM activity. While ten sites were identified as specifically EN, 55 sites were identified as representing EN/MN activity. Out of these, 30 sites all represented human activity from LM and continuing into EN/MN (Bergsvik 2002a:Table 2). The lack of EM and MM sites discovered at Skatestraumen is most likely due to the Tapes transgression which caused the sea levels at Skatestraumen to have reached a minimum height of around 20 meters below present-day sea level by 8200 BC, and a maximum height of around 6 m above present-day sea level around 5000 BC (Bergsvik 2002a:300-303, Figure 275).

Environmental landscape: The sound in which Skatestraumen is located carries a tidal current that provides great fishing conditions in the same way as Fosnstraumen, in close proximity to Kotedalen. Several fishing weights were found at Skatestraumen, and out of the 76, 62 were found at site 17 Havnen. The size of the fishing weights varied in size as the majority were characterized as small weights while 11 were simply described as large fishing weights (Bergsvik 2002a). Furthermore, considering the large accumulations of bones found at both site 17 Havnen and 1 Haukedal, where the majority consisted of fish bones, aquatic resources must have been an important resource to the people occupying this area during LM-EN (Senneset and Hufthammer 2002). The importance of access to the water is furthermore implicated by the fact that the majority the sites dated to LM-MN were situated in areas with good harboring conditions and relatively good view over the surrounding areas and the sound (Bergsvik 2002a:304).

As of the area's location in relation to waterways, Skatestraumen is situated favorably in connecting waterways between the inland, and the northern and southern coastal areas. Located just south of where the Nordfjord meets the Atlantic Ocean, the area is situated by a long fjord connecting the coastal area of western Norway to the mountainous inland. Furthermore, the waterway from Nordfjord and southwards most likely ran through Skatestraumen as the weather conditions in the outer coastal areas are considered unpredictable and harsh. The same can be said for the outer coastal areas north of Nordfjord, thus making the passage through the Skatestraumen the most feasible in relation to movement between the areas south of

Skatestraumen and the northern coastal areas beyond Nordfjord (Bergsvik 2001b:27). Additionally, it could be significant to note that the sea cliff known as Hornelen, located at Bremangerlandet and in close proximity to Skatestraumen, is a very prominent feature in the natural landscape of the area.

Continuity: The continued use of the Skatestraumen area is prominent by the large number of archeological sites in the area dating back from LM to Late Iron Age, and the number of sites that can specifically be dated to LM-EN/MN. However, the lack of structures associated with dwellings as Skatestraumen is therefore very interesting. By 2002, postholes had only been documented at two sites, site 17 Havnen and site 30 Nygård. Site 30 Nygård represents the earliest dwelling at Skatestraumen as thirteen postholes were discovered in cultural layer G, dated to 6600-6350 BC (MM3-LM1) (Bergsvik 2002a:263-274). At site 17 Havnen, postholes were found in the cultural layers of three different phases dating back to LM3, LM3-LM4 and EN. Ten postholes were documented in phase 2a (5400-5200 BC), twenty in the cultural layers in phase 2b (5100-4850 BC) and four in phase 3 (3650-3500 BC) (Bergsvik 2002a:158-239). Unfortunately, no C14 dating could be derived from the postholes at either site. Nevertheless, the postholes all measured between 5-10 cm in diameters, cutting 5-10 cm deep into the ground (Bergsvik 2002a:180, 266). Based on the size, depth and to some degree the scattered patterns of these postholes, the postholes was at the time of the excavation interpreted as representing tent dwellings (see Bergsvik 2002a:183, 266-268). In addition to site 17 and 30, thick cultural layers were found on sites 1 and 6 Haukedal and site 23, 27 and 28 Gloføy (Bergsvik 2002a).

Contemporary sites in the immediate area: As illustrated above, and similarly to Nyhamna in the Ormen Lange Project, Skatestraumen is an area consisting of several archeological sites from over a course of several thousand years. Besides the sites situated alongside the coastal line on both sides of Skatestraumen, another well-known archeological area needs to be acknowledged in relation to Skatestraumen. Located within a short distance, and south of Skatestraumen, is the Vingen rock art area. Although a few LM activity sites has been registered in the area, Vingen is most notoriously known for its rock art sites containing a total of at least 2195 figures dated to the latter part of LM (LM3-LM5) (Fuglestvedt 2018: Table 2.1). Despite this area often being used in the discussion relation to regional and ethnical boundaries (e.g. Bergsvik 2006; Skjelstad 2003; Fuglestvedt 2018; Gundersen 2004), it will not be discussed here as this thesis aims at highlighting social networks in relation to waterways and activity sites.

The Svinesund Project

Svinesund is a sound situated on the Norway-Sweden border, located in the Ringdalsfjord which separates the Norwegian municipality of Halden from the Swedish municipality of Strömstad. In light of the planned development of a new European route 6 (E6) crossing over the Svinesund, an archeological survey of the area began in 2000. In the following years, between 2001 to 2004, the Svinesund excavation project took place and 38 archeological sites[13] situated in the affected areas were inspected and some were excavated (Glørstad 2002:3, 5, 6). The results from the excavated sites at Svinesund were presented in a book series consisting of four publications, published by the end of each year's excavation season by Oslo University Cultural History Museum (Glørstad 2002, 2003a, 2004a, 2004b). In these four publications, a total number of 16 sites were presented.

Dating: The majority of the sites fully or partially excavated as a part of the Svinesund project bore evidence of LM/EN activity, with some also representing LN and Iron age activity in the area. Shoreline displacement, lithic typology and C14 dating were used to estimate the date of the different sites. However, as organic material was generally scarce, C14 dating was only possible at some of the sites. Based on the information required during the excavation of the area, the general trend regarding stone age sites in relation to shoreline displacement showed that such sites were located around 28 to 70 meters above present day sea-level (Glørstad 2002:6). As such, 12 of the sites were identified as LM/EN activity[14] , with one additional site (Vestgård 5) dated to MNa (Glørstad 2004b:21-46; Johansen 2004:148).

Environmental landscape: In relation to the Mesolithic/Neolithic landscape, the Svinesund area excavated was generally referred to as the Svinesund island. While Svinesund is now connected to the mainland, the area used to be an island with shallow bays and small inlets during the Mesolithic/Neolithic (Glørstad 2004b:59). The majority of the sites were located in protected areas with shallow bays which suggested good harboring condition at the time. Good harboring areas appears to be an important feature at these sites, as they seemed to be abandoned by the time isotopic uplift had made the harboring conditions less favorable

[13] Originally the number of sites were 42. However, as four sites (Torpum 14, 16, 8 and Vestgård 7) has later been recognized as likely connected to other contemporary sites in the immediate area, these sites are hereby referred to as Torpum 13/14, Torpum 9/16, Torpum 1/8 and Vestgård 6/7. Torpum 9/16 has later been considered as two areas within this area, described as the Torpum 9a/16 and Torpum 9b areas.

[14] Torpum 1/8 was dated to LM1, Torpum 9a/16 to LM2, Torpum 2, Torpum 9b, Berget 1 and Torpum 3 to LM3, Rørbekk 1 to LM4, Torpum 13/14 to LM4/LM5, Vestgård 8 to LM5, Berget 2 to LM5/EN and Torpum 10, Vestgård 3 and Vestgård 6/7 to EN.

(ibid:61, 86; Glørstad 2002, 2003a, 2004a). At present, the sound carries a current that runs from the inner parts of the Iddefjord, fed by inland rivers, through the Ringdalsfjord and out into the Oslofjord inlet, which creates good fishing conditions. Similar conditions might have been present during the Mesolithic/Neolithic (Glørstad 2004b:11). Nevertheless, the bays and skerry areas surrounding the island provided good marine resource conditions not only in relation to fishing but also the potential of hunting marine mammals. Yet, none of the bone material identified the presence of marine mammals, and fishbones were only found at two of the sites (Torpum 9/16 and Torpum 10) (Tørhaug 2003:134-135; Glørstad 2003b:299). Osteological material was only found at 4 sites (Torpum 9/16, Torpum 10, Torpum 13/14 and Vestgård 6/7), and was made up of 862 bones mainly deriving from unidentified mammals, as well as a few bird bones and a small fraction of fishbones. The sites in which the osteological material derived from all dated to LM/EN (Glørstad 2004b:60). Furthermore, there is a general lack of artifacts discovered in the Svinesund area that can be directly linked to fishing, with the exceptions of two possible fishhooks, one made out of bone and the other flint[15]. However, the lack of fish bones found at the sites in general may be inadequate in representing the dietary lifestyle of the people living in this area as the soil conditions were generally less favorable for preservation of organic material, and thus as the fishbones are relatively smaller than those of mammals, they may have decomposed quicker than those of mammals (see Glørstad 2002:9).

In relation to waterways, the Svinesund island was positioned between the outer coast and inland areas in LM as the shoreline displacement curve for the area suggest that the Oslofjord inlet was bigger than it is at present time (Sørensen 2015). As such, the areas both south and north of the Svinesund island consisted of several coastal islands, and the Ringdalsfjord was a larger fjord that could potentially connect inland waterways to the outer coastal islands and waterways. The Halden drainage system, which drains out into the Iddefjord, may represent such a waterway connecting the northeastern inland areas along the drainage system with the coastal areas. Similarly, the Enningsdal river may have been utilized as an intercostal waterway connecting the Svinesund and the associated areas with the southern intercostal regions in present day Sweden. If so, the narrows located to the east and south of Svinesund island may have created passages in which the movement between the inland and coastal areas was prominent (Glørstad 2002: 24-25, 2004b:60-6; Glørstad 2010:50). Making one's way from either the Halden drainage system or Enningsdal river and heading north along the coast, the

[15] The flint fishhook was found at site Torpum 9b, but is considered to be from the LN.

large sound between the eastern side of the Svinesund island and the mainland would be the last passage before emerging into the Oslofjord inlet. Regardless, the Svinesund sound would additionally have allowed passage from these drainage systems and out to the coastal areas located south of Svinesund island (Figure 7).

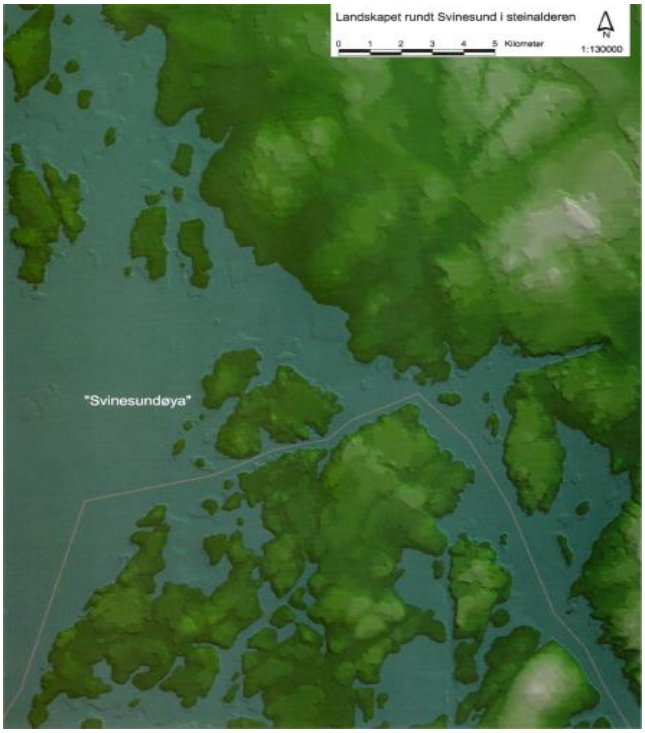

Figure 7. Map showing the Svinesund islands (Svinesundøya) position in the landscape with sea levels at 40 m a.s.l. Illustration: by Per Erik Gjesvold, in *Svinesundprosjektet* (Glørstad 2002: Figure 5, page 26).

Continuity: The Svinesund area contains several sites, dated to different parts of the LM and Neolithic, which is a testament of the continued used of the area. However, very few sites have disclosed either cultural layers or structures associated with dwellings. Berget 1 and Torpum 13/14 are the only sites with LM dwelling structures, while Vestgård 6/7 is the only EN site with two structures that could be interpreted as postholes (Jaksland and Tørhaug 2004:106). Nevertheless, no cultural layers were identified in relation to any of these dwellings. On one hand, a possible explanation for this might be that these dwellings were only inhabited for a short amount of time. On the other hand, other natural factures may have come into play which might have broken down previous cultural layers. As mentioned above, the soil was less preferable when it came to preservation of organic material. Furthermore, the structures seemed to have been washed and partially faded which had been caused by natural processes in the ground at all of the sites (Jaksland 2002:53; Jaksland 2003:243, 245; Jaksland and Tørhaug 2004:67, 74). Thus, the total extent of time in which these sites were used was nearly

impossible to determine, and it was for this reason that most attention was given to the lithic material at the sites. Nevertheless, one site that did contain a few cultural layers, but no identified form of dwelling, was site Torpum 9/16, specifically the area Torpum 9b (Tørhaug 2003). At Torpum 9b, which was dated to LM3, contains a total of three distinguishable cultural layers. These three cultural layers (A2, A6 and A7) situated in different parts of the Torpum 9b area and were on average about 20-30 cm thick. C14 samples extracted from hearths in A2 and A6 dated these cultural layers to about 5500-5300 BC and 5430-5265 BC, and the vast number of artifacts collected from the sites[16] indicate a great amount of activity at the sites. It is likely therefore that the site was occupied or utilized over some time judging on the thickness of the cultural layers, the extent of artifacts found on the sites, which included 136 axes (Tørhaug 2003:91), and later typologically dated artifacts found at the site.

Contemporary sites in the immediate area: In addition to the several closely located sites excavated as a of the Svinesund project, several other stone-age sites are located in vicinity to Svinesund. As stated previously, a total of 66 stone-age sites had been registered in the areas between Sponevika, located just west of Svinesund, and the Iddefjord by 2001 (Glørstad 2002:12). Two of these sites were the Ystehede site and the five sites excavated as part of the Halden project. The Ystehede site is situated on the eastern banks of the Iddefjord and was excavated by Ove Olstad in 1991-1992 (Knutsen and Skullerud 2007:2). The site was dated to have been utilized from the end of LM to EN, with additional activity at the site in MN (Knutsen and Skullerud 2007; Glørstad 2002:15). The Halden project involved the excavation of five LM sites, located in the city of Halden. The sites are situated close to the Tista river which is the part of Halden drainage system that connects lake Femsjøen with the Iddefjord (Glørstad 2002:15; Lindblom 1990 ; Melvold 2006).

The archeological sites and previous studies on social boundaries

A number of the sites described above has been discussed in the previous studies involving the recognition of social territories, ethnic boundaries or regionality (see Bergsvik 2006; Fuglestvedt 2006; Gundersen 2004; Olsen and Alsaker 1984; Selsing 2021; Skjelstad 2003; Solheim 2007, 2012). As recognized in Chapter 2, the majority of these studies lean heavily on the distribution of raw material or typological distinct artifacts. Perhaps the first to consider the

[16] A total number of 38,539 artifacts. These consisted of 34,709 flint artifacts, 3,308 rock artifacts, 354 pieces of hazelnut shells, 161 burnt and 1 unburnt bone fragments and 6 pieces of ceramic (Tørhaug 2003:86).

presence of two social territories in western Norway during the LM, Olsen and Alsaker (1984) places the area where Kotedalen later was excavated, in the boundary area between two social territories recognized by the distribution of Florø greenstone axes and adzes from the south and Stakaneset diabase axes and adzes from the north. Later, in the context of the distribution of raw material, Skjelstad (2003) suggest that Kotedalen was located within a boundary area as diabase, sandstone, mylonite and greenstone found at the site indicate ties to both southern and northern regions. At Skatestraumen, located south of the northern boundary area, artifacts of diabase, mylonite and sandstone was uncovered. Due to the rock art site located in the approximate area of Skatestraumen, and the absence of the raw material mylonite north of Stad, Skjelstad (2003:69, 125-126) concludes that Stad was situated in a boundary area. However, during the excavations in the Ormen Lange project, both diabase axes, identified as Stakaneset diabase axes, and some mylonite lithics were identified (Åstveit 2008a:164; Bjerck 2008f:612). In the context of social territories and boundaries, Nyhamna has so far only been mentioned by Selsing (2021) in relation to it being a good fishing area located within the northern Main territory. Sandholmen has previously been considered within one of the two social territories put forward by Fuglestvedt (1998, 2006) connected with two river drainage systems in the eastern part of Norway. The two social territories were distinguished based on the uniform selection of raw rock material used in the two area in which flint was the dominating raw material used in the Glomma drainage area, while quartz was mainly used in the area surrounding the Randsfjord-Dokkfløy drainage system. In the light of the excessive amount of Nøstvet axes found during the Svinesund project, Glørstad (2010) later considers the presence of Nøstvet axes and its distribution in the region in relation to what can be considered a social network. Both Glørstad (2010:100-101) and Solheim (2012:26-27, 244-248), recognize the importance of communication along the waterways in eastern Norway, and thus highlight the importance of communication without associating or dividing eastern Norway into different social units or territories.

Conclusion

In the previous pages, different Norwegian archeological sites have been presented and described. Each site is presented in such a way that the four criteria dating, environmental landscape, continuity and contemporary sites in the associated area are emphasized. Consequently, the sites and areas considered can be place within a MM-MN timeframe. In relation to environmental landscape, the resource opportunities in the areas has been

highlighted in addition to possible waterways and lines of communication in the area. Subsequently, the extent of continuity and the existence of contemporary sites in the immediate areas has been presented as it will be fruitful in the further discussion of the sites in the following chapter. The presented sites role in the previously discussed debate on social territories and boundary areas was subsequently considered and new information was presented, such as the extent of Stakaneset diabase to the north, found at the more recent excavation at Nyhamna, which alters the previous perception on the extent of the distribution of this raw material. The new information and the different criteria considered at each site will be relevant when the Norwegian sites shall be considered and interpreted in relation to archeological and ethnohistorical studies from the Coast Salish area in the following chapter.

Chapter 6 Discussion

The study and identification of social territories, regionality and ethnic boundaries within Norwegian archeology has previously been concerned with the identification boundary areas and differentiation between groups throughout the Mesolithic and Neolithic landscape. Furthermore, the concept of social networks has previously been considered as representing trading networks and was by Olsen and Alsaker (1984) embedded into the proposed social territories in western Mesolithic Norway. The idea that social networks exist only within the perimeter of a specific area is thereby tied to a previous assumption that boundaries are continuous and final. However, if ethnographical and archeological material from an overall similar area is considered, there is a possibility that the previously established concepts of boundaries and boundary areas as a final line drawn between different groups of people, might not necessarily have existed to the same extent as previously assumed. Ethnographical, ethnohistoric and archeological studies from the Coast Salish area offers a different understanding the boundary concept as boundaries are regarded as permeable and relative. Furthermore, the concept of social network is incorporated in the study of social organization through the consideration of the distribution of different raw materials and lithics (see Morin 2012, 2016; Rorabaugh 2019; Ritchie and Miller 2021). In the first following pages, the previously presented Norwegian archeological sites shall be discussed in relation to Coast Salish areas in British Columbia. Firstly, the significance of waterways, access points and dietary resource opportunities shall be discussed. Thereafter, the significance of continuity at the sites shall be considered, leading to a discussion on the distribution of raw material and lines of communication in relation to social networks that reaches beyond the local areas.

Waterways, access points and dietary resources

Gateway communities

Sandholmen stands out in the archeological sites, not just in relation to the limited excavation on the site, but also in how the site is situated within a drainage system. While Fosnstraumen, Skatestraumen, Nyhamna and Svinesund were situated in the more outer coastal areas during the LM-MN, Sandholmen was at that time already becoming an inland site based on the isostatic uplift in the area. Considering the Glomma drainage as encompassed within a social territory defined by the dominating use of flint, Fuglestvedt (2006) suggests that Sandholmen was located within a “neutral” area in which the coastal groups and inland groups of this social

territory could meet, participating in social events that strengthened the groups common identity and alliances.

Due to Sandholmen's location along a drainage system connecting the coast to the inland, and being situated on the riverbank of the only outflowing river from the Øyeren lake, the site has previously been considered as a meeting place comparable to the LM Mesolithic sites at Motala, Sweden (Fuglestvedt 2018:21-22). There are three sites at Motala, situated north and south of the river Motala Ström. Motala Ström is the only river outlet of the lake Vättern, and during the LM, ran 30 km east, draining into the Baltic sea (Eriksson et al. 2018:905). One of the sites, the Strandvägen site, is situated on the southern riverbanks, while the other two sites Verkstadsvägen and Kanaljorden are situated north of the river (see Eriksson et al 2018; Gummesson et al. 2018; Gummesson and Molin 2016; Hallgren 2017; Hallgren and Fornander 2016; Molin et al. 2018). Human remains were found at both Strandvägen and Kanaljorden, but at Strandvägen the majority was found in burials in close proximity to dwelling structures on the western side of the site, while some disarticulated human remains were found in the riverbed at the eastern side of the site (Eriksson et al. 2018:905, 906). At Kanaljorden, however, the human remains consisted mainly of cranial and post-cranial bones. During the time in which the human remains had been deposited, the site was likely to have been a small lake. Two of the skulls found at Kanaljorden showed signs of having been erected on wooden stakes, which has led the site to be interpreted as representing a ritual deposit site (Hallgren and Fornander 2016). Notably, in relation to Sandholmen and potential meeting places in the Mesolithic landscape, strontium isotope analysis of the human remains from Kanaljorden and Strandvägen indicated that the Kanaljorden individuals were non-local to the area. The carbon and nitrogen isotope levels, however, indicated an overall trend of a highly aquatic diet among the people from both sides of the river (Eriksson et al. 2018). As such, it is possible that this area, situated alongside the Motala Ström river, was a meeting place in which different groups came together as a part of social or ritual gatherings. However, there is one distinct aspect of the two areas landscape which is important to note. While Motala is located somewhat closer to the coastal areas then Sandholmen, the Motala sites area is also located on either side of the only river connected to lake Vättern. Sandholmen, on the other hand, is situated along the Glomma drainage system which the lake Øyeren is a part of, thus connecting Sandholmen to the further inland areas situated beyond lake Øyeren. In this way, Sandholmen is connected to a far-reaching waterway connecting the inland and mountain areas to the coastal area in the outer Oslo fjord. The Motala sites are however only connected to the outer coastal areas and

the immediate areas surrounding lake Vättern as there are no other rivers leading in or out of lake Vättern.

Considering the Coast Salish area, Sandholmen can be compared to the Sts'ailes traditional territory in southern British Columbia. As part of the Coast Salish peoples, the Sts'alies are a contemporary First Nation community, Sts'ailes First Nation, located in the Upper Fraser Valley, along the Harrison river (Ritchie 2007, 2010). Within the traditional Sts'ailes territory, several ancient villages have been surveyed and excavated, and based on calibrated radiocarbon dating, the area has likely been continuously inhabited from at least 1,500 cal. BP to present day (Ritchie 2010:122, 123; Ritchie and Lepofsky 2020). The area is connected to two waterways, the Lillooet-Harrison and the Fraser drainage systems. The Sts'ailes territory is connected to the Lillooet-Harrison drainage system as the Harrison river, draining the Harrison lake located only a few kilometers upstream, runs though the traditional territory. The Fraser drainage system is located approximately 12 km south of the Sts'ailes, where the Harrison river drains into the Fraser river (Sanders and Ritchie 2008:134). Based on ethnographical, ethnohistorical and archeological surveys in the area, the Sts'ailes has been influenced and have close ties to both the southern neighboring Coast Salish groups, as well as the Interior Salish[17] groups located on the northern end of Harrison lake (Sanders and Ritchie 2005). Furthermore, due to its position between the Fraser drainage system and Harrison lake, the Sts'ailes acted as a "middle-man", connection the Fraser Valley to the Harrison-Lillooet interaction corridor, in which resources and people moved between the interior and the coastal groups (Ritchie and Lepofsky 2020:3; Sanders and Ritchie 2005:13, 2008). As such, the ancient and pre-contact settlements along the Harrison river represents a gateway community situated between two large drainage systems, that connects the surrounding area to the coast in the west, and the deep inland and mountain areas in the east and north.

The two areas considered above, Motala and the Sts'ailes, represent different interpretations of similarly situated areas. Based on the concept of boundaries and social territories, both the Sandholmen and Motala sites has previously been interpreted as a meeting place between different groups of people. However, in recognizing the significance of the Sts'ailes, and the Coast Salish areas permeable boundary concepts, both Motala and Sandholmen could also be

[17] Interior Salish is another subgroup of the Salishan languages which mainly consists of Interior and Coastal Salish. These two languages are furthermore divided into several languages, in which some are again distinguished in accordance with different dialects.

interpreted as gateway community areas based on the sites position in relation to drainage systems.

Similar to the Sts'ailes site, Motala and Sandholmen are both located in close proximity to a lake. While all three areas are located by the southern access point of these lakes, only Motala and Sandholmen are situated along a direct route connecting the lake to the coastal areas. However, whereas Sts'ailes and Sandholmen are located along a long drainage system that connects the coastal and inland regions, Motala is only connected to lake Vättern with no drainage systems continuing into the further inland regions. It is of course likely that several groups lived in the surrounding areas of lake Vättern and used the lake as their main waterway. However, as there was no other river systems and waterways that extend beyond this lake into the inland areas, the extent of the drainage system associated with Motala was more limited than those drainage systems associated with Sandholmen and Sts'ailes as these connected larger areas and regions.

In accordance with the Sts'alies and the ethnographical material, the Sts'alies people spoke a different language than those located at the northern end of Harrison lake. However, through the continued flow of goods and people through the Harrison-Lillooet interaction corridor and the Fraser drainage system, the Sts'ailes community linked Coast Salish communities to Interior Salish communities though social networks. Furthermore, although their language is a subdialect of the Coast Salish language, the Sts'ailes were influenced by both the Interior and the Coastal Salish trends. Keeping this in mind, the distribution of flint along the Glomma drainage could possibly be an indication of a regional interaction corridor and thus indicating the extent of social networks along this drainage system in which Sandholmen in located. As such, the Sandholmen community could have had close social ties to other groups located in the inland, and the coastal areas and beyond. Moreover, these people may have had the role of middlemen, connecting the different groups further up the Glomma drainage system with outer costal groups, or vice versa, thus connecting different social networks.

Svinesund, Fosnstraumen, Skatestraumen and Nyhamna could possibly have been gateway community areas as well. However, what is significant and what distinguished especially Sandholmen from the other Norwegian archeological sites is in this context the amount of access points to each of the areas and locations. While Sandholmen is situated next to the only river outlet of both lake Øyeren and the Glomma drainage system, the other Norwegian coastal

sites represent the most favorable but not the only possible route passing through the areas. While Nyhamna, Skatestraumen and Fosnstraumen, in connection to the Sognefjord, were accessible from the interior, southern and northern areas, the Svinesund area had four access points. These four were from the coastal north and south in the Oslo fjord, and from the inland and intercostal drainage systems east and southeast of Svinesund. Similar to Sandholmen, the Svinesund island was situated in-between these coastal and inland waterways. However, as Svinesund is situated in the outer coastal areas, it may be less likely that this site represents a gateway community as it was exposed to waterways from four directions. It is of course possible that the site was a gateway community which connected coastal networks with inland networks. However, a more likely comparison to Svinesund could be the Fraser area, which will be discussed below in relation to dietary resource areas.

Shared resource areas

All the Norwegian archeological sites are situated in close proximity to different waterways and relatively good fishing areas. While Skatestraumen, Fosnstraumen and the Ringdalsfjord situated south of Svinesund, carries tidal currents, Nyhamna is located in a good fishing area known for its biodiversity. Although not situated in the coastal area to the same extent as the others, Sandholmen is situated in close proximity to fairly good fishing areas provided by both Glomma and Øyeren lake.

In relation to dietary resources, there are certain limitations that need to be addressed concerning the extent of faunal material collected at the sites and the interpretation of dietary habits. Firstly, as mentioned in association with the Svinesund area, the preservation conditions of organic material are not ideal in Norway, especially in the eastern part of the country. Consequently, as fishbones are much smaller and thus decompose more quickly than larger faunal bones, the interpretation of dietary preferences and local resources is limited if it is based upon the faunal assembly from a site or area. Secondly, the overall trends and composition of the faunal material found at an archeological site may not represent local dietary trend. This is especially evident in the isotope analysis data derived from a Mesolithic individual found at the Viste cave, Norway, in relation to the faunal assembly found at the same site. While the isotope analysis of the Viste skeleton indicated an individual to have lived of a highly marine-based diet, the majority of the faunal assembly at the site consisted of terrestrial mammals. Although it should be noted that several fishhooks were recovered at the Viste cave, the faunal material from the sites and the isotope analysis data indicates that faunal material found at

archeological sites may not completely represent the dietary choices of the people in the area. Thirdly, food recourses may have been acquired, prepared and consumed at other locations or in other areas. Although food may have been transported back to a settlement site, the different forms of preparation and preservation done prior to the groups return to the settlement site may have eliminated any faunal material that could have been recovered from the site. The limitations conserving the soil condition and the acquisition and preparation of foods in a different area is interesting in relation to the limited number of fishbones recovered at Svinesund. Furthermore, the preparation of food at a different location may also explain the lack of terrestrial animal bones at several of the sites in the areas surrounding Nyhamna, Skatestraumen and Fosnstraumen. Due to the limitations of the faunal material in relation to dietary preferences, the importance of the aquatic dietary resource areas in close proximity to these archeological sites shall be considered as potential resource areas accessible and important within the areas and the greater regions.

The areas surrounding the Fraser Delta and Lower Fraser River, as well as Cape Mudge, will be relevant to consider here in relation to access points and shared food resources in the Coast Salish area. The Lower Fraser River area is here considered to be the total area of lower mainland that encompass the Harrison River and lake, and the Fraser Valley from Yale in the east, to where the Fraser river drains into the Strait of Georgia in the west. The delta area in which Fraser river merges with the Strait of Georgia is referred to as the Fraser Delta area. The Fraser area carries some of the world's largest salmon runs, and according to ethnographical and ethnohistorical research, was an area in which several groups gathered and participated in collecting berries and salmon during different times of the year (Ritchie and Angelbeck 2020). Notably, the ethnographical record indicated that the groups that gathered along the Fraser River were linguistically related. The different groups seasonally relocating from Vancouver Island spoke the island dialect Hul'qumi'num, which is a subdialect of the Halkomelem language spoken in the Fraser area (Ritchie and Lepofsky 2020; Thom 2005:369-377). The archeological material demonstrating the movement of people between Vancouver Island and the Fraser area is limited. However, the use of burial mounds found throughout the Fraser Valley area and on Vancouver Island may represent a common burial practice connected to social interaction across the Strait of Georgia prior to the ethnographical record of regional interaction (Lepofsky et al. 2007:216). Furthermore, the extent of more "open" regional interaction documented in the ethnographical material may have been caused by the depopulation in the area owing to European introduced diseases, causing changes in social

relationships and mobility in the historic period (Grier 2003:175). This is especially significant in relation to the Fraser river area and fish runs as "the virtual disappearance of some tribes in the earlier epidemics, [opened] access to their sites to others" (Suttles 1998:170). Nevertheless, there are some prehistoric archeological material that overall indicate regional contact across the Strait of Georgia and further into the inland regions of British Columbia (Grier 2003). For example, at several sites, including the Tsleil-Waututh area mentioned below, west coast dentalia shells has been recovered. These types of shells were harvested from deep water areas along the western outermost coastal areas stretching all the way from Northern California to south-central Alaska, with intense exploitation areas along the western coast of Vancouver Island (Ames 1994:221; Barton 1994). Furthermore, the distribution patterns of nephrite and obsidian can to some extent also indicate prehistoric regional interaction between the coastal and inland Coast Salish area (Grier 2003:175; Morin 2012, 2016). Although these artifacts are not connected to food resources per say, they do demonstrate some form of regional interaction, and as such, it is possible that this may have also been applicable to resource areas around Lower Fraser River as well. Nevertheless, ethnohistorical material conveys the potential of the Lower Fraser River and Delta area as shared resource areas with several access points. From the interior regions, the area could be reached by following the Fraser or Harrison-Lillooet drainage systems, and as the Fraser River emptied out into the Strait of Georgia, the area was accessible for people living in the coastal areas as well.

Cape Mudge is located at the southern end of Quadra Island by Vancouver Island. The cape is situated on the southeastern end of Discovery Passage, which carries a tidal current and connects the Strait of Georgia to the Johnstone Strait and eventually Queen Charlotte Strait in the north. According to oral history and ethnohistory, the site of Cape Mudge was lost by the Coast Salish to the Kwakwaka'wakw during the wars between the two people prior to the 1840's (Thom 2005:361-369). During the 1840's and 1850's, permanent settlements were built by a Kwakwaka'wakw group at the location of previous ancient Coast Salish settlement sites. The war in this area was brought to an end by the arranged marriage between a Coast Salish woman and a Kwakwaka'wakw man living at Cape Mudge at the time. Following this arranged marriage and thereby the end of the war, the relations between the two groups and kin ties continued to be reinforced and established through marriage and social interaction. As such, the Coast Salish groups regained access to Cape Mudge through the ethics of sharing among kin, and thus demonstrating how kin ties and social relations can permeate territorial and

language boundaries. Furthermore, based on ethnographical research, the area became a shared resource area for Coast Salish and Kwakwaka'wakw groups, with Coast Salish seasonal fishing camps at Cape Mudge (ibid). Situated on the shorelines of both Discovery Passage and the Strait of Georgia, Cape Mudge is not only strategically well positioned in relation to the food resource but also in relation to access points from the southern regions surrounding the Strait of Georgia as well as the northern surrounding regions towards, and including, Queen Charlotte Strait and beyond.

The two areas presented above may carry similarities and insight into the possibility of more permeable boundaries than what has previously been assumed in previous interpretations of the Norwegian areas. The situation in Lower Fraser River and Delta area, and at Cape Mudge demonstrates that boundaries may not only be permeable, but that areas may also be shared by several distinct communities or groups. While Fraser River and Delta area represent a shared territory between linguistically related groups, the Cape Mudge area was shared between different language groups. Additionally, the two areas are also situated in close proximity to rich food resource areas and contain several access points.

Circling back to the Norwegian sites, Svinesund is especially interesting to consider in comparison with Lower Fraser River and Delta area. Although the Fraser drainage system is significantly larger than the Halden drainage system, there is a certain similarity between the two areas as Svinesund is also located in close proximity to where a larger inland drainage system empties out into the coastal areas. As such, the area around Svinesund and Halden could potentially have been a good resource area for fishing and catching anadromous fish, as well as other marine and terrestrial food resources. Although the faunal remains recovered at the sites may not be representative of the acquired food resources in the area, the amount of fishing equipment recovered at Svinesund is also limited. Regardless, the areas location in the landscape and its potential in relation to both dietary resource acquirement and access points could have made Svinesund shared resource area in the same way as the Lower Fraser area, where groups from the inland and coastal regions would meet. As the Fraser area and Svinesund can be considered more easily compared due to their location between coastal and inland areas, the area surrounding Fosnstraumen, Skatestraumen and Nyhamna might be more similar to that of Cape Mudge. In this context, Sandholmen is less comparable to either areas mostly based on its riverside location, and thus more limited access points from a more "open" coastal point of view. Nevertheless, the site may have had some potential as a shared resource

area, but this argument would also rest upon the assumption that anadromous fish such as salmon could have reached Sandholmen while it was inhabited, as other food resources were likely to have been equally available in the surrounding area.

The argument that Cape Mudge may be compared to the areas around Fosnstraumen, Skatestraumen and Nyhamna rests not only on the presence of tidal currents and optimal fishing areas, but also the potential of several access points due to their coastal location, which was also considering above as an argument against these areas having been gateway communities. Furthermore, unlike the Fraser area, Cape Mudge represent an area located along a waterway connecting larger bodies of water, Strait of Georgia and Queen Charlotte Strait. As such, especially the areas surrounding Fosnstraumen and Skatestraumen may also represent the waterways that were considered most ideal for traveling between the northern and southern regions, as well as the approximate fjord arms also prevailed alternative routes to travel further inland. The many access points created the possibility of contact with northern, southern and eastern communities. Although Nyhamna is not located by any particular tidal current, the islands position may be regarded as situated in a crossroad between different lines of communication between the northern, southern and eastern regions.

However, the Fraser area may also give some insight into the interpretation of the Nyhamna area when the different dwellings and dwelling locations are considered. Firstly, at site 68/50, there was a tent ring that may have been contemporary with other pithouse dwellings at site 68/50 or at the neighboring site 69, only located 50 meters to the west of the site. These different types of dwelling may have represented a random change in settlement pattern for perhaps one generation, but the more convincing argument is that the tent ring might represent a different group seasonally visiting the area. Secondly, although there is only some minor overlapping in the dating from the different sites with dwelling structures[18], the dwelling sites can be divided into two distinct areas located at either side of the previous large bay, with site 29 and 30 located to the west and site 68/50 and 69 located to the east. Even if there is little overlapping in the dates from the specific dwellings from these sites, it seems odd that a group or several groups would move back and forth across the bay every few generations. Especially when, based on shelter from the wind, the landscape and fishing conditions, the sites appear to be very similar. Considering the possibility of shared territories and resource areas

[18] Site 29, 30, 68/50 and 69.

demonstrated at around Fraser and at Cape Mudge, the overlapping dates of the different dwellings and sites at Nyhamna could reflect that the area was shared between several groups, all occupying different areas around Nyhamna or Gossen. On the other hand, the different settlement patterns could also indicate that different groups inhabited the area at different times, changing "ownership" over several years, in the way that Cape Mudge at one point was lost by the Coast Salish to the Kwakwaka'wakw. This could potentially explain the back-and-forth settlement patterns between the eastern and western side of the bay. Nevertheless, the potential of several access points to any of the Norwegian sites and their preferable fishing conditions may have led the area to be visited by groups traveling from the north, south and east, which ties the areas to the questions regarding social networks and regional interaction. Rather than considering the identity of groups at the specific sites, the focus now shifts to a macrolevel as the issue regarding settlement continuity and the implications of regional interaction is considered in relation to waterways and distribution of raw materials.

Social networks and interactions: beyond settlement continuity

Rather than looking at the significance of the distribution of raw material tied to regional interaction, the previous pages have mainly focused on the Norwegian archeological sites in relation to access points and food resources. However, another aspect that need to be acknowledged is the concept of continuality. As such, a fourth Coast Salish area will be considered in order to illustrate the relativity of continuality at opposed to the previously discussed sites and areas.

The Tsleil-Wat is a fjord system consisting of Burrard Inlet, the Indian Arm and the Port Moody Arm, and is situated north/northeast of Vancouver city. The area is incorporated into the Tsleil-Waututh First Nation territory and represents a continual settlement area by different communities belonging to the same group, situated in different parts of the fjord system. Based on overlapping radiocarbon dating from different sites in the area, in addition to oral history and linguistic studies, Morin et al. (2018) argues that the Tsleil-Wat area has likely been inhabited by Tsleil-Waututh groups from at least 300 BC. In addition to the continued activity at the same sites, archeological material found at the Say-Umiton, Tum-tu-may-whueton and Whey-Ah-Wichen sites indicate some regional and long-distance contact networks, which is also recorded in ethnohistorical material from the area (Lepofsky et al. 2007). The archeological material recovered from these three sites was analyzed and identified in relation

to local, regional or long-distance resource areas. Seeing as though the majority of the faunal material represented food that could be acquired both within and outside the local area, there was no direct indication of food being "imported" to the area. However, there are ethnographical accounts of different Tsleil-Waututh groups traveling to visit other groups located outside the local area, in outer Burrard Inlet, and relations sites in the Fraser area, tied to seasonal fishing or hunting of waterfowls. Subsequently, these other groups were then allowed to visit and utilize resource areas in the Tsleil-Wat area based on their social relations (Lepofsky et al. 2007:193-195). The archeological material from the three sites that indicated regional and long-distance social contacts came from different areas within the Coast Salish area, and on one occasion, beyond. The regionally available raw material consisted of obsidian, slate and sandstone. Interestingly, while the obsidian is thought to have been derived from Mount Garibaldi, located by Squamish, north of the Tsleil-Wat area, the slate most likely came from Elk Creek, located in the Fraser Valley in the south (see Lepofsky et al 2007: Table 5, page 211). Furthermore, some raw material and artifacts were also recovered from the sites that indicate long-distance contact. Most notably were the small amount of trachydacite and chalcedony which may have been derived from Interior British Columbia and a dentalium shell, which are mainly found in the western outer coastal areas such as on the western coast of Vancouver Island, may represent long-distance contacts and social networks (Lepofsky et al. 2007:195, 206, 213, 215-216). Although these non-local materials may have been brought to the sites by visiting groups who had acquired them through their own social networks, they may also represent different social networks that stretched beyond the local and regional groups, consisting of possibly several links. Notably, the Tsleil-Waututh groups spoke, and still speak, the downriver dialect Hun'q'umi'n'um', a subdialect of the Halkomelem language (see Thom 2005: Table 2.2, pg. 63). As such, the people living in the Tsleil-Wat area were, and are, linguistic similar to other regional groups in the Coast Salish area, such as those connected to the Lower Fraser area and Vancouver Island, as mentioned above (Morin et al. 2018:78). However, the non-regional archeological material, especially the dentalium shell, comes from areas linguistically separate to that of the Coast Salish language. As such, there was evidently contact between linguistically separate groups.

Considering the concept of continuity, the different Coast Salish areas illustrate how continuity can be relative. At the archeological sites presented above in the Tsleil-Wat area, both the archeological and ethnohistorical material suggest that the different sites were inhabited by Tsleil-Waututh groups stretching back to 300 BC. As such the sites represents continuity

associated with a specific population. This is also the case for the Sts'ailes area and the ancient settlement sites on either side of Harrison river. The implications of continuity are however different at the areas surrounding Lower Fraser area and Cape Mudge. At Cape Mudge on the other hand, a Kwakwaka'wakw settlement was built at the same location as previous ancient Coast Salish settlements. As such, continuity at Cape Mudge does not represent a specific group of people, but rather the continued use of the area. Furthermore, the reason behind the continual use of the site is also likely connected with both the access points of the sites, as well as the resource opportunities the area presents. The same might be said for the Lower Fraser and delta area. Although different from Cape Mudge based on its position in relation to an inland-to-coastal waterway and as a shared resource area, the significant of continual activity in the area still illustrates how continuity does not have to represent a specific group but rather several groups meeting at different times throughout the year. As such, the significance in continuality does not rest upon the continued use of a site by a specific group, but rather how continuality represents a continued use of an area or site which is may be tied to resource opportunities and access points.

Continuity is evident at the majority of the Norwegian, which are all connected to good resource areas and strategic positioning along possible waterways. The Fosnstraumen, Skatestraumen and Nyhamna areas are especially relevant in comparison to the Coast Salish context in relation to the distribution of non-local raw material and regional or long-distance contact. As discussed in previous chapters, the previous identification of social territories, boundaries and such rested heavily upon the distribution of different raw materials, especially in western Norway. The continual use of the Fosnstraumen, Skatestraumen and Nyhamna have in the previous pages been considered potentially representing a shared resource area between several groups or accessible to several groups, at some point. However, moving past the question concerning the functionality of the different sites, the recovery of specific raw material needs to be regarded not as a reflection a specific group as previously done, but rather as the extent of social networks at a particular time at each place. This is well demonstrated by the Tsleil-Waututh groups and the archeological material from the Tsleil-Wat area, as the material indicate regional and long-distance connections, whilst the more recent ethnohistorical material further elaborate on regional interaction which concur with the archeological material. As such, the different raw materials found at the Skatestraumen, Fosnstraumen and Nyhamna areas can be considered the manifestation of social networks and communication within and between different groups at different times. Specifically, the recovered archeological material of

specific forms of diabase, greenstone, mylonite and sandstone at Fosnstraumen may be remnants of social networks connecting the site to areas situated to the south and the north, although not necessarily at the same time considering the continual activity at the site. Furthermore, the presence of Stakaneset diabase and mylonite at Nyhamna also indicate some form of connection to the southern areas through social networks. Although the raw material found at Skatestraumen is obtainable from within the local area, the distribution of the raw material may still have relied on social networks within this area.

The difference between the use of flint along the Glomma drainage system, in relation to Sandholmen, as oppose to quartz being more common along the Randsfjord-Dokkfløy drainage system can be interpreted as a reflection of different social networks. However, as the different raw material are found in both areas, the preferred raw material might rather be a reflection of preferred or most easily available raw material. The Svinesund area is another area where raw material is more problematic to connect to social networks. However, while the Nøstvet axes found at the sites may to some extent represent social networks, the distribution of these axes does not rest upon specific raw materials associated with a specific region, but rather an idea and artifact style. Nevertheless, a common style in a larger area does rest upon the premises of communication and interaction for an idea to be shared over a larger area. On the other hand, the extent of the distribution of Nøstvet axes, or the idea and know-how of these axes, is problematic as the extent of the distribution to the east is not known to the present author as it crosses into Sweden. The Nøstvet axes may therefore be associated with social networks, while the style may have originated within a specific area and spread throughout the southern Fennoscandia though intertwined social networks.

Circling back to the different Norwegian sites in relation to distribution of raw material, continuity at the sites and in the nearby area, the significance of the studies on the Tsleil-Waututh groups in the Tsleil-Wat area describe the Fraser area as an accessible resource area. As such, the considered roles of gateway communities or shared resource areas may be regarded as intrinsic within social networks and the social continuum of the Coast Salish area. Subsequently, despite the possible changes in social relations between groups and the functionality or ownership of different sites during the Mesolithic/Neolithic in Norway, there persists a pattern of interaction through the different areas which can be tied to different social networks rather than the social units and boundary areas previously proposed by others. While the previous studies on social organization in Mesolithic/Neolithic has focused on the

distribution of raw material and different trends within certain regions, the Coast Salish material has so far demonstrated that there is no restriction on how far a social network can reach, and that social networks can overlap. Furthermore, considering the relativity of the understanding of the boundary concept, what have previously been considered boundaries or boundary areas between assumed groups or units may rather be the extent of social networks and relations in the prehistoric Norwegian societies.

Conclusion

In the previous pages, the Norwegian archeological sites have been considered and discussed in relation to ethnographical, ethnohistorical and archeological material from Coast Salish area in British Columbia. Resource opportunity and access points at the Norwegian sites were discussed in relation to gateway communities and shared resource areas. Subsequently, the significance of continuity was considered. As the aim of this thesis is to nuance the way in which social organization can been understood and studied within Norwegian archeology in the Mesolithic/Neolithic, the Norwegian archeological material has not been discussed in relation to specific social networks. Rather, the potential of access points and resource opportunities, as well as the regional distribution of raw material has been considered as indicating a social continuum of social networks in which these sites may have been connected to.

Chapter 7 Concluding remarks

Previous archeological studies regarding social organization has greatly rested upon the distribution of raw material and style in order to identify and discuss social organization in terms of social territories, ethnic boundaries and boundary areas. However, the identification of these rests greatly upon Fredrik Barth's (1969) anthropological concept of ethnic boundaries in which boundaries and ethnicity is self-ascribed and created in the confrontation with other. As such, the use of the boundary concept promotes the aspect of something enclosed and distinct. However, by considering ethnographical, archeological and ethnohistoric material from the Coast Salish area surrounding the Strait of Georgia in British Columbia, boundaries may not have been as seclusive as previously presumed within Norwegian archeology and boundaries may have be relative and flexible. Within the Coast Salish context, the concept of boundaries is relative as boundaries may be permeable and individualistic based on kin relation and subsequently different social networks. In archeological context, as social networks represent the connection of people though social relationship and interaction, it may be considered less limited than social territories and ethnic boundaries as it does not rest upon the assumption that boundaries were distinguishable or even existed.

Aiming to nuance the study of social organization in prehistoric Norway, archeological sites in southern Norway were considered based on the sites close proximity to drainage systems and waterways and having previously been considered in relation to social territories, ethnical boundaries and boundary areas. Subsequently, the Norwegian archeological material consisted of five archeological sites and areas with activity dating from Middle Mesolithic to the end of Middle Neolithic B, situated in southern Norway. These archeological sites and areas consisted of the Fosnstraumen (Kotedalen), Nyhamna, Sandholmen, Skatestraumen and Svinesund. Considering the different sites and areas position in relation to dietary resource opportunities and access points, these sites were analyzed and compared to gateway communities and shared resource areas from the Coast Salish area. Additionally, the significance of continuity at sites was considered. Moving beyond the discussion on sites and areas function, the distribution of raw material, coupled with the consideration of waterways and resource opportunities, was considered in relation to social networks.

As the Coast Salish material is compared to the different Norwegian archeological sites and areas, the title of this thesis hopefully makes sense. While the previous studies on social

organization in prehistoric Norway has greatly focused on identifying social units such as social territories and ethnic boundaries, the consideration of social networks and permeable boundaries blur these lines out. This in not to say that ethnic boundaries did not exist. However, it stresses the need to put greater emphasis on interaction, rather than seclusion between people and that social relation can move past even language boundaries.

While the extent of distribution of raw material was within previous Norwegian archeological studies considered as representing a specific population or group, the Coast Salish ethnohistorical and archeological material indicate that that may not have been the case. With people gathering at shared or open resource areas, such as in the Fraser area in British Columbia, different groups traveling from different areas became entangled in a network of social relations which connected larger regional areas to each other. Moreover, the extent of the distribution of specific raw material did not represent a specific group, but the extent of associated social networks. As such, the distribution of raw material in Mesolithic/Neolithic Norway which are only obtainable from distant regions are the manifestation of a social network or networks that reaches beyond the local area. Furthermore, the extent of the distribution of raw material such as Stakaneset diabase may therefore represent the extent of social networks connected to the Stakaneset area thus making its way to distant areas such as Nyhamna though web of social networks. Based on the continuity, access points and preferable resource condition, some of the different Norwegian sites, such as the Fosnstraumen area and Svinesund, may represent such shared resource areas in which different groups and social networks intertwined. In other words, the Mesolithic/Neolithic Norwegian social landscape may not have consisted of easily distinguishable groups as each individual might have been intertwined in different social networks based on personal social relations. By emphasizing the concept of social networks in relation to the distribution of raw material and the potential of archeological sites connected to waterways and drainage systems, this thesis has hopefully nuanced and added some relevant points to the discussion regarding social organization in Mesolithic and Neolithic Norway.

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Appendix

The calculation of effective temperature (ET) is based on the formula presented in Lewis Binford's (2001:59) *Constructing Frames of References*:

$$\mathrm{ET} = \frac{[(18 * \mathrm{MWM}) - (10 * \mathrm{MCM})]}{(\mathrm{MWM} - \mathrm{MCM} + 8)}$$

The data used for the calculations of ET is collected from weather stations in the respected areas, presented by Storm.no (February 1st, 2021). The data is based on the calculated average from the last 10 years in the respected areas.

Norway

Oslo

Warmest month average: 18 ℃

Coldest month average: -2.5 ℃

ET=12.24

Aukra

Warmest month average: 14 ℃

Coldest month average: 3.35 ℃

ET = 11.72

Bergen

Warmest month average: 16.5 ℃

Coldest month average: 2 ℃

ET=12.31

Southern British Columbia, Canada

Vancouver

Warmest month average: 18 ℃

Coldest month average: 4 ℃

ET= 12.91

Victoria

Warmest month average: 16 ℃

Coldest month average: 6 ℃

ET=12.6

Chilliwack

Warmest month average: 18.6 ℃

Coldest month average: 3.75 ℃

ET=13.16

Courtenay

Warmest month average: 18 ℃

Coldest month average: 4 ℃

ET=12.91