Networks, Interaction and Emerging Identities in Fennoscandia and Beyond

SUOMALAIS-UGRILAISEN SEURAN TOIMITUKSIA
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Papers from the conference held in Tromsø, Norway, October 13–16 2009

Edited by

Charlotte Damm & Janne Saarikivi

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Charlotte Damm & Janne Saarikivi

Introduction

Conference background

This volume is a collection of articles based on papers that were presented at the conference *Networks, Interaction and Emerging Identities in Fennoscandia and Beyond*, 13–16 October 2009. The conference was held at the University of Tromsø in Norway, and hosted by its Department of Archaeology and Social Anthropology at the Faculty of Humanities, Social Sciences and Education. The University of Tromsø was the obvious choice of venue due to its explicit research emphasis on northern regions and indigenous identities, as well as its location in an area where hunter-fisher-gatherer populations persisted well into the second millenium AD.

The conference brought together scholars from a wide spectrum of disciplines, including archaeology, history, geography, anthropology, ethnology, science of religion, historical and comparative linguistics, all investigating northern hunter-gatherer-fisher societies from the perspectives of networking and interaction. Altogether 54 participants representing eleven countries and over twenty academic institutions took part in the conference. Not all papers from the conference are found in the present volume. In particular we wish to acknowledge the significant contribution by the late Professor Marek Zvelebil, who gave the opening keynote lecture on 'The historical role of hunter-gatherers of the European north: identity, lifestyle and survival'.

The conference concluded the research project *Early Networking in Northern Fennoscandia* based in the Centre for Advanced Study at the Norwegian Academy of Science and Letters in Oslo and carried out in 2008–2009. The research team of this project was an international and interdisciplinary group of scholars, most of whom have also contributed to this volume. The group consisted of project leader Charlotte Damm (Tromsø), Lars Forsberg (Bergen), Lars Ivar Hansen (Tromsø), Fredrik Hallgren (Uppsala), Peter Jordan (Aberdeen), Lars-Gunnar Larsson (Uppsala), Mika Lavento (Helsinki), Anja Niemi (Tromsø), Janne Saarikivi (Helsinki), and Marianne Skandfer (Tromsø). Among the participants of the project, there was notable expertise in Finno-Ugrian linguistics and the archaeology, history and ethno-history of the northern regions.

The point of departure for the project was the investigation of the long-term resilience of Fennoscandian hunter-fisher-gatherers and their interaction with neighbouring societies from the Mesolithic through to historical times. In other words, the focus was on the hunter-fisher-gatherer communities of North-

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ern Fennoscandia and their interaction with each other and with farmers, metal-producing societies, and emerging states over the course of millennia, including the emergence and diversification of Saami identities.

The key concern of the project was to understand the role of northern hunters as strategic network actors, to explore how these communities actively engaged with surrounding societies, and to discuss how the integration in the wider Northern context affected their social and cultural identities. Through a number of case studies, the project participants investigated the changing characteristics of form, content and effects of long-term interaction and exchange within and between northern communities.

The project *Early Networking in Northern Fennoscandia* focused on material and linguistic variability. By breaking down supposed entities into any number of separate connections documented in available data, more detailed and nuanced insight into the substances of regional and interregional networks was gained in the research. Among other things, this general scepticism towards established entities of the research tradition concerned present-day ethnic groups and their predecessors, whether derived from archaeological cultures or language boundaries. It was assumed that such classifications, while often useful and necessary, also conceal many aspects of both the present and past processes that shaped the human groups and their connections. In such a way, motivation, processes and the socio-cultural consequences of cultural contacts were investigated in the framework of different disciplines and in different time-frames. The interdisciplinary composition of the research project played a central role in fulfilling this aim, as the groups explored how different types of data (archaeological, historical, anthropological and linguistic) may provide insight into such interaction. A particular interest was to explore new methodologies for more in-depth analyses of past interaction. Also many of the papers in this volume demonstrate that it is not possible to correlate material from different disciplines in any simple way, even if their research objects ultimately are related to the same (pre)historical processes.

The aim of the concluding conference was partly to create a forum where initial results of the project could be presented to a wider academic audience. We saw this as an opportunity to engage in a critical discussion with colleagues investigating similar issues both within and beyond Fennoscandia. For that reason, we invited not only colleagues working with Fennoscandian data and the areas bordering on our own research area, who would be well suited to assess our interpretations, but also a range of scholars working with hunter-gatherer interaction and identities in other northern regions. The conference thus included comparative studies from Alaska, Arctic Canada, Sub-arctic Canada, Greenland, Northwest Siberia and Japan, as well as papers providing the background and a greater overview of the context of the Fennoscandian world. In this way, we hoped to disseminate our results and approaches to colleagues working with hunter-fisher-gatherers in other northern regions. At the same time, we were also very much aware that while the research group had been interdisciplinary, schol-

ars from several other disciplines not represented in the core of the project would have a great deal to contribute to the debate. To engage with research from such other perspectives we invited scholars from religious studies, ethnology, anthropology and geography to expand the discussion on the impact of interaction on northern hunter-fisher-gatherers.

Framework and aims of the collection

The diversity of the disciplinary background of the papers at the conference is also reflected in this volume. The articles span a wide range of themes from vast networks of culture to the distribution of individual archaeological types and linguistic features. Many of the papers are based on material that derives from several different fields of study, such as linguistics and archaeology, archaeology and ethnohistory, history and anthropology, etc.

While the time-scale, disciplinary character as well as the geographical scope of the articles in this volume are very diverse, they are united by three aspects, namely insistence on the fluctuating character of the prehistoric populations as opposed to nominal groups and straightforwardly identifiable ethnic and linguistic entities; the focus on the hunter-fisher-gatherer populations rather than agriculturalists and sedentary communities that have been the subject of most research on networking and interaction; and finally the northern dimension.

The North has often been viewed as a marginal zone, and the northern hunting and gathering populations have earlier often been portrayed as the passive recipients of technological developments dispersing from the South via local adoption and/or population migrations. Yet, at the same time, there is a notable tradition of anthropological, linguistic and archaeological research on the northern communities that has demonstrated remarkable cultural similarities among the northern people across the globe. This research tradition has been particularly active with regard to the Finno-Ugrian peoples and the Fennoscandian hunter-fisher-gatherers, most notably the Saami, who have become one of the northern people most intensively studied in the history of ethnography and linguistics.

The northern regions have been drawn into modern political states with centres that lie outside the traditional realm of the northern indigenous populations. While established core-periphery models may have helped raise the awareness of the imbalance in this political and geographical relationship, they are increasingly criticized for perpetuating simplistic ‘top-down’ approaches to analyses of culture change. Areas perceived as marginal are portrayed as subscribing readily to the demands of the core, leading to a rapid process of directed assimilation, which eventually produces uniform areas of culture, language and identity. This is particularly so when, as in this case, the assumed periphery is inhabited by hunters and fishers. In the papers of this volume and the studies conducted within the research project *Early Networking in Northern Fenno-*

scandia, an effort was made to reverse this general position and to approach the theme of networking and interaction from the perspective of the hunter-fisher-gatherers, aiming to study the dynamics of the resident groups as well as the substance and processes of the networks from the point of view of the settlers of what is often labelled as a "periphery". This was done in order to show that these northern communities were in fact involved in complex and dynamic processes of interaction, in which they made strategic choices rather than being passively assimilated into a wider network.

Scholarly debate in the 19th and 20th centuries often tended to reflect national research traditions with a focus on the emergence of ethnic groups and identities. As a result, the cultural diversity of the North has been understood from a categorical perspective. For instance, as has been continuously pointed out by the indigenous studies paradigms, the Saami people have long been investigated as the "other" in the history of the emerging Scandinavian states, Norway, Finland and Sweden. It is also evident that the Saami in these contexts have often been presented as a single, fairly homogeneous group in a vast northern area, although the ethnographic and historical data point to extensive cultural and linguistic diversity among the Saami. The papers in this volume engage with these issues and discuss the constitution, maintenance and changes in identities amongst northern populations by studying the emergence of identities and their material and linguistic expression. Most importantly, the papers also investigate heterogeneity within local and regional communities. As a result, the hunter-fisher-gatherers communities emerge as socially and culturally complex. This perception of internal dynamics also provides a different point of departure for investigating interaction within and beyond these groups.

Fennoscandia and beyond

As outlined above, two key objectives of the conference were to situate the project case studies within a wider geographical framework, and to present preliminary results to scholars working within Fennoscandia and immediately adjacent areas. This is reflected in the organization of the papers in the present volume.

The first part of the volume consists of studies from a variety of northern contexts – beyond Fennoscandia. They provide comparative insights into hunter-gatherer networking, and in particular they present a range of highly varied theoretical and methodological approaches to the study of multicultural interaction and impact on social and cultural identities.

The contributions cover a number of central issues for research into past northern societies. While most, if not all, archaeological studies employ analogy, this has always been particularly explicit for hunter-gatherer studies as well as for northern regions. Through a comparative study of the Alaskan Iñupiat and the Classic Thule Inuit, Max Friesen investigates regional interaction in the Eastern Arctic, pointing out some significant differences between the two regions and

their social impact. Peter Jordan´s study of the Siberian Khanty and the introduction of transport reindeer demonstrates diversity in strategies and logistics even within individual settlements at a given time, thus challenging more traditional presentations of homogeneous groups. The persistence of hunter-gather communities throughout long-term external interaction is a central research topic. Mark Hudson, Mami Aoyama and Kara Hoover explore the role of social networks for the promotion of long-term resilience through a comparative study of different groups within the Ryuku Islands. Their analysis indicates the complexity of factors involved in the outcomes of interaction. Through their interdisciplinary approach, Robert Jarvenpa and Hetty Jo Brumbach investigate the effects of interaction on cultural differentiation. Also this study emphasizes the complex nature of multicultural interaction, and in particular they point to often very diverse social landscapes with numerous indigenous societies. In this context, it is demonstrated that some of the societies perceived as indigenous actually emerged and were shaped in interaction with immigrant groups.

Included in this first part of the volume are also two articles providing important overviews, which serve as background for several of the following Fennoscandian case studies. Pekka Sammallahti explores the prehistoric background and context of the Saami languages in a global perspective reaching back to the origins of human language, while Evgenij N. Chernykh presents the development of the Eurasian Copper and Bronze Age societies with which the Fennoscandian hunter-fisher-gatherers interacted for millennia.

The second part of the volume presents studies from Northern Fennoscandia. Here, the papers are organized chronologically to emphasize another important aspect of the comparative approach that permeates this volume, namely the diachronic perspective. Investigating interaction over the course of millennia across highly diverse social and cultural contexts provides an opportunity to study relations between hunter-fisher-gatherers and many different kinds of societies, thus exploring transformation, possible long-term trajectories and breakdowns in networks.

In her study of interaction between various hunter-fisher-gatherer communities in the Stone Age, Charlotte Damm suggests an approach whereby traditional cultural entities are broken up and interaction is instead pursued through the study of other types of collectives. Fredrik Hallgren emphasizes that the Early Neolithic contacts between hunter and farmers by no means indicate a negative imbalance in the relationship, but were based on conscious choices by both parties. Marianne Skandfer explores the active employment of memory and material culture for the constitution of identities in the last two millennia BC, emphasizing how reinventions of practices were introduced at the time of significant transformation in networks relations. Janne Saarikivi and Mika Lavento examine the potential for correlating archaeological and linguistic data on the basis of material from the Inari region and its surroundings where three different Saami groups reside. They conclude that while many types of correlations are discernible in the material culture and language, many of the models employed

in the description of the emergence of the language areas seem to be far too simplistic. In this vein, they express criticism towards those approaches to prehistory where past archaeological culture areas and reconstructed language areas are made to correlate in straightforward ways.

Lars Ivar Hansen's detailed analysis of tax records from the 16th century allows him to detect significant variability between different fjords and settlements. In addition, he is able to trace relocations between settlements for individual tax-payers, providing us with unique insight into residential mobility at the time. Jukka Korpela investigates the hunter-fisher populations of the Finnish inland, where the Lapps (traditionally considered as the Saami) are mentioned to reside according to many medieval historical sources. He criticizes the prevailing view of the historical population expansion in the 15th and 16th centuries, and explains the emergence of Finnic-speaking population in Eastern Finland as a result of the integration of the earlier hunter-fisher population into the Swedish realm.

Dikka Storm traces the Lutheran missionary network in Troms in the 18th century, demonstrating the importance of local organization and the interaction between immigrating missionaries, the local Saami population and by no means least marital relations for changes in the social landscape.

In the last paper of the volume, Lars-Gunnar Larsson suggests a new grouping of the Ume Sámi dialects. In a different manner to most of the investigations into Sámi dialects, which focus on phonological and morphological variation, he investigates the dialectal variation on the basis of vocabulary. He demonstrates that the borders of the Sámi dialects and languages could be different if the lexicon were the basis of classification and thus underlines the importance of lexicon as a source material for the study of past cultural contacts.

This volume presents many different perspectives and contributions to the study of the organization, substance and impacts of interaction. However, two recurrent themes in the papers are the diversity within the hunter-fisher-gatherer communities and the complexity of their interactions with each other and with societies with different social and economic structures. The authors employ many different theoretical and methodological approaches, but it is noteworthy that the majority actively seek to explore interdisciplinary research or, at the very least, are clearly inspired by perspectives from beyond their own discipline. The conference and this present volume demonstrate a tremendous diversity and potential in studies on northern hunter-fisher-gatherers that will hopefully continue to enrich the field

All of the articles published in this volume have been peer-reviewed by two anonymous reviewers in order to guarantee the scientific quality of the series *Mémoires de la Société Finno-Ougrienne*. The editors have, in most cases, preserved the terminological choices and the transcription of the foreign names in the English text. Thus, for instance, both the name forms Saami and Sámi may be found in the articles.

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Part I

...and beyond

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Alaskan Analogues and Eastern Uncertainties: Reconstructing Thule Inuit Interaction Networks in the Eastern North American Arctic

Introduction

Thule archaeology has made great strides over the past several decades. Much has been learned about variability in social organization, settlement patterns, technology, subsistence, and even less visible archaeological phenomena such as gender roles and world view. However, a number of areas remain unclear, one of them being the issue of interaction within and between Thule regional groups. As is the case with all other cultural entities, the Thule tradition in the central Arctic can only be understood fully if the broadest scale of interregional interaction is taken into account. Of course, some attention has been paid to interaction, particularly in the form of trade, with copper, iron, ivory, and other exotic materials commonly reported from Thule sites; and aspects of interaction have been used to explain phenomena as diverse as the original Thule migration (McGhee 2000) and the eventual collapse of Classic Thule (Whitridge 1999a). Less attention has been paid to the issue of how interregional systems of interaction operated at a broader scale, although McCartney (1988, 1991), Savelle (2000), and Whitridge (1999a, 1999b, 2002) have made important contributions in this area. This paper attempts to build on these previous studies, and in particular McCartney's (1991) consideration of Thule interaction, in two steps. First, it will consider existing information on Thule interaction in relation to the ethnographic record of Northwest Alaska, which is usually considered the best analogue for understanding the Thule archaeological record. Second, it will compare the geographic and historical contexts of the two cases (Classic Thule and ethnographic northwest Alaska) as a means of understanding ways in which their patterns of interaction may have differed.

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Thule Archaeology: a Brief Overview

This paper is centred on understanding the "Classic" Thule period, now dated to approximately cal AD 1250/1300–1400/1500. Conceptually, this period post-dates the initial migration of Inuit from Alaska to the eastern Arctic, and ante-dates the major mid-millennium changes which led to the altered economies, settlement patterns, and social organization which are seen in the diversity of Inuit societies in the 19th Century. For present purposes, the "eastern Arctic" is defined as the region extending from Amundsen Gulf in the southwest to northern Greenland in the northeast, though most of the discussion will be centred on the central Canadian Arctic (Figure 1). For overviews of the archaeology of this period, see Maxwell (1985), McGhee (1984a), Savelle (1980), Whitridge (1999b), and papers in Grønnow (2009).

Classic Thule Inuit were a largely coastal society, relying to a great degree on marine mammals. In many areas they successfully hunted bowhead whales, as indicated in large numbers of bowhead bones on archaeological sites, age ranges of bowhead whales which indicate selective hunting of young individuals, and graphic depictions of bowhead hunting incised on several implements (e.g., McCartney and Savelle 1985; Savelle 2000; Savelle and McCartney 1990, 1994). However, Thule were also accomplished hunters of other marine mammals, including beluga whales, narwhal, walrus, and seal species including ringed, bearded, and harp. Caribou were hunted whenever possible, fishing was practiced to varying degrees, and a great variety of other resources from smaller mammals to many bird species were obtained (Norman and Friesen 2010; Savelle and McCartney 1988; Whitridge 2001). Ultimately, Thule can be characterized as practicing an extreme version of a "delayed return" economy (Woodburn 1980) in which one or a few primary resources were obtained in large quantities and then stored for later use (especially during the long winter); with this focal diet supplemented by a variety of other food sources. Thus, in all regions and regardless of the focal resource, storage was a critical part of the Thule economy (Savelle 1987).

Thule settlement patterns were complex, and included multiple and varied seasonal settlement types (Savelle 1987). Winter sites have received the most archaeological attention due to their high visibility and potential for large, well-preserved artifact samples. Winter was spent in substantial, semi-subterranean sod houses with stone or whalebone frameworks (wood was used in areas to the west, but was not available in sufficient quantities in the eastern Arctic). These winter sites were in many cases near-permanent "central places" probably occupied for well over half of each year, and often reoccupied for generations. During warmer seasons, skin tents or *qarmat* (dwellings intermediate between tents and sod houses) were occupied. Sites occupied during any season could potentially contain one or more communal structures known as *kariyit*.

Thule technology is elaborate and specialized, with a wide variety of tools made from metal, stone, skin, bone, antler, ivory, wood, and other materials.

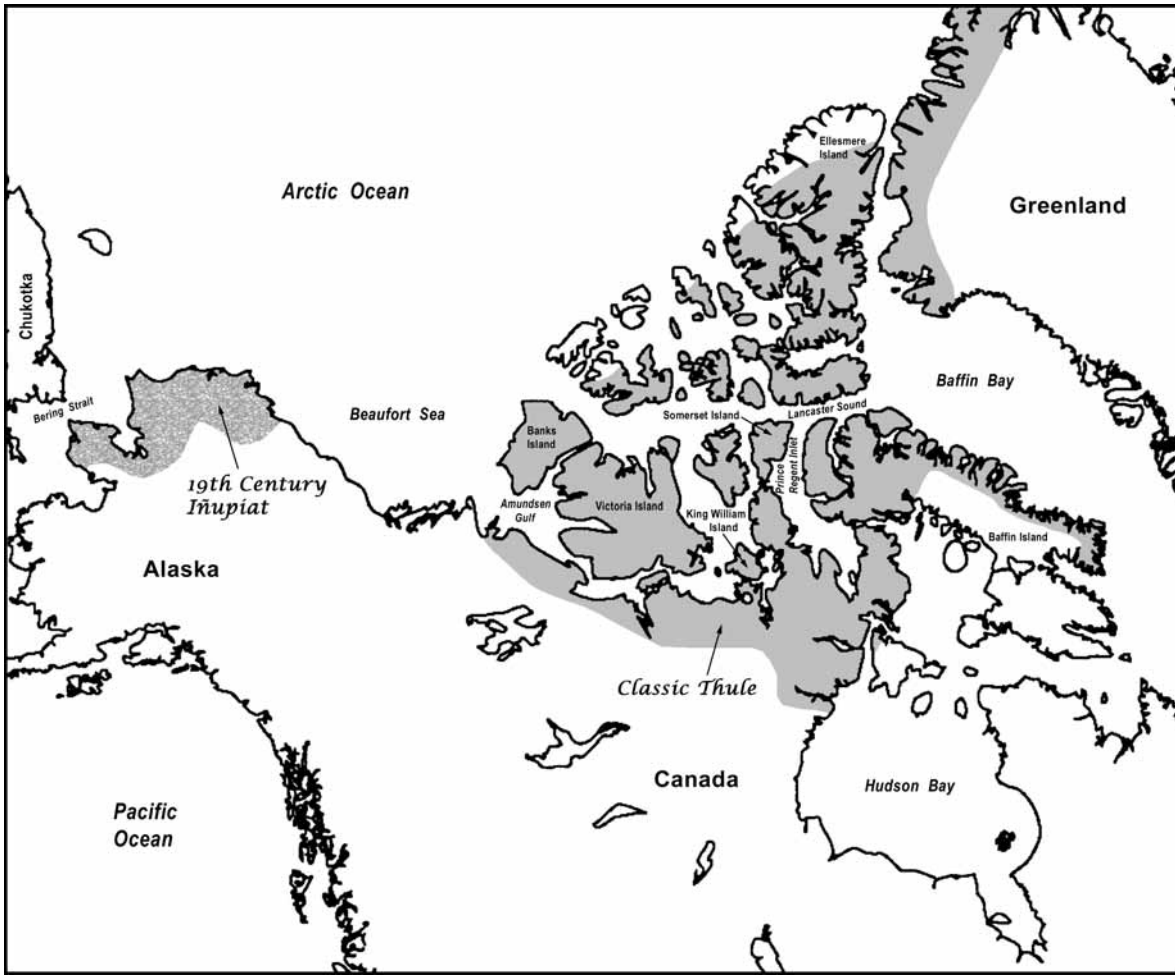

Figure 1. The North American Arctic, indicating extent of occupation by 19th Century Iñupiat of Alaska (Burch 2005) and Classic Thule of the eastern Arctic (McGhee 2009).

This specialization is seen in every aspect of material culture, including technologies relating to clothing, dwellings, hunting, fishing, cooking, manufacturing, and personal adornment. Of particular relevance here, evidence for complex transportation technology is common, including kayaks, *umiat* (plural of *umiak;* large open skin boats) and sleds (*qamun* or *uniapaq* in north Alaska; *komatik* in much of the eastern Arctic). The function of most implements can be determined from the Inuit ethnographic record.

Demography and social organization are somewhat more difficult to reconstruct. For example, in the case of winter sites it is not currently possible to determine with certainty the degree of contemporaneity of the various houses (e.g., Park 1997). Winter sites vary in number of houses from 1–57 (Savelle 2000; Whitridge 1999b), and it is a reasonable assumption that some larger sites had 50–100 residents, and perhaps in a few cases even more. During other seasons, site sizes also varied. Socially, there is good evidence in some sites for inter-

household differences, which can reflect social status (e.g., in prestige-related artifacts such as exotic materials, Whitridge 1999b, 2002) and perhaps task specialization (e.g., reflecting different roles in whale hunting crews, Grier and Savelle 1994). Of course, all of these factors varied by region and period, with the largest, most permanent, and most complex sites associated with the most dense and reliable resource locations, especially those associated with bowhead whale and perhaps walrus hunting. Finally, although this topic will be treated in greater detail later in this paper, it is important to note that that there is clear evidence for integration of Thule societies in an interregional network of interaction. This is seen in long-distance trade of many materials, and also in the apparent high level of information flow in the Thule world. As with all "culture areas" in the ethnographic or archaeological records, artifact types and styles are shared, and in the Thule case artifact form is virtually identical over a very large area. Furthermore, shared changes over time are seen across much of the region, indicating that similarities are not due only to a common origin (Savelle 1980). Related to this issue is Savelle's (2000) observation that the spacing and size of Thule sites is consistent with a spatial network which could maximize the regional exchange of information, which in turn led to increased success in hunting bowhead whales.

Choosing an Ethnographic Analogue for Classic Thule

When their lifeways were first recorded by explorers, missionaries, whalers, and anthropologists, Inuit societies across the North American Arctic were highly variable. They ranged from small scale and relatively mobile groups in the central Arctic such as the Copper and Netsilik Inuit, to the relatively sedentary and densely populated Iñupiat societies of much of coastal Alaska. Given that Thule Inuit were ancestral to all modern Inuit and Iñupiat, from Alaska to Greenland, arctic archaeologists are confronted with a bewildering array of ethnographic analogues which might be useful in interpreting eastern Thule. The question is: which of these many options (if any) is the best analogue for Thule Inuit?

Given that the Thule societies in question here lived in the central and eastern Arctic, it might appear to make sense to use the ethnographically documented societies of this region as analogues. However, the best-understood central Arctic societies, such as the Copper, Netsilik, and Igloolik Inuit, lived demonstrably very different lives from their Thule ancestors (e.g., Balikci 1970; Jenness 1922; Mary-Rousellière 1984). For example, these more recent central Arctic peoples spent much of the year in very small social groups, had relatively high levels of residential mobility, did not rely on storage for as much of their winter-consumed food, used *umiat* much less frequently and in restricted regions, did not hunt bowhead whales in large numbers (in many cases because the groups lived outside the range of whales), and did not frequently live in substantial semi-subterranean houses on land during the winter (though snow houses on the sea ice were similar in many ways, Dawson 2002).

Because of these issues, most Arctic archaeologists look elsewhere for a "best" analogue, and since the time of Mathiassen's (1927, Vol. II: 181) original definition of the Thule culture, Northwest Alaskan Iñupiat have been identified as the closest fit. Northwest Alaska here refers broadly to coastal and near interior regions occupied by Iñupiat from Bering Strait to the Colville River, although in practice Thule archaeologists often place greatest emphasis on coastal, bowhead hunting groups in the more northerly areas from Point Hope to Point Barrow. There are two main reasons why northwest Alaska seems like a good "fit" for Classic Thule. First, it has been clearly established that Thule of the eastern Arctic originally migrated from northwest Alaska or areas immediately adjacent to it; probably during the 13th Century AD (Friesen and Arnold 2008; Gulløv and McGhee 2006; Hollinger et al. 2009; Mason and Bowers 2009; McCullough 1989; McGhee 2000, 2009). Thus, all else being equal, they arrived in the eastern Arctic with a way of life essentially Alaskan in character, though it is important to emphasize that roughly seven centuries elapsed in Alaska between the time of the Thule migration and the recording of the "ethnographic present", during which time it must be assumed that Alaskan lifeways were not static. Second, many aspects of material culture, subsistence, and settlement appear very similar between the two. At some coastal sites, Alaskan groups successfully hunted bowhead whales and relied on their meat and blubber for a significant proportion of their food. Iñupiat lived in substantial, semi-subterranean houses which resemble those of eastern Thule closely, when one takes into account the fact that the former are made primarily of driftwood, while the latter were made of stone and whalebone due to a lack of driftwood. Alaskans built and used *umiat* for long distance travel, had extremely similar suites of complex material culture made with a similar degree of care as those of eastern Thule, and communities appear to be organized in similar ways, with, for example, *kariyit* (communal structures) the social focus of most permanent settlements.

As a result of these close similarities in realms of behaviour with relatively high archaeological visibility, many archaeologists have extended the analogy with significant success, to issues as diverse as the organization of space at Thule sites (e.g., Savelle 2002; Savelle and Wenzel 2003; Whitridge 1999b), the nature and diversity of social roles in relation to labour, wealth, status, and gender (e.g., Grier and Savelle 1994; Whitridge 1999b, 2002), and aspects of ideology and worldview (e.g., Patton and Savelle 2006; Whitridge 2004). Of course, when archaeologists use Northwest Alaska as an analogue for Classic Thule, they do not generally imply that the two cases are identical. Rather, they are using it as a "best fit", but one whose applicability to any particular phenomenon must be assessed critically.

The remainder of this paper attempts to answer the question: can the northwest Alaskan analogue be extended to the interpretation of interregional interaction within the Thule world? In order to approach this issue, I will initially provide an overview of Iñupiat patterns of interaction, as manifested in phenomena such as the organization of territories, warfare, and trade. I will then discuss

differences in the geographic and historical contexts of the two groups (Classic Thule and ethnographic Iñupiat), in order to suggest ways in which their patterns of interaction might have differed. Finally, I will attempt to combine these categories of information to address the nature of Classic Thule interaction.

Territories, Boundaries, and Interaction in 19th Century North Alaska

Northwest Alaska is home to a very high resolution ethnographic record, combining a diverse and fine-grained ethnohistoric data base derived from whalers, traders, and explorers with the more recent ethnographic work of trained anthropologists. The following discussion is based almost entirely on the work of Ernest S. Burch, who has produced a particularly important and comprehensive series of monographs relating to Alaskan Iñupiat in a region centred on Kotzebue Sound (Burch 1998, 2005, 2006; see also Sheehan 1997; Spencer 1959). Burch's reconstruction relates to the first half of the 19th Century, and therefore represents a society which was already impacted to some degree by interactions with the expanding European World-Economy. However, Burch (2006: 2) has made a strong case that those impacts did not lead to overwhelming changes prior to 1848.

Northwest Alaska was divided into what Burch has termed "nations" or "societies", equivalent to the term "regional group", which is more often used in hunter-gatherer studies; I will use this last term throughout the remainder of this paper, in recognition of the possibility that Thule people were regionally organized in a different manner than their Alaskan counterparts. In northwest Alaska, people considered themselves to be part of a particular named regional group, and they were largely (though not exclusively) endogamous (Burch 2005: 18). Regional groups lived in extremely well defined territories with closely maintained and precise boundaries; in fact, individuals caught in a neighbouring territory who were not immediately able to establish a relationship with a local relative or partner risked death (Burch 2005). At the same time, regional boundaries were permeable under certain specific conditions, such as travel for trade, to reach specific traditional hunting or fishing locales, or for ceremonies such as the "messenger feast" (Burch 2006). Of course, not all regional groups were equal; based on their position relative to important resources and trade routes, some had much higher populations and greater wealth. In the 19th Century, populations of most regional groups ranged from 300 to 800, with one outlier of 1300 associated with the particularly advantageous location Tikigaq (Point Hope) (Burch 2006: 7).

Of particular relevance to archaeology is the degree to which membership in particular regional groups was reflected in the material record. Unfortunately, this was extremely limited; the bulk of material culture was shared across the

region without any significant differences, with only a few exceptions (Burch 2005: 24–26). The most noteworthy differences which did exist were in clothing styles, particularly parkas. Visible from a distance, parka patterns would have been important symbols of group membership. However, despite generally excellent preservation in the Arctic, skin clothing does not preserve in great enough numbers to be useful in tracing group membership into the past. Facial tattoos may also have signified group membership, however for obvious reasons they are also not accessible in the past except under extraordinary circumstances. Finally, there is some indication that paddles were decorated, and could allow individuals to be recognized, but again this is not a practical way to indicate social identity in the archaeological record, due to their rarity.

Interactions between Northwest Alaskan regional groups are best described as intense, and occurred in several major categories. Before describing these, though, it is important to note that Iñupiat had access to particularly efficient and effective transportation technology in the form of sleds and *umiat* (open skin boats; while kayaks were also present, they were used primarily for hunting). Sleds, which could be pulled by dogs, people, or a combination of both, had a maximum capacity of 270–360 kg (Burch 2005: 166), and could cover roughly 3–5 km per hour (Burch 2006: 286). *Umiat* had a much greater capacity, with the largest able to carry at least 4500 kg., though most were smaller (Burch 2006: 291). Depending on weather, and whether they were being tracked along shore or sailed, *umiat* could cover between 6–16 km per hour (Burch 2006: 289), though under poor conditions progress could be much slower. Both forms of transport were relatively hardy if maintained skillfully. The presence of these modes of transport had a very significant impact on many facets of Iñupiat society, and in particular those related to interaction (cf., Ames 2002).

Interregional interaction was tightly intertwined with local social structures, two aspects of which were particularly important. First, a formal system of partnerships existed between individuals of different regional groups. Partnerships were the conduit through which most trade occurred and information was exchanged, and provided a "safety net" for families forced to leave their home region due to difficulties such as famine (Burch 2005). Second, Iñupiat society was structured around extended families led by powerful men known as *umialiit* (singular, *umialik*). These *umialiit* competed for prestige and wealth, and their positions were in part maintained through redistribution of both staples (e.g., whale meat and fat) and rarer exotic goods (Burch 2006). Thus, interaction was a central requirement for the functioning of the system, as a process which circulated materials and which could be used to convert surplus into other materials (Sheehan 1985). These two aspects of Iñupiat social organization – status differences and partnerships – came together in the tendency for *umialiit* to have significantly more partners than other people did (Sheehan 1995).

Trade was extremely widespread and highly structured. It could occur in many contexts, including at "messenger feasts", the relatively frequent formal gatherings which brought together members of different regional groups

for feasting, ceremony, information exchange, and trade in the host's community (Burch 2005). However, trade was most prominently represented at special events known as "trade fairs". These were formalized aggregations centred on trade (though many other activities occurred there as well), which occurred at pre-arranged locations, usually on an annual basis. Some trade took the form of "gift giving" between partners, but Burch (2005: 189) indicates that much was "open-market" barter in which individual traders sought the best return for their goods. Events surrounding trade fairs were subject to special rules. For example, hostile interactions were kept to a minimum, and in many cases groups were allowed to travel to trade fairs through otherwise hostile territories.

The largest and best known 19th Century trade fair, at Sisualik on Kotzebue Sound, regularly attracted at least 1,000, and likely closer to 2,000, people, who assembled to exchange a vast amount of goods. Participants came from 15 separate regional groups, and many travelled hundreds of kilometers over a period of many weeks to get to the trade fairs (Burch 2005: 188). Virtually anything could be traded, ranging from high value-to-weight "preciosities" such as labrets, beads, metal, and special skins, to "bulk goods" such as dried meat or fish, whale oil, seal oil, and caribou skins (note that the division between "preciosities" and "bulk goods" is somewhat arbitrary; and that "preciosities", such as metal, can of course be desired for their functional "usefulness" in addition to having value in terms of wealth or prestige). Famously, some regional groups relied on large-scale trade in bulk goods for the effective reproduction of their society; one particularly well known example involves coastal sea mammal oil being traded to interior zones for caribou skins (Spencer 1959). In this connection, it is important to bear in mind the presence of *umiat* and sleds which made exchange in large volumes of these materials practical.

In addition to these forms of relatively "positive" interaction, intergroup conflict was a constant threat in northwest Alaska. Warfare is well represented in oral histories and place names, and there is little doubt that it was a constant reality for early 19th Century Iñupiat. Hostile interactions ranged from spontaneous small scale hostility through small raids to pitched battles potentially involving hundreds of people (Burch 2005). Outside of special circumstances, such as travel to trade fairs, individuals found outside their regional group's territory were at extreme risk of hostility and even death. The proximate cause of much of the conflict was revenge (Burch 2006: 329), and the object in many cases was to kill as many people as possible, up to the entire population of a settlement. On rare occasions, several regional groups might form alliances against others, though most hostilities were simply between two regional groups. Warfare is potentially visible in the archaeological record of Alaska, based on slat armour, special arrowheads, direct evidence of trauma to human skeletal remains, defensive placement of sites, and construction of defensive features (Burch 2005; Mason 2009)

Comparing Contexts

Before turning to an assessment of Classic Thule networks of interaction, it is important to assess the degree to which one might *expect* the two cases, Iñupiat and Classic Thule, to be similar, based on their geographic and historical contexts.

Geographic Context

The regions occupied by the two groups differ in a number of significant ways in terms of constraints on human movement, settlement, and interaction. One important factor is the distribution of key resources. The system of interaction recorded for Alaska was shaped by variable distribution of many materials, ranging from preciosities such as ivory and metal, and latterly Russian trade beads and tobacco, to "bulk goods" such as products derived from sea mammals and caribou. Burch's (1998) reconstruction of the key resources in adjacent territories shows a patchwork, with, in many cases, adjacent territories having access to very different resources. In terms of preciosities, the situation in the eastern Arctic was similar, with many materials such as native copper, meteoritic iron, soapstone, and walrus ivory being unevenly distributed (McCartney 1988, 1991; Stefansson 1914; Whitridge 2002). Therefore, their acquisition for economic, spiritual, or social reasons would have required long-distance exchange or, less likely, very long trips for direct acquisition. Other, generally bulkier goods were also not evenly distributed. In particular, bowhead whales were not available in all regions, and were available in different densities across their range (Savelle and McCartney 1994). Further north into the Arctic archipelago, caribou are fewer in number, smaller in size (Miller 2003), and subject to periodic population crashes (Miller et al. 2007). Finally, wood was also unevenly distributed, with amounts of driftwood dependent on local coastline form, currents, and length of time since beaches had been collected by earlier Palaeoeskimo peoples (Alix 2009). Fresh wood would also have been available from below the tree line on the mainland (Stefansson 1914), but this, too would have required trade over long distances to reach Thule groups in the middle and high Arctic.

One potentially significant difference between the situation in the eastern Arctic and that in Alaska is the scale over which variability occurs. In many areas in the eastern Arctic, there appears to have been less small scale diversity in major subsistence resources and bulk goods, as seen in differences between adjacent regional groups. For example, in prime bowhead hunting areas around Prince Regent Inlet and Lancaster Sound, bowheads and ringed seals were the primary available resources for all groups. Further south, in areas such as those around Coronation and Queen Maud Gulfs, ringed seal, caribou, and fish were probably the mainstays for almost all local groups. This contrasts with the Alaskan situation, where there appears to have been greater variability in major resources available to adjacent regional groups (Burch 1998), a reaction at least

in part to a somewhat more complex ecosystem. In particular, in Alaska, most coastal regional groups were situated directly adjacent to at least one interior regional group, and vice versa, thus facilitating exchange of materials available in one or the other zone. The net impact may have been that there was less impetus for trade in bulk goods in the eastern Arctic, since in many cases desirable materials had to travel greater distances. On the other hand, assuming comparable *umialik*-based social structures, there would have been a continued desire for long distance trade in preciosities. Some bulkier goods, such as caribou skins and wood, might still have had enough value to lead to their trade despite the costs associated with the great transport distances. While we do not know the actual distances travelled, since we can only speculate as to the precise origin and destination of particular bulk goods trading events, hypothetical distances are within the range of similar events in Alaska. For example, the distance from southern King William Island and adjacent areas of the mainland, both of which contain large Thule sites dominated by caribou bone (Mathiassen 1927; Savelle 1987), to southernmost Somerset Island, which was within the bowhead hunting zone, is approximately 400 km in a straight line. This is near the upper end of Alaskan sled travel distances cited by Burch (2006: 288), and well within the range of known *umiak* voyages (Burch 2006: 291).

A second aspect of the distribution of resources has to do with the degree to which limited optimal locations for resource acquisition existed. In Alaska, a number of advantageous locations existed which allowed privileged access to certain resources. For example, from Pt. Hope to Pt. Barrow, there were a few points of land best suited to bowhead whale hunting (Spencer 1959), due to local ice conditions and distances travelled from land to the ice leads where bowhead whales were concentrated during the critical spring hunt. There is also the particular situation of Point Hope, which had access not only to bowhead and gray whales, but also walrus and seals, leading to a very large population and construction of defensive structures (Burch 2006: 120 ff.). In the eastern Arctic, on the other hand, while there was certainly variability in resource densities and ease of acquisition, it does seem that fairly large areas of coast would have had relatively equivalent access to key resources. For example, Savelle's (1987: 134) high resolution survey data for southern Somerset Island indicate that sites where bowheads were landed and butchered are distributed almost continuously along the coastline, indicating that hunting was not restricted to a few optimal locales (though some stretches of coast contain higher densities of whales). This likely results in part from the fact that the eastern Thule bowhead hunt occurred in open water (McCartney and Savelle 1985), rather than at restricted leads as in Alaska. Thus, to the degree that restricted resource acquisition sites could lead to conflict, the eastern Arctic differed from Alaska.

A final aspect of the geographic context to be outlined here relates to its impact on transportation. As outlined above, eastern Thule people had access to similar transport technologies as Northwest Alaskan Iñupiat, with sled-related artifacts common on Thule sites, and *umiat* represented not only by incised im-

ages, but also by a complete Thule period *umiak* frame found in northern Greenland (Knuth 1951). However, distances and ease of movement were probably not comparable between the two regions. *Umiak* travel was likely significantly easier in Alaska, due to the presence of several long, navigable rivers, the prevalence of flat beaches ideal for tracking boats, lagoons adjacent to the ocean in many areas which facilitated travel in windy or stormy weather (Burch 2005: 168), and generally longer open-water seasons in Alaska (though ice conditions would have been variable and unpredictable in both regions). Furthermore, in the eastern Arctic the open water travel period would have presented a direct scheduling conflict with the bowhead whale hunting period, while in Alaska bowhead whales were generally hunted during the spring or fall (though other scheduling issues would have existed). On the other hand, sled travel would likely have been as easy in the eastern Arctic as in Alaska, due to large stretches of smooth first year ice ideal for sled travel. In this connection, it is important to note that, in the ethnographic period, *umiat* were no longer used in much of the central Arctic, and most trade and long distance travel occurred in the winter on sleds (Stefansson 1914). It is also noteworthy that artifacts associated with sleds and dog traction are relatively common on eastern Thule sites.

Historical and Social Context

Also of critical importance in assessing the potential similarity of the two cases is a comparison of their respective historical contexts. In particular, it is important to note that the Alaskan case might be considered "mature", in that it was the product of centuries of *in situ* development, with most territorial boundaries having significant time depth (Burch 1998). The Classic Thule case, on the other hand, was relatively "new" and therefore subject to greater uncertainty. Rather than dealing with a profoundly structured cultural landscape with centuries of place names, stories, and spatial relationships, Classic Thule were in a position to create a new, idealized cultural landscape. In particular, they were still developing their understanding of group territories and boundaries, which of course did not exist before they were negotiated by early Thule in the region. They were also dealing with uncertainties about the land, probably including basic issues relating to the productivity and reliability of major resources in each region. Ultimately, one might expect particularly high levels of interaction aimed at exchange of information and creation and maintenance of partnerships, as well as at least some flexibility in territorial boundaries, in a case such as this.

This leads tangentially to the issue of demography. While it is beyond the ability of current archaeological techniques to reconstruct population sizes precisely, it is now clear that the entire Classic Thule period is relatively short (Friesen and Arnold 2008; McGhee 2009), and therefore it is reasonable to assume that in the eastern Arctic most regions were not near to the "carrying capacity" of their local environments, at least initially (cf., McGhee 2009). Thus, the impacts of population packing and potential resource shortages as factors

potentially leading to conflict would be less important in the eastern Arctic, though of course these are not the only potential reasons for conflict and warfare (e.g., Maschner and Maschner 1998). Instead, with lower relative populations, there may have been more need for cooperative interactions designed to maintain a social safety net during hard times.

Another aspect of historical context which must be reemphasized is the fact that the Alaskan ethnographic case relates to peoples who had been impacted by the expansion of the European World Economy for some time. Since this impact was, by its nature, based on interaction, it must of course be assumed that it had particular impacts on the patterns of interaction of Alaskan Iñupiat. Burch (2005: 234) has considered this fact, and in fact has concluded that there were impacts, but that they were of particular kinds. It is indeed likely that the introduction of so many new trade goods, from iron to tobacco, resulted in more intensive trade (though the trade network as a whole had much greater time depth (Hickey 1979)). At the same time, Burch (2005) makes a strong case that the increase in European trade actually led to a *reduction* in warfare, since conflict served as an impediment to trade. So, all else being equal, the ethnographic record in Alaska probably represents somewhat higher levels of trade, and perhaps other categories of interaction, but lower levels of warfare, than existed in earlier centuries.

A final point of comparison relates to interaction with non-Inuit groups. Iñupiat regularly interacted in trade, warfare, and other ways with a range of people from other ethnic and linguistic indigenous groups, including Athapaskan First Nations, Chukchi, and Yup'ik peoples. Thus, an Iñupiat regional group bordering a non-Iñupiat regional group would interact with the latter in similar ways to a neighbouring Iñupiat regional group, and relations between the two would probably be fairly predictable, if often involving conflict (Burch 2005). Classic Thule of the Central Arctic would also have come into contact with "other" peoples, including Late Dorset Palaeoeskimos at various places throughout the Thule range (though the extent and nature of interaction between Thule and Dorset remains controversial (e.g., Friesen 2004; Park 1993)), Norse farmers, fishers, and traders along their eastern margins, and Athapaskan or Algonquian regional groups on their southern flanks. The nature of the potential interactions are extremely difficult to reconstruct, however the one common element would be that each set of interactions in the eastern Arctic would be relatively "new" and unpredictable. Unlike the Alaskan ethnographic situation, these would not be long-term patterns, but rather evolving relationships fraught with uncertainty. Arguably, all of these aspects of the "newness" of the Thule social structure would impact interaction, and many of them might lead to a desirability for heightened cooperative interaction between Thule regional groups, and greater social flexibility.

Thule Inuit Interaction in the Eastern Arctic

I will now return to the central question of this paper: to what degree did the eastern Thule pattern of intersocietal interaction resemble that of ethnographically-known Northwest Alaska? This will be considered in three areas which are not equally archaeologically visible: territorial organization, trade, and warfare.

Territorial Organization

A particularly difficult question concerns how Thule of the central Arctic were organized territorially, in terms of regional groups. Recall that Alaskan Iñupiat were organized into tightly bounded regional territories, with occupants self-identifying as belonging to a particular territory; with interactions *between* these groups qualitatively and quantitatively different from those occurring *within* each group. Ethnographically known Inuit groups from the 19th and early 20th Century eastern Arctic were also organized into regional groups, though in many cases they were somewhat more flexible and more variable in terms of scale and organization. Regarding Classic Thule, then, it is virtually certain that regional groups would have become formalized in the eastern Arctic at some point following the initial migrations (cf., McCartney 1991: 37). However, asserting that regional groups existed does not help in defining the location and extent of specific regional group territories. Material culture does not help us here, because there is no frequently occurring material evidence which can serve as a proxy for group membership. Hypothetically, central Thule regional groups may have indicated their membership in elaborate patterns of skins on parkas, in facial tattoos, in *umiak* or kayak paddles, or in other media. Each of these categories is occasionally encountered in the eastern Arctic, but in order to delineate regional group territories, we would need large numbers of these from many sites, to understand where differences occur. This is clearly not a realistic expectation.

In the absence of material culture markers, perhaps the only other way we might reconstruct regional territories is through interpretation of the distribution of known sites, especially winter sites. For example, in areas where high resolution regional survey has occurred, uninhabited "gaps" in settlement might be interpreted as likely boundaries between regional groups, and territories might be centred on particularly large sites or site clusters, as they were in several Northwest Alaskan cases (Burch 2006). However, the problems with this procedure are numerous. For example, in the Alaskan ethnographic record, the largest winter villages in a given territory were not the *only* winter villages – rather, within most territories a number of winter villages were occupied. So, how would one know, archaeologically, which "satellite" villages are associated with which principal villages, other than taking educated guesses based on proximity (ie., assuming that small villages are allied with the large villages closest to them)? One would also need to make assumptions about contemporaneity of

sites, and that relative site size reflects the relative size of the original population (as opposed to larger sites having been occupied longer, with sequential building of small numbers of houses).

James Savelle (2000: 78) has in fact proposed that Thule winter site clusters across much of the prime bowhead hunting region of the central Arctic are analogous to "historic North Alaskan whaling society village systems". For the most part, they are separated from one another by large gaps without winter villages (though other Thule site types usually occur in these "gaps"), and in most cases they incorporate one or two larger villages, as measured in numbers of houses, *kariyit*, and bowhead bones. Given the high quality of the survey data (Savelle 1987), and these aspects of settlement pattern, Savelle's suggestion that these represent regional group territories is reasonable, and may be the closest we can get to actually defining them in the eastern Arctic. At the same time, it is also quite possible that any number of these clusters might be a part of the same regional group, especially given the distances involved. For example, on southeastern Somerset Island area, three well defined site clusters are spread across approximately 100 km of coastline from Creswell Bay to Hazard Inlet. This entire stretch of coast could easily fit within any one of the three coastal regional group territories in North Alaska, from Point Hope to Point Barrow (Burch 2005: 37), each of which contained more than one significant winter village. So, regrettably, here again we are stymied by the resolution of the archaeological record which does not allow any certainty regarding territorial boundaries. However, given the numbers of houses recorded at Thule winter sites in the central, bowhead hunting area (Savelle 2000: 81), and recognizing that it is extremely unlikely that all houses within sites or site clusters were occupied simultaneously, even if some regional groups incorporated more than one site cluster it seems likely that most Thule regional groups had somewhat lower populations than those in northwest Alaska.

Trade

Since Mathiassen (1927) first defined the Thule culture, arctic archaeologists have noted direct indications of trade, including items made of iron, copper, ivory, soapstone, and amber; as well as indirect indications such as blade slots in implements which are too narrow to have held any material other than metal. Metal has received particular attention, with McCartney (1991) referring to Thule society as "epi-metallurgical" based on the ubiquity of indications of metal use. McCartney (1991) went on to suggest that Classic Thule trade in metal and other materials should be considered within a Northwest Alaskan social framework, as driven in part by *umialiit* using trade to accrue prestige and wealth, and advocated further research along those lines in relation to inter-household variation (cf., McGhee 1984b). Whitridge (1999b) has gone much further along these lines, making a strong and nuanced case for trade being structured along Northwest Alaskan lines, based on intrasite distributions of exotic goods at the very large

Thule site of Qariaraqyuk on Somerset Island. Exotic materials were found in higher concentrations in households which, based on multiple criteria, could be considered "high status", and this was interpreted as analogous with the Northwest Alaskan situation in which wealthy *Umialiit* were able to convert whaling surpluses (especially oil) into prestige (Whitridge 1999b). The large size of Qariaraqyuk, and its presence within a zone which saw the highest level of access to bowhead whales (Savelle 2000) makes this site an ideal test case for Thule social organization at its most complex.

Less well understood than trade in "preciosities", for reasons of archaeological visibility, is the degree to which long-distance trade existed in "bulk goods", such as sea mammal oil, caribou skins, walrus skins, and wood; a pattern which is expected if Classic Thule interaction resembles that of Northwest Alaska. One aspect of this question relates to the degree that these materials can be considered "necessities", as opposed to luxuries. The analogous situation in North Alaska indicates that a number of regional groups actually relied on exchange of bulk goods, and might have been in trouble without them; particularly coastal sea mammal fat traded to the interior as a dietary supplement, and interior caribou skins traded to the coast for production of superior winter clothing (Spencer 1959). It is currently an open question whether large quantities of these materials might have been moving around in the Classic Thule world, though it does seem likely that some were. In particular, it is probable that the relatively large populations in some central Arctic areas, for example in the bowhead hunting areas surrounding Prince Regent Inlet, Barrow Strait, and Lancaster Sound, would have required more caribou skins than would have been available from the relatively small regional caribou populations, and more wood than would have been available as local driftwood. However, this leaves open the question of what materials might have been exchanged for them. For example, it is not clear that "peripheral" areas, especially those to the south which would have had greater access to wood and caribou, would have required large amounts of sea mammal fat, since most had greater access to seals than was the case for most interior Alaskan peoples.

One final aspect of trade which must be considered if a comparison to northwest Alaska is made relates to the circumstances in which trade actually occurred. Specifically, did aggregations resembling Iñupiat "trade fairs" exist in the Classic Thule world? The presence of trade fairs in Classic Thule times is potentially important, since many aspects of the broader "system" of interregional interaction in Alaska were closely connected to them. In this connection, it is worth noting that smaller scale but similar aggregations did occur in the eastern Arctic at certain times and places, with for example Inuit from multiple regions travelling to "Akilinik" on the Thelon River (Stefansson 1914); leading to the possibility that this represents a continuity of a Thule pattern (though not necessarily at the same locations). Here, once again we run up against the shortcomings of the archaeological record. The question is, how do you demonstrate the existence of a trade fair? There are many problems, including a) the fact that

large sites cannot be considered automatically to represent large occupations due to issues of contemporaneity; b) that since the ethnographic cases are summer sites, they have lower archaeological visibility and poorer preservation than many sites occupied during other seasons; c) the fact that it is not completely clear how they would be structured spatially, though some high degree of formal structure would be expected, as it was at Sisualik (Burch 2005: 187); and d) despite the expectation of heightened trade, it is not clear that trade goods would occur in high numbers in the archaeological record, if they were being handled carefully and then carried away to traders' home territories. To my knowledge, no trade fair sites have been formally proposed for Classic Thule, though in this context Savelle (1987: 184) noted the significance of a very large summer site (43 tent rings and two *kariyit*) which was located almost exactly midway between two major Thule winter house site clusters. It is not clear if this was an aggregation site for members of one or both of these two groups, or a site with broader regional implications. In summary, the fact that no convincing trade fairs have been identified in the Classic Thule world may simply mean that they remain to be found, or that they are archaeologically invisible. Equally, it may mean that they did not exist, and that trade was conducted in a somewhat different fashion in east and west.

Warfare

A final prominent aspect of the North Alaskan record of interaction is warfare. However there is little evidence for warfare in the eastern Arctic. In Alaska, perhaps the "best" commonly available artifact category associated with warfare is armour, given that arrowheads intended for warfare can be difficult to differentiate from those used for hunting, if any differences exist (e.g., Mason 2009). In Alaska, armour is known from a number of later prehistoric sites, and given the fact that a single set of armour can contain dozens of individual slats, it would be expected to be recovered, if it was present. To my knowledge, armour slats have not yet been identified in the eastern Arctic, which is surprising as they might be expected in low frequencies even if warfare was not common. Another class of material evidence which may indicate warfare is defensive site placement or defensive structures such as rows of sharpened stakes as existed at Tikiqag in Alaska (Burch 2005). However, even in Alaska this was extremely rare, and certainly none of the sites in the eastern Arctic clearly indicate defense. Finally, one unique artifact relevant to this topic is a Thule bowdrill handle from Baffin Island which depicts conflict (Maxwell 1983). In fact, there are two images on this object, one on each face, depicting individuals with bows and arrows pointed at each other. However, it must be noted that a single depiction does not necessarily indicate the presence of widespread warfare – it could refer to oral histories of warfare or to mythological conflict; and, at least hypothetically, could have been made in Alaska and brought to the eastern Arctic. Thus, we are left without being able to say much definitively about warfare in the eastern Arctic.

Future Research

Before proceeding, it is worth noting that several future research directions might be brought to bear on some of these unresolved issues relating to Thule interaction. Evidence for conflict might be sought by looking through existing eastern Thule collections for armour slats, which might have been overlooked. Future regional surveys might reveal sites which are good candidates for Thule trade fairs, despite the many caveats outlined above. Finally, trade in bulk goods can be approached through further sourcing studies. For example, trade in caribou skins and in whale oil (presumably transported in sealskin "pokes") might be approached indirectly though skeletal element frequencies (assuming that a limited range of elements are attached to a traded caribou skin or seal skins used as pokes). However, stable isotopes from appropriate bones have the potential to yield more definitive results (e.g., Britton et al. 2009; Hedman et al. 2009). Strontium and oxygen isotope ratios are known to vary by region, and thus by analyzing levels in caribou or seal populations from known regions today, isotopic analyses of archaeologically recovered bones could, at least in theory, provide direct evidence for directions and distances of trade in seal or caribou. Likewise, more detailed analysis of wood could provide further insights into exchanged wood vs. locally collected driftwood (Alix 2009), especially given the historical trade in wood collected by Copper Inuit from the mainland south of Coronation Gulf (Stefansson 1914).

Discussion

To sum up, 19th Century Alaskan Iñupiat and Classic Thule Inuit of the central Arctic were similar in many ways, including aspects of housing, technology, economy, and social structure. Both cases exhibited some level of social status differentiation, which can serve as a driver for trade in exotic goods, and as with all hunter-gatherer societies, both had an underlying need to maintain relationships with individuals or groups in neighbouring regions which could be operationalized in times of need. Furthermore, in both cases there were notable regional differences in access to preciosities (e.g., iron, copper, and ivory) and potentially important bulk goods (e.g, caribou skins, sea mammal oil, and wood).

However, the review of what we know about Classic Thule interaction in the eastern Arctic reinforces the fact that our understanding is imperfect, at best. We have clear data relating to information flow, trade in high value materials, and site distributions, but cannot yet be sure about how the overall system was integrated and reproduced. For example, we do not have good information on the relative intensity or extent of bounded regional groups, warfare, trade in "bulk goods", and formal trade fairs. All of these phenomena are challenging to reconstruct in archaeological contexts, leading to the tendency for archaeologists to

emphasize trade in exotic materials. However, it is precisely these phenomena – warfare, trade in bulk goods, and trade fairs - which must be understood if we are to make the case that the Classic Thule pattern closely resembles the North Alaskan ethnographic analogue.

Despite these issues, after reviewing the data it seems likely that the eastern Thule system of interregional interaction was quite different from that of northwest Alaska. In other words, we are missing evidence for warfare, bulk trade, and trade fairs in the eastern Arctic not simply due to issues of low archaeological visibility, but rather because these phenomena were absent or not strongly developed. The eastern case must have been profoundly impacted by the fact that the Classic Thule system of interaction developed quickly in an initially foreign social and geographic landscape, without pre-established regional group territories. Equally important is the fact that recent re-dating of early Thule sites indicates that the entire Thule phenomenon in the eastern Arctic played out over a much shorter period than previously believed, lasting a maximum of 200 years and probably less in many regions (Friesen and Arnold 2008). This short occupation duration, combined with the fact that the initial Thule population must have been fairly small (McGhee 2009), means that the Classic Thule system of regional groups and interaction networks was a rapidly evolving and possibly more flexible system which was essentially "coming into being" during the entire Classic Thule period, as opposed to a stable long-term arrangement. Of course, the Alaskan situation was also subject to change over time, as evidenced by the development and changing frequency over time of trade fairs, intensive interregional trade, and warfare (e.g., Hickey 1979; Mason 2009; Sheehan 1997).

The lack of evidence for warfare in the eastern Arctic may result from the facts that a new and unknown land required a greater level of cooperation, that populations were relatively low and therefore there was room to expand or move if conflict broke out, and that at least in some cases, the presence of unknown "others" such as Dorset Palaeoeskimos led to increased cooperation among Thule groups and/or aggressive tendencies being directed outward rather than within Thule society. Importantly, there would also have been a shorter political history during which feuds and conflicts might have developed, thus reducing the primary cause of conflict that existed in the Iñupiat case. This does not mean that disputes and feuds did not exist in Classic Thule, but rather that there may have been a reduced scale and frequency of interregional conflicts.

The lack of evidence for trade in bulk goods must, to some degree, result from a lack of visibility. However, it probably also reflects lower actual levels of exchange, due to distances and difficulty of travel, the likely emphasis on sleds as the primary means of conveyance in many areas (as opposed to higher-capacity and often faster *umiat*), and the spatial distribution of bulk goods, with potential trade goods rarely situated in adjacent "territories". In particular, in many of the prime bowhead-hunting regions, the principal locally-available bulk materials which might be exported were those derived from whales. However, while sea mammal oil was a major, in fact dominant, exchanged material among

some Alaskan groups, it is not clear that there would have been a strong "market" for it in the eastern Arctic, particularly given the often great distances over which it would have to travel. This leaves baleen and whale bone (in addition to preciosities such as ivory) as potential exports from bowhead hunting areas. These materials have some technological advantages, and could conceivably have been tied to status, but it is unlikely that they would have been as critical to trade as oil was in northwest Alaska. As a final extension of this line of argument, if less bulk trade occurred, the need for formal trade fairs would also have been reduced.

These potential differences in interregional interaction must have impacted many aspects of social relations within Thule regional groups. In particular, the role of *umialiit* may have been affected, given less emphasis on trade for bulk staples and reduced requirement for leadership in warfare. Despite this, exotic goods were widely circulated, and presumably redistributed within a local-level social system which resembled that of northwest Alaska (e.g., Grier and Savelle 1994; Savelle and Wenzel 2003; Whitridge 1999b). Thus, in the eastern Arctic perhaps *umialiit* achieved a greater proportion of their status and influence by functioning as middlemen, retaining and redistributing significant proportions of high value trade goods as they exchanged them between different external regions (see Burch (2006: 17) and Kaplan (1985) for accounts of the relationship between middleman status and individual wealth and authority in Alaska and Labrador, respectively). Of course, such a status would be embedded within all of the other complex requirements of leadership, including organization of subsistence production, storage and redistribution within the local group. Ultimately, this would mean that Thule *umialiit* were still relatively wealthy and influential leaders, but their authority came more from management at the local and regional level than from commerce and politics at the interregional level.

In conclusion, ethnographic analogy, and particularly the "direct historical approach" which uses ethnographic information from direct descendent groups to understand prehistoric lifeways (Trigger 2006: 510), remains a powerful tool for archaeological interpretation. However, analogies must be applied creatively and with caution, taking care to avoid the assumption that ethnographically observed behaviours can be imposed uncritically on the past (e.g., Friesen 2002; Wylie 1985). In the present case, the ethnographic record of northwest Alaska remains the closest ethnographic analogue for many aspects of Classic Thule society in the eastern Arctic. However, in the specific case of interaction networks, the fit does not seem to be particularly close. Instead, when considered in relation to differences in geographic and social contexts between west and east, the northwest Alaskan pattern serves not as a direct analogue, but rather as a high resolution starting point for a more indirect reconstruction of Classic Thule patterns of interaction.

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From Hunter to Herder? Investigating the Spread of Transport Innovations in Northwest Siberia

Introduction

Scholars studying the life-ways and traditions of northern hunting and gathering communities have long excelled in plotting distributions and typologies of various 'peoples', their cultural traits, subsistence practices and religious beliefs. Likewise, archaeologists working within the traditions of the culture-history approach have explored how distributions of material culture have shifted over time, linking these 'archaeological cultures' to the changing fortunes of different 'ethno-linguistic' groups. In circumpolar research, however, much less attention has been directed at developing a more detailed sense of the local social dynamics and household strategies that generate these cultural patterns and transformations.

This paper focuses on the spread of innovations in northern hunter-gatherer social networks, and draws on archaeological and ethnographic evidence to examine how and why domestic transport reindeer were being adopted into the taiga hunting and fishing communities of Northwest Siberia during the 19th C and early 20th C. The exceptional detail and coverage of the region's ethno-historic record enables variability in household-scale economic and mobility strategies to be reconstructed across large areas of the Middle Ob' region, generating rich insights into the tremendous attractions associated with adopting transport reindeer into the commercial fur-hunting economy. At the same time, a focus on understanding the factors that generate variability in household mobility strategies also sheds light on the costs, challenges and the wider scheduling conflicts associated with adopting and successfully integrating these new transport technologies into an older hunter-fisher adaptation already under considerable pressure from external economic demands and local environmental problems.

The paper concludes that the varying adoption of transport reindeer across local households generates a more general set of insights into some of the common social dynamics associated with the successful – or failed – spread of innovations in northern networks. In this way, the paper also explores how new

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strategies stimulated and facilitated by exposure to a wide range of novel technologies can feed into long-term historical transformations. Areas for further work on these general themes are outlined in the conclusion, but lay beyond the scope of the current paper.

Research Context: Diversity in Northern Reindeer Economies

Human beings have a rich and complex history of interaction with wild reindeer in Northern Eurasia, shifting from predation, through to taming and full domestication. By the start of the historic period, these fluid relationships had evolved into a number of over-lapping strategies that were closely attuned to local ecological, economic and culture-historical contexts (Krupnik 1993; Vitebsky 2005). At one extreme, the large-scale reindeer breeding of the open tundra typically involved the tending of immense herds that required intensive management; this reduced time left over for other economic activities and so the herd eventually came to form the bulk of the herders' diet (Ingold 1980), as well as providing materials for tent coverings, clothes, harnesses and other equipment (Khomich 2003). In contrast, smaller-scale free-range herding was more typical of the boreal forest zone, and there was often an intensive bond of tameness linking human masters and individual reindeer. Small herds of animals were generally kept for transport rather than meat, and their main attraction lay in their capacity to rapidly increase the mobility of hunters, who could more efficiently exploit the fish and game in larger and more distant territories (Ingold 1980).

The Lower Ob' region in Northwest Siberia appears to have been a key centre of early reindeer management (Golovnev 1993; Federovo 2004), though there also appear to have been other domestication 'hearths' in Southern and Eastern Siberia (see: Vitebsky 2005). In the Lower Ob' (Figure 1) human relations with reindeer started with seasonal interception and predation – a continuation of the big game Palaeolithic hunting economy – followed by the taming of small herds for transport. Definite evidence for the keeping of transport reindeer appears as early as early as the Ust' Puloi cultures of the early Iron Age, with finds of reindeer bridles (Fedorova 2004, 343–4; Golovnev 2004, 73; Golovnev and Osherenko 1999, 16). At this time, we also start to see evidence that hunters were building larger reindeer sledges, enabling them to travel long distances with their children and families in pursuit of the mobile wild herds (Vitebsky 2005). However, the emergence of the large-scale nomadic pastoral economy was a much more recent and relatively rapid development, which took place over only four or five human generations, sometime around the late 18th century (Golovnev and Osherenko 1999).

The relative roles of various social, economic and environmental factors in this 'Reindeer Revolution' has been intensively debated (Golovnev 2004, 71–94;

Golovnev and Osherenko 1999, 15–30, 87–94; Krupnik 1993), with some arguing that the adoption of full-scale reindeer pastoralism was essentially a political strategy enabling indigenous communities to live and travel well beyond Russian colonial settlements that were sited on the main rivers (Golovnev and Osherenko 1999, 15).

The story of reindeer domestication further to the south, in the boreal forest zone of Northwest Siberia, is more complex, and there was never a full transition to large scale pastoralism. Instead, local communities chose to integrate reindeer herding into an underlying hunting and fishing economy, which continued to provide the bulk of resources for subsistence and also commercial trade. In the forest zone, domestic reindeer provided an attractive new form of winter transport and haulage technology that had many advantages over older forms of ski and dog traction. Pulling larger and faster sledges, the new transport reindeer facilitated rapid access to remoter hunting and fishing areas, could pack supplies between distant camps, and thereby played a major role in transforming seasonal patterns of household mobility. However, the advantages of the new transport reindeer were also offset by a new set of challenges.

In the dense taiga forests and expansive lakes, rivers and wetlands of the Middle Ob' (Figure 1), however, keeping reindeer through the long summers was far from easy. The swarms of mosquitoes, black-flies and other insects make the taiga hot season extremely difficult for both humans and animals, and while the large-scale reindeer pastoralism characteristic of Northwest Siberia involved long transhumances out onto the windswept tundra and/or the higher ground of the Polar Urals (Perevalova 2004: 274; Golovnev 1993: 75–106), this option was not available to forest groups, who had to limit their seasonal movements within their more limited fur-hunting territories, leaving no opportunities escape either to the cooler north, or to the breezy higher ground of the Urals (Golovnev 1993: 80).

As a result, local hunter-fisher communities began to develop their own unique reindeer management methods, protecting their small herds by lighting smudge fires and building special shelters to protect animals from the sun and insects (Vizgalov 2000: 127; Dunin-Gorkavich 1995: 164–165; Martynova 1998: 150–152). In the worst weeks of 'mosquito time' animals would voluntarily come into the deer huts seeking relief in cool smoke-filled interiors, moving out only at night to feed in the forests.

In this way, the new transport animals imposed a new cost on households – the summer in particular required constant tending and vigilance by their human masters, severely limiting time that could be devoted to other activities, including travel to distant fishing or hunting grounds (Vizgalov 2000: 126). Keeping transport reindeer also required modification of older settlement patterns. For example, in summer the optimal reindeer herding locations are higher river banks where there is mixed feed and an open aspect where the steady breezes reduce the insects; in winter the animals require pasture out in the forests, in some areas, requiring a second base camp to be built for these periods (Vizgalov 2000: 125–126).

As a result of these factors, the rise of reindeer husbandry proceeded according to different trajectories in the tundra and in the taiga. In the far north, full-scale reindeer pastoralism emerged as a specialist new adaptation and provided a viable alternative to older hunting and fishing economies. In the forests further to the south, reindeer husbandry had to be successfully integrated into the economic and mobility strategies of the older hunter-fisher economy for it to retain any utility. This generated new challenges in indigenous societies already undergoing rapid colonial transformations as a result of the increased commercialisation of the fur-hunting economy (Golovnev 1993).

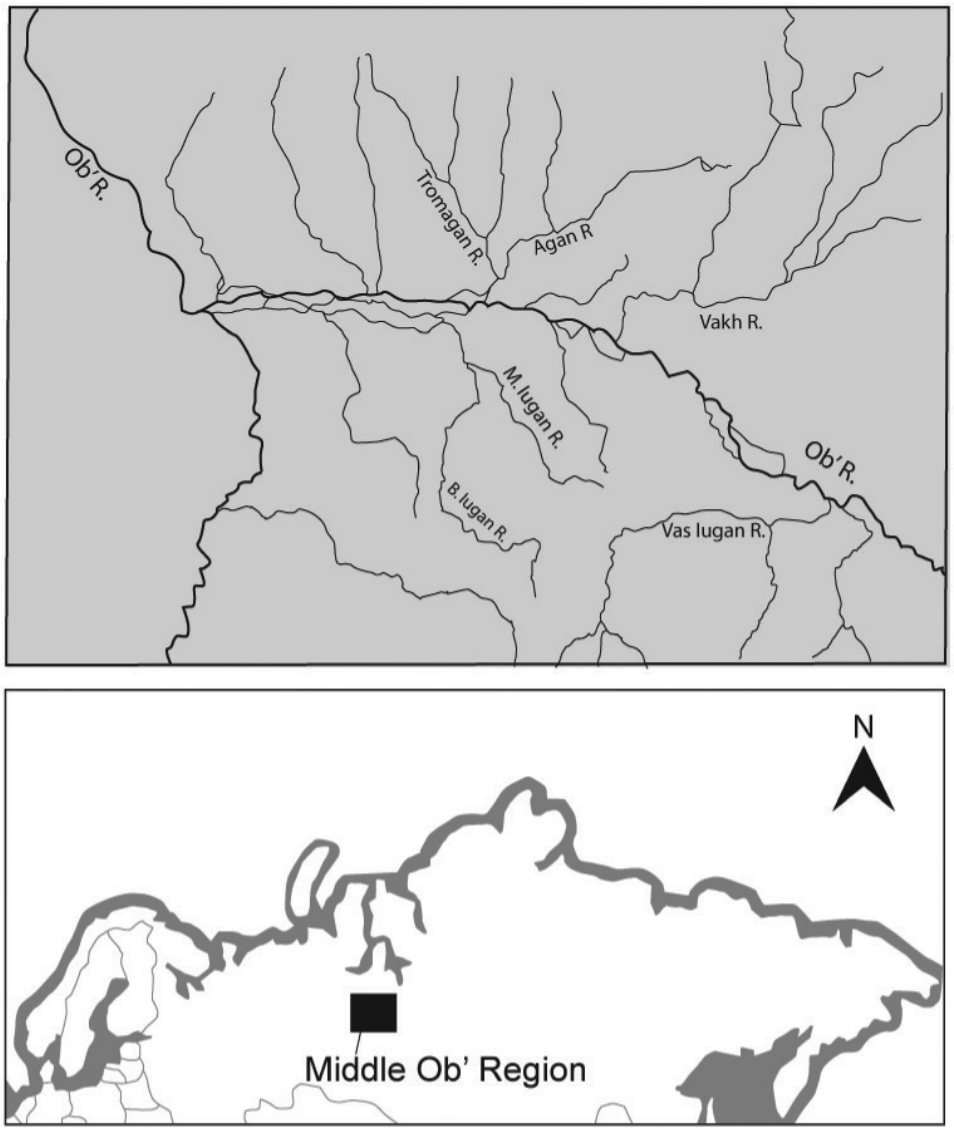

Figure 1. Middle Ob' Region (Western Siberia).

Dispersal of Domestic Transport Reindeer into the Middle Ob' Region

From a balanced reading of the archaeological, ethno-historic and folklore materials it would appear that there was a gradual southerly dispersal of transport reindeer husbandry (Ru. *транспортное оленоводство*) between the 15th–19th century from the early centres of taming and domestication on the Lower Ob', down into indigenous hunter-fisher communities living along the tributaries of the Middle Ob' (Golovnev 1993: 100; Martynova 1998: 152; see: Figure 1). By the end of the 19th century, the indigenous Khanty communities living in the Iugan River basin appear to have been the southernmost exemplars of this 'intrusive' form of reindeer pastoralism (Dunin-Gorkavich 1995: 164; Kulemzin and Lukina 1992: 67). The material culture associated with Iugan Khanty reindeer herding is somewhat unusual, and some Russian scholars have gone so far as to argue for localised domestication of reindeer, citing the fact that Iugan Khanty reindeer sleds are enlarged versions of a dog sled, rather than the characteristic 'Nenets' or 'tundra' style sled used by other reindeer-herding Khanty groups to the North (Lukina 1985: 336; Dunin-Gorkavich 1996: 141).

Whatever the ultimate geographic origin of Iugan reindeer husbandry (i.e. adopted from the north *versus* local invention under external infleunces), it was certainly a new and relatively rare innovation in this area in the 1820s. Herd numbers fell away sharply in the 1840s (Golovnev 1993: 100), followed by more widespread adoption, though only 79 out of 123 recorded households on the upper Iugan rivers were listed as keeping reindeer at the end out the 19th century (that is, 23 base camps out of 30) (Dunin-Gorkavich 1996: 144).

Writing at the end of the 19th century, Dunin-Gorkavich explains how reindeer herding was an extremely challenging and expensive transport technology for local Iugan Khanty households: most were buying in individual domestic reindeer for cash via indigenous trade links that stretched away to the north. In addition, the small local herds were not sustainable – a few imported animals were able to survive in the dense forests, but many others died, some were lost or reverted to the wild, while others tried to escape back to the north. Most importantly, none of these imported reindeer could be encouraged to *breed* locally, ensuring local reliance on supplies of new animals from the large-scale reindeer pastorialists living far to the north (ibid. 1996: 144–145).

Further statistics illustrate the 'fragility' of reindeer husbandry within the Iugan household economy. Average 'herd' sizes can be calculated to around 3 animals per household, but that obscures the fact that 36% of households had no deer at all, suggesting either that households were actively choosing not to use reindeer, preferring to haul sleds by hand and with dogs, or that they were not able to marshal the skills, material resources and social relationships that were essential to maintaining a viable herd of transport-reindeer (Dunin-Gorkavich 1996: appendix 26).

Further data from the 1926–7 Soviet Polar Census (Note 1) indicate that reindeer had still not been fully adopted in all areas of the Iugan in the 1920's, raising a number of questions about:

(a) the underlying motivations for adopting reindeer transport technology in such a difficult setting that was far away from the 'optimal' reindeer herding locations that lay further to the north in the Ural foothills;
(b) the ways in which reindeer herding was actively integrated with other branches of the economy;
(c) the household dynamics that led to adoption and integration of herding in only some base-camp communities, and its rejection or abandonment in others.

Middle Ob' Historical Context

The Khanty are one of the northern indigenous peoples of Russia, and numbered 15,611 in 1897, rising to 22,283 in 1989 (Glavatskaia 2002: 103). Along with Mansi, Nenets, Sel'kup and other native groups, Khanty groups reside in the vast lowlands of Northwest Siberia (Figure 1). The Khanty are traditionally divided into three groupings – northern Khants, who live around the Lower Ob' and practice a mixture of hunting, fishing and large-scale reindeer husbandry (Perevalova 2004; Martynova 1998: 80–137); southern Khants – now largely assimilated – who lived along the Irtysh river, and practised hunting, fishing and also agriculture and cattle-breeding, which they adopted from the South Siberian Tatars and later Russians (Fedorova 2000; Martynova 1998: 12–79); and approximately 5000 Eastern Khants, who live in the forests and wetlands of the Middle Ob and its main tributaries, traditionally practising hunting, fishing and the limited small-scale reindeer herding that is the focus of the current study (Fedorova 2000, Golovnev 1993, Jordan 2003, Martynova 1995, 1998: 138–202; Wiget 2002).

Russians conquered Western Siberia in the late 16th century, and gradually subjugated native populations into a fur tax regime 'iasak' (*ясак*), their initial methods, such as hostage taking, building on an earlier tribute system that had bound native groups into the medieval Tatar Khanate (Forsyth 1992). It is possible to trace a cumulative historical transformation in indigenous economy and social organisation as a result of the Russian presence, starting with an initial emphasis on local subsistence, limited production for trade, and small centres of power based on local Khant 'principalities'. Gradually, we can trace the break up of the principalities and the dispersal of the population into smaller settlements in remoter areas, partly in response to the emergence of a more rigid state-led and state-monitored tax system for the extraction of the region's valuable fur resources (Glavatskaia 2002). By the middle of the 17th century the entire aboriginal population along the middle Ob' was registered into tax books, with every adult male obliged to pay between 5–12 sable furs per year (ibid 2002: 83) – for the next 300 years Khants became 'state iasak people' akin in legal terms to being 'hunting serfs' of the taiga (2002: 113; Martynova 1995: 88).

As part of the on-going intensification in fur-hunting and commercialised fishing several distinctive indigenous adaptations had emerged along the Middle Ob' by the end of the 19th century (Dunin-Gorkavich 1996; Martyona 1995; Golovnev 1993; Wiget 2002). On the main Ob' River Khanty communities practiced what Golovnev (1993: 202) described as a 'river-edge subsistence complex', defined by adaptation to aquatic resources and sedentary settlement. In contrast, communities living on the remote upper tributary rivers (like the Upper Iugan River) developed a 'deep-taiga economic complex', which integrated mobile hunting and fishing (Golovnev 1993: 202) – it was into this latter adaptation that the new technology of reindeer husbandry was being 'embedded' throughout the 19th and early 20th century.

A rich constellation of ethno-historic sources (for full details of this archive see: Jordan 2011a and Anderson 2011, for the 1926/7 Soviet Polar Census) generates unique opportunities to reconstruct the life-ways and household strategies of the Iugan Khanty as they were gradually taking up transport reindeer. The Iugan river has two branches, the 'Great-' (Bol'shoi) Iugan river, over 1000 km in length, and the 'Small' (Malyi) Iugan river, which runs for 550 km (Figure 1, 2). These rivers converge and flow into the Iuganskaia Ob' and then the main Ob' river, close to the city of Surgut, which was founded in 1594 AD as part of the Russian conquest. To the West of the Iugan drainage are the Balyk and Salym rivers; to the East is the Kul'egan', with the Demianaka river to the Southwest and the Vasiugan to the Southeast. In the areas between these low-lying drainages are extensive tracts of uninhabited wetland.

The Iugan river is located between 59 and 61 degrees north (Dunin-Gorkavich 1995: 138) with a strongly seasonal climate, marked by long dry summers and bitterly cold winters, with lasting snow cover. The terrain is low-lying, with few areas of higher elevation, and the spring snow melt brings widespread flooding. There are four distinct ecosystems (Wiget 2002: 189): extensive bog-lands occupy the poorly-drained areas between watersheds; pine forests cover sandy hills and ridges; cedar forests run along the better-drained river margins, and a unique water edge ecosystem of willows, and taller grasses and wild rose.

The earliest Russian records of iasak fur tax payers living in highly dispersed settlements on the Iugan, Iuganskaia Ob' and Balyk river document the male population as 116 in 1629, rising to 125 in 1645, followed by 133 in 1680 and 148 in 1706. This might indicate either a steady growth in local households, or reflect the improved reach of the tax system into remoter areas (Martynova 1998: 140). Later sources record the entire population and indicate that the Iuganskaia Ob' population hovered around 350 from 1782 and 1897, but that populations on the Malyi Iugan went through a major decline, from 352 down to 141, and populations along the Bol'shoi Iugan showing a steady rise, from 493 in 1792, to 554 in 1897 (Martynova 1998: 140–1).

Earlier debates about the origins of the highly dispersed Khanty settlement strategies have tended to conclude that it was a direct result of the new colonial fur tax politics imposed by the Russian State (Martynova 1998), with many indigenous households forced to seek out new and remoter hunting territories in

order to pay their annual fur tax. Recent archaeological surveys of the Bolshoi Iugan basin (Karacharov 1999) now suggest that the indigenous hunter-gatherer economy was already undergoing transformation prior to the Russian conquest (1999: 233); the trend towards dispersed settlements actually began in the earlier Medieval period (12–16th century), as part of the wider rise in the Eurasia fur trade which Russia sought to control with its conquest of Siberia in the late 16th century (Forsyth 1992).

These transformations encouraged indigenous colonisation of ecological zones ideal for fur hunting but not for subsistence hunting or fishing, for example, along the upper stretches of the Bol'shoi Iugan river, where there are insufficient subsistence resources even for small and mobile populations (Karacharov 1999: 232–233). The intensification of the fur trade continued after the Russian conquest (Lukina 1985: 17), producing a general switch in emphasis from meat to fur hunting in the 17th century (Glavatskaia 2002: 115), and contributing to a wider raft of economic changes that affected native subsistence strategies across Northwest Siberia between the 16th and 19th centuries (Golovnev 1993: 160).

It is possible to trace these developments as they play out along the Iugan river basin (Wiget 2002; Dunin-Gorkavich 1995). In the 16th century Iugan emerged as an area extremely rich in fur resources. When sable was quickly over-hunted, attention then switched to procurement of local squirrel, whose fur was in demand in Chinese markets due to its exceptional quality and unusual colours. Even at the start of the 17th century Iuganskoe was holding one of the largest trade fairs in the region, enabling merchants to meet with hunters from across the wider Middle Ob' region (Wiget 2002: 189).

Iuganskoe was located on the lower Iugan meadows, enabling the population to keep cattle and horses, and also grow crops. Further upstream, the riverbanks were occupied by the widely-dispersed 'iurt' (*юрт*) base-camps inhabited by Khanty hunters and their nuclear families. The term 'iurt' (sl.; plural = 'iurty') is used in many historical sources to describe the household base camps found along the Iugan and other rivers (see: Jordan 2011a, for a discussion, and see: Martynova 1995) – these are made up of clustered tents or cabins occupied by individual autonomous households. These 'iurt' communities consisted of on average about 2–4 households, and 'broke up' at key points in the seasonal round. For example, these households spent their winters hunting in the remoter forest, and migrated downstream in summer, engaging in fishing the products of which they either sold on to local merchants or dried and used as winter supplies to subsidize their diet. Across the region, flour had also come into widespread usage to supplement diet and enable a fuller focus on winter fur hunting (Glavatskaia 2002: 116).

Interestingly on the Iugan, there is remarkable continuity in the settlement patterns from e.g. Dunin-Gorkavich's base map of late 19th century, through to the 1920s Polar Census (with a community diary taken at each base settlement), through to the present-day (see: Bakhlykov map 1996: 164; Jordan 2003: 58). These enable insights from the different sources to be closely integrated, gen-

erating detailed and dynamic insights into local historical transformations at a unique household scale of enquiry.

Why Adopt Transport Reindeer?

What triggered the adoption of transport reindeer into the Iugan basin? In addition to the changing long-term historical dynamics noted above, which created a sustained demand for local furs, a series of significant ecological changes affected the basin throughout the 19th century. Devastating forest fires swept through the taiga destroying hundreds of thousands of hectares of mature woodland – forests along the entire western side aide of the Bol'shoi Iugan were destroyed in the 1840s; a further fire in the 1860s wiped out the forest above and below the confluence of the Malyi and Bol'shoi Iugan rivers. Regular fires continued in these areas into the 1860s; also, in the 1870s and 1880s the entire forest either side of the Negus Iakh (a major tributary to the Bol'shoi Iugan) also burned (Wiget 2002: 190; Dunin-Gorkavich 1995: 143).

As a result, there was very little mature woodland left, by the end of the 19th century and these environmental problems exerted major pressures on local Iugan hunters. For example, following the fires, good hunting areas became in short supply and sable largely disappeared from the Bol'shoi Iugan basin. Shortage of game and hunting territory emerged as a major problem in the 19th century (Martynova 1998: 150) and remained a challenge well into the early 20th century (Vizgalov 2000: 80). In addition, the population on the Bolshoi Iugan had risen from 493 to 554 in 1798–1887, further exacerbating the problem (Martynova 1998: 140–1) – for example, there are numerous records of conflicts over subsistence territories in the Polar Census Diaries (see: Jordan 2011a).

As a result of these pressures, seasonal hunting activities began to expand outwards into the surrounding forests of the adjacent Salym, Balyk and Demianka rivers to the West and South, demanding much higher levels of annual household mobility (Figure 2). It is estimated that 60% of the population eventually began to hunt outside the Iugan basin. Importantly, this increase in long-range hunting does appear to have been a successful strategy, allowing Iugan hunters to procure up to 100,000 squirrels per year (Dunin-Gorkavich 1996: 148–149) and up to 600 sables in a good year (ibid., 1996: 156).

However, as noted above, the growing emphasis on long-range commercialised fur hunting also generated tensions in household economies, especially in their seasonal patterns of mobility. Since fish resources were not as plentiful in the upper headwaters, Upper Iugan river groups began to rely on moose and diminishing numbers of wild deer for their fall, winter and spring food supplies (Wiget 2002: 191), generating a diverse array of new subsistence and mobility strategies, all of which had to be successfully scheduled in terms of labour, equipment and seasonal travel plans.

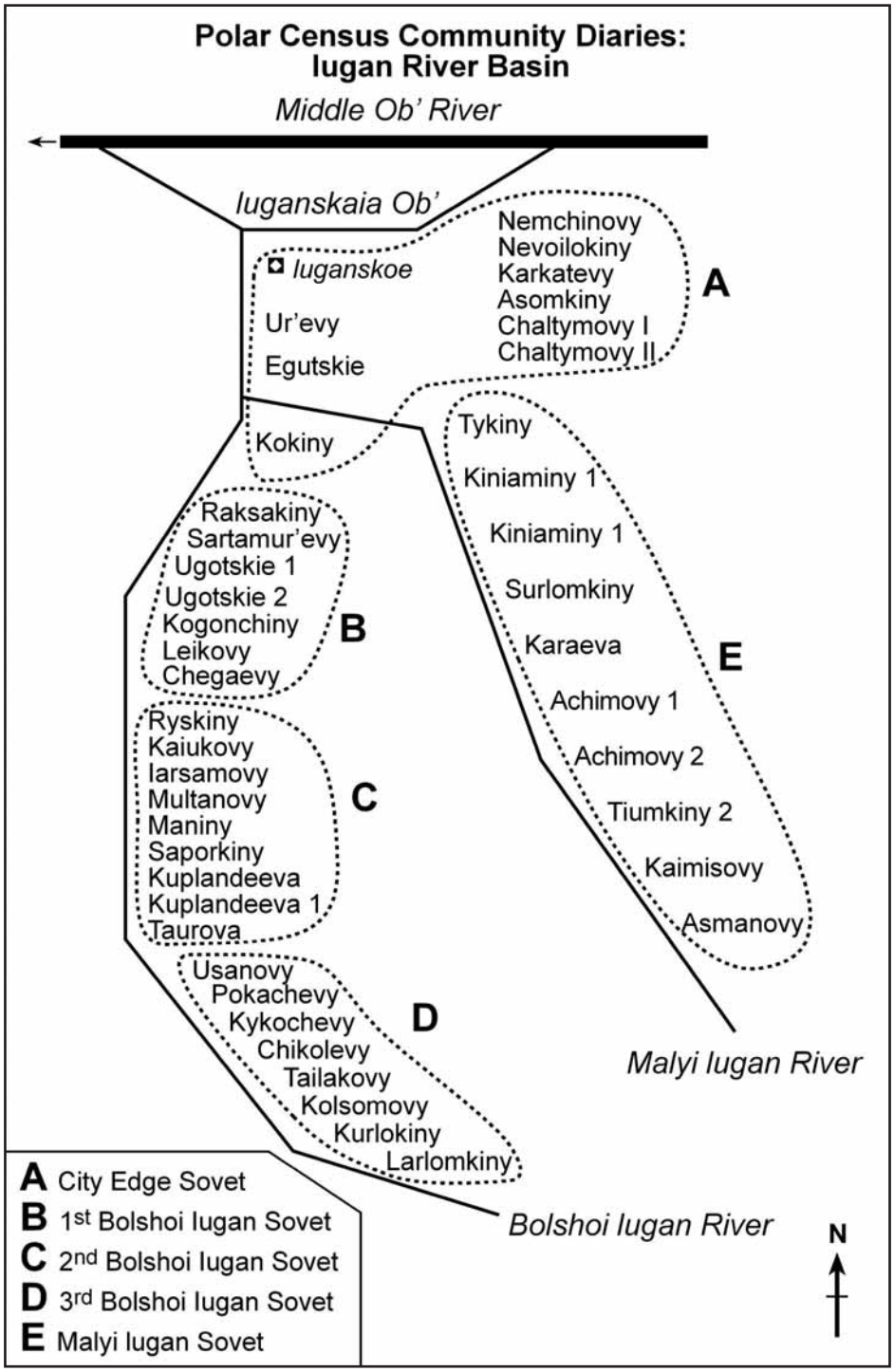

Figure 2. Schematic map showing location of settlements on the Iugan River. Each location was recorded in a Polar Census community diary. Iuganskoe is the main Russian village where settled populations practise agriculture; other Khanty settlements on the lower reaches of the river tend to be settled fishing communities who engage in some localised hunting. Settlements on the upper rivers are the seasonal base camps of Khanty households who practise a highly mobile hunting-fishing-reindeer herding strategy (for further details: see text).

Most Khanty living on the upper rivers made a summer migration downstream to rich fishing sites on the Iuganskaia Ob (Figure 2), returning at the end of the season with dried fish or else selling the summer fish to local merchants and returning upriver with supplies of flour and other products to sustain them over the long winter. The mobility of almost all up-river communities was extremely high: for example, in summer, some households on the top of the Bolshoi Iugan, were undertaking annual round trips of 2000 km for fishing and trade; in winter they were also journeying 400 km out to camps in their hunting lands. These figures, do not, of course, include the substantial day-to-day movements associated with the actual practice of hunting.

Integration of Transport Reindeer into the Boreal Hunting Economy

It is into these changing subsistence practices that the Khanty somewhat hesitantly began to adopt transport reindeer (Wiget 2002: 191). The first records of Khanty reindeer holding date to the very early 19th century (Golovnev 1993: 100), but the use of reindeer was only weakly developed by the end of the 19th century (Dunin-Gorkavich 1995: 144–145; 1996: 25), and by the early 1920s, the Soviet Polar Census records that some upper river households still did not have reindeer (Jordan 2011a).

Having the ability to access a wider range of hunting areas would have had an immediate attraction to Iugan households as they sought out new hunting areas. Iugan Khanty already kept a large number of hunting dogs, which also assisted in pulling small sleds. However reindeer could pull bigger loads and travel much faster. They could also assist in packing in flour and other supplies from Iuganskoe, and also out to remote hunting camps.

In the upper headwaters, other forms of domestic animal traction would have been impossible to develop. Keeping horses, as some households did in the lower river settlements, would require putting up hay, winter stalling and daily tending. Upper Iugan families could provide neither: there were insufficient meadows and winter was the most important time for fur hunting. In contrast, reindeer were ideal 'low maintenance' winter transport animals for taiga hunters: they could easily be corralled and when not in use they could be hobbled to prevent them straying; they could also feed themselves by digging through the snow cover to the mosses and lichens below (Kulemzin & Lukina 1992: 67–71).

But how was reindeer husbandry integrated into the seasonal mobility strategies of a combined boreal-forest hunting and fishing economy? Working with Polar Census data (Jordan 2011a), we can note that individual households making up most iurt base-camp communities practise very complex yet integrated summer and winter mobility strategies. One good example of this complexity is the community diary for Kaiukovy iurt, summarized in Figure 3. Here 11 households are registered to summer iurty on left (west) banks of the Middle

Bol'shoi Iugan. The community's general mobility is recorded as first, moving to winter iurty located in forest 3 km to the East. Next, they journey out to the upper Malyi Balyk river, 60 km to the Northwest, spending the earlier and later part of the winter here, and the middle of winter back at the winter iurty. In summer they migrate first back to the summer iurty, then 250 km down to the fishing grounds on the lower river. In fact, only 6 households follow this 'main' strategy: 3 households make a 50 km migration to the upper Bol'shoi Balyk; 1 household goes to the Salym river 90 km to the East, and one doesn't migrate at all, spending the winter only in the (winter) base camp. In summer only 5 households migrate downstream; 6 remain in the summer iurty.

If we roll this household-scale analysis out across the Iugan region it is clear that similar patterns of mobility and interaction are largely typical for the upper river iurty (Figure 4). In this way, we can identify some of the essential fea-

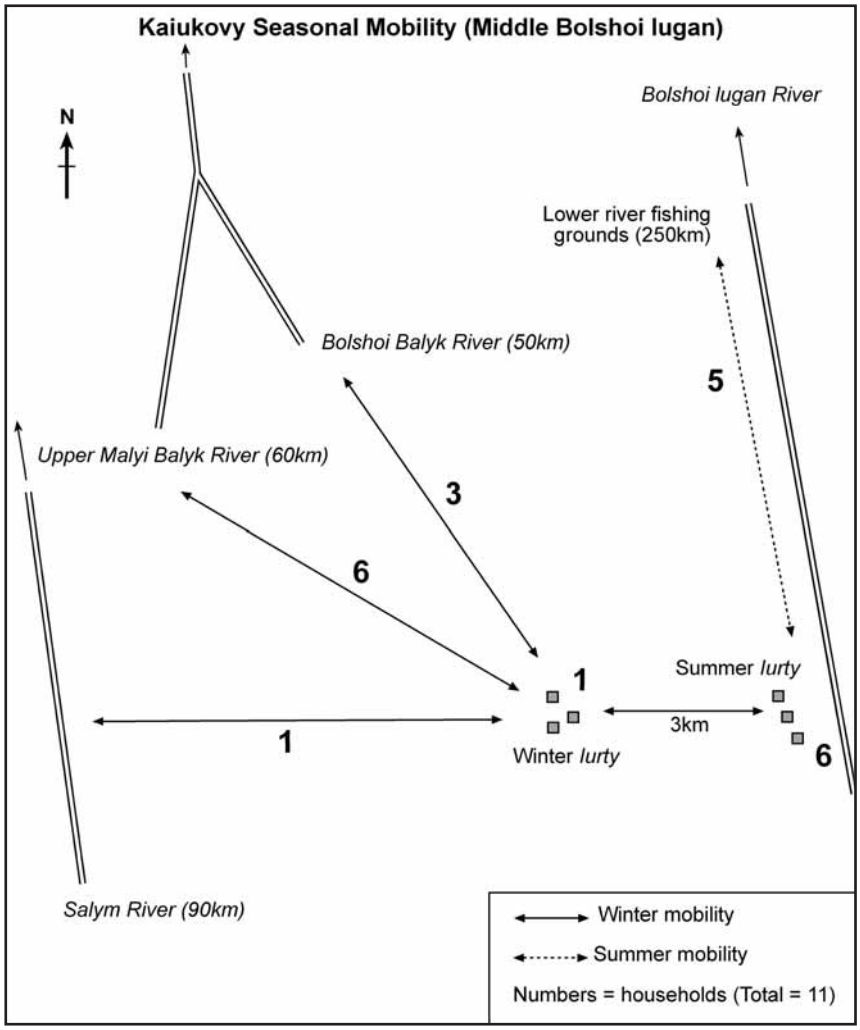

Figure 3. Kaiukovy Seasonal Mobility (Middle Bolshoi Iugan).

tures of early 1920s Khanty adaptations to the boreal wetlands: clearly, these commonly-practised mobility strategies meet the basic seasonal and logistical challenges of integrating hunting, fishing and reindeer herding. Having identified this 'optimal mobility strategy', we can also look more closely at how and why some of the other iurty might be deviating from this overall strategy. This provides insights into the ways in which some households might be struggling to adopt reindeer and balance different branches of the economy in their seasonal mobility strategies.

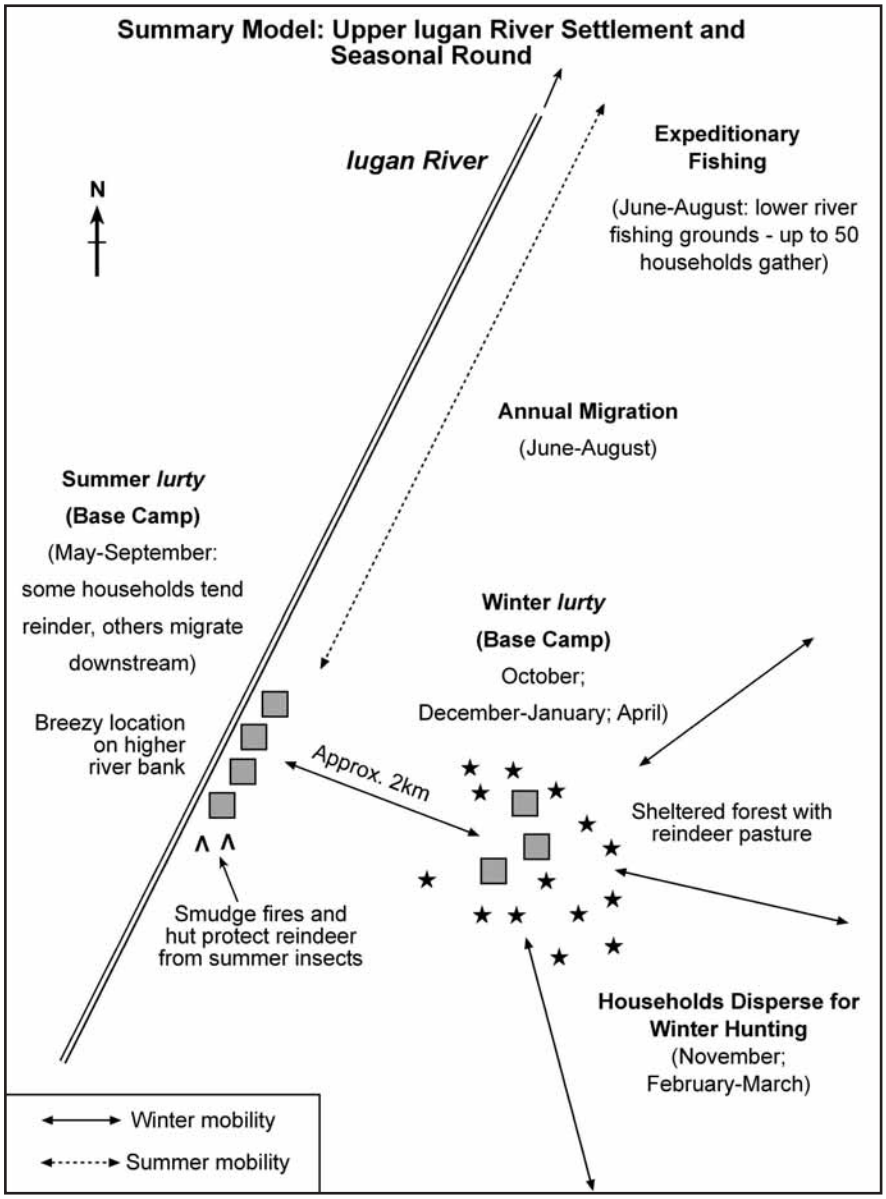

Figure 4. Summary Model: Upper Iugan River Settlement and Seasonal Round.

Mapping Diversity in Household Strategies

Working closely through the details of the Polar Census community diaries, we can see the practice of the 'optimal' hunter-fisher-herder model in Figure 4 among almost all Iugan communities – these base-camp communities do appear to be succeeding in combining long-range hunting with summer-winter base camps and summer fishing migrations, for example, Kogonchiny, Iarsomovy, Kolsomovy and others on the Bol'shoi Iugan.

Insights from these iurt communities all point to a smooth integration of reindeer herding into the mobile economy. For example, the common presence of two base camps – one summer and one winter – appears to relate to the need for breezy river bank locations in summer for the reindeer herds, and also sufficient winter pasture for the animals in winter. The systematic 'manning' of these base camps over the summers also appears to relate to the need to tend the reindeer and keep the smudge fires going to protect them from insects. The communities are meeting these challenges by complex patterns of task-sharing among the households that make up each iurt community; most take part in summer expeditionary fishing but some remain behind to tend the transport reindeer in preparation for the winter hunting season.

Some minor local deviations from this 'optimal' settlement and mobility strategy are easy to explain: long-range hunters like the Kaimisovy on the Malyi Iugan, and many upper Bol'shoi Iugan river iurt communities, may not actually require second (winter) base camps if there are sufficient reindeer pastures nearby, but all are clearly manning their summer base camps over the summer.

In some other interesting cases, however, the keeping of the reindeer appears to be exerting significant labour costs on the local iurt community. For example, some of the smaller iurt communities, composed of only two households like Karaeva and Achimovy 2, are being forced to split up, resulting in one household travelling alone to the fishing grounds – and there meeting scores of other families – while the other household remains alone throughout the long and probably lonesome summer months.

Interestingly, some other iurt communities appear to deviate much more significantly from the 'optimal' model. Across all iurt communities, full summer abandonment is very rare, but it is being practised, for example, at Tykiny, Kiniaminy 1 and Tiumkiny 2 on the Malyi Iugan, and at Chikolevy on the higher reaches of the Bol'shoi Iugan, suggesting that they have no transport reindeer to tend. In addition, there is definite confirmation in the Soviet Polar Census diaries (see: Jordan 2011a) that Chikolevy have no transport reindeer, and that they can only bring in winter flour supplies by boat.

These insights signal that there are always challenges inherent in the adoption of new technologies, and perhaps that in the Iugan basin, some households or iurt communities are coping better than others. Many of the larger iurt communities (with larger numbers of households) are successfully integrating commercialised hunting, migratory fishing and reindeer herding. In contrast, it is the

smaller iurt communities (with few households), who appear to be struggling the most – they have smaller pools of labour to meet the enormous challenges of balancing complex seasonal mobility patterns. These smaller iurt communities may eventually have had fewer practical options, and been forced to make difficult economic compromises due to their reduced capacity for balancing different long-range seasonal mobility strategies (Jordan 2011a).

For example, Figure 5 explores how some of this variability is played out on the the Upper Bol'shoi Iugan. The members of Chikolevy have no reindeer, perhaps forcing them to hunt just around their iurt, reducing their income from furs. For them, their well-being would depend on the success of the summer fishing. Therefore, both households abandon their winter iurt for the three summer months and focus entirely on this activity, preventing them from keeping reindeer, which thereby limits their winter mobility. However, at the larger iurt of Tailakovy just upstream, the situation is very different. Here, the members have much higher mobility, probably facilitated by reindeer, with the community dividing into half over the summer, some remaining to look after the precious transport reindeer, others undertaking migratory fishing. In this way, they can bring in both fish, flour and other supplies either at the end of the summer when they return from migratory fishing, or in winter, via the 'reindeer roads' which link up all the communities.

Higher upstream, Kolsomovy is also a small iurt with only two households. One household is not very mobile while the other travels very long distances, almost certainly aided by transport reindeer. However, in summer they can't migrate as the reindeer need tending, and so as a smaller iurt they are forced – as Chikolevy – to make a strategic choice between undertaking *either* long-range summer fishing *or* keeping reindeer to support long-range winter fur hunting. Faced with this choice, Kolsomovy appear to have opted for being specialised hunter-herders, and not fisher-hunters, as at Chikolevy.

Figure 6 illustrates a very similar set of household dynamics on the Upper Malyi Iugan – local households also appear to be struggling in their attempts to integrate different branches of the economy within their seasonal round, especially in the smaller iurt communities. For example, the households of Tiumkiny 2 also appear to favour summer fishing, but they have two base iurty (summer and winter) suggesting that they do have reindeer. This may force them to give care of their animals to other adjacent iurt communities over the summer (as documented by Martynova 1998: 151), perhaps at Achimovy 2. This may hint at the smaller iurt communities 'doubling up' tasks and sharing favours with others – in winter both Tiumkiny 2 households will probably need transport reindeer as both households migrate right out to the Kul'-egan' river, 100 km to the east, but to do this they may be reliant on bringing enough dried fish or flour back to the iurty at the end of the summer.

In stark contrast, the 9 households at Kaimisovy appear to be balancing tasks more effectively within their community – six households undertake summer fishing migrations, leaving three households behind to tend reindeer; in

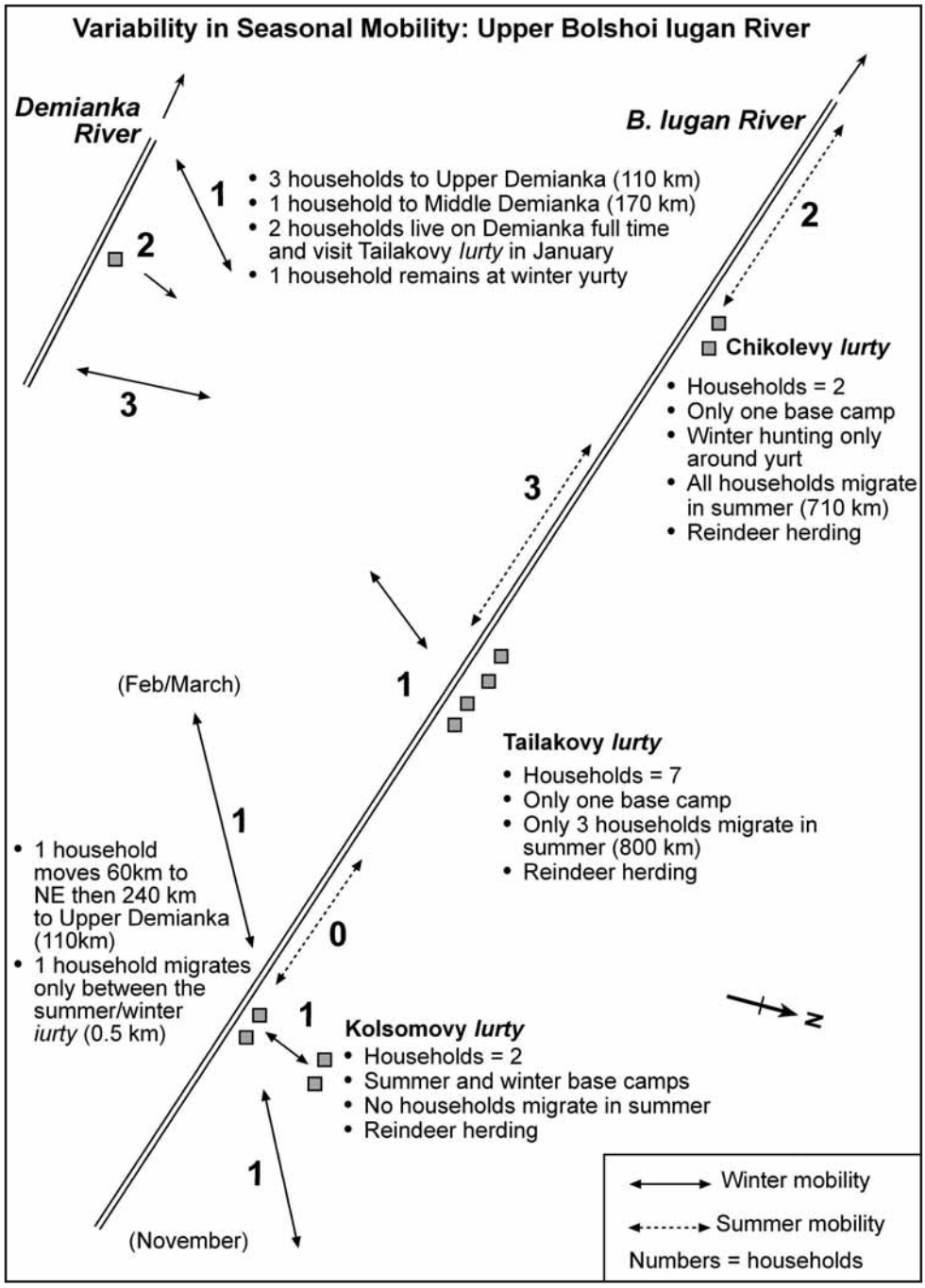

Figure 5. Variability in Seasonal Mobility: Upper Bolshoi Iugan River.

winter these reindeer enable them to access a vast hunting range, spanning the left bank and Upper Malyi Iugan river, out east to the Kul'-egan' (150 km) and also south as far as the Vasiugan river (220 km). The size of the Asmanovy iurt community is intermediate – three households – but they do appear to be effectively balancing hunting, herding and summer fishing.

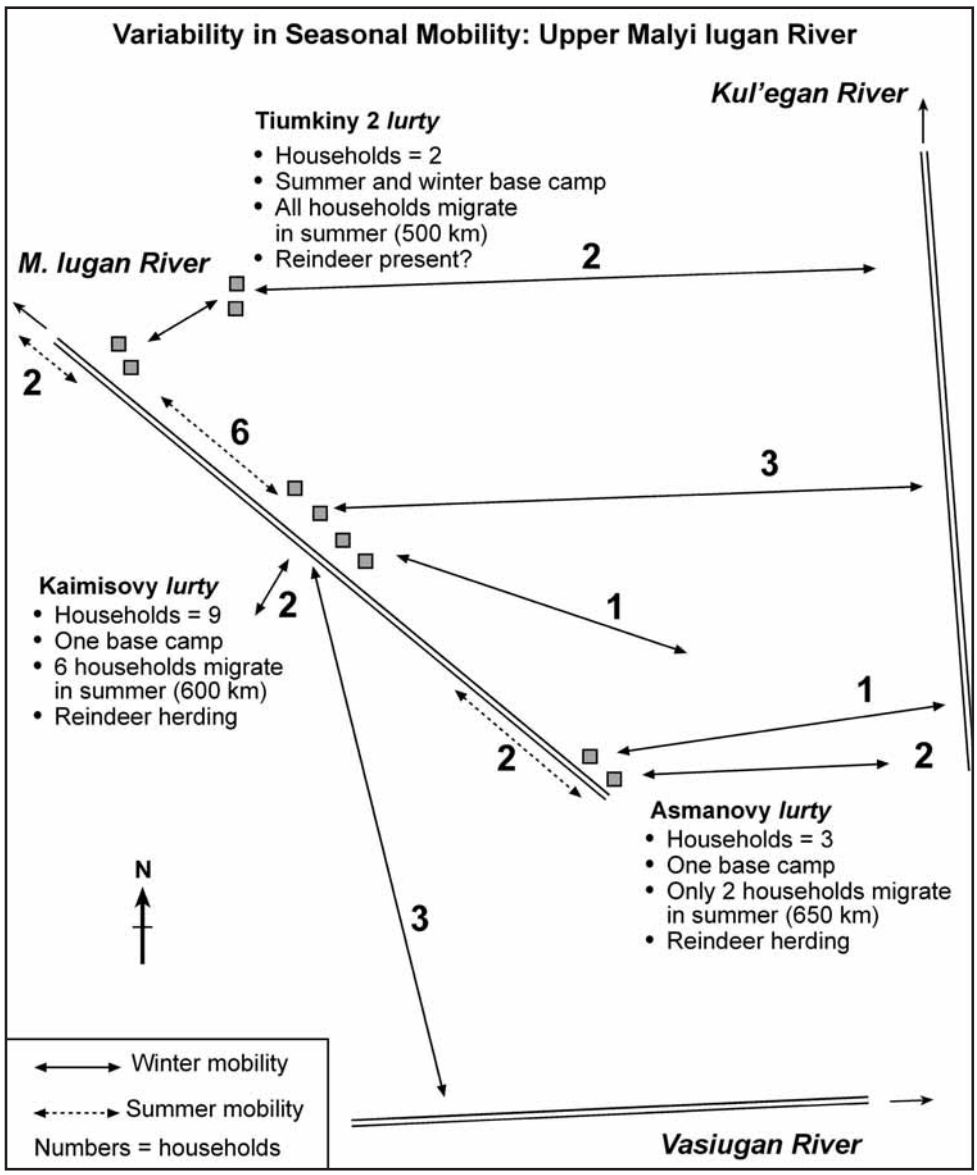

Figure 6. Variability in Seasonal Mobility: Upper Malyi Iugan River.

Conclusion

Constraints on space mean that this case-study have been limited to exploring the advantages – and the seasonal task-scheduling challenges – that were associated with integration of transport reindeer into an older boreal hunting and fishing economy, itself undergoing long-term transformation as a result of environmental challenges and also external colonial demands for forest furs and fish. Clearly, some households and iurt communities were adopting transport reindeer and adapting their seasonal mobility patterns far more successfully than some of the smaller iurt communities. As the years passed, the increasingly constrained economic choices and mobility strategies open to the smaller and more impoverished iurt communities would have had cumulative implications for household health, status, general welfare, and perhaps also impacted on their longer-term demographic survival (see: Jordan 2011a).

More generally, and looking beyond this case-study, my overarching concern has been to draw attention to the *social dynamics* that provide the fundamental behavioural context into which new innovations must first become initially attractive, and eventually become 'embedded' technologies. This limited ethnographic case-study demonstrates that all new technologies, many of which may convey rather obvious economic benefits, can also generate a raft of practical problems that ensure that the innovation can only spread successfully into some social settings, and among certain groups and communities, but not others. It is these social dynamics – and the choices open to individuals, households and larger social collectives – that ultimately generate long-term transformations in the form and content of northern multi-cultural networks, which is the overarching theme of the wider volume.

Further research into the dispersal of innovations through northern multicultural networks, though clearly lying beyond the scope of the current chapter, could progress along several further fronts:

- Future work in Northwest Siberia could look beyond the theme of seasonal mobility and explore the introduction of transport reindeer from other interlocking perspectives. These themes might include: the social dynamics of indigenous land tenure when faced with growing shortages of hunting territories; rising social inequality generated by increasing use of reindeer; exploration of how the new patterns of long-range mobility were integrated within older systems of sacred landscape geography (see: Jordan 2011a). More work could also be also done with the wider ethnographic record to examine how domestic reindeer were incorporated and 'embedded' both ritually and symbolically within the boreal hunting economy and its associated circumpolar 'worldview', for example, with use of reindeer for ritual sacrifices (Wiget and Balalaeva 2001; Jordan 2003; Jordan 2011b).

- The extensive ethno-historic and archival record for Northwest Siberia is exceptionally rich and the approach outlined in this and related 'pilot' case-studies (Jordan 2011a) could easily be expanded to encompass adjacent basins (e.g. the Salym, Agan, Tromagan and Vakh; see: Figure 1), generating insights into variability in indigenous household strategies (i.e. procurement, mobility, land-tenure institutions, sacred landscape geography, etc.) and the ways in which they fed into, and were caught up in, longer-term historical transformations. At the same time, the emphasis on the dynamic interplay between cumulative local strategies and longer-term historical outcomes would also transcend other studies of the region which have tended to adopt either a descriptive (Federevo 2000) or typological approach (Golovnev 1993) to the documentation of local cultural diversity and long-term change.

- Finally, the ethnography of Northern Eurasia has much to offer to hunter-gatherer studies more generally (Jordan 2011b), especially as many foundational models (e.g. Binford's (1980) seminal 'foragers' versus 'collectors' model of settlement and mobility) tend not to address how the major changes in hunter-gather mobility associated with adoption of reindeer transport might generate new forms of hybridized adaptation that expand and enrich current understandings of the 'foraging spectrum' (Kelly 1995). Likewise, many studies of 'hunters in transition' have tended to focus on the cumulative process of settling down, intensifying production and adopting agro-pastoral farming. In contrast, much less analytical attention has been directed to understanding how hunters become pastoralists, or tracking the forms of interaction between hunter-fishers and pastoralists (see: Schweitzer 2000).

Acknowledgements

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Note 1

For a fuller discussion and description of all the 1926/7 Soviet Polar Census materials used in the current chapter see Jordan (2011a). For a full exploration of the wider archive and associated regional case-studies, see Anderson (2011).

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Navigating Hunter-Gatherer Resilience: Networks and Insularity in the Prehistory of the Ryukyu Islands

Introduction

Prehistoric Japan was the land of networks par excellence. Networks of pottery, lithics, jade, asphalt and other goods crisscrossed the archipelago and sometimes beyond to Korea, China and Sakhalin (Kobayashi 2004; Kuzmin 2006; Uchiyama and Bausch 2010). The distribution patterns of these artifacts reflect the presence of past social networks. Scholars working on issues of resilience and sustainability have recently argued that social networks are very important for building resilience in social-ecological systems (Tompkins and Adger 2004; Janssen et al. 2006; Hahn et al. 2008). Networks function to transmit information and build trust, which can then serve to promote resilience, although as discussed further below the type of network involved significantly affects its ability in this respect. Some examples of the importance of social networks in building resilience in contemporary societies are described below.

Given this importance of social networks in navigating resilience, what happened to areas where such networks were absent or poorly developed? Was social-ecological resilience in those areas consequently very low? This paper attempts to examine this question through a comparison of two areas of the Ryukyu archipelago in southwest Japan: the Sakishima islands, where prehistoric networks were apparently very poorly developed, and the Okinawa and Amami islands, where such networks were characterized by much higher density and reachability (Figure 1).

The present work derives from our current research focus on the resilience of hunter-gathering societies in prehistoric Japan and on how lessons from those societies may be used to build adaptive capacity in Native societies in Alaska and other northern regions that are particularly vulnerable to global environmental change (Aoyama 2012; Hoover and Hudson n.d.). Global environmental change is already having a disproportionate affect on circumpolar regions and especially on Indigenous hunter-gatherers in the north (Chapin et al. 2004; Nuttall et

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Suomalais-Ugrilaisen Seuran Toimituksia = Mémoires de la Société Finno-Ougrienne 265.
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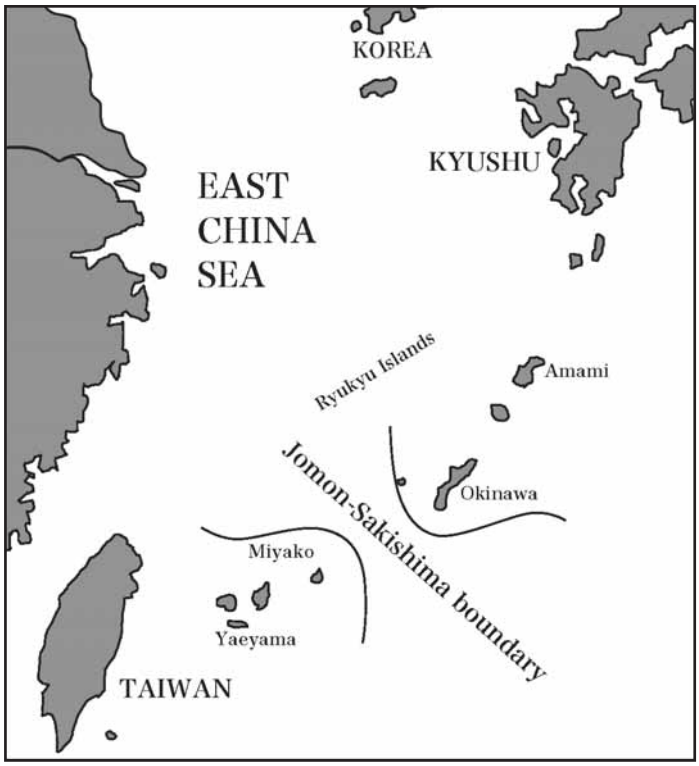

Figure 1.

The Ryukyu Archipelago with the location of the Sakishima islands (Miyako & Yaeyama), the Okinawa and Amami Islands highlighted.

al. 2005). Japan, with its long history of hunter-gathering societies, could provide important comparative material for understanding how circumpolar foragers adapt to climatic and other changes. However, if we are going to use Japan in comparative research on the human dimensions of global environmental change, then we need to consider the range of elements—biogeographical, climatic, historical, social and ideological—that are particular to the adaptive processes by which humans interacted with the environment in the Japanese archipelago. In this paper we provisionally explore the question of insularity and networks. To what extent did the insular nature of the Japanese archipelago in general and the Ryukyu Islands in particular affect the ability of hunter-gatherers to build resilience in the face of social and environmental changes? This question is of relevance to circumpolar areas not just because of potential direct comparisons with the Aleutians and other northern islands, but also because isolation—or what we might term 'terrestrial insularity'—is a major factor affecting resilience in interior Alaska and other regions.

Networks, Resilience and Small Islands

What Is Resilience?

Resilience is a key to sustainability (Gunderson and Holling 2002). Resilience can be defined as "The amount of change a system can undergo (its capacity to absorb disturbance) and remain within the same regime—essentially retaining

the same function, structure, and feedbacks" (Walker and Salt 2006: 164). The term 'resilience' has been used in psychology since at least the 1930s to refer to the ability of individuals to cope with stress. Current usage of this concept in environmental studies, however, begins with Holling's (1973) work in forest ecology and following research by the Resilience Alliance (Gunderson et al. 2010). Some archaeological implications of resilience theory are discussed by Redman (2005).

Insularity and Resilience

Living on small islands is not intrinsically linked with either higher or lower levels of resilience. Most small islands are highly vulnerable ecological systems. To the extent that vulnerabilities in small island social-ecological systems are linked to outside processes, insularity or isolation may be beneficial. Resilience, however, involves the growth of "diverse mechanisms for living with, and learning from, change and unexpected shocks" (Adger et al. 2005: 1036) and too much isolation may harm the ability to build institutions capable of responding to sudden change.

Walker and Salt (2006: 145–148) propose nine factors that promote resilience. Table 1 summarizes how these factors may play out on small islands. This table shows that there is considerable variability in factors potentially affect-

Factors promoting resilience	**Relevance for small islands**
Diversity (biological, landscape, social, economic)	Biological diversity is usually species-poor and disharmonic*, yet rich in endemic species (Whittaker & Fernández-Palacios 2007: 5). Local microenvironments may increase landscape diversity, but social and economic diversity is variable.
Ecological variability	Can be difficult to maintain on fragile island ecosystems.
Modularity	May be high in archipelagoes
Acknowledging slow variables	Can be difficult when those variables originate outside the island (cf. Rolett and Diamond 2004).
Tight feedbacks	Often tighter than on continental land masses.
Social capital	Highly reliant on population density and networks.
Innovation	Highly reliant on population density and networks.
Overlap in governance	Variable and not necessarily low on small islands (cf. Mitsumata and Murata 2007).
Ecosystem services are valued & assessed	Value of ecosystem services may be clearer on small 'bounded' island systems.

Table 1. Some parameters of resilience on small islands. *Disharmonic means 'peculiar in taxonomic composition'.

ing small island resilience. In no small part this is due to the great diversity of island environments. While the idea of islands as 'experimental laboratories' is often misunderstood simply to mean 'boundedness', it is the variety of different types of islands that lends them further power as testing grounds for a range of ecological and cultural processes. Further discussion of these parameters in the context of the Ryukyu Islands can be found below.

Networks and Resilience

Social networks are thought to be an important factor promoting resilience in contemporary societies. Social networks are listed as "sources of adaptive capacity" in four out of seven Canadian Inuit communities analyzed by Ford et al. (2010: 182). While social welfare policies in modern states typically favor individuals and households, Magdanz et al. (2002) describe the importance of extended-family networks in northwest Alaskan Iñupiaq communities. Social networks are a way to distribute and maintain knowledge, or what Adger et al. (2005) term 'social memory'. On small islands, larger population densities are associated with greater technological and social complexity (Kline and Boyd 2010) and networks are one way of compensating for low populations. We propose that social networks are important elements in supporting resilience in difficult environments such as small islands. At the same time, however, networks entail costs that may be expensive to maintain and resilience requires an appropriate balance between such costs and benefits.

In this paper we attempt a preliminary analysis of how networks may have affected resilience in two island groups in prehistoric Japan, the Amami and Okinawa islands and the Sakishima islands (Figure 1). While all of these islands are part of the same Ryukyu archipelago, they have quite different prehistories with long-distance networks appearing to be much more important in Amami and Okinawa than in Sakishima.

Case Study: Networks and Resilience in the Ryukyu Islands

Why the Ryukyu Islands?

The Ryukyu Islands provide a useful case study for this paper because they were colonized on at least two different occasions by Holocene hunter-gatherers, thus giving us the opportunity to compare two rather different adaptive strategies and, thus, the role of insularity in resilience. The Ryukyu Islands are usually divided into three groups: the northern Amami, the central Okinawan, and the southern Sakishima islands. All three of these groups were settled by Pleistocene humans (Nakagawa et al. 2010), but this initial colonization appears not to have survived late Pleistocene sea level rises. In the Holocene, the Ryukyu

archipelago was resettled around 9000 years ago, probably by Jōmon populations from the main islands of Japan, presumably from Kyushu. This Jōmon settlement, however, only expanded as far south as the main island of Okinawa. The Sakishima islands beyond this were settled around 4300 years ago by a quite different group of people(s) who seem to have come from the opposite direction, from somewhere in Southeast Asia. Sites of the Early Prehistoric period in Sakishima have pottery but no evidence of agriculture. Between about 3500 and 2700 years ago there is an apparent hiatus in Sakishima with no evidence of human settlement. The next, Late Prehistoric phase is then characterized by shell adzes and by the absence of pottery. Again there are no artifacts that suggest a relationship with the Jōmon or later cultures of Okinawa and, based on the presence of shell adzes, the Philippines is thought to be a possible source for this culture (Asato 1991). While agriculture was being practiced in the Philippines and elsewhere in Southeast Asia at this time, the Late Prehistoric culture of the Sakishima islands appears to have been based on hunter-gathering.

As noted by Takamiya (2006), the Ryukyu Islands are unusual in world prehistory for having been colonized by hunter-gatherers despite being relatively small, being isolated from nearby continents or large islands, and lacking abundant large sea mammals. A combination of proximity to the mainland and abundance of large sea mammals, in contrast, appears to explain the settlement of the Aleutian and other islands in Alaska. Takamiya (2004, 2006) argues that early foragers in Okinawa experimented with various subsistence strategies before finding a dietary combination of coral reef fish and shellfish and wild plants that was successful in that island environment. While Takamiya's argument is thus that the prehistoric colonization of Okinawa can be explained by (optimal) foraging strategies, the role of networks also requires attention. Despite their geographical isolation, long-range networks seem to have been important in the prehistoric Ryukyu Islands. In the following, we summarize the processes of adaptation by prehistoric hunter-gatherers to the northern/central and to the southern Ryukyu Islands and examine the role of networks in building resilience in these two regions.

Prehistoric Colonization of the Amami and Okinawa Islands

Several finds of Pleistocene human remains have been made in the Ryukyu Islands (Nakagawa et al. 2010), but no sites are known between about 18,000 and 9000 years ago and it can be concluded that the islands were uninhabited at this time. Sites with pottery appear on Okinawa Island from about 9000 years ago (Takamiya 2006; Pearson *in press*). Since the pioneering work of Torii (1905) it is usually assumed that this new settlement originated in the Jōmon cultures of Japan and the term 'Jōmon period' is often applied to this stage in Okinawa, although the alternative 'Shellmound period' is also common. Recently, Itō (2010) has noted that the earliest ceramic culture in Okinawa and Amami does not possess clear parallels with Jōmon Kyushu and raises the possibility of an alterna-

tive origin outside Japan. Later ceramic sequences, however, are clearly linked with the Jōmon; the 'Ryukyu Jōmon' pottery sequence of Amami and Okinawa is not completely identical to Jōmon Kyushu, but the similarities are numerous and clear enough to show that extensive direct contacts occurred between these regions. According to Itō (2000: 4), at least the following seven ceramic types spread from Kyushu to Okinawa: Todoroki, Sobata, Kasuga, Matsuyama, Ichiki, Issō, and Irisa-Kurokawa. Itō (2000: 4) emphasizes that this influence was not just one way: pottery of at least five Okinawan types has been found at sites in southern Kagoshima.

Against this background, the extent and nature of contacts between Jōmon Kyushu and Okinawa is a key to understanding the social networks that may have linked these two regions. However, archaeologists working in Okinawa have yet to propose explicit models of such networks, at least for the Jōmon period. The mere presence of shared items of material culture does not necessarily make a network, or at least it does not clarify what sort of network was involved. In continental or large island situations where population levels are low, there will be many cases where hunter-gatherer groups rarely came into contact (cf. Damm 2006 for early Fennoscandia). Where population levels are higher and where competition over resources exists, more complex systems of both hostile and friendly relations may develop, such as those described ethnohistorically for northwest Alaska by Burch (2005). Small islands that are part of archipelagoes are first of all different in that it is usually difficult to *avoid* contact with people on other islands. Rouse (1964) coined the term "passage areas" to refer to close contacts between adjacent areas of islands and Moss (2004: 180) shows how such passage areas served as "the connective tissue of social and historical relationships" in southeast Alaska. Passage areas are also found in the Ryukyus, perhaps most notably in the area between Ishigaki and Iriomote islands in the Sakishima group, but most of the islands of the Okinawa group are arranged in a long string-like archipelago and lack passage area type links.

A major difficulty in modeling early networks in Jōmon period Amami and Okinawa is understanding the role of pottery. While, as noted, there are extensive ceramic parallels between Amami, Okinawa and the Kyushu Jōmon, there are relatively few other exchanged items or cultural links. Some obsidian from Kyushu has been found in Okinawa (Kuzmin 2006) and there are also a few finds of jade (Shinzato 2007). However, the Ryukyu Jōmon has few arrowheads or other hunting tools, few fishing tools, and no clay figurines, phallic stones or other Jōmon ritual artifacts (except for the jade just mentioned) (cf. Itō 2000, 2003). Trading networks centered primarily on shells have been widely discussed for the period following the Jōmon in the Okinawa and Amami islands (e.g., Kinoshita 2003; Shinzato 2003). Kinoshita (2003) argues that trade in cowrie shells may have been conducted between China and Okinawa as early as 2000 BC and suggests that certain types of shell artifacts found in the Okinawa and Amami islands at this time may be related to this trade. Further evidence is needed to test this hypothesis and it is not clear how this cowrie shell trade may have been linked to Jōmon ceramic networks in the islands.

Another potential way of modeling Ryukyu Jōmon networks is through the concept of marital networks. MacDonald and Hewlett (1999) found strong correlations between population density and mating distance for both foraging and horticultural groups. When population levels were low, as they are likely to have been in the Ryukyu archipelago throughout prehistory, islanders would have had to travel further to find marriage partners. Hudson (2004) tested for possible links between population densities and the size of ceramic style (*yōshiki*) zones in the mainland Jōmon (excluding Okinawa) but found no correlation. Similar analyses of smaller pottery type (*keishiki*) zones have yet to be conducted, but Hudson concluded that there is no necessary link between marital networks and Jōmon ceramics.

The distribution of Jōmon ceramic types in Okinawa became more spatially restricted over time and the Late Jōmon phase has the smallest spatial distribution of Ryukyu Jōmon pottery. Takamiya (1997: 34) interprets this as reflecting greater self-sufficiency and reduced need for contact with other regions in the Late Jōmon. However, "the fact that the distribution of local pottery types widens in the Final Jomon may indicate that this self-sufficiency broke down during the Final Jomon" (Takamiya 1997: 236). Takamiya's research suggests that networks were utilized in prehistoric Okinawa to help buffer food stress. Although further research is required, this interpretation supports the hypothesis that social networks were important in promoting resilience in prehistoric Amami and Okinawa.

Prehistoric Colonization of the Sakishima Islands

Unlike Okinawa and Amami, there is no evidence for prehistoric contact between Sakishima and Japan. It is assumed that the prehistoric settlers of Sakishima came from somewhere in Taiwan and/or Southeast Asia. Taiwan, which is only about 111km from the westernmost Sakishima island of Yonaguni, is the closest potential source, but there are no *direct* material culture parallels between Taiwan and Sakishima. While the exact source of the prehistoric Sakishima cultures is still debated, it can be assumed that they originated in the Austronesian speaking peoples of Southeast Asia or Taiwan. A great deal is known about the networks and colonization processes of Austronesian peoples (Bellwood 1995), but Sakishima does not fit easily into any existing models. There is no evidence for farming in the southern Ryukyus at this stage and it does not seem that the Sakishima islands were settled as part of the typical Austronesian process of agricultural expansion. At the same time, there is little evidence that the Sakishima islands were exploited as a source of trade goods. Furthermore, although the usual Austronesian pattern of maritime exploration was upwind (Horridge 1995), the Sakishima islands are downwind from Taiwan and Southeast Asia. Given this usual pattern, it might be expected that the Austronesian settlers of Sakishima would over time have explored *back* upwind to Southeast Asia, but this also does not seem to have occurred with any frequency that is archaeologically visible.

Despite surviving in apparent isolation for as long as a thousand years, the Early Prehistoric culture of Sakishima came to an end by around 3500 years ago. As sites are thereafter absent for about 800 years, it is assumed that the Early Prehistoric people died out or migrated away from the islands. In the mid 1st millennium BC, a new, aceramic culture with shell adzes appears in the Sakishima islands. Based on current radiocarbon dates, this culture was first found on Miyako island and then only later spread to Yaeyama. It is often assumed that this culture represents the arrival of a new group of people in the southern Ryukyus. From the presence of shell adzes made on the hinges of *Tridacna* and other giant clam species, it has been argued that the Philippines are the most likely source of this culture (Asato 1991). The arrival of this culture may have been pure chance or may reflect the presence of more regular (though archaeologically invisible) contacts between Sakishima and the outside world.

In contrast to the Early Prehistoric period, during the Late period there is some evidence of iron and Chinese coins from Sakishima that may be related to trading networks. With one exception to be described below, these finds have so far only been discovered in the Yaeyama islands and not from Miyako. Tang coins have been found at two sites and iron objects from four sites in Yaeyama (Ishigaki City 2009). Kinoshita (2003) has suggested that these artifacts are related to trade in the Great Green Turban shell (*Turbo marmoratus*), which was used for mother-of-pearl inlay in China and Japan. However, the total number of iron and coin finds is so small that Pearson (in press) suggests they may have come from a shipwreck.

Since previous finds of both iron and Chinese coins have been limited to the Yaeyama islands, it is usually assumed that Miyako island remained isolated at this time. However, a new find of iron from the Nagabaka site on Miyako being excavated by the first two authors complicates these assumptions. This iron is an irregularly-shaped lump, 32.14mm long, 26.68mm wide, and 16.55mm thick (Figure 2). The weight is 18g. An X-ray florescence analysis conducted at the Saga Prefecture Industrial Technology Center found that the surface layer of this object contains as much as 76% iron. This piece is not a recognizable artifact. Its irregular surface is similar to reheated iron or even iron slag, but the surface appears polished and shiny unlike other slag or reworked iron objects seen by the authors. This iron was excavated in 2007 from Layer 3 of Trench 1 at Nagabaka. Radiocarbon dates from this layer range from 2160±30 to 1450±20 Cal BP. While we cannot totally discount the possibility that this iron is intrusive, perhaps washed down from (as yet unknown sites) on the cliff above, since iron is present at other Late Prehistoric sites in the Sakishima islands further analyses including chemical sourcing are warranted.

Despite this possible (though apparently small-scale) trade network, the Late Prehistoric culture in Sakishima also seems to have died out by the end of the 1st millennium AD and several centuries prior to the arrival of a new culture in about the 12th century AD. This new culture brought ceramics and agriculture from Okinawa to the north (Pearson in press). Archaeological research in

Figure 2. Iron lump from Miyako Island.

Sakishima is less advanced than in Okinawa and Amami and we still lack sufficient basic data to help us understand why the Late Prehistoric cultural adaptation also proved unsustainable. The existence and nature of the shell trade network posited for the Late Prehistoric period by Kinoshita is crucial here. If this shell trade was not present at this time, the continued absence of long-distance social networks may explain the vulnerability of the Late Prehistoric societies to social collapse. Alternatively, even if this trade was present it may have involved networks that were socially exploitative or brought epidemic disease to the Sakishima islands, thus reducing resilience. To answer this question we need more information on the type of network concerned.

Discussion and Conclusions

Summary of Hypothesis

This paper has presented a preliminary analysis of the role of social networks in promoting resilience in the prehistoric Ryukyu Islands. It was found that such networks appear to have been poorly developed in the Sakishima islands of the southern Ryukyus. Two distinct prehistoric cultures settled these islands for many hundreds of years before eventually disappearing from the archaeological record. While we still have a great deal to learn about the adaptational strategies employed by these cultures, it can be hypothesized that limited social networks was one factor behind their vulnerability.

North of Sakishima, the central Okinawan and northern Amami islands of the Ryukyu archipelago were characterized by extensive networks of ceramic exchange that linked these islands with the Jōmon cultures of mainland Japan. As far as can be reconstructed from the archaeological record, these networks were primarily based on ceramics but in reality pottery is unlikely to have been the most important element. Marriage partners, information, and/or trade items such as cowrie shells may have been the main objectives of these networks but further research is required to clarify this. Whatever the exact nature of the Ryukyu Jōmon networks in Okinawa and Amami, it can be hypothesized that the presence of these networks helped sustain resilience in these islands in prehistory. Although both Takamiya (1997, 2004) and Itō (2010) have noted the existence of cyclical increases and decreases in population, the Ryukyu Jōmon cultures of Okinawa and Amami do not seem to have become extinct like the prehistoric cultures of Sakishima. As discussed in the next section, a large tsunami around 3400 years ago may have played a role in the disappearance of the Early Prehistoric culture in Sakishima, but this tsunami is unlikely to have killed all the inhabitants of the islands and networks would have played a crucial role in the ability of the survivors to overcome the disaster (cf. Adger et al. 2005).

Other Parameters of Resilience

The hypothesis proposed here that social networks were an important factor in promoting resilience in the Ryukyu Islands requires further testing against a range of other potential factors that may have contributed to the differences noted between the southern and the central/northern islands. These factors include changes in the environment and resource availability, resource exploitation technologies, settlement patterns, and social organization. The problem of how the type of network(s) may have impacted resilience will be discussed in the following section.

As noted above, the Ryukyu Islands were occupied by at least two very different prehistoric cultures. These cultures can be assumed to have possessed quite different identities (Hudson 2012). Despite these differences, however, there are also striking similarities between the subsistence adaptations of the prehistoric cultures of the Ryukyus. As argued by Takamiya (1997, 2006), the ability to exploit coral reef resources was a central factor in the Holocene settlement of the archipelago. Studies of faunal remains have shown that remarkably similar fish and shellfish resources were utilized at sites across a range of locations and time periods in both the southern and the central and northern Ryukyus (Kurozumi 2011; Toizumi 2011; see also Pearson *in press*). Commonly exploited shellfish were giant clams (*Tridacna* sp. and *Hippopus hippopus*), *Turbo argyrostomus*, *Tectus niloticus*, *Conidae*, *Strombus luhuanus*, and *Atactodea striata* (Kurozumi 2011). Toizumi's extensive work on fish remains from the Ryukyus has found that three types of reef fish (parrot fish, wrasses and emperor fish) dominate almost all assemblages. In addition to fish and shellfish, wild pigs were also hunted throughout the Ryukyus. At one level, these patterns reflect

the availability of similar resources along the archipelago. In the southern Ryukyus, Kurozumi (2011: 95) notes that similar shellfish species were exploited, not just for the approximately 1000 years of the Early Prehistoric period, but also in the Late period which began after a hiatus of almost a millennium. Kurozumi goes on to make the important point that the presence and absence of ceramics in the Early and Late periods respectively, does not seem to have affected shellfish prey choice.

Notwithstanding these broad similarities in prey choice, Okinawan archaeologist Hiroto Takamiya has proposed significant changes in resource exploitation patterns in the prehistory of the central and northern Ryukyus (relevant analyses for the southern Ryukyus have yet to be conducted). Takamiya's main argument is that population-resource imbalance developed during the Final Jōmon phase due to a "collapse" in coral reef fish (Takamiya 2003). Based on archaeological evidence for more substantial and permanent dwellings and the presence of at least one cemetery site, he proposes that increased sedentism was one adaptation to this crisis. This explanation does not necessarily rule out the role of networks, however, since, as noted above, pottery networks became wider in the Final Jōmon and Takamiya (1997) argues this may also have been an adaptation to food stress.

Direct evidence relating to prehistoric climate change is rare in the Ryukyu Islands (see Pearson in press for a review). Although paleoenvironmental data from neighboring regions such as Japan and China show that major climatic shifts did occur, we have no evidence for differential impacts *within* the Ryukyu archipelago. At present, therefore, climatic changes cannot be considered as factors contributing to different patterns of resilience and vulnerability within the prehistoric Ryukyus. Natural disasters may, however, have played a significant role in this respect. Historical evidence, such as that from the 1771 Meiwa tsunami, shows that very large tsunami occasionally affect the Ryukyus, especially the Sakishima islands (Kawana 2011). Research by Kawana and colleagues has concluded that such large tsunami hit the southern Ryukyus around 500, 1000, 2000, 2400 and 3400 years ago (Kawana 2009 and references therein). Kawana (2009: 45) raises the possibility that the last of these tsunami may have played a part in the collapse of the Early Prehistoric phase in Sakishima.

Finally, we can briefly consider the variables listed in Table 1 in terms of their possible effects on prehistoric resilience in the Ryukyus. While it must be stressed that some of the following points are almost impossible to reconstruct from archaeology alone and others require empirical testing, it is nevertheless possible to make some preliminary comments.

(1) Diversity: biological diversity in the Ryukyus was higher in the Pleistocene (when many of the islands were connected by land bridges) but became reduced in the Holocene. The Ryukyus follow the general pattern for small islands noted in Table 1 in that they are disharmonic with many rare species and yet possess few native terrestrial mammals (the largest island of Okinawa, for example, has only seven mammal species compared to over 100 for mainland Japan)

(Takamiya 1997: 23–24). Humans adapted to this reduced diversity by specializing in coral reef resources. This reef adaptation developed independently on at least two occasions.

(2) Ecological variability: although the ability of prehistoric hunter-gatherers to control and reduce ecological variability may have been relatively limited, there is no doubt that foragers could have significant impacts on the ecosystems of the territories in which they lived (Williams and Hunn 1982; Harkin and Lewis 2007; Rick and Erlandson 2008). However, empirical evidence for such impacts from the Ryukyus is rare. The main exception is Takamiya's hypothesis that Late Jōmon over-exploitation caused a "collapse" in coral reef resources in the central Ryukyus in the Final Jōmon has been discussed above.

(3) Modularity: as noted in Table 1, archipelagoes of small islands tend to be high in modularity and the Ryukyus were no exception. Modularity can, however, be reduced by over-connected networks (Walker and Salt 2006: 146). Further research might be able to analyze long-term changes in modularity in the Ryukyus using archaeological data.

(4) Acknowledging slow variables: difficult to examine from the archaeological record.

(5) Tight feedbacks: although it can be hypothesized that feedbacks are typically tighter on small islands than continental land masses, we currently lack specific examples from the prehistoric Ryukyus.

(6) Social capital: since networks are an important element of social capital, this paper has argued that this factor was an important element in building resilience in the prehistoric Ryukyus.

(7) Innovation: this is a factor which can be quite easily approached through archaeology. Comparing the two cultural zones of the prehistoric Ryukyus, we can say that innovation was far more widespread in the central/northern than in the southern zone.

(8) Overlap in governance: also difficult to approach from the archaeological record, but it can be hypothesized that rigid, top-down governance structures would have been unusual in the hunter-gatherer societies of the prehistoric Ryukyus. As noted in Table 1, small islands can sometimes develop quite complex systems of land tenure and governance, but in the Ryukyus these evolved in the historic era after agriculture was introduced.

(9) Ecosystem services valued and assessed: difficult to examine from the archaeological record.

We can conclude with the general observation that the fact that the whole of the Ryukyu archipelago was not colonized by the same culture in prehistory can be assumed to have increased the resilience of the islands as a whole.

Network Types

Networks affect the resilience of social-ecological systems either by providing barriers to the spread of disturbance (stabilizing feedback) or conversely by facilitating the wider spread of that disturbance (amplifying feedback). A central problem with respect to such networks is thus how to balance the dispersal of resources and information throughout systems while limiting the consequent spread of disturbance (Webb and Bodin 2008). This paper has so far only considered social networks, but if we use the concept of coupled social-ecological systems then we have to consider how networks affect links between both social and ecological systems. Janssen et al. (2006) propose three types of social-ecological networks: (1) ecosystems that are connected by people through flows of information or materials, (2) ecosystem networks that are disconnected and fragmented by the actions of people, and (3) artificial ecological networks created by people, such as irrigation systems.

Small islands constitute a special case with respect to Janssen et al.'s types. Since islands are necessarily separated by water, ecological connections are usually less extensive than in contiguous land areas. The spread of ecological links through human activity (whether deliberate or inadvertent) can thus have profound effects on ecosystems, although insularity makes the complete integration of island ecosystems almost impossible. In the prehistoric Ryukyus, we know that dogs and probably wild pigs were transported between islands.

The presence of two different cultural zones in the Ryukyus might theoretically have led to Janssen's et al.'s type (2) fragmented network whereby different cultural traditions differentially affected the ecosystems of the southern and the central/northern Ryukyus respectively. Some such impacts no doubt existed, but at present we have no direct evidence. The larger prehistoric population estimated for the central and northern Ryukyus may have impacted the ecosystems of those islands more than in the southern Ryukyus with their apparently relatively lower population densities.

Type (3) artificial ecological networks created by people became widespread in the Ryukyus with the spread of agriculture and consequent major transformations in land-use in the medieval Gusuku era (cf. Yamamoto 2008: 2–4). It is not clear that such ecological networks existed in the Ryukyus in the prehistoric period. A potential candidate here might be irrigation systems associated with taro cultivation. Several archaeologists have suggested the possibility of taro cultivation in both the southern and the central/northern Ryukyus. This remains a possibility, but there is no direct botanical evidence or indirect evidence of associated large increases in population in the prehistoric Ryukyus.

Final Comments

Despite the gaps in our knowledge of the archaeology of the Ryukyu Islands and the preliminary nature of the analysis attempted here, it has been demonstrated that these islands can provide a useful testing ground for theories relating to resilience and vulnerability to social-ecological change. While the prehistory of the Ryukyu Islands is very distinctive in many respects, including the early settlement of small islands by hunter-gatherers, it can provide useful points of reference for current work on resilience, relating, for example, to the role of isolation not just on small islands but also in interior Alaska. The analysis here has not attempted to reconstruct network architecture for the prehistoric Ryukyus. The detailed research conducted by Japanese scholars such as Itō (2000) means that such reconstructions would be possible for ceramic exchange networks in the central and northern islands and some network reconstructions have been attempted by Shinzato (2003) for the protohistoric era. Although the reconstruction of internal network architecture is a prerequisite to more detailed analyses, here we have relied on a broader overview of network scale and diversity. Further research is required but our analysis supports the importance of social networks in promoting resilience in hunter-gatherer societies.

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The Chipewyan-Cree-Métis Interaction Sphere and the Fur Trade Political Economy: Archaeological, Ethnohistorical and Ethnographic Approaches

Introduction

The goal of this paper is to understand the development of economic and social interactions between several different societies, or cultural-ethnic groups, occupying the same regional environment and involved in a common political economy. Toward this end, Chipewyan, Cree, Métis and Euro-Canadian relationships and conflicts in central subarctic Canada will illustrate the complexities and subtleties of intergroup dynamics emerging over a two-century span from the late 18th to the mid-20th centuries. Particular emphasis in this paper will be given to the period between the 1890s and 1950s.

We began grappling with these issues over 30 years ago, for which we developed a particular style or genre of ethnoarchaeology which involves a synergistic blend of historical archaeology, archival ethnohistory, and ethnography. First, we will provide a brief overview of some of the key findings and interpretations of our research[1]. Second, the occasion of the Tromsø conference offers an opportunity to rethink Chipewyan-Cree-Métis relations and, perhaps, to reassess their theoretical relevance for discussions of "interaction spheres," networks, and identity in archaeology and anthropology generally.

Historical-Cultural Context

The region under consideration is part of the Upper Churchill River drainage in northwestern Saskatchewan, Canada. Beginning in the 1770s, early trading posts of independent pedlars, and those of the major fur companies were situated near the divide separating the Athabasca-Mackenzie watershed from those

1. For more detailed presentations of data summarized in broad outline here, readers may refer to citations of the authors' work in the bibliography.

Networks, Interaction and Emerging Identities in Fennoscandia and Beyond. Tromsø, Norway, October 13-16 2009.
Suomalais-Ugrilaisen Seuran Toimituksia = Mémoires de la Société Finno-Ougrienne 265.
Helsinki 2012. 67–92.

waters draining east into Hudson Bay. As such, the area became part of the western contact zone between the Dene or Athapaskan-speaking Chipewyan and the Algonquian-speaking Cree.[2] A late 18th century rivalry between Montreal-based companies, particularly the North West Company, and the English-owned Hudson's Bay Company, was responsible for drawing some Chipewyan groups southward from their forest-tundra environment into the full boreal forest. Some of these southern Chipewyan became known as *Kesyehot'ine*, or "poplar house people," in reference to their major trading fort at Île à la Crosse, and they entered into increasingly intensive interactions with both Europeans and with Western Woods Cree groups, locally known as *Nihiyawuk* (Figure 1).

The expansion of the fur trade was rapidly rearranging indigenous societies spatially and economically. Moreover, the southward movement of Chipewyan into the Upper Churchill region was not an easy transition. From the outset, the Cree, who were already resident along and immediately south of the Churchill River, were able to assume a position of socioeconomic dominance over the Chipewyan. This system of stratification expressed itself primarily in the manner by which the two groups articulated with the mercantile economy. Initial competition for furs actually saw Chipewyan encroachment upon beaver hunting locales habitually used by Cree, often at the behest of the fur traders (Gillespie 1975: 383). However, the Cree were able to force reparations of rum and other items from encroaching Chipewyan trappers when hostilities could be avoided (Mackenzie 1802: LXXVIII). There is no evidence of reciprocal payments when Cree made forays north of the Churchill River. Rather, the Chipewyan made every effort to avoid bush contacts with northward-traveling Cree, and they practiced elaborate forms of surveillance into the early years of the 20th century.

Occasionally in the early 19th century, the Chipewyan fear of *ena* (Chipewyan term for Cree or "enemy") disrupted normal trading operations at Île à la Crosse (PAC HBC B.89/a/19). Patterned avoidance behavior was an expression of Chipewyan deference toward the economically dominant Cree, and it characterized the semipermeable boundary between them. Chipewyan movement into predominantly Cree areas demanded considerable caution and expense, but Cree penetrations into Chipewyan locales received little resistance.

Through the 19th century both the Chipewyan and Cree intensified their economic ties with a growing class of Euro-Canadian fur trade personnel at the Hudson's Bay Company's (hereafter HBC) Île à la Crosse fort and its second-

2. The territorial distribution of Chipewyan and Cree groups prior to a European presence in this part of Canada is a complex issue. It was once assumed that the Cree migrated westward into Saskatchewan in the late 18th and early 19th centuries after depleting game and fur resources during earlier phases of the fur trade east of Lake Winnipeg. However, Smith (1976, 1981) provides evidence that Western Woods Cree groups had long occupied the western regions, including the Upper Churchill area, and that it was only the name "Cree" that was expanding westward with the developing fur trade and which replaced previous traders' generic terms such as "Southern Indian," "Upland Indian" or "Knisteneaux." Smith (1975, 1976) includes the Cree of the Upper Churchill region, along with groups eastward to the Nelson River headwaters, as part of a "Rocky Cree" division of the Western Woods Cree based upon putative historical, social and linguistic affiliations. It is likely, however, that the Cree of the Upper Churchill region are descendents of several major regional groups, including bands of the Rocky Cree as well as the Thickwoods or Strongwoods Cree who occupied the Athabasca drainage to the west (Smith 1976: 416; Curtis 1928: 55–58; PAC HBC B.89/a/2, B.89/a/4, B.89/e/4).

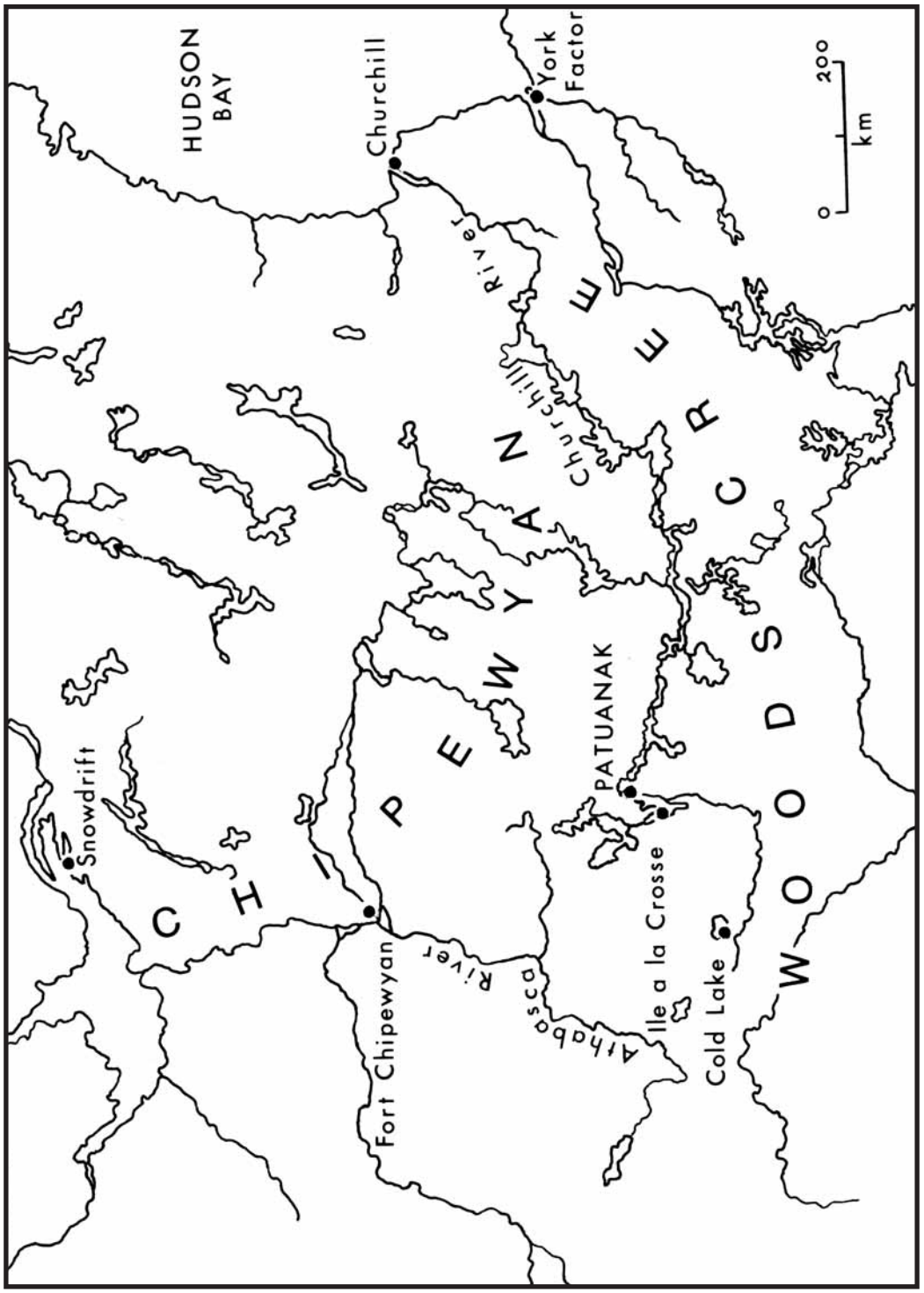

Figure 1. Territorial distribution of Chipewyan and Western Woods Cree groups in north-central Canada.

ary outposts.[3] While the bush-oriented hunting bands of Chipewyan and Cree served as the fur hunters or "primary producers" in the expanding mercantile system, an increasingly visible "mixed-blood" or Métis population was occupying a niche as fur company servants and laborers. The Métis in this region were largely descendants of unions between French-Canadian voyageurs and local Cree women. Their cultural identity is expressed as "Métis and Cree" or simply as "Métis Cree." Historically they have favored the Cree language while also speaking French and often having surnames reflecting their French-Canadian ancestors in the fur trade (e.g. Aubichon, Bouvier, Daignault, Dejarlais, Laliberte, Lariviere, Malboeuf, Maurice, Roy, among others).[4]

The complexity of social life increased in the last half of the 19th century with the arrival of French-speaking Oblate priests who established a Roman Catholic mission at Île à la Crosse in 1846 (Morice 1915,I: 301–302). The impact of the church on the Indians was initially negligible. By the 1890s, however, the Chipewyan regularly appeared in Île à la Crosse for the Catholic mission's Christmas and Easter services, as well as summer religious instructional gatherings. The fact that their important trading-provisioning periods at the HBC post were in June and September, therefore, meant that the Chipewyan had to stage at least four major annual gatherings in Île à la Crosse. This was possible only by withdrawing southward from the winter range of the migratory barren-ground caribou, a major traditional food resource, and by shortening their annual travel circuits (Brumbach 1985; Brumbach and Jarvenpa 1989: 61–67). Nonetheless, they continued to occupy extensive areas along and *north* of the Churchill River.

While the Cree also experienced reductions in wintering range and mobility in the 19th century, their nomadic circuits were less extensive than those of the Chipewyan and were confined largely to areas *south* of the Churchill River where moose and woodland caribou were key subsistence animals. While they were well integrated into the fur trade, the Cree exhibited greater resistance to missionization than the Chipewyan (Morice 1915, I: 391). Métis Cree families were associated with the network of fur posts, mostly along the Churchill River corridor itself. They were strongly Catholic, sharing a common cultural heritage and socio-ceremonial life with the French-speaking Oblate clergy who had all emigrated from France and Quebec.

However, the managerial ranks of the HBC were held by men of Scottish and English background who were either Presbyterian or members of the Church of England. This was a fundamental aspect of social life that separated the factors and clerks from the Métis laborers within their own company, and certainly from their Chipewyan and Cree clients.

After selling its remaining rights in Rupert's Land to Canada in 1869, the HBC's decades-long monopoly deteriorated (Innis 1937: 337–344). Numerous independent or "free traders" entered the region providing new competition for

3. These posts were part of an HBC administrative district known at various times as the Île à la Crosse District or English River District.

4. Macdougall's (2010) recent study of *wahkootowin,* kinship or family ties intimately linked with lifestyle and cultural identity, deftly examines relationships across four generations of Métis families in the Île à la Crosse area from ca. 1800 to the 1910s.

Indian clients and their furs, capturing as much as two-thirds of the fur harvest in some seasons. By the last decade of the 19th century the HBC was enmeshed in a tangle of economic adversities that complicated its relationship with the Chipewyan, Cree, the Métis, and the Catholic church. The HBC believed that the Catholic mission was operating a sub rosa or inappropriate fur trade, while Oblate priests felt that the physical and spiritual health of the Indians were being undermined by HBC policies and practices (Jarvenpa 1987). Traders in the Île à la Crosse district began strongly advocating treaty negotiations between local natives and the federal government. Although Treaty No. 10 was not implemented until 1906, the HBC was hopeful that the potential cash flow from treaty payments to Indians and scrip payments to Métis would revitalize its sagging trade and reduce indebtedness among its clientele.

While Cree customers had predominated at the outset of the trade in the 1770s and 1780s, Chipewyan exceeded the Cree in numbers in the Île à la Crosse District (or English River District) throughout the 19th century. Between the early 1820s and early 1880s, the Chipewyan population grew from 467 to 531, a modest 14 percent increase over 60 years. During the same period the Cree population grew from 231 to 463, a full 100 percent increase (PAC HBC B.89/e/1, PACM C-13, 285). It is not clear what roles natural increase versus in-migration from other areas played in the rapidly expanding Cree population. However, the rate of increase becomes more impressive when considering that Cree also provided the main native ancestry for the local Métis population which was growing at a similar rate.[5]

Île à la Crosse's importance declined in the early 1900s as both the HBC and the Catholic mission began decentralizing their operations. In the period approaching World War One, the combined factors of field-oriented missionization, seasonal trading outposts, dispensation of treaty rights, and an embryonic commercial fishing industry, spurred aggregations of Chipewyan and Cree families into tent and log cabin communities of gradually increasing size and permanence. Before being bought out by the HBC in 1936, the Revillon Frères company was an intense competitor with the HBC in both larger settlements and remote seasonal outposts. The Great Depression of the 1930s also brought a temporary influx of white trappers, mostly single males from southern Canada, into the Upper Churchill region as direct competitors with the natives for furs. After World War Two, federal programs for housing, education, health and social welfare began transforming some native settlements into larger service centers while smaller seasonal communities withered. Nonetheless, the historical pattern of a hunting livelihood based on seasonal *family nomadism*, integrated with a fur trade-mission political economy, remained viable for many Chipewyan and Cree into the late 1950s.[6]

5. Métis and EuroCanadian populations *collectively* at HBC posts in the English River District numbered 133 in 1822–23 and 251 in 1881 (PAC HBC B.89/e/1, PACM C-13, 285). This is an 89 percent increase. While we cannot segregate by ethnicity, it is likely that the majority of these people were Métis Cree laborers.

6. A subsistence and commercial bush economy persists among many native families today, but the organization of labor has shifted so that all-male teams of hunters and fishermen are mobile upon the landscape procuring food animals and furs which are funneled to women and other family members for further processing in centralized settlements.

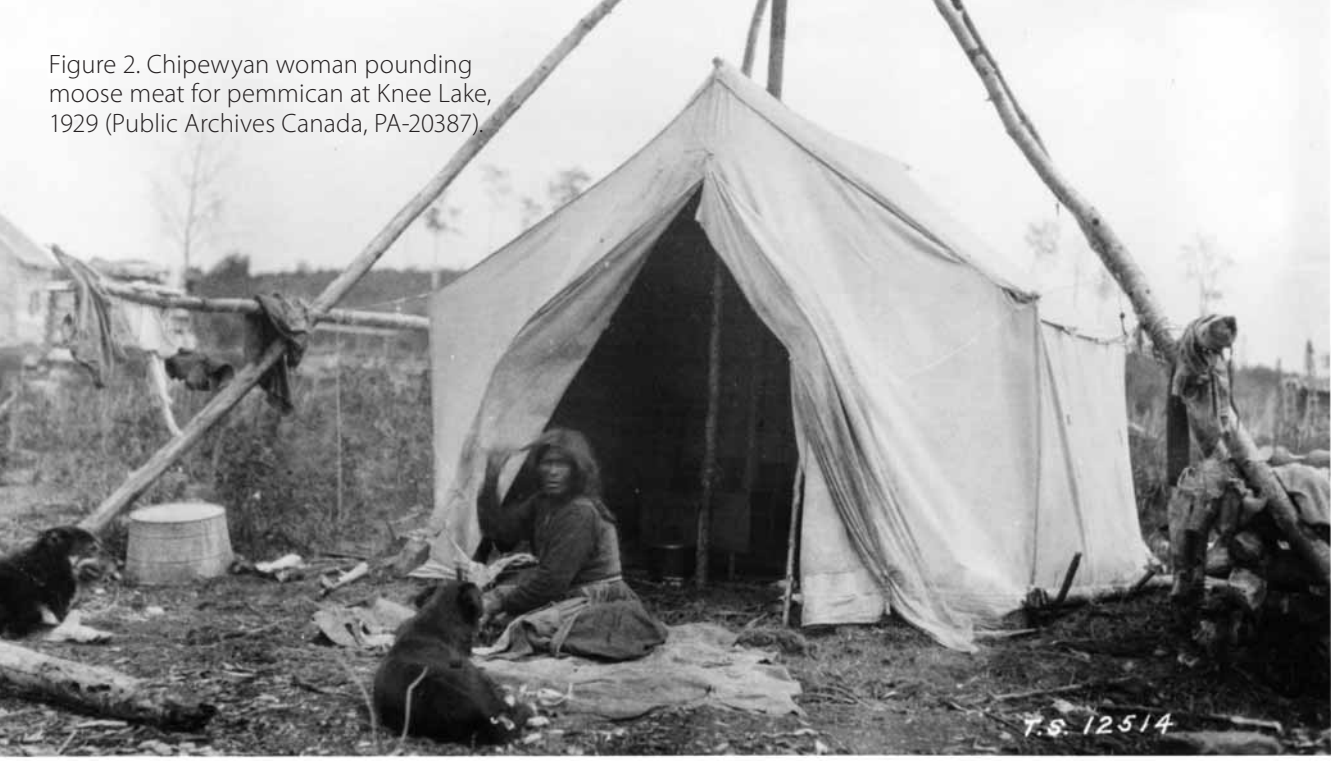

Figure 2. Chipewyan woman pounding moose meat for pemmican at Knee Lake, 1929 (Public Archives Canada, PA-20387).

Dramatis Personae

To summarize, the key players in the Upper Churchill interaction sphere include:

1. Chipewyan: the southern band group known as *Kesyehot'ine* ("poplar house people"), occupying Churchill River localities such as Patuanak, Dipper Lake, Primeau Lake, and Knee Lake, but also including some closely related *Hoteladi* ("northerners" or "northern people") in the Cree Lake vicinity and northward (Figure 2).

2. Western Woods Cree: groups known as *Nihiyawuk* ("Cree speakers") or *Sakawiyiniwak* ("bush people") occupying areas south of the Churchill River, including localities such as Canoe Lake, Waterhen Lake, Green Lake, and Pinehouse Lake[7] (Figure 3).

3. Métis Cree: rudimentary working class associated mainly with fur trade centers and seasonal outpost communities along the Churchill River and its major tributaries, including Île à la Crosse, Sandy Lake, and Souris River, among others (Figure 4).

4. Euro-Canadian: an assortment of English, Scottish, and French-Canadian fur trade managerial staff; French and French-Canadian Catholic missionaries; Depression era white trappers of Scandinavian, Slavic, German-Austrian background.

7. More specific appellations are used to identify members of particular Western Woods Cree communities or localities: *Saskitawauiyiniwuk* (Île à la Crosse), *Spahiniyawuk* (Pinehouse Lake), and *Paciniyawuk* (Canoe Lake) (Curtis 1928: 158; Brumbach and Jarvenpa 1989: 34; Smith 1981: 267–270).

Figure 3. Cree couple, Baptiste Nawtamaugan and wife, from Île à la Crosse district, 1920 (Public Archives Canada, PA-18349).

The oral lore of people in this region provides compelling symbolic clues regarding their histories and relationships. The Chipewyan tales "Magic Glass" and "Dog's Hind Leg," for example, feature Chipewyan, Cree and European actors involved in fur trade scenarios. Moreover, the lore emphasizes pronounced hostility between Chipewyan and Cree, perhaps exacerbated by their competition for furs and access to European traders. Not surprisingly, the Chipewyan lore portrays themselves as ultimate victors over their Cree enemies. Yet, it also recognizes the magico-medicinal power of the Cree (Jarvenpa 1982a). Indeed, this prowess, often acknowledged as Cree superiority by Chipewyan today, creates feelings of vulnerability and ambivalence. We will return to this issue later.

The oral lore-histories, early traders' accounts, and recent interethnic tensions suggest a long history in which Cree enjoyed initial economic advantages in the fur market economy as *middlemen* and fort hunters, in being able to force reparations from Chipewyan when the latter visited traders at Île à la Crosse, in penetrating traditional Chipewyan territory north of the Churchill River, in the predominance of the Cree language in mixed ethnic settings, and in the expansion of the Métis Cree working class.

Interpretive Framework and Methodology

What developed between the late 18th and early 20th century, then, was a tripartite social-occupational system in which a community of Métis-Cree servant-laborers acted as economic and cultural mediators between Chipewyan and Cree hunting bands, on the one hand, and the Euro-Canadian mangerial class, on the other. To help interpret this complex history of interactions, we developed a set of linked hypotheses:

Hypothesis 1: Through history Chipewyan and Cree hunter-gatherer groups adapted to each other and to the European community by widening and expanding their biogeographical niches (this implies utilization of more microenvironments and/or more species through time).

Hypothesis 2: Differences in frequencies of "country food" and imported food among Chipewyan, Cree, and Métis Cree at different time periods become indices of these groups' economic specialization, their access to the Euro-Canadian community, and their degree of integration into the fur trade political economy.

Hypothesis 3: A general directional trend in interethnic relations from highly competitive and hostile (or negative) to more neutral and cooperative (or positive) forms is a social concomitant of increasing niche width and generalization (as noted in Hypothesis 1 above).

Hypothesis 4: Socio-political stratification among ethnic groups, including the tripartite social-occupational system, owes its development to an interplay of demographic, historical, social and cultural processes.

Figure 4. Abraham Lariviere (on right), Métis Cree employee for Hudson's Bay Company at Île à la Crosse. 100 years old, ca. early 1900s (Saskatchewan Archives Board, A1014).

It is worth noting that all of the hypotheses relate in some way to the process by which principles of western market exchange and native concepts of reciprocity and redistribution conflict, combine, or are reconciled. Such phenomena may be fruitful for understanding cultural group differentiation and boundaries as well as intergroup or interethnic interactions and identities, theoretical terrain explored by scholars such as Abruzzi (1982), Barth (1969), Keyes (1981), and LeVine and Campbell (1972). A major goal of our research is to relate such interactions to ecological and economic dynamics in the broadest sense. In this regard, Bennett's (1976, 1982, 1996) insights on decision-making and his theoretical framework linking short-term "adaptive strategies" with longer-run "adaptive processes" are especially germane to our research. This perspective offers a means of interpreting Chipewyan, Cree, Métis and Euro-Canadian decisions, behaviors, beliefs and interactions as creative adaptations to local ecosystems, to other human communities and, at a larger scale, to an evolving fur trade political economy.

Our approach shares much in common with "political ecology" and its focus on the interplay of local ecological dynamics and macro-institutional markets and polities (Bates 2005; Jarvenpa 1998, 2008). Our work also has some affinities with "culture contact" or "archaeology of colonialism" studies (Gosden 2004; Lightfoot, Martinez and Schiff 1998; Orser 1996). The North American fur trade may be viewed as a type of capitalist world system (Kardulias 1990), but it also provided a "middle ground" of opportunities for new kinds of exchanges, mutual dependencies, and cultural forms that involved neither acculturation nor cultural destruction of indigenous participants, at least during its early development (Ray 1974; White 1991). Yet, a dilemma for much of the archaeology of colonialism is its capitalism-centered worldview. It shares a weakness that Ortner (1984: 149) diagnosed for political economy approaches generally whereby: "History is often treated as something that arrives, like a ship, from outside the society in question. Thus we do not get the history of *that* society, but the impact of (our) history *on* that society."

It is telling that recent reviews of historical archaeology and archaeology of colonialism research call for a greater emphasis upon indigenous peoples rather than colonial agents (Rubertone 2000: 440; Silliman 2005: 69). Our departure from most historical archaeological studies of the fur trade involves the incorporation of local indigenous people as active collaborators in the research process. Building upon our prior ethnographic studies in Upper Churchill communities, our ethnoarchaeological project was explicitly designed to capture local native actions, perspectives and voices as central in the evolving fur trade frontier of central Canada, not to privilege the accounts of fur trade elites, administrators or their core-state sponsors. In Ortner's terms, our perspective is anchored more on the "shore" than the "ship."

To address these concerns, we developed a three-pronged ethnoarchaeological methodology[8], including the following data-gathering components:

8. See Adams (1977) ethnoarchaeological study of Silcott, Washington for a similar tri-partite methodology.

1. Historical archaeology: In the late 1970s and early 1980s we mapped and inventoried a network of 44 historic sites in the Upper Churchill region. These represent small winter hunting encampments, multi-family settlements, and trading outposts once occupied by various combinations of all the cultural-ethnic groups. Archaeological documentation and interpretation was augmented by on-site native interpreters, some of whom had lived at the sites and had created some of the material residues, or who had direct connections to and knowledge of sites through parents, grandparents or other relatives who had lived there. This fieldwork strategy yielded many unanticipated insights into the meanings and uses of artifacts, the widespread recycling and adaptive re-use of items from middens and "abandoned" sites, and the complex events and social lives that unfolded in specific households and communities (Brumbach and Jarvenpa 1990). Most of the archaeological materials derive from late historical sites representing the "twilight" of the fur trade era between the 1890s and 1950s (Figure 5).

2. Archival ethnohistory: We had access to abundant fur trade documents, particularly those held in the Hudson's Bay Company Archives in Winnipeg. Post journals, correspondence between post managers and upper echelon managers, and annual reports for the HBC's English River District (later known as the Île à la Crosse District) provided a European perspective on their native clientele and the overall fur trade economy of the Upper Churchill region for the period spanning 1805–1939. However, special attention was given to the relatively under-studied business account books or ledgers.[9] Recognizing the potential of the quantitative data in the account books for understanding the microbehavior, strategies and motivations of exchange, we assembled annual commercial profiles for a sample of native customers. Currently, this data base includes transactions for 26 Chipewyan, Cree, and Métis Cree individuals trading out of the central HBC post at Île à la Crosse and two key winter outposts, Sandy lake and Souris River, for selected periods between 1889 and 1909 (Jarvenpa and Brumbach 1984, 1985). The account book material was the richest and most complete for these years. Efforts were made to find individuals who had ties to our archaeological sites and/or our ethnographic consultants.

3. Ethnography: In the late 1970s and early 1980s we began systematic interviewing of nearly 50 elderly Chipewyan, Cree, Métis Cree and Euro-Canadian consultants who discussed their life experiences at many of the 44 historical archaeological sites in the early 20th century. In turn, accounts and memories passed along from their immediate ancestors permitted backstreaming into the late 19th century. Another source of information derived from ethnographic research on contemporary social life and behavior we had been conducting in the region since 1971 (Jarvenpa 1977a, 1977b 1980, 1982a, 1982b; Jarvenpa and Brumbach 1983). These included studies of hunting ecology and socio-spatial organization as well as Chipewyan-Cree intercommunity relations. The con-

9. We were inspired by Ray and Freeman's (1978) innovative quantitative analysis of Hudson's Bay Company business account book data for the early 18th century.

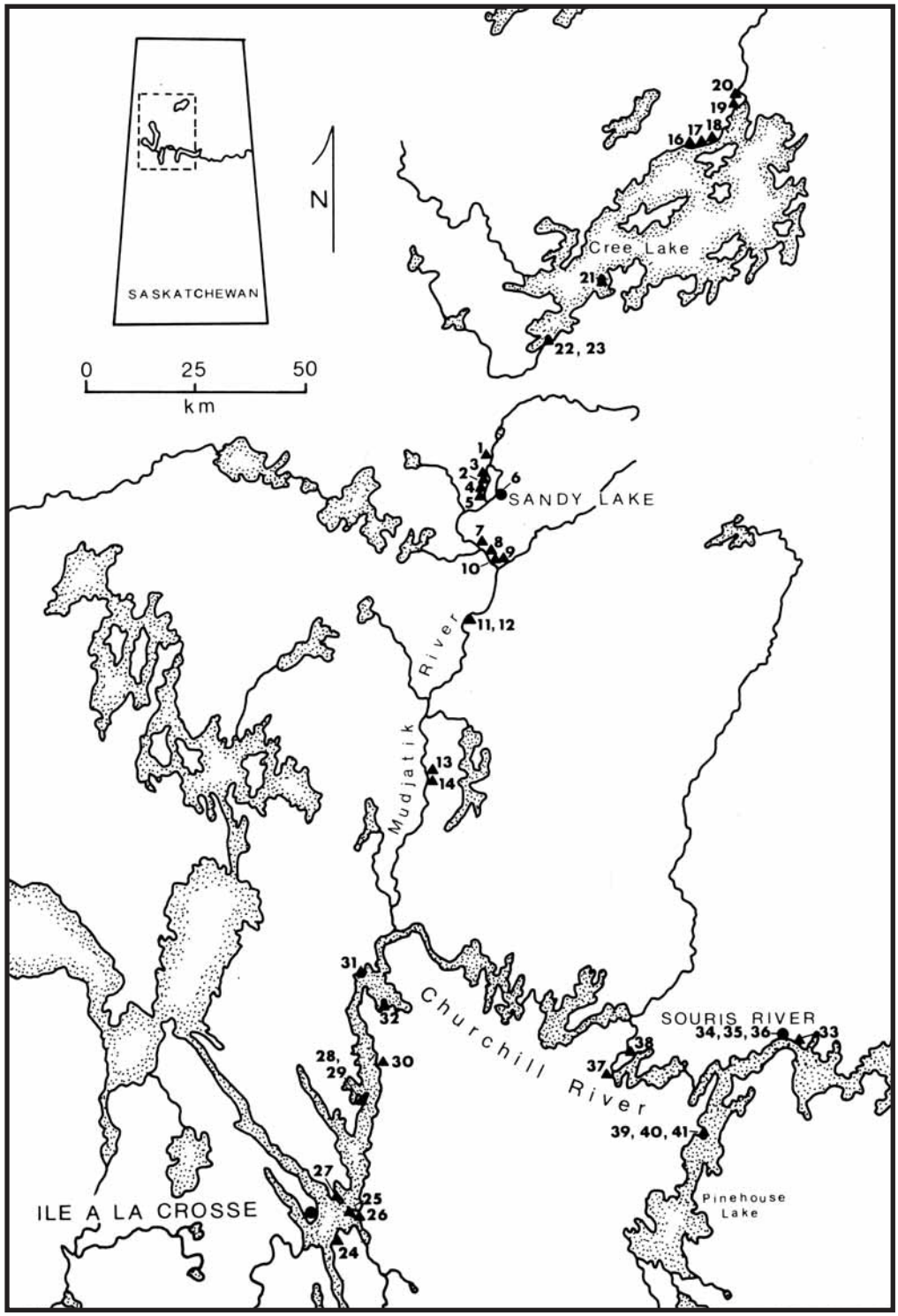

Figure 5. Network of historical archaeological sites in the upper Churchill River region of northwestern Saskatchewan.

temporary ethnography served as a source of direct historical analogies and penetrating native interpretations of the past and also provided ethnoarchaeological models for the kinds of processes creating material remains at the network of historical sites.

The synergy between the three data sets is most powerful, perhaps, for the period between 1889–1909 because: 1) individual business account records, and supporting documents such as stock inventories, fur returns and tariffs are most complete for this time, 2) these years correspond well with the occupation of many of the archaeological sites, and 3) ca. 1900 represents the historical limit of direct experience and memory for our oldest informants.

Material Expressions of Ethnic Group Differentiation

The historical archaeological material reflects cultural-ethnic boundaries in several ways. First, store-purchased food became a significant source of imported energy and, as such, facilitated changes in Chipewyan and Cree territorial and economic behavior from a pre-fur trade dependence on subsistence hunting and fishing to a later emphasis on trapping small fur bearing mammals for a commercial market. While an array of imported foods were available by the late 19th century, those packaged in distinctive tin containers, such as lard and evaporated (or condensed) milk, were most readily identifiable in the archaeological record. Commercially rendered pork fat, or lard, became a supplement to, or if necessary, a substitute for highly-valued animal fat ordinarily obtained from moose, caribou, bear, beaver, and other locally hunted animals.

Indeed, food tins accounted for a large share (23–82%) of all artifacts inventoried at the historical sites. However, an interesting distinction can be drawn as the percentage of food tins in the overall artifact inventory increases. Sites in the higher range of 75–82% tended to be occupied by either white trappers or Métis Cree. Sites in the lower range of 23–69% were generally occupied by large multi-family Chipewyan groups. This pattern reveals a fundamental distinction in adaptation to the fur trade economy. The highly mobile Chipewyan, while adept as commercial fur hunters, depended for most of their food supplies on locally procured fish and game. The Métis Cree, and the white trappers of the 1930s, had both become integrated into the fur trade in specialized ways that increased their dependency upon imported food (Brumbach 1985: 27–30; Brumbach, Jarvenpa & Buell 1982: 31–36).

Rather than interpreting frequencies of trade goods as straightforward indices of acculturation or assimilation into Euro-Canadian society, the residues in middens, house floors and other deposits require judicious examination for patterns suggesting different adaptations and economic niches within the evolving fur trade system. Different suites of trade goods were utilized by the various cultural-ethnic groups and, indeed, there also were significant *individual* differ-

ences in amounts and kinds of trade goods utilized. Some of this variation can be related to the distinction between hunting furs for market exchange (common for most Chipewyan and Cree) versus selling labor and services for goods and capital (common for most Métis Cree). Our food tin frequency data underscore the notion that there is no simple linear relationship between European artifacts at sites and acculturation of native peoples. Also, see Brown (1979), Lightfoot (1995: 206–207), and Orser (1996: 60–65) for discussions of this issue.

A second pattern of ethnic-cultural variation emerges in dwelling size as indicated by mean figures culled from house remains across all the sites (Brumbach 1985: 33–34)[10]:

Chipewyan	27.8 m^2
Cree/Métis Cree	19.6 m^2
Euro-Canadian trappers	14.9 m^2

These were rectangular log dwellings, or in some cases structures with a log base and a canvas tent roof, which after World War One began replacing Chipewyan and Cree traditional conical lodges or tipis covered with caribou hides, moose hides or spruce boughs.

The disparity in size between the Chipewyan and Cree/Métis Cree dwellings might suggest different family sizes. Census data for the Chipewyan in the early 20th century indicate that adult females of child-bearing age had on average 3.1 children (with a range of 1–8) to care for at any one time, so that *nuclear families* averaged ca. 5–6 people (Brumbach and Jarvenpa 1997: 25–29). Yet, Cree/Métis Cree family size at that time may have been roughly the same or only marginally larger (Brumbach and Jarvenpa 1989: 260–262; Spaulding 1970: 59–61).

The larger dwelling size for the Chipewyan reflects a common pattern of adding a second room to accommodate a recently married daughter and her new husband. Despite their bilateral social organization, the Chipewyan favored short-term matrilocal post-marital residence whereby the in-marrying son-in-law performed a kind of bride service for his wife's family while establishing new hunting partnerships and other ties with his father-in-law and brothers-in-law. The Cree and Métis Cree were also bilateral, but they had multi-generational households built from patrilocal residence arrangements and a focus on a founding pair of paternal grandparents. Yet, why were their dwellings appreciably smaller than those of the Chipewyan? One possible explanation is that the Cree/Métis Cree constructed more and/or larger storage facilities, thereby reducing their need for space within habitations. Also, their greater proximity to trading posts and the European community may have reduced their needs for storage

10. The majority of the sites were small multi-family winter hunting encampments where former residents had fairly uniform cultural-ethnic identities, that is, either Chipewyan, Métis Cree or EuroCanadian. A few of the larger sites, generally seasonal winter outpost communities, accommodated families and individuals of varied cultural backgrounds. A more fine-grained discussion of these patterns appears in Brumbach (1985) and Brumbach and Jarvenpa (1989).

while providing more opportunities for boarding some of their children with the Catholic mission school in Île à la Crosse.

The very modest size of the Euro-Canadian trappers' dwellings is less vexing. These men often were bachelors who operated alone, or in two-man partnerships, in the absence of conventional family structures or larger social support networks. Moreover, their commitment to commercial fur hunting and residence in the Upper Churchill region was emphatically short-term, a matter of a few years to a few decades.

Finally, locational characteristics of sites are informative of cultural-ethnic boundaries and relationships. Of particular interest are situations allowing access to more than one region, microenvironment, or watershed. Such locations typically include the narrows between two large bodies of water, the confluences of big rivers, and the trail-heads and trail-ends of major portages. By positioning settlements in these locales, people increased their resource options and potential for interaction and exchange with other social groups (Brumbach 1985: 30–33).

Nearly 60 percent of the sites are located in the contexts noted above. However, the trend is not uniform across ethnic groups as noted below:

Cree/Métis Cree	76.9%
Chipewyan	50%
Euro-Canadian trappers	30%

The distinction between the Native populations and the Euro-Canadians is related to their recent history in the area. There is archaeological evidence that ancestral proto-historic Cree populations occupied the Churchill River corridor itself since A.D. 1400–1750 (Meyer, Wilson and Klimko 1981: 49–105), underscoring the Cree's long term adaptation to this river system and their emphasis on water travel. Their Métis Cree relatives, acting as middlemen and laborers in the fur trade economy, also occupied sites that facilitated long distance water travel with access to a variety of far flung trade centers, outposts and reliable fishing stations. As the primary fur producers, the Chipewyan expanded into the Upper Churchill corridor when the Métis Cree were emerging in the late 18th century. However, the Chipewyan also continued earlier patterns of overland travel by foot and occupation of less aquatically-oriented sites that offered access to traditional food resources such as migratory barren-ground caribou herds in the vast region north of the Churchill River. Finally, arriving in the early 20th century, the ephemeral Euro-Canadian trappers situated themselves in the interstices between the established native settlements, often in the upper reaches of small tributary streams and other remote locations.

Socioeconomic Niches and Postures

The HBC business account book data reinforce the general impression of the Chipewyan as the hunters *par excellence* of the fur industry. Virtually the sole source of their credit in trade transactions derived from fur returns. Chipewyan customers had a rather uniform commercial adaptation of trading beaver, marten and mink pelts for key food staples like flour (HBC PAM B.89/d/338; HBC B.89/d/403; HBC PAM B.342/10; HBC PAM B.349/d/10; HBC PAM B.349/d/24; HBC PAM B.349/d/28). Variation in economic strategy was limited, but some individuals took advantage of periods of relative price stability in goods combined with heightened fur value to acquire stocks of goods in excess of basic needs. Stockpiling of clothing and textiles in particular may have represented an embryonic acquisition of capital for enhanced prestige and status (Jarvenpa & Brumbach 1984).

The account book analyses also support conventional interpretations of the subarctic Métis as a rudimentary working class and as cultural-economic mediators (Brown 1976; Slobodin 1981). The Métis Cree filled an intermediary position as field traders, transport specialists, interpreters and servants. Compared to the Chipewyan, however, individuals and families varied considerably in the way they procured food energy, articulated with the HBC, and interacted with other cultural-ethnic groups. These individual strategies form a continuum from relatively sedentary, non-salaried occasional laborer-craftsmen to mobile, full-time contracted servants with wages, rations, and managerial responsibilities. Although their total expenditures for trade goods were similar to those of the Chipewyan, the Métis Cree purchased less productive technology, such as firearms, gun powder, shot, snare wire, and steel traps (HBC PAM B.89/d/338; HBC PAM B.267/d/2; HBC PAM B.89/d/409). Moreover, store food and rations assumed greater importance for Métis (Jarvenpa & Brumbach 1985).

The limited account book data available for Cree (as opposed to Métis Cree) customers suggest a fur trapping-subsistence hunting adaptation closely resembling the commercial profiles of Chipewyan (HBC PAM B.89/d/403; HBC PAM B.89349/d/24).

Levels of Identification and Affectation

Although the Chipewyan, Cree and Métis Cree had different socioterritorial organizations, it remains the case that these groups participated in the same fur trade market system and political economy. It can be argued that this larger system of relations had its own pan-ethnic or supra-cultural form of sociospatial organization. This organization was the product of 150 years or more of reconciling Native and European patterns of settlement and social life. Viewed in this way, the settlement-community hierarchy embracing all Upper Churchill peoples combined elements of Native band organization (hunting camps and multi-

family domestic settlements) with an essentially Western framework of market distribution (central posts and subordinate outposts). The hybridity is apparent when these familiar forms are viewed as a system: 1) hunting or bush camps, 2) domestic settlements, 3) outpost communities, and 4) parent post (e.g. Île à la Crosse) (Brumbach and Jarvenpa 1989: 267–289, Jarvenpa and Brumbach 1988: 612–613).

Ethnographic interviews and informant narratives were particularly productive in demonstrating that all the cultural-ethnic groups had some experience and familiarity with the full spectrum of community forms. For example, the Chipewyan lived for brief periods at the trading outposts and coordinated their summer rendezvous at Île à la Crosse, despite devoting much time to a "bush" livelihood. By contrast, Métis normally associated with trading post communities occasionally "tripped" or field traded at winter domestic settlements and remote bush camps of both Chipewyan and Cree. Nonetheless, the fundamental socioeconomic stratification of the fur trade kept these groups relatively segregated near opposite poles of the settlement-community continuum.

The Chipewyan identified most intensely with the mobile lifestyle of the small winter encampment. They highly valued the manifold material and social rewards of hunting which imbued bush camp life. For them, the domain of the outpost and central post was cosmopolitan and exciting but also fraught with ambivalence and discomfort. Traders were perceived as potentially deceitful, and Chipewyan were uncomfortable with the pervasiveness and immediacy of European authority and control over their lives.

Because the Métis Cree had become part of the lower echelon of management, under whose authority the Chipewyan chafed, their emotional commitment and sense of identity were anchored in the orbit of the trading posts. Mercantile operations, fur company traditions, and family involvement in the trade became sources of Métis pride and empathic bonding to places like Île à la Crosse.

By the mid to late 20th century, the interaction sphere between Chipewyan and Cree, or Chipewyan and Métis Cree, had developed in some interesting new directions. On the *cooperative* side, there are intercommunity flows of labor, particularly in the commercial fishing industry. "Fishing bosses," who recruit "hired hand" laborers to fish for them on a fixed wage basis, represent an emerging enterpreneurial class. Fishing bosses often recruit outside their home communities to prevent established kin and social ties from interfering with business. Thus, a Chipewyan fishing boss from Patuanak might search for Cree or Métis Cree hands from Île à la Crosse, Buffalo Narrows or Pinehouse Lake. Yet, the most successful bosses tend to be Métis Cree men with large fleets of workers of Chipewyan, Cree and Métis background (Jarvenpa 1982b: 290–291).

Also, a variety of festivals and pilgrimages have emerged in the Upper Churchill communities in recent years which serve to periodically integrate people from a vast region. They are complex ceremonial occasions and a form of mass social contact between Chipewyan, Cree and Métis Cree. For example, the

Patauank pilgrimage, held every July, ostensibly commemorates the death of an Oblate missionary, but the event has a variety of informal, sub rosa or latent functions. The pilgrimage is one context within which Cree curers or "medicine men/women" (*manitukasiu* in Cree) offer their services. Chipewyan readily avail themselves of these curing services and also seek the expertise of Cree soothsayers, seers and medicinal plant specialists in other contexts. Such patron-client relationships are based upon the Chipewyan acknowledgement of Cree superiority in magical and medicinal knowledge (Jarvenpa 1982b: 291–293, Jarvenpa 1990).[11] Arguably, in the context of magico-medicinal relations the Chipewyan and Cree have developed a system of interdependencies that relies upon complementary cultural differences in the sense meant by Barth (1969: 15–19).

On the "negative" or competitive side, there are intercommunity rivalries and antipathies which sometimes can be interpreted by locals as a product of Chipewyan-Cree animosity. Such judgements are common when young male visitors from other communities become boastful or offensive at drinking parties. More seriously, perhaps, is a widely-held fear by Chipewyan in the negative applications of Cree "medicine" in sorcery. A powerful Cree can initiate or facilitate misfortune illness or death by "working medicine against" someone. Lacking their own magico-medicinal practitioners, the Chipewyan are in the uncomfortable position of seeking protection from the same class of Cree specialists that has the power to create misfortune (Jarvenpa 1982b: -296).

Discussion and Conclusion

With respect to the hypotheses guiding this project, only partial or mixed support resulted from the research:

1. Niche width: For much of the late 18th and 19th centuries the Chipewyan expanded their geographical range and utilized new microenvironments as their involvement with European traders intensified, only to retract somewhat in the late 19th century. Despite some aggressive forays north of the Churchill River in the late 18th century, despite demographic increases which might have favored

11. Also of a "cooperative" nature, there has been a limited degree of Chipewyan-Cree intermarriage or, more precisely, Chipewyan-Métis Cree intermarriage. In the early 1900s, the HBC and Revillon Frères occasionally sent Métis Cree men from Île à la Crosse to manage some of their seasonal winter outposts in Chipewyan country. In some cases, these Métis Cree traders and clerks married local Chipewyan women and, therefore, either by accident or intent, developed reciprocal kinship rights and obligations within the local Chipewyan groups among whom they wintered. In addition to their native Cree speech, these men usually spoke French or a patois of French and Cree as well as Chipewyan, and sometimes English. These multilingual abilities were often passed along to their children, several of whom were prominent founding members of a satellite community of Patuanak in the 1960s (Jarvenpa 2004: 166–167). An interesting dynamic from an identity perspective is that the children, and especially the grandchildren and subsequent generations, stemming from these early interethnic marriages were raised in communities that were predominantly Chipewyan, so that their speech and cultural identity have been primarily *Dene* or Chipewyan. However, Cree contributions to people's ancestry can be invoked by the community as an explanation of disorder. A family experiencing several generations of drowning deaths, for example, may be viewed by others as "cursed." That is, the misfortune is interpreted as a punishment for being "part Cree" (Jarvenpa 1982b: 296).

geographic expansion, and despite the wide-ranging and diverse activities of their Métis relatives, the Cree remained in a rather restricted range on the southern periphery of the Upper Churchill region throughout history.

2. Food and specialization: A strong contrast emerged between "fur hunter" and "fur trade laborer" orientations for the Chipewyan and Métis Cree respectively. These roles were associated with different frequencies in use of locally procured and imported food, different patterns of mobility, and variable forms of access and attachment to European trading personnel. Paradoxically, the Chipewyan, with the greatest subsistence self-sufficiency and geographic mobility, were no less integrated into the fur trade economy than Métis Cree servants and laborers. Indeed, as the primary producers in the system, the Chipewyan may have endured greater initial hardship as the fur trade waned in the early 20th century. As noted previously, these realities deny any simple relationship between amount of European goods and degree of acculturation.

3. Interethnic relations: Chipewyan-Cree interactions exhibit some aspects of a long-term historical trend from competition toward cooperation, but this cannot be easily linked with shifts in niche width or biogeographical range. Competition in the early stages of the fur trade was expressed by territorial exclusivity and abrasiveness, and it is likely that sharpening of occupational roles later in history helped transform or rechannel such competitive relations. Nonetheless, even with the advent of cooperative labor and intercommunity festival life in recent times, the area of magico-medicinal power and expertise has become a significant arena for defining Chipewyan and Cree cultural separateness and for symbolically underlining their historical relationship as adversaries.

4. Socioeconomic dominance: More information is needed to clarify how various demographic, economic and cultural factors interacted through time in creating a system of socioeconomic stratification, but Cree and Métis Cree generally assumed dominant positions over Chipewyan. For the most part these status differences operated in the absence of *overt* political control. However, the defacto colonial authority wielded by the HBC extended to its Métis Cree outpost managers. A more thorough examination of the social life of the outpost communities would help address this issue.

The implications of this research for prehistoric or pre-contact archaeology are well worth exploring. Joseph Caldwell (1964) pioneered the idea of "interaction sphere" to explain how numerous prehistoric societies in the American Midwest came to share the same exotic high status grave goods of the Hopewell burial cult (ca. AD 0–450). Elaborating on this theme, Braun (1986) interpreted Hopewell as a peer-polity interaction characterized by competitive emulation and symbolic entrainment.

By contrast, the Upper Churchill interaction sphere was not constructed of peer-polity relationships but rather asymmetric power connected to market exchange. In other research contexts, including the many centuries of Hopewellian interaction and influence, "contact" was likely a long term and far more gradual series of events, changes, and accommodations, while many of the events analyzed in the Chipewyan-Cree-Métis sphere are well defined in terms of temporality. Our ability to examine change and interaction within a compressed time span allows us to interpret interethnic relations undergoing rapid transformation, in this case, the era in which indigenous Native American societies were drawn into the "world system" of the European fur trade economy. While we do not recommend applying the Chipewyan-Cree-Métis case as a static analogy for the cultural specifics of other times and places, we do suggest that reframing some of our findings as broad hypotheses or processes may aid in the interpretation of other archaeological interaction spheres. Toward this effort, several issues deserve consideration:

First, conventional scholarship may reduce contact and interaction to two parties, such as a "colonial power" and the "natives." Yet, real-life situations reveal complex social landscapes with numerous indigenous societies, such as the Chipewyan and Cree, and emergent groups like the Métis whose ethnogenesis was a product of frontier interaction. These local societies were in ever shifting relationships with each other and with multiple European agents and organizations, including representatives of numerous fur trading companies, free traders, independent hunters, and missionaries, among others. Arguably, the intersecting motivations and strategies among the full corpus of actors characterize their "interaction sphere." Accordingly, archaeological sites which initially appear to reflect a combination of "native" and "colonial" derived material culture actually may have complicated histories of occupation and re-occupation by more than two parties, perhaps several cultural-ethnic groups, as well as emergent societies, involved in complex arenas of exchange, competition, avoidance, negotiation, power relations, and identity dynamics.

Second, the nature of change in interaction spheres is unlikely to be one of simple cultural loss and replacement, even when the power differential between some groups is pronounced. Mutual accommodation, niche specialization, resistance, hybrid groups, hybridized institutions, networking through intermarriage, and individual coping strategies and innovations, among other factors, may contribute to a multi-layered and multi-stranded process of change.

Finally, interactions between multiple societies have not only economic and political contexts, but also they can have significant ceremonial and religious manifestations. In archaeology, long-term cultural histories are often punctuated by the appearance of ritual paraphernalia, burial cults, and related trappings of magico-religious behavior. In our Upper Churchill study, the death of a Catholic missionary was the origin of an annual Chipewyan pilgrimage which socially integrates numerous Chipewyan, Cree and Métis peoples from across

the region, hybridizes indigenous and European concepts of sacred power, and acknowledges Cree superiority in magical and medicinal knowledge. In a purely archaeological context, the details of emergence of ceremonial-religious traditions may not be retrievable, but the role played by interaction and integration of several or more societies should be considered. Sacred rituals may have the coercive power to bring diverse peoples together, to either arbitrate or temporarily suspend their different interests and conflicts, and perhaps to symbolically aid in the historical transformation from one state of society to another (for example, from subarctic hunting band to frontier working class). As part of this transformation, Cree superiority over the Chipewyan in matters of magic and medicine may have derived, in part, from initial Cree/Métis Cree dominance in the fur trade economy. The co-evolution of the material and the sacred is a promising area for future study of archaeological interaction spheres.

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Bottlenecks and Contacts in the Linguistic Prehistory of the Saami

Introduction

The aim of my paper is to shed light on the contacts of a small group of closely related languages in northernmost Europe, the Saami languages, and on what can be known about these contacts. The ancestors of the Saami as those of all modern human groups have their roots ultimately in Africa, and on their way to the northernmost extremes of our continent they have been in contact with various other groups of people long before their present ethnic identity was formed.

Where Does Human Communication Fit in?

Among the signalling systems, human language excels through it's power of getting a wide variety of messages across. Apes learn to use restricted sign languages with several hundred symbols with humans but don't seem to be very active in transferring their knowledge to the next generation. Dogs and horses are known to learn and react properly to almost a hundred different human signals which we call words, and some birds – such as the African grey parrot – learn to use a limited oral language with humans, a language with words for more than a hundred basic concepts and even combinations of these words to express and understand more complex ideas than those single words themselves relate (Pepperberg 2006).

So it is a completely plausible conclusion that even the predecessors of modern humans communicated with each other through signalling systems. We don't know if or when these systems could be called languages in the modern sense of the word. No other species is known to possess or have possessed a communication system as versatile as that of modern humans, and the present human languages show equal complexity all over the world.

The cultural differences between human societies are reflected in the lexical resources of their languages. Some languages – and cultures – can do with words for twenty thousand concepts whereas those in complex societies may

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have words for a million concepts and even beyond. A single individual in a complex society masters only a fraction of these whereas in a simple culture practically all the concepts are common property. The numbers of basic word stems – the basic lexical building blocks of vocabulary – don't vary as much: in normal human languages they range from some three thousand to maybe twenty thousand in extreme cases. Even the lowest of these figures clearly exceeds the number of similar items in other natural communication systems.

So we may very well suppose that the complexity of the communication systems of our early predecessors before the emergence of modern humans were somewhere between those of other primates and those of the present humans. Their cognitive capabilities very likely contained thousands of concepts – ideas of the entities, properties, situations and processes in their physical, cultural, societal and psychological environment.

What we don't know for certain – and probably never will – is, if hominids had language in the sense we have. We know that the Neanderthals had many morphological and genetic preconditions for language. Lieberman and Crelin's argument against Neanderthal speech (Lieberman & Crelin 1971) has been confronted with new reconstructions of the vocal tract and hyoid bone finds in skeletal remains. What we don't know is if other physiological conditions for producing speech – those having to do with the neural system – were present.

The first humans with Neanderthal traits came to Europe maybe 500.000 years ago and persisted here to the end of the last interglacial about 25.000 years ago. Their presence overlapped with that of modern humans who arrived in Europe 35.000 years ago at latest. The Neanderthals definitely had culture which is reflected in the production of tools, ornamentations and burials. But was Neanderthal communication comparable to ours, did they possess language in the same sense as we do?

Limited Modalities

Considering the extremely slow pace of cultural evolution in comparison with modern humans it seems fairly safe to say that the Neanderthals did not communicate with each other in the same ways we do. Slow cultural development indicates that they did not discuss possibilities for innovations in technology nor for new uses of the environment to the extent that modern humans do. They may have coordinated many of their activities through vocal communication but they probably lacked many such properties of language which pertain to expressing and discussing opinions, visions and abstract things. In linguistic terms, their ability to handle epistemic modalities must have been severely restricted even if they probably had ideas based on dynamic and maybe deontic modalities very much like those we have and communicate among ourselves.

Dynamic modalities are basic properties of any communication system because they are about wishes and refusals which are necessary for the survival

of all animals with brains. These modalities are a psychological necessity and they are those that children acquire first. They find their expression in words and phrases for wanting and liking such as *I want to go, I don't want to go, I must get it*. Deontic modalities are about social matters, permissions, necessities and prohibitions, and they are basic for the existence of societies. The expression of deontic modalities come later in human postnatal development than the expression of the dynamic ones. They are felt in such words and phrases as *you may, we must, please* and *thank you*. Finally the epistemic modalities have to do with aspects of truth and existence. They develop latest in children and are expressed by words like *certainly, probably, likely, obviously, perhaps, I believe, I doubt it, there must be, there will be, there won't be.* (von Wright 1951).

Epistemic modalities are a basic property of our languages and they clearly distinguish human language from the communication systems of other species. Their central aspect is the ability to view situations and other abstract objects, in addition to concrete objects, as entities. This property is one of the factors which make human language infinite and allows for the expression of complex ideas which may have never been uttered before.

So we may be fairly confident in saying that language in the sense we use it was brought from Africa to Europe by modern humans who arrived here 45.000 years ago.

Encounters in Europe

The first foreign member of the *Homo* genus modern humans met on their exodus was probably the Neanderthals. There must have been encounters between the populations but we know very little about them. We know that human languages have acquired linguistic items from the communication systems of other mammal species such as cats, dogs and cows and some bird species such as the cuckoo, but we don't know if there are any similar acquisitions from Neanderthal communication. The cultures and communication systems may have been too far apart to produce cooperation which would have led to an exchange or borrowing of linguistic elements.

In many ways, the latest Ice Age with its maximum about 18.000 years ago was the second linguistic, cultural and genetic bottleneck in human prehistory after the exodus from Africa. When the climate grew colder, the human population withdrew to more friendly habitats in the south, and a number of so-called ice-age refuges were formed. Most of these were conglomerates and must have contained people from different linguistic, cultural and genetic units, and when these came together, new units were formed at the cost of older ones.

Given the size of the Ice Age population in Europe – maybe less than ten thousand – the number of linguistic groups cannot have been too large and their number probably didn't exceed that of the ancestors suggested by genetic research. Less than ten linguistic traditions – languages or families of related lan-

guages – is therefore a safe minimal estimation for Ice Age Europe. The number of Ice Age refuges is a little smaller than that, but it is possible that the larger refuges in northern Spain and north of the Black Sea contained more than one linguistic group.

Europe is an area where languages have been in constant contact for a long time. These contacts are reflected both in the loanwords found in Europe's languages and – to a some extent – in their structure. Especially the political developments and closely related administrative systems of the second millennium of the present era have made Europe to become a *Sprachbund* area which also comprises its non-Indo-European languages.

Converging Negations

A striking example of the European *Sprachbund* is the development of negation in many Finno-Ugric languages and their dialects. In Europe two fundamentally different systems of negation met, the Indo-European negation and the Uralic one. The Indo-European negation uses particles; these are operators and function as dependents to the words and phrases they negate. Almost all word classes can be negated, and the Indo-European negation is therefore very versatile and its scope can be narrowed down to a single word of a sentence.

The original Uralic negation word, however, is an auxiliary verb which only assigns other verbs as its dependents. The scope of the Uralic negation is therefore the whole situation set by the predicate of the sentence. This is the reason why the Finnish sentence

(F1)	*Matti*	*ei*	*nähnyt*	*siellä*	*autoa*.
	Matthew	not-s/he	seen	there	car
(F2)	*Minä*	*en*	*nähnyt*	*siellä*	*autoa*.
	I	not-I	seen	there	car

corresponds to at least the following sentences in English:

(E1a) *Matthew saw no car there.*
(E1b) *Matthew didn't see a car there.*
(E2a) *I saw no car there.*
(E2b) *I didn't see a car there.*

The Finnish words *en* 'I not' and *ei* 's/he not' are finite conjugational forms of the negative verb. The English sentences (E1b) and (E2b) contain a negation of the predicate through the negation by *-n't* of the auxiliary *(did)* and its negation is equivalent to the Finnish sentences (F1) and (F2) in scope and meaning ('there was no such situation'). The English sentences (E1a) and (E2a) describe a situ-

ation which is within the scope of the sentences (E1b) and (E2b) but correspond to one of their possible interpretations: only the existence of the car is negated.

The negative verbs in the Northern Samoyed languages of western Siberia and the Southern Samoyed language Kamass show a morphology which is identical with or similar to that of content verbs and one can assume that this was the original situation in Proto-Uralic which is the most remote reconstructable protolanguage for the Finno-Ugric and the Samoyed languages. The same kind of morphology is also found in the Volgaic languages Mordvin and Mari of Central Russia which also belong to the Uralic phylum.

The interesting thing is that there is a drift away from auxiliary negation. In the north-western languages of the Uralic family, the Finnic and Saami languages, the negative verb shows reduced mood morphology and has a common series of forms for the indicative, potential and conditional moods which contrasts with the forms of the imperative. Furthermore, the negative verb lacks infinitives and participles in Finnic and Saami but these may have been present in the past as suggested by the Finnish prefix *epä-* 'un-' (< negative verb stem *e-* + imperfect participle marker *-pa/-pä*) and the Samoyed non-finite forms of the negative verb such as the Nenets infinitive *нись* (= stem *ни-* + infinitive marker *-сь*).

The next step is the morphological reduction of the personal forms of the negative verb. Estonian and some Finnish dialects have one form for all persons and numbers in the non-imperative moods (Estonian *ma ei tulnud* 'I didn't come', *sa ei tulnud* 's/he didn't come'). It is obvious that this single form is still a finite form since the main verb shows the same non-finite forms which are found in those Finnic languages in which the negative verb has contrasting personal forms (Finnish *en tullut* 'I didn't come', *et tullut* 'you didn't come' etc., c.f. Estonian finite forms in *ma tulin* 'I came', *sa tulid* 'you came' etc.).

Hungarian is the Finno-Ugric language in Europe whose negation completely harmonizes with the surrounding Indo-European languages. Hungarian has negative particles and the main verb of a negated sentence is in a finite form and not a non-finite connegative as in the rest of the Finno-Ugric languages of Europe.

Language Contacts

As clear as the overall Uralic characteristics of the Saami languages is, it is obvious that some of the ancestors of the present Saami spoke a language or languages of a different origin and elements of this substrate language are found in Saami. It is an established archaeological fact that there have been two principal population currents to the north, one from the south-west along the Norwegian coast and the Scandinavian inland and the other from the south-east through Finland and Karelia. The latter represented Uralic and probably also para-Uralic linguistic traditions more or less related to it.

The Mesolithic cultures of north-eastern Europe had spread to the area from the south-west. Archaeologically they seem to be descendants of or at least related to the late Paleolithic Swiderian culture in what is present Poland. The Swiderian cultural area is therefore a good candidate for the original homeland of the linguistic tradition which gave birth to the Uralic family of languages. Later on the pre-Uralic languages spread to the whole area between the Baltic Sea and the Ural mountains. Later one of these evolved into the Uralic proto-language which expanded to whole area, and the para-Uralic linguistic traditions in the area became extinct, possibly with a number of other minor groups. Ultimately these archaeological cultures seem to derive from the south-eastern refuge around the Black Sea during the last Ice Age maximum.

The possibility to find pre-Indo-European substrate elements in present Indo-European languages of the west and Finno-Ugric languages such as Saami in the north is largely but not completely unexplored. As for the Saami area, Ante Aikio's recent study of place names (Aikio 2004) is an important contribution. He arrives at the conclusion that many of the inexplicable single-constituent Saami place names in the coastal area stem from a substrate language.

It is likely that many of the Saami basic word stems with no Uralic or loan etymology derive from non-Uralic idioms spoken by early immigrants to the Saami area, even if they cannot be identified at the moment. Some of these stems may, however, belong to those which have been forgotten in the rest of the Uralic or Indo-European languages so that substrate origin is not the only possibility.

In morphology very few non-Uralic elements have been traced in Saami. The South Saami 3rd person present tense suffixes *-s* and *-vies* as in *leas* ~ *lievies* 'they are' are good candidates. The suffix *-vies* cannot be related to the Finnic suffix *-va-/-vä-* in *menevät* 'they go' since the consonant *-v-* in the Finnic suffix goes back to the stop **p* and the South Saami reflex of this sound would be a stop, not the fricative *v*. Another candidate is the Western Saami 3rd person dual suffix element **-kaa-/-Gaa-* found in such possessive forms as *goahtiska* < **koatee-s-kaa-n* 'the hut of the two of them' and in past tense verb forms such as *boðiiga* < **poaDij-Gaa-n* 'the two of them came'; the **s*-element in *goahtiska* is the third person possessive element and the element **n* in both is the dual marker.

In addition to words with cognates in related languages and loanwords, The Saami lexicon contains hundreds of basic vocabulary items which have no etymology (cf. Lehtiranta 1989), such as those in this list:

atnit 'to use'
bivvat 'to keep warm'
boahtit 'to come'
coagis 'shallow'
čáhppat 'black'
čiekčat 'to kick'
guvžá 'sea trout'
heavdni 'spider'
jalŋŋis 'tree stump'
láhppit 'to lose'
nagir 'sleep'
ohca 'bosom'
oakti 'rain shower'
ravgat 'to fall, to collapse'
soahki 'birch'
šiehttat 'to make an agreement'
uhcci 'small'

A couple of fairly certain substrate words can be posited. The North Saami areal variants *diksu* and *juksu* as well as the Norwegian word *hyse* all refer to haddock (a species of cod) but the variation in form cannot be explained on the basis of any Saami or Norwegian original or sound change. Even if we cannot point to any specific source, the variants must be substrate words in both Saami and Norwegian. (Kylstra 1962.)

Another case seems to be the Saami word for skiing, *čuoigat*, which has no Uralic etymology but is a perfect match with the Indo-European root **k´āik-* ~ **k´īk-* which means 'to jump' (Pokorny 1959: 522) – the earliest documents on the Saami say that they move by jumping on the snow with long pieces of wood. The confinement of this word to the westernmost Indo-European languages points towards a loan origin. The obvious conclusion is that it originates from an extinct language which was spoken in westernmost Europe at the time of the arrival of the Indo-European languages. The speakers of the same extinct language also travelled north along the Norwegian coast and brought the word into the Saami area.

The Saami languages also have a large number of loanwords from neighbouring languages. The oldest of these are Indo-European loanwords of different ages. They are important evidence in the attempt to reconstruct the expansion routes of Saami into the areas where it is spoken or is known to have been spoken. Latest research has identified their provenience in the different branches of the Indo-European language family (cf. Sammallahti 1998: 125–130). Their semantics obviously tells something about the nature of the contacts which led to to their borrowing, and the examples were chosen with these cultural influences in mind:

70 Proto-Indo-European loanwords (c. 15 independent):

čearda 'tribe'
čohkut 'to comb'
earti 'sloping bottom'
fanas 'boat'
fierbmi 'net'
gálojeatni 'husband's brother's wife'
gođđit 'to weave'
lohkat 'to count'
miõkkâd 'to sell' (Skolt Saami)
namma 'name'
njađđit 'to tack on'
reašmi 'net rope'
sohka 'kin'
veaiki 'copper'
vuodjit 'to drive'
vuogga 'lure'

7 Proto-Aryan loanwords (3 independent):

čáris 'coarse (of wool)'
čuohti 'hundred'
vuodja 'butter, fish oil'

20 Old Indo-Aryan loanwords (6 independent):

boarti ‘birch bark vessel’
goahti ‘hut, dwelling’
oarbbis ‘orphan’
soabbi ‘stick’
veahčir ‘hammer’
vue´rr ‘awl’ (Skolt Saami)

4 Proto-Slavic loans (all independent):

guoppar ‘mushroom’
multi ‘soap’

40 (Proto-)Baltic loanwords (9 independent):

daktere ‘daughter’ (South Saami)
gahpir ‘cap’
guksi ‘dipper’
guoibmi ‘companion’
luossa ‘salmon’
luovdi ‘wooden float’
luovvi ‘scaffolding with floor’
návdi ‘wolf; fur animal’
neahpi ‘a man’s nephew or niece’
sasti ~ sisti ‘chamois leather’
searvi ‘society’
soallut ‘to pick teeth’
šuvon ‘clever dog’ (cf. *beana* ‘dog’< Proto-Finno-Ugric)
vuossi ‘pot handle’
vuovji ‘wedge’

30 Proto-Germanic loanwords (15 independent):

borjjas ‘sail’
dordnu ‘door’
gieddi ‘field, clearing’
gieggi ‘wooden shoe (under a runner)’
luoikat ‘to borrow’
roavgu ‘skin rug’
ruovdi ‘iron’
sággi ‘pin’
vuotta ‘brogue-band’

20 Germanic loanwords (12 independent):

ruoksi ‘udder’
ruovji ‘part of carcass’
vierca ‘ram’
gáldu ‘natural well’
gáma ‘shoe’
vuoksi ‘depth of a fishing net’
láigu ‘rent’

Several hundred Proto-North-Germanic loanwords:

áiru ‘oar’
ákšu ‘axe’
árbi ‘legacy’
bárdni ‘son, boy’
bodni ‘bottom’
didnu ‘flint’
dilljá ‘floor-board’
fáhcca ‘mitten’
fárju ‘canvas’
fiellu ‘board’

gáhkku ‘bread’
gáica ‘goat’
gárdi ‘corral’
gussa ‘cow’
lávgut ‘to bathe’
máhka ‘brother-in-law’
náhppi ‘milking bowl’
niibi ‘knife’
nuohtti ‘seine’
rátnu ‘rug’
sáidi ‘coalfish’
sávza ‘sheep’
silba ‘silver’
ullu ‘wool’
vuostá ‘cheese’

Several hundred Proto-Finnic loanwords:

áiti ‘store house’
árga ‘weekday’
báidnit ‘to dye’
boallu ‘button’
deallut ‘to remove grease from skin’
diehtit ‘to know’
doaivut ‘to hope’
gáibmi ‘namesake’
geahpa ‘net-needle’
jahki ‘year’
lávlut ‘to sing’
lihttu ‘meeting agreement’
meahcci ‘woods, bush, hunting grounds’
moarsi ‘bride’
oastit ‘to buy’
seaidni ‘house wall’
šalbmi ‘eye of needle’
šimir ‘back of knife, axe’
vealgi ‘debt’
vearru ‘tax’
vuorru ‘turn’

Additionally:

— thousands of young loanwords from Swedish and Norwegian
— thousands of young loanwords from Finnish and Karelian
— Russian loanwords (several hundred in the east, a handful in the west down to Ume Saami)
— English loanwords (an increasing number in different jargons)

Where Did They Meet?

The oldest layers of Indo-European loanwords are probably more than 5000 years old and therefore comparable to the old Uralic and Finno-Ugric strata of indigenous words. The geographical distribution of the two are, however, quite different. The old indigenous words show an even distribution and are found in practically every Saami variant whereas the loanwords show a relatively narrow and more random distribution and seem to be confined to the central Saami languages Lule, North, Inari and Skolt Saami (Sammallahti 2001).

One explanation to the distribution difference between the old indigenous vocabulary and the oldest loanwords is that they were acquired after the Saami languages spread to their present areas in the north. One can also find a very

probable context for their acquisition in the economic boom around 3000 BC in the northernmost extension of the Baltic Sea, Gulf of Bothnia (*Bottenhavet* in Swedish), when there was an exceptionally warm climate for several hundred years and the seals of the Baltic Sea gathered to the north to brood. The seal oil production of the Baltic Sea was concentrated to this northern area which had lively economic contacts with the southern shores of the Baltic where speakers of Indo-European already lived. From the northern parths of the Gulf of Bothnia the loanwords radiated to the inland along the main rivers in the area.

There is also an alternative explanation according to which the Proto-Indo-European loanwords were initially adopted into an unknown language which was spoken in the area prior to the arrival of the Finno-Ugric-speaking groups. The unknown language was replaced by the language of the newcomers but some substrate words remained as traces of this replacement. The loanwords, however, show no exceptional substitution patterns and as a third alternative one can assume that the language they were adopted into belonged to the Finno-Ugric dialectal continuum and may have constituted one of the variants which later developed into the present Saami languages. Even if the formation of the Proto-Saami language would have taken place somewhere closer to the south-eastern shores of the Baltic, it is obvious that many of the language variants it replaced or rather integrated when expanding were para-Saami dialects and only a few steps away from Proto-Saami.

Others scholars, like Christian Carpelan (Carpelan 2000) and Jorma Koivulehto (Koivulehto 1999) who combine archaeological and linguistic data, see a late Neolithic expansion into the north and a subsequent movement to the south-west during the Bronze Age. Others still, like Ante and Aslak Aikio, think that the Saami expansion to the north and further to south-west from an original homeland in southern Karelia is later still (Aikio & Aikio 2001). This scenario is possible if one thinks of it not so much as an expansion of a linguistic group but as a diffusion of linguistic innovation in a continuum of related dialects in the sparsely inhabited North.

An open question is, when did the Saami or para-Saami groups reach central Scandinavia. Some archaeologists think this happened in the beginning of the Bronze Age at latest, and others think that the south-western expansion took place during the Bronze Age. Linguistically a *terminus ante quem* is 400 AD: many South Saami place names of Scandinavian origin were adopted before Proto-Scandinavian sound changes that happened around that time (Bergsland 1995).

In addition to Indo-European and Finnic loanwords in Saami, there are also Saami loanwords in the surrounding languages. According to Ante Aikio's recent study, about 60 certain Saami loanwords can be pointed out in the central and southern dialects of Finnish and Karelian (Aikio 2009). Swedish has a few Saami loanwords, and one of the loanwords into Russian such as *tundra* has found its way into international use. In addition, a great number of place names of Saami origin are found outside the historical Saami area in southern Finland and Karelia.

Contact Languages

Apart from lexical and grammatical influences, the study of specific contact languages called pidgins is a subfield of contacts research. The best known pidgin in the European Arctic is *Russenorsk* or *Moja-på-tvoja* (meaning roughly 'mine in your way'). It was used between Russian traders and farmer-fishermen of the northernmost Norwegian coast (Broch & Jahre 1984). As the name indicates, it was based exclusively on Russian and Norwegian vocabulary even if the Saami also participated in the trade. The first Russenorsk words were attested no earlier than in the 18th century which indicates that its use began when the key sites of the Norwegian coast were already inhabited by Norwegian-speakers. It fell out of use in the 1920's soon after the Russian revolution in 1917, and Russenorsk went into oblivion. As late as 1979 I met an old Sea Saami lady in Altafjord in northernmost Norway who could still count in the Russian numerals of the language.

Even if Russenorsk is a relatively old pidgin and exceptional because of its northern location and egalitarian context, it is obvious that there was an earlier pidgin in the more southern reaches of the Saami area, and that this pidgin was to a great part based on Saami vocabulary. The first printed books in Saami were published in 1619. The quality of their language has been generally criticized (Qvigstad & Wiklund 1899: 11) but it is clear that these books represent no organic Saami variant of their time and that its characteristics are typical of a pidgin. The importance of these books is not so much in documenting Saami as a language but because it's the world's oldest document of a pidgin, at least to my knowledge.

This early pidgin concludes the short survey of the linguistic contacts of the Saami and their linguistic predecessors and what can and what cannot be said about them. We have seen that historical linguistics is contact research *par excellence* and that historical linguistics provides lots of interesting data for contact research. And finally, historical linguistics also provides explanations to what happens when languages get into contact with each other and – through the meanings of the borrowed items – what these contacts are about.

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The Northern Hunters, Fishers and Gatherers and their Southern Neighbours in Eurasia in the Early Metal Age

Introduction and Background

As is known, the hunting, fishing and gathering (HFG) way of life is the most ancient on the Earth. Productive economies based on farming and stockbreeding do not appear before the 9th–7th mill. BC in Anatolia, Mesopotamia and the Levant. Until the 6th–5th mill. BC, the cultures of these regions of Asia Minor and the Tigris-Euphrates river system were connected with the so called Proto-Metal Age. This period is characterized by very rare and primitive metal artefacts (beads and small plates hammered from native copper) found at some of the large settlements (Çayonü-tepesi, Ashikli-höyük, Çatal-höyük among others). In fact metallurgy, i.e. smelting copper from copper containing minerals, was unknown in these regions in the Proto-Metal Age.

The metallurgical revolution associated with the broad development of the copper-bearing mineral deposits took place in the 5th mill. BC in the regions connected with the basin of the Middle and Lower Danube – in the mining regions of the Northern Balkan and the Carpathian basin. At this point in time we may speak of the origin of a real complex productive economy, entailing not only food production, but also copper metallurgy. It is to this time that we set the beginning of the Early Metal Age (EMA) and its first chronological period – the Copper Age.

Important cultural technological changes in the Eurasian cultures of the 5th mill. BC characterize another very important development, the forming of mobile stock-breeding cultures at the western flank of the great Eurasian Steppe Belt (Figure 1). By "mobile stock-breeders" we mean those nomadic and semi-nomadic cultures for which the breeding of domesticated animals was the most important basis of subsistence. In the life of these peoples, farming was either of no significance or its role was very limited. In the 5th mill. BC the first signs (though not yet very extensive) of the domestication of horses and primordial cavalry appeared among the steppe peoples of nomadic and semi-nomadic stock-breeders in the Northern Black Sea area. Cooperation with these steppe stock-breeders played a major role in the destinies of the hunter-fisher-gatherer cultures.

Networks, Interaction and Emerging Identities in Fennoscandia and Beyond. Tromsø, Norway, October 13-16 2009.
Suomalais-Ugrilaisen Seuran Toimituksia = Mémoires de la Société Finno-Ougrienne 265.
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The Eurasian Steppe Belt Cultures and their Geoecological Territory

The Eurasian Steppe Belt (ESB) was the domain of nomadic and semi-nomadic cultures of this continent for no less than six thousand years, which is why we discuss here the detailed characteristics of this geoecological phenomenon.

On a large-scale map the ESB appears to be boundless both in its gigantic extent and spatial coverage. From the west to the east, from the Lower and even Middle Danubian basin up to Manchuria and thee Yellow Sea – without any noticeable breaks – its extent exceeds 8 000 kilometres. The territories constituting the central area for the mobile stock-breeding groups would have been no less than 8 million square kilometres. However. it seems equally certain that the stock breeders also covered forest-steppe regions to the north, which were biologically much more comfortable for the animals. In addition, all these populations wandered everywhere, not only in semi-desert environments, but also in unfriendly desert regions from the Transcaspian Karakum and Kizylkum deserts up to the Gobi Desert of Central Asia. Stock-breeders from the steppe communities could be met in the southern outskirts of mountainous taiga regions (e.g. in the Sayan-Altai and others). This is why the notion of the ESB should be understood as conditional: in reality this "belt" included in its orbit essentially more extensive areas.

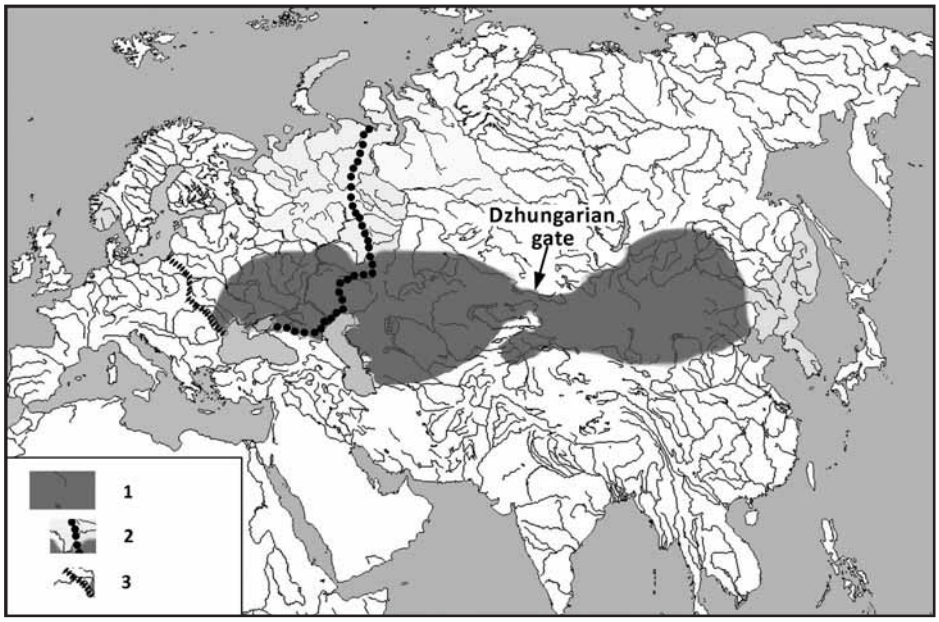

Figure 1. A sketch map of the Eurasian Steppe Belt (ESB). 1 – the area of the ESB; 2 – the "official" border between Europe and Asia; 3 – the proposed real border between Europe and Asia on the basis of geoecological indicators.

The northern edge of the ESB passing at the border of the forest-steppe and forest zones was vague and not quite distinct. This had an effect not only on the geoecological details of the phenomenon, but also on the territorial ratio of the northern cultures and their southern neighbours – communities of mobile stock-breeders.

From a geoecological point of view, the southern border of the ESB looks quite different. Beyond the border were the spaces of gigantic domain of the Eurasian cultures that practised settled farming. A distinct line between the domains is marked by the extensively spreading and prominent ranges of the Alpine-Himalayas anticline system. Only where the Yellow River forces through the ranges of the Alpine-Himalayas system, and the ridges sharply turn to the south, does the character of the border between the ESB and the North China Plain sharply change. In essence, here the natural barriers between these two domains become there either barely noticeable or disappear.

Let us consider some basic details of the structure of the ESB. Two nearly equal territorial parts are clearly distinguished within it, with the famous Dzhungarian gate dividing the western and the eastern parts. The Dzhungarian gate served as a permanent channel for numerous groups of ESB stock-breeders moving from east to west and *vice versa*.

The ESB structure permits us to deal with the problem of the real border between Asia and Europe. For our subject the meaning of this problem increases quite significantly in connection with the question of real borders between the worlds of the settled farming peoples and steppe stock-breeders respectively. The generally accepted, "officially recognized", border between two continents is known to date back to the views of ancient geographers of the 1st mill. BC. While there was no particular disagreement over the northern part of this intercontinental division, i.e. the Urals, the picture is rather unclear regarding the steppe. Should the line be drawn along the valley of the Ural or the Emba rivers? Does the so-called and extremely ambiguous Kuma-Manych geological depression between the Caspian and Azov seas solve the question? Or should this line be superimposed with the Greater Caucasus Mountain Range? In reality, the true border between Europe and Asia should be drawn along a line from the western flank of the ESB – i.e. from the mouth of the Danube and the Dniester valley – and around the eastern arc of the Carpathian ranges up to the Eastern Baltic. West of this lay the European subcontinent where the settled farming cultures predominated completely from the beginning of the Neolithic.

Introducing the Hunter-Fisher-Gatherers

One can speak of definite and reasonably stable borders between two worlds – the forest Hunter-Fisher-Gatherers (HFG) and the stock-breeders in the ESB – beginning from the 3rd mill. BC. From this period onwards, communities of mobile stock-breeders dominated in the steppe and forest-steppe areas between

Northern Black Sea area and the Urals. Pastoral communities left the signs of some kurgan cultures in the northern zone of the gigantic Circumpontic Metallurgical Province (CMP). As is known, the southern zone of the province covered extensive territories around the Black Sea – from the Caucasus, Syria-Palestine and Asia Minor up to the Carpatho-Balkan region. Together with this the most notable aspect of the CMP system was probably the appearance of stock-breeders in the southern part of the forest zone, in the Oka and Upper Volga basin. They are represented by numerous non-kurgan cemeteries of the so-called *Fatyanovo-Balanovo* complex. Comparatively rare settlements with ceramics of the *Fatyanovo-Balanovo* type were found only in the eastern part of this entity. The prominent metal-working forms of these stock-breeders corresponded to the productive standards of the CMP.

Settlements of the cultures connected with the HFG models were distinctly different in character and appearance in comparison with their southern neighbours and were mainly dispersed further to the North of the *Fatyanovo-Balanovo* area – from the Eastern Urals to the Fennoscandia. But in the basin of the Upper Volga and Oka there was variegated pattern of the sites of the *Fatyanovo-Balanovo* type and numerous settlements of the forest model of environmental adaptation. The latter was especially typical of the settlements of the *Volosovo* culture. To the east of the Urals the settlements of the *Surtandy* culture are known; and to the west, in the basin of Kama, the toneless settlements of the *Garino-Bor* culture were spread.

It is very important to note that the populations of the forest cultures of the HFG model knew of metallurgical technology and copper-working. But in comparison with the southern CMP standards, both the technology of the metallurgy and the morphology of the metal products were characterized by evident primitivism. Over than 650 copper artefacts have been found at the settlements of several cultures of the forest zone from Karelia to the Urals (in an area of over 1.2 million sq. km). However, only a third of these artefacts represent tools, weapons or ornaments. On the whole this artefact collection is characterized by expressionless forms and simple technology of copper-working. Other artefacts are the small copper pieces of nondescript aspect.

Two zones of metal-bearing cultures are of greatest interest in this connection: Karelia near Lake Onega and the Kama basin in the Western Urals area. In Karelia two cultures – of so-called *Rhomb-Pit* (*rombo-yamochnaya*) *Pottery* (earliest) and *Asbestos Pottery* (latest) – were localized in the area of copper deposits with the widespread local sites of native copper. Copper-bearing sandstone deposits were distributed very widely in the western Urals, and the *Garin-Bor, Novo-Iljinskaya* and *Yurtik* (Vyatka basin) cultures undoubtedly worked these ores. The *Volosovo* culture spread through the ore-less Volga-Oka basin; these tribes used copper imported from the western Urals.

The assertion of the principal synchronism of the CMP and "forest" metalworking production is based on quite a significant series of about 260 calibrated radiocarbon dates connected with the materials from the settlements of the forest communities. The chronological range of all these cultures at the 68%

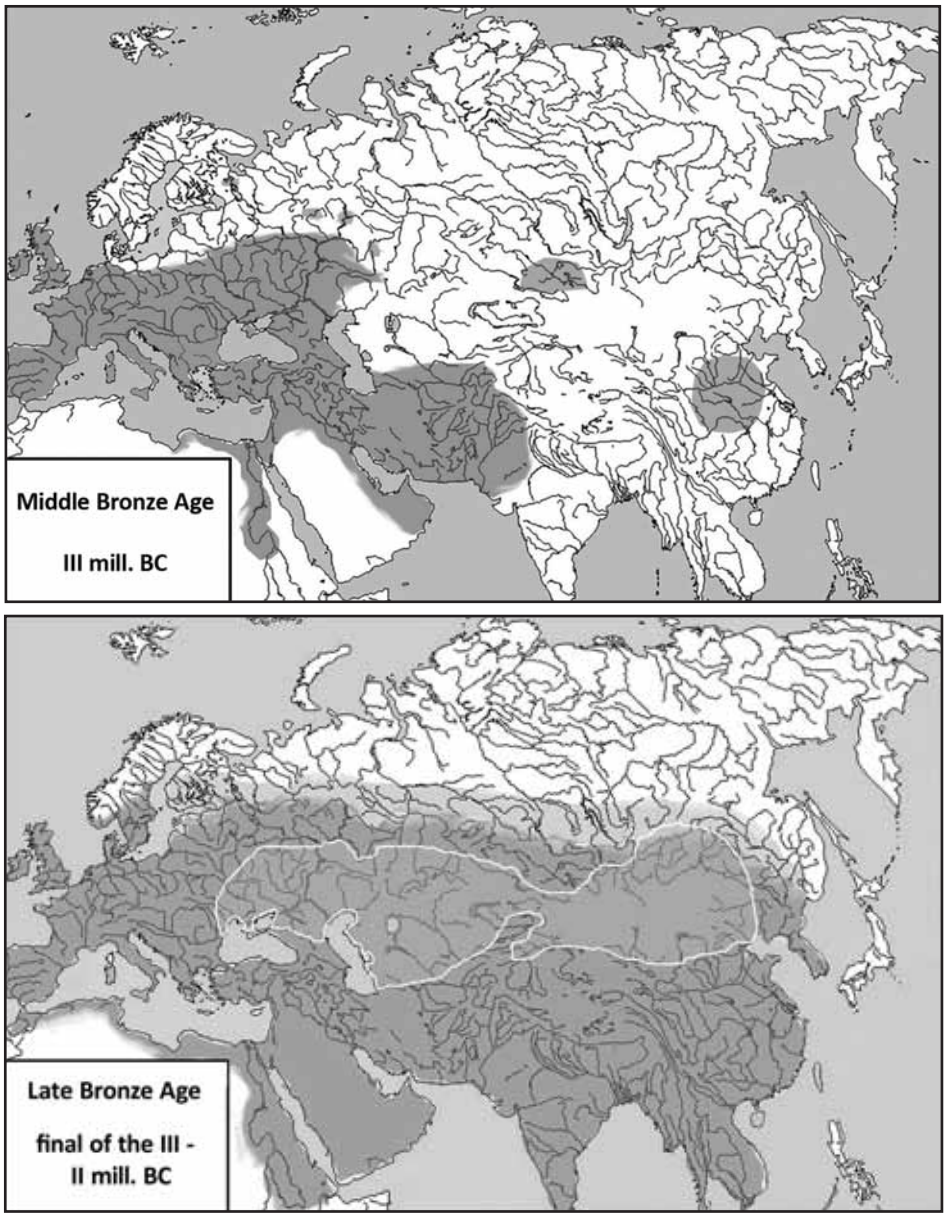

Figure 2. The areas of the metal-bearing cultures of the Middle and Late Bronze Ages. The ESB area is marked with a contour on the bottom map.

probability level presents a long interval from 4000 to 1900 BC (and sometimes up to 1500 BC!). Hence, the radiocarbon chronology suggests the independent discovery and development of mining and metallurgical production by the forest peoples in the 4th mill. BC. But at the same time it is a surprising fact that the forest peoples had no urge toward technical innovations, such as the production standards of the southern stock-breeding cultures included in the system of the Circumpontic province.

The "Core" of Metal-Bearing High Technology

Perhaps the most important and cardinal changes in the ethno-cultural scene in Eurasia began at the turn of the 3rd and 2nd mill. BC with the coming of the Late Bronze Age (according the general Eurasian relative chronology of EMA). This is when the so called "core" of metal-bearing high technology cultures emerged in Eurasia – or to be more precise – in the Old World. The forming of the "core" was conditioned by the so called "Great Spatial Leap". During a comparatively short period of only three to four hundred years, the territory of the metal-bearing cultures of Eurasia and the northernmost part of the African continent adjoining the Mediterranean Sea spasmodically increased fourfold: from 10–11 to 40–43 million square kilometres (Figure 2). Simultaneously, the unevenness of the historical technological development of the Old World peoples becomes evident abruptly and contrastingly. From now on, the northern peoples of the HFG model appear to be more and more outdated.

But this still not fully understood "Great Spatial Leap" led to perhaps an even more mysterious phenomenon in the dynamics of historical development of Eurasia – the "Great Spatial Stagnation". To a great extent the given period was a key one in the history of many Eurasian nations: this is when the structure of the Eurasian or the Old World was formed and its basic features remained the same in their basic aspects until the time of the Geographical Discoveries (or the Great European Colonization).

The root of this riddle perhaps lies in the fact that the "Great Spatial Stagnation" led to a situation when all crucial historical technological and social political phenomena and shifts took place only within the territorial limits of the "core". The spatial area of the "core", however, remained in fact permanent for the next three thousand years. Within the "core" cultures metallurgy and firearms were discovered. In these spaces a motley kaleidoscope of various civilizations, city-states and empires replaced each other. Even the most extensive overland empire of the successors of Genghis Khan did not cross the externally invisible, but constantly unshakeable borders of the "core" (Figure 3). Only the extraordinary powerful the Great European colonial expansion of the 17th–18th centuries AD could crush all its basic barriers.

After the Collapse of the Circumpontic Metallurgical Province

The canvas of the communities and domains of the three basic environmental models in Eurasia had taken shape (Figure 4) by the turn of the 3rd and 2nd mill. BC. The most important issue for the forest peoples – the boundaries of territories of full domination for their powerful nomadic and semi-nomadic ESB stock-breeders – was completely settled. This zone stretched from the Black Sea to the Yellow Sea over a distance of 8,000 kilometres. The forest peoples of the dominant Hunter-Fisher-Gatherer subsistence model were outside the "core" in

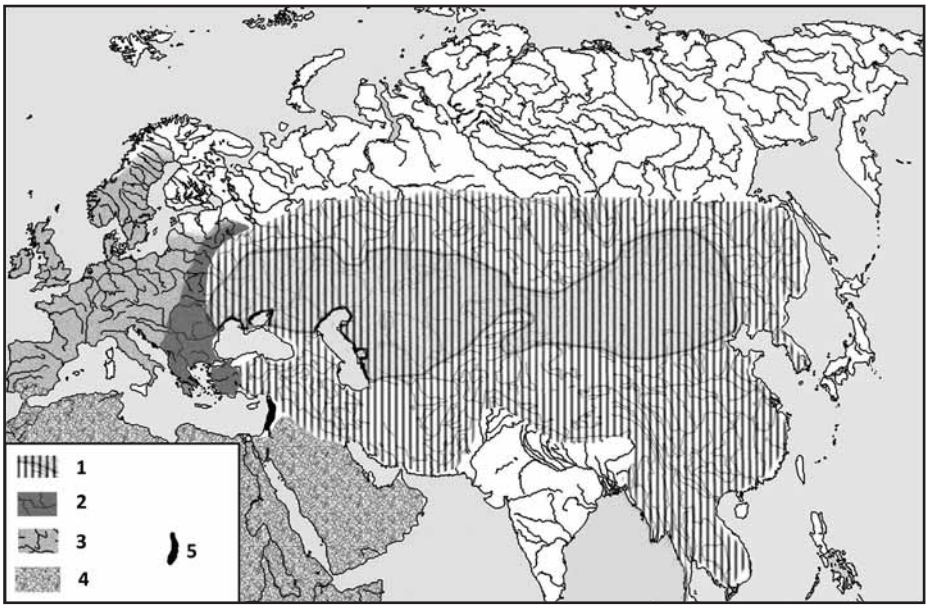

Figure 3. The Great Mongol Empire and the Eurasian world. 1 – the area of the Great Mongol Empire (the ESB area is marked with a contour); 2 – the Eastern Orthodox societies ; 3 – the Western Catholic societies; 4 – Muslim societies; 5 – the Holy Land or the microscopic polygon of very long confrontation between Muslim and Catholic states.

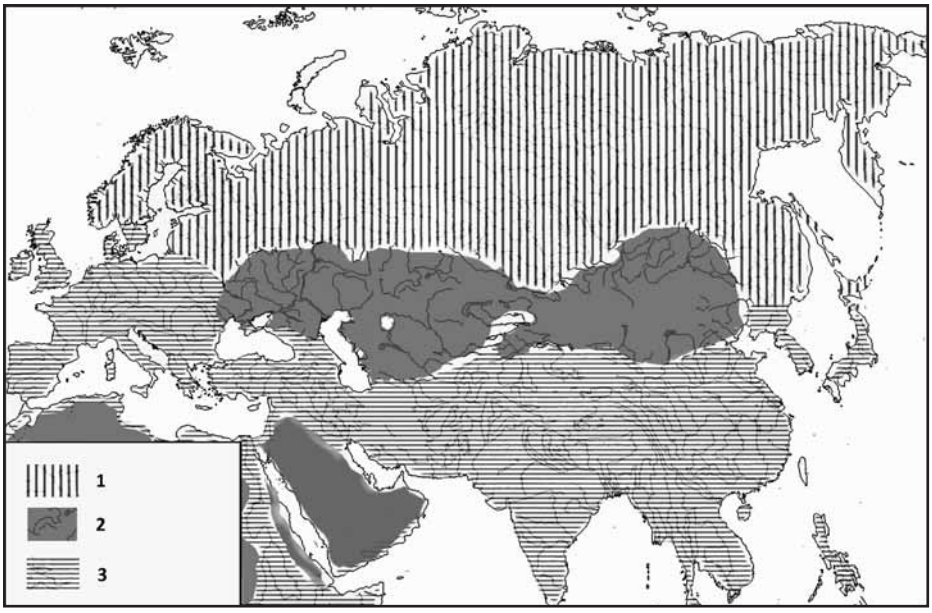

Figure 4. Three main models of the subsistence and environmental bases of society in Eurasia. Some peripheral models were not marked on this map (for instance, nomadic reindeer-breeding in the tundra and the forest-tundra regions, or the upland-specific mixed forms of farming and mobile stock-breeding in Tibet etc.) 1 – the northern hunter-fisher-gatherer communities; 2 – the nomadic and semi-nomadic stock-breeders; 3 – settled farming communities.

general. Only the cultures of the outlying southern areas sometimes happened to be included in the zones of influence of the steppe communities. The archaeological material and also written documents (though the last ones dates back to the later periods) testify to comparatively modest interrelations between the steppe communities and their northern neighbours. But the interests and intentions of the mobile stock-breeders were absolutely different at the southern borders, in the zone of the settled farming peoples. Not only a great deal of archaeological data, but also written sources confirm this fact. To my mind, however, the most striking material confirmation of this long-term cruel and changeable confrontation is surely the Great Chinese Wall – or more precisely a complex interlacing of different walls of different times and styles. It even may look like both of these two fighting worlds spent the lion's share of their social energy on this conflict. In any case, the conflict was, if not the main, at least one of the main reasons for the three thousand years' "great spatial stagnation". Besides, it is absolutely clear that great efforts were also invested in "intraspecific" conflicts between different pastoral tribal groups.

The West Asian Metallurgical Province

The forming of two gigantic metallurgical provinces (MP) in the territory of the ESB was of utmost importance for the problematic considered here. The main archaeological cultures and communities of the first, the West Asian MP – WAsMP (or Eurasian – in my former papers) – were entirely localized in the western part of the ESB, also penetrating into the southern areas of the forest further to the west and east of the Urals. The second province, the Steppe East Asian MP (EAsMP), completely covered the eastern part of the ESB, also extending into the adjoining northern forest zones of Siberia and the Amur basin.

One of the most important events of this critical period was the disintegration of the Circumpontic metallurgical province, leading to the emergence of new formations of similar kind on its "ruins". The CMP was basically a kind of "primogenitor" of the West-Eurasian model of metallurgical production. The Late Bronze Age was marked by the origin of another model of this production – the East-Eurasian one.

After the disintegration of the CMP its northeast (Eastern European) zone served as the base for the formation of a huge West-Asian MP. This entity of related productive centres beyond Eastern Europe covered huge areas of the steppe and forest zones of Northwest Asia, and also the majority of the regions of Central Asia up to the Kara-Kum desert, the foothills of the Pamiro-Tienshan range and even touched the Xinjiang region. Its maximum territorial extent was 6–7 million sq. km. Compared with other provinces, the industrial centres of the Eurasian province probably preserved to the greatest degree the basic morphological-technological standards of the disintegrated CMP, although these standards underwent essential modifications during their development.

Within the limits of the ESB domain, connected with borders of the West-Asian MP, the Bronze Age pastoralists continued to develop their strategies of subsistence and way of life. Thus, from the transition of the 3rd and 2nd mill. BC, a permanent type of settlement began resolutely to supersede the nomadic and semi-nomadic ways of life. In spite of that, the mobile character of stock-breeding still remained, as demonstrated by specialized archaeozoological studies. At any rate, within this context archaeologists have found within this context the remains of several thousand so-called large and small settlements left by populations of the stockbreeders in these most extensive area; farming was still outside the framework of interests of the inhabitants of these settlements. The necropolises of the cultures of the ESB are no less numerous. Kurgan cemeteries, however began gradually and step by step to give way to cemeteries of non-kurgan funeral rituals.

By the end of the 2nd millennium BC the former vital core activities, habitual for the earlier forms of stockbreeding cultures prevailed again: the role of nomadic and semi-nomadic ways of life became stronger. The latter, as is known, began to dominate in the Scythian-Sarmatian world which completely replaced the Late Bronze Age communities at the beginning of the 1st millennium BC. The Scythian-Sarmatian world then renewed the tradition of necropolises with huge "royal" kurgans filled with valuable artefacts, which had been absolutely forgotten in the Late Bronze Age.

The approach of the Late Bronze Age was marked by the simultaneous discovery of the West-Asian MP and the beginning of exploitation of a huge number of copper and also tin ore mines scattered above of all throughout in the Asian part of the province (from the Ural Mountains through Kazakhstan up to the Western Altai). The wide production of tin bronzes also began. From now on the population of the cultures in the WAs MP zone completely met their own need for metal. The ties with the Caucasian centres of metallurgy, which had previously played such a significant – and occasionally even decisive – role as a source for metal during the previous periods, dominated by the Circumpontic Metallurgical Province standards, now ceased.

The activity of the West Asian Metallurgical Province (WAsMP) productive centres lasted for nearly a thousand years, and we can distinguish at least three main stages. Each of them is characterized by notable changes in the general picture of the WAsMP archaeological cultures and communities and also by a significant redirecting of relationships with the northern neighbours of the Eurasian forest zone.

The first stage was connected with the formation of the WAsMP and dates back to the end of the 3rd mill. BC and the first quarter of the 2nd mill. BC. Two encounters and rather active streams of migration streams played the most important role in the formation process of this gigantic province. The bearers of the so-called *Abashevo-Sintashta-Petrovka* archaeological community made the first and most massive expansion eastward. The Sources of this merging lay in the block of communities of earlier times of the steppe and the forest steppe

cultures of the collapsed Circumpontic system. The *Abashevo* culture settlements and necropolises occupied vast territories further to the west of the Urals. The sites of the *Sintashta* culture were densely located in the steppe and forest steppe behind the eastern area of the Urals. The sites of the *Petrovka* culture were spread out in the same area, but further to the East.

The swift movement encountering the west was connected with extraordinary manifestations of the famous *Seima-Turbino* transcultural phenomenon (Figure 5). This absolutely sudden Eurasian archaeological phenomenon was no doubt highly unusual. It is characterized by a most striking material, an excellent collection of bronze products – by the standards of the western collapsed Circumpontic metallurgy. The collections of metal artefacts include mainly weapons, and they are connected with sites that are highly atypical for these regions. Earlier various archaeologists usually regarded them as special necropolises. In most cases they were pseudo-cemeteries and no signs of human burials were found. It is reasonable to suggest that they were specific memorials with objects serving as a focus for the memory of someone, something or some important event. The roots of the makers and bearers of the *Seima-Turbino* bronze materials were certainly of eastern origin and were not connected with the steppe Circumpontic heritage. Also, their sources of metal were undoubtedly deeper in the emerging Steppe-East-Asian metallurgical province. The paradox lies in the fact that this eastern territory has not yet been studied in detail, and we know only a little about materials of this kind. The *Seima-Turbino* memorials are spread over the southern part of the taiga region of Western Siberia and Eastern Europe, mainly further to the north from the area of the cultures of the *Abashevo-Sintashta-Petrovka* community. This western community of tribes occupied the ecologically rich and gigantic forest-steppe region and most probably forced the eastern newcomers back to the "uncomfortable" taiga zone – to the domain of forest hunters and fishers. But the appearance of the warlike and swift Central Asian migrants did not lead to any appreciable change of the forest cultures or the character of their metallurgy and metalworking.

The western wave of cultural influence completely defined the whole character of the second stage of the WAsMP (18/17 – 15/14 cent. BC). At this stage, the WAsMP achieved the maximum of its spatial extent. The whole huge steppe on the western part of the ESB was occupied by the mobile semi-nomadic pastoral tribes of two related gigantic communities. Settlements and cemeteries of the so-called *Srubnaya* archaeological community were spread from the Urals up to the Dnieper basin. The whole eastern area up to the Altai region was filled with similar sites of the *Andronovo* community.

There are no evident traces of the Eastern influences that were noted for the first stage in the materials of these communities. There were quite noticeable changes in the character and intensity of interrelations of the steppe people with their northern forest neighbours. The whole southern zone of the taiga belt happened to be occupied by the peculiar satellite cultures of the steppe stockbreeders. Quite often, many archaeologists especially try to underline this origi-

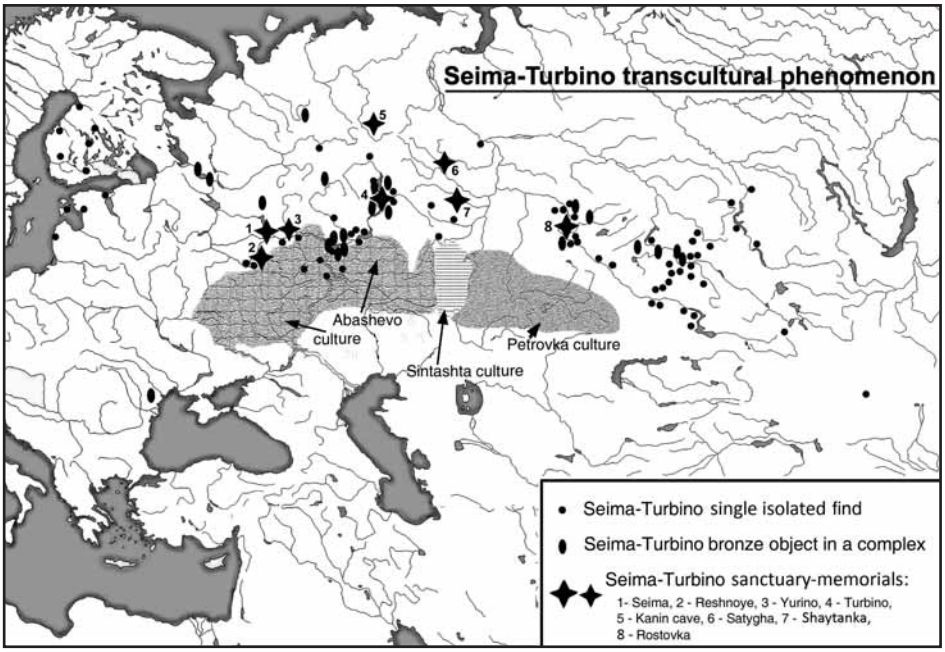

Figure 5. Two opposite major waves of migrants – the Abashevo-Sintashta community and the Seima-Turbino transcultural phenomenon (end of the 3rd and early 2nd mill. BC). Note that spearheads with typical Seima-Turbino features have been found in Northern China, not too far from even the Yellow Sea, for instance, in Shanxi Province (Mei 2009: 11, fig. 3).

nal dependency by using an additional adjective for them such as the *Sruboid* or *Andronoid* cultures. To the north of the *Srubnaya* community most often such cultures are noted as the *Pozdnyakovskaya* and the *Prikazanskaya* cultures. The forest neighbours of the *Andronovo* community were the cultures of the *Cherkaskul'*, *Suzgun*, *Elovka* and other types.

The third stage of the WAsMP (15/14–12/11 cent. BC) was marked by the process of gradual but at the same time quick disintegration of the province. Henceforth, the steppe cultures began to form into the so-called *Valikovaya pottery* archaeological complex. At this stage, the active influence of the far western European metallurgical province was felt especially strongly in ceramic and metal materials. Actually, the connections of the steppe stock-breeders with the forest people, which were so active in the previous stage, were weakened to a considerable degree. Gradually, but at same time quite noticeably, the steppe people move away from the tradition of a settled or semi-settled way of life, which predominated in the earlier stages.

Finally, we should consider as probably one of the most mysterious situations connected with the events of the final stage of the WAsMP the practically

general refusal of the steppe population to participate in mining and metal production. At the end of the functioning of the WAsMP, many hundreds of copper mines, which were developed in the previous stages in particularly energetic ways, were abandoned. The miners and metallurgists left all their copper mines and metal production workshops in vast territories from the Southern Urals and Kazakhstan up to Northern Tienshan and the Western Altai. Not only small, but also such large mines as Kargaly in the Southern Urals or Dzhezkazgan in Central Kazakhstan were deserted. This neglect of mining and metal production, which is very difficult to understand, continued over the next three thousand years until the appearance of the Russian industrialists in the 18th and the 19th centuries. This huge ore base was the rediscovered with amazing ease thanks to the countless traces of the ancient excavations of the West-Asian MP period.

Archaeological documentation permitting a reconstruction of the essence of interrelations between the nomadic stock-breeders of this province and their northern forest neighbours also seems to be very limited. Solving the problem is complicated by the fact that it is possible to perceive the character of the culture of the forest hunters and fishers – at least of the southern half of Eastern Siberia – only by analysing the materials from the non-kurgan cemeteries (for instance *Fofonovo*, *Kitoj*, *Glazkovo* and many others in the surroundings of the vast Lake Baikal area). As a rule, the materials from the considerably rare settlements of this forest area are not as significant as the sepulchral materials. Most probably, as also in the case of *Seima-Turbino* and *Karasuk* cultures, a mobile (nomadic?) way of life prevailed for the local people. It is noteworthy that an essential place among the implements of the *Seima-Turbino* transcultural phenomenon complexes is occupied by flint arrowheads and other stone items; apparent and numerous parallels to them are found in the Neolithic and Post-Neolithic cultures of the forest belt in the southern zone of the Eastern Siberia. Hence, it is quite possible that a number of groups of forest hunters were involved in the processes of the quick movement of the *Seima-Turbino* groups to the west as far as the Baltic region (see, for instance, Lang 2007).

The Seima-Turbino Phenomenon and the East-Asian MP

The Steppe East Asian MP emerged to a sufficient extent synchronously with the Eurasian one. However, in comparison with the latter, its major features and details have been studied in an incomparably poorer manner. The following discussion mainly touches on the northwest East Asian MP zone located chiefly within the limits of the Sayan-Altai mountain area and also the surrounding areas from the wooded north up to Mongolia, down to the stony spaces of the Gobi Desert.

The early phase of its origin was interfaced with the exclusively striking transcultural Seima-Turbino phenomenon. Its other stage was characterized by the apparent continuation of the *Seima-Turbino* traditions of metallurgy and metal processing. The most important materials characteristic of this stage are

mainly present in the funerary inventory of the widely known *Karasuk* cultures. The numerous metal finds are predominantly connected with graves, although often destroyed by tillage in modern times.

There are sufficiently striking and obvious points of interrelation between the early *Seima-Turbino*, and later *Karasuk* –types of metallurgy. However in attempts to reconstruct the dynamics of development of metallurgy in the Sayan-Altai region we come across rather disappointing gaps in the materials studied and available to us. We have shown that the *Seima-Turbino* wave of aggressive populations was quite definitely aimed in a western direction. We defined that its chronological range, according to the revealed contacts of these populations with the *Abashevo-Sintashta* community, is within the limits of five centuries, from the 22nd to the 18/17th centuries BC. Although not having such a representative series of radiocarbon dates, the *Karasuk* complexes should also be set within the limits of approximately five hundreds years – from the last third of the 2nd to the first third of the 1st millennium BC. The gap of three or even four hundred years between the respective chronological ranges of the *Seima-Turbino* and the *Karasuk* cultures is at present difficult to explain. We should probably await the appearance of new materials and the more detailed study of existing ones.

Even more indicative was the quick distribution of the *Karasuk* forms mainly eastward, in the diametrically opposite direction from *Seima-Turbino* directed to the West. At present a significant number of imitations of *Karasuk* metal forms are known in territory of Ancient China. In particular, these imitations are well presented even in the "royal" complexes of the Anyang cemetery dated on the basis of written documents mainly of the 13th–11th centuries BC or according the period of the late Shang dynasty.

It was probably precisely at this time that the most active opposition of the most ancient Chinese civilizations and the steppe world began. In fact the *Karasuk* antiquities were unconditionally left by nomadic herdsmen. Settlements of this culture are practically unknown to us.

The European Metallurgical Province

The cultures of the European subcontinent drastically differed from their eastern neighbours. Here, the settled agricultural model of life had always prevailed already from the Neolithic Age. In the background of the vast, no less than eight thousand-kilometre border between the nomadic stock-breeders and forest hunters/fishers, the area of contact and interrelations of cultures between two contrasting models in Europe seems quite insignificant. The main line of such contacts is evidently found in the southern part of the Scandinavian Peninsula. And again, even compared with Scandinavia and, moreover with the eastern regions, these contacts emerged to an essentially lower degree in the eastern Baltic region – in Prussia, Lithuania, Latvia and Estonia.

The character of these interrelations presented itself much more definitely starting from the 2nd mill. BC after the formation of the European metallurgical province (EuMP). It differed from the neighbouring, West-Asian system in practically all its most important technological aspects, in the organization of metallurgical production, as well as in the morphology of the bronze implements. The production centres of the province covered approximately 3.5–3.7 million square kilometres. Approximate calculations permit us to claim that we have currently data on about 100,000–150,000 metal items. One can see in this extensive system a specific "province of metal hoards", something that is absolutely uncharacteristic of other, similar West-Asian MP systems. All in all, around 1,200–1,300 hoards of bronze (as well as gold) items have been found here; the largest of them, *Uioara de Sus* in Transylvania, for example, contained up to six thousand items of bronze[1].

In the EuMP it is possible to note several zones of accumulation of centres (or focuses) of mining and metal production, as well as metalworking, the products displaying definite distinctive features. The central group spread throughout a territory extending from the basin of the Rhone and the Alps to the Western Carpathian Mountains (Hansen 1994; and other numerous works). The most western i.e. Atlantic group adjoined the extreme western regions of the subcontinent from Normandy to the Iberian peninsula (Coffyn, Gomez, Mohen 1981; and other numerous sources). Quite noticeable collections of hoards are also known from the islands, for example, in Ireland (Eogan 1983). However, the most numerous group of metal hoards and the one that is most diverse in character was concentrated in the Carpatho-Transylvanien area (Mozsolics 1967; 1973; Petrescu-Dîmboviţa 1977; Hoards 1995; and other numerous sources). Finally, the peripheral groups: southeastern – in the Lower Danubian and Northern Balkan regions (Chernykh, 1978), and also an extreme eastern one. The metal of the last-mentioned group is already scattered beyond the European subcontinent – into the Black Sea Region steppes and the forest-steppes (Chernykh 1976).

For the topic of the present article, however the most interesting ones are probably the bronze hoards and the individual bronze finds, concentrated in numerous amounts in the south of Scandinavia (Oldeberg 1976), as well as the bronze hoards found in the south of Finland and in the East Baltic region (Meinander 1954), but already in essentially smaller amounts. These bronze materials give a possibility to see a "dividing line" between the two main models of cultures – the southern and the northern. At the same time the mostly assumed, and to a large degree conditional, dividing line does not have sufficient accuracy and definiteness.

Hence, I would like to direct the reader's attention to one important circumstance: the archaeological materials of Fennoscandia, situated to the north of this conditional line, which most probably demonstrate weak acceptance (and prob-

1. In the immense West-Asian MP we have established the existence of only 50 hoards that contain some four hundred copper and bronze artefacts.

ably even actual rejection) of the cultural and technological innovations coming to them from the south. Actually, we notice a syndrome of self-sufficiency. Essentially, a similar syndrome is also ascribed to the areas more to the east, where the southern neighbours of the forest hunters, fishers and gatherers were the communities of mobile stock-breeders.

Interrelations Between European Farmers and Steppe Stock-Breeders

This article finally considers the problem of interrelations between settled European settled farmers and their neighbours – the steppe shepherds. Starting from the 5th mill. BC, i.e. from the time of the metallurgical revolution and beginning of the Early Metal Age it is not difficult to note specifically sequentially changing pendulous oscillatory "movements". Apparently, the last of these quite definitely reflected a situation with the predomination of cultures pertaining to the above models in their areas of confluence, i.e., in the east of the European subcontinent and in the extreme West of the Eurasian steppe belt.

In the early stage, in the 5th–4th mill. BC, western influences prevailed. The cultures of the settled farmers advanced along the forest-steppe to the Dnieper and the steppe peoples depended on the advanced technology of metalworking of the west. At the same time, however, the pastoral communities completely preserved the main features and character of their own cultures.

In the 3rd mill. BC, distinct traces of the steppe kurgan cultures appeared far in the West – in Pannonia in the vast Danubian basin. The general appearance of the settled agricultural cultures of the Carpatho-Balkan area underwent considerable changes.

In the 2nd mill. BC, together with formation of the European MP the border between the "western" and the "eastern" cultures moved back to the basin of the Dnieper. It is quite evident that a sharp activation of the bloc of European settled agricultural cultures took place.

The 1st mill. BC, the steppe nomadic and other mobile stock-breeders of the Scythian-Savromatian bloc definitely dominated again. The impressive and rich funerary structures of their chiefs are known not only from all over the vast western half of the ESB, but also all over the lower and mid-Danubian basin.

In lapidary narration, this "pendular" character of complex processes of interrelation between the communities of the two main models of cultures with a productive economy at the western side of the ESB happening over several thousand years looks namely like this. At the same time it is impossible not to notice that in cases of domination, for example, of the Western model over the Eastern – the pastoral model, the basic appearance of the steppe communities changed to only a minor degree, i.e. again the signs of the syndrome of cultural self-sufficiency manifest themselves. It appears that the pastoral communities

preferred in any case to preserve the main and traditional values of the steppe stock-breeders. This is to a large extent probably explained by the fact that the geoecological basis of the mobile stock-breeding cultures remained practically unchanged. I think that with this observation as background, the persistence of the northern hunters, fishers and gatherers in following the fundamental basics of their original culture over many millennia becomes more understandable. It was only the coming of the modern age and the period of the Great European Colonization that managed practically completely to destroy this picture.

Summary

In this article the author seeks to present a broad picture of the cultural development of three different models of ways of life with regard to the interrelations of the northern forest hunters, fishers and gatherers with their southern neighbours, who were prevalently stock-breeders. It is natural that the limited scope of the article most require an overview, which is especially accentuated by the enumeration of the main parts of this work. It was possible to define the main parts of this research only in an "outline" form. The reader can notice that only latter part of the text is provided with references to published sources. Such references are absent from the preceding parts. The reason for such an approach is quite simple: each of the points of the huge material that we managed to touch upon here would have demanded innumerable literary references. The main approach offered by the author himself was breached only in the case of the quite spectacular, but for our topic relatively peripheral, material of the cultures of the European MP system.

Acknowledgements

The author prefers to present at very end of the article references to works, where the main statements of this article are expounded in far greater detail. Thus, the general constructions features of the structure of the Eurasian world in the Early Metal Age have been accumulated in the books of the author and his collaborators (Chernykh 1976; 1978; 2008; 2008a; 2009. Chernykh & Kuz'minykh 1989; Chernykh & Avilova & Kuz'minykh & Orlovskaya 2002; Chernykh & Avilova & Orlovskaya 2002; Chernykh & Kuz'minykh & Orlovskaya 2004). An extremely large role in these general pictures is no doubt played by new absolute chronology, based on the systematic processing of numerous series of calibrated radiocarbon data. These data have been also published in one of the books and in a number of extensive articles (Chernykh 2008; 2008a; Chernykh & Avilova & Orlovskaya 2000; Chernykh & Kuz'minykh & Orlovskaya 2004a; Chernykh & Orlovskaya 2004). With regard to any questions, the author suggests referring to these works.

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Part II

Northern Fennoscandia

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Interaction Within and Between Collectives: Networking in Northern Fennoscandia

The project *Early Networking in Northern Fennoscandia* is concerned with investigating interaction at the regional and interregional levels. Through a number of separate case studies we look into the substance of the interaction, evaluate its extent and diversity, background and organization, and its wider effects. In my case study I approach interregional interaction by looking at networks and collective identities. The following focuses on the importance of collectives in interaction.

While the project aims to dissect traditional cultural entities by showing that all communities, past and present, are heterogeneous, we do not deny that collective identities exist and are of great importance in interaction and networking. Interaction does not take place between unidentified partners, but between individuals and communities with recognized identities, even if the actual persons have never met before. People need an identity for you to know how to relate to them. In the following I first discuss how collective identities may be involved in interaction. The examples that follow are derived from the Late Stone Age in Northern Fennoscandia. However, the principles are assumed to be of a more general character.

I employ several different terms, which I present briefly here, to be elaborated on below. A *collective* is the broadest, most encompassing term. Some collectives are based on social or cultural elements, while others may be based on economic or technological practices. *Identities* are collectives consisting of people who are conscious about their shared position in society. They are predominantly based on shared social and cultural elements, but identities may build on other aspects, too. *Communities of practice* are collectives based on shared practices, whether economic or more explicitly technological. A community of practice may also have a shared identity, but there is no necessary or automatic correlation between identity and a community of practice. *Networks* are relations between a number of agents, and may take place *within or between* any collective, identity or community of practice.

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Helsinki 2012. 125–138.

Identities, Collectives and Networks

My point of departure is that we all have a multitude of overlapping and situated identities. This is not a modern phenomenon, but would have been true also for past hunter-gatherers. Each individual would have had identities tied to social aspects such as descent and family, gender, age, possibly clan affiliation, and to language, but also perhaps to landscape, and to economic, cultural and religious tasks. Each individual would share such identities with a number of other persons (a collective), but not all of these would share all identities with each other (Figure 1). Each of these identities would be relevant and active in different circumstances, and in relation to different types of local, regional and interregional interaction. For instance, an individual would be associated with a patri- or matrilineal family, a collective consisting of men and women, young and old. In other circumstances, women would constitute the relevant collective, and young unmarried girls could be a subgroup here. And of course there would be collectives that one was not part of.

In the above examples the collectives spring mainly from social and cultural categories and identities. However, many collectives would be found in association with practical tasks of various sorts. Such collectives could be termed communities of practice (Hallgren 2008). A community of practice is a group of individuals associated with, if not necessarily collaborating on, a particular task, be it pottery production, raising a dwelling structure, fishing, making winter clothes etc. The important aspect here is that this group of individuals shares a set of techniques and practices with regard to the performance of a particular task. This practical knowledge has been transmitted within and between generations. The sharing may be deliberate and strategic, but may also be unacknowledged and tacit. The community of practice may also be described as a network in the sense that there are active relations between a number of human individuals in the form of learning or copying from each other and possibly collaborating in a task. In a wider Actor-Network-Theory sense this is also a heterogeneous network consisting of relations between human actors, tools, raw materials and possibly landscape, language etc (Latour 2005). While individuals in a community of practice may not always explicitly share a collective identity, their common practices establish the basis for a latent identity (Damm 2010).

These various collectives, communities of practices or networks may be expected to be linked explicitly or implicitly to material culture. This should be obvious when it comes to communities of practice where the sharing of technology is one of the premises for the collective. Similarly social collectives often share specific elements of material culture. It should be noted, however, that in a number of cases there is no direct material correlate for such groups.

The above would imply that we should be able to trace such communities and collectives by looking at various practices through their associated material. Different types of tools are needed for different practices and are produced by different collectives. If different artefacts are linked to different collectives, then

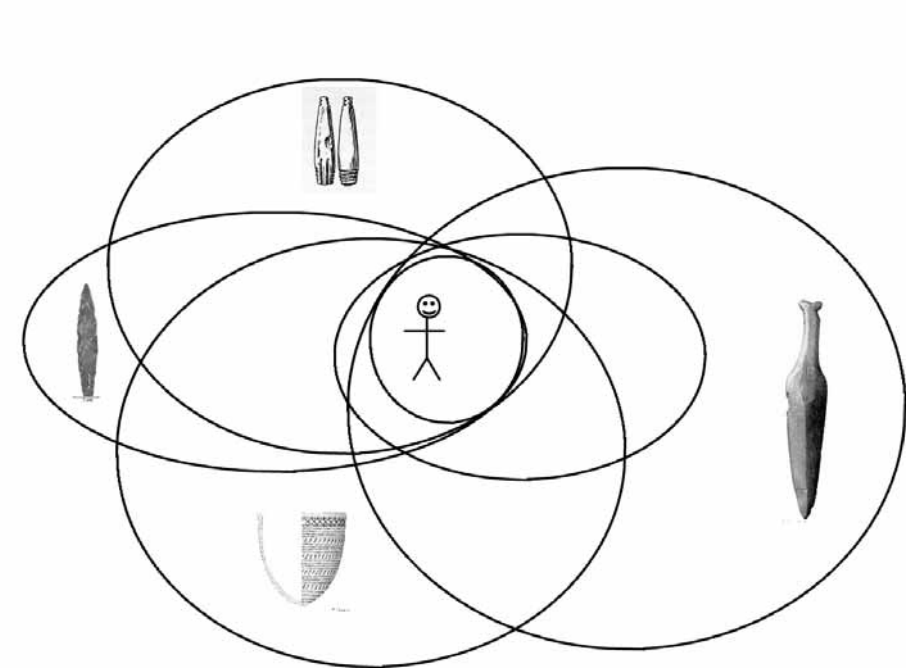

Figure 1. Model of an individual and her participation in different, partly overlapping collectives.

we should expect different patterns in space and context. Some patterns may be linked to production and others to use, as there may be different collectives involved.

One of the problems in archaeology is that for a very long time it looked at assemblages of tools, and tried to access through this larger communities or social and cultural entities. What I suggest is that it is possible to look at individual tools, or even elements of tools, for example specific elements of pottery production (Damm in press), and through these attempt to arrive at some understanding of the kind and size of collective in which they participated.

When trying to get at such past collectives, we as archaeologists must turn to material culture, but also to the activities and practices that the materials were involved in. It is not necessarily the tool itself that is important, but how it was manufactured and later employed. In other words, we are not primarily concerned with categorical types and traditional typologies, but rather with *'chaînes opératoires'* in their most expansive sense, considering the items as enmeshed in a wider technological and social context. It is important that we consider not just the manufacturing phase of artefacts, but equally their practical use and its context.

Identifying Communities of Practice

I will illustrate the existence of prehistoric collectives through a few examples, drawn from Stone Age hunter-gatherers in northern Fennoscandia (predominantly the period 5000–2000 BC, all dates are calibrated). The examples are illustrative only, and are not yet to be regarded as forming a complete argument about the period. The selected artefacts and types are found over rather widespread areas, across modern national and academic borders. This leads to certain difficulties with regard to identification/classification, comparative dating, and cultural context. While I am aware of these issues, they will not be dealt with here, also because the examples are meant to serve as just that.

The Stone Age communities in Northern Fennoscandia were widely engaged in fishing on the coasts and in freshwater settings, although the contribution of fishing to subsistence cannot be evaluated in any detail and is likely to have varied for different regions. The majority of the fishing equipment would have been made of organic materials (bone, antler, wood, sinews etc), and is consequently not preserved. There are, however, some examples of composite fishing hooks or jigs, in which the shaft was made of lithic material, while the point was most likely was made of bone. These are quite common in Finland and regions further to the south and east. They have been presented by Torsten Edgren (1967) who classed them into three separate types. The two most common types are found in southern and central Finland. The third type is clearly distinguished from the first two in having two deep vertical furrows for inserted points, i.e. a double hook. The shaft is made of soapstone, sandstone or slate. The top of the shaft has a knob and/or horizontal lines engraved in it, the latter are also found on the bottom of the shaft, presumably to assist in hafting the points. They are 4–5 cm long and weigh 5–6 g. They would have been suitable for fishing either in deep water or places with strong currents (Gräslund 1969: 46).

The 12–13 known pieces of this type occur only in the northernmost parts of Fennoscandia, in present day Finland, Sweden, Norway and Russia (Figure 2). They are found both inland and on the coast. Unfortunately most of these finds are without detailed and reliable contexts. Many are from multi-phase settlements with material ranging from the early Neolithic well into the Early Metal Period (Table 1). The other two types of composite fishing hooks have been found in Finland with Typical Comb Ware dated to the first half of the 4th mill. BC (Edgren 1967, Pesonen 2004).

Based on information from the Noatun sites on the Pasvik River in Finnmark, Norway, the northern type has mostly been dated to the final part of the Stone Age, i.e. around 2000 BC or even the Early Metal Period (Simonsen 1963: 71, Edgren 1967, Gräslund 1969). The Noatun finds have all been recovered by a local farmer, and the exact find contexts are uncertain, as the area is a multiphase settlement. They were collected together with items such as Early Northern Comb Ware and bifacial chert points that date to the 5th mill. BC, and with Rovaniemi adzes, that date anywhere from the 5th mill. BC to the Early Metal

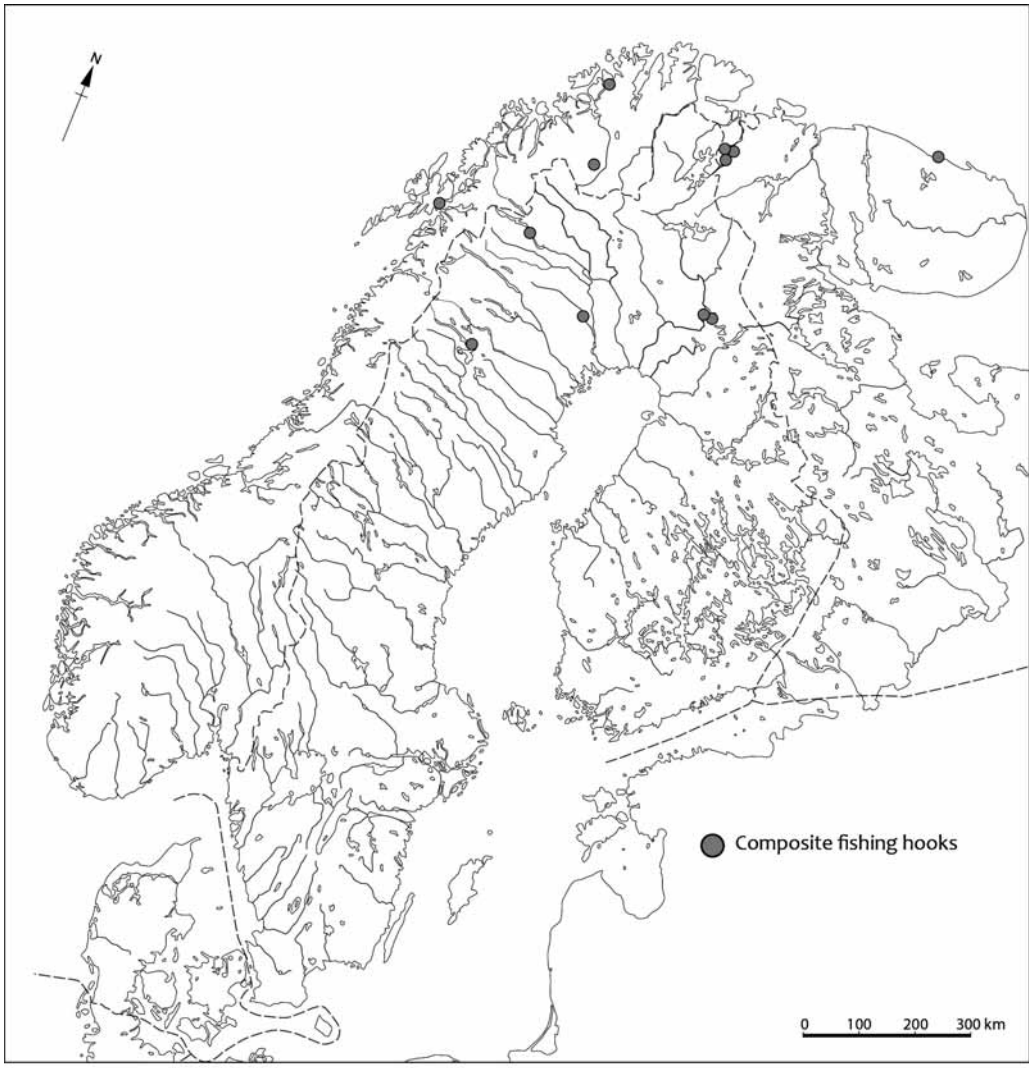

Figure 2. The distribution of composite fish hooks of northern type.

Period. This suggests that the late Stone Age date presented by Simonsen is at least not irrefutable. There is a late Mesolithic tradition of small soapstone sinkers on the west coast of Norway (Bjerck 1986).

Stratigraphically the hook from Neitilä 4 should be associated with Typical Comb Ware (Kehusmaa 1972: 70), suggesting a date between 4000 and 3500 BC. The finds from Steinsvik were also collected by a local farmer with no further information on the context. They include a broad-bladed dagger or spearhead, a large single-edged knife, a greenstone chisel fragment and a sinker (Gjessing 1943). Although none of the finds are chronologically diagnostic, both daggers

and large single-edged knives are common in the early part of the period when polished slate was used in northern Norway, around ca.4000 BC. The Halsen find consists of a large number of artefacts discovered when a road was built in 1922. They are from an area extending 42 m and the width of the road (not specified), with a few finds further away. The find location was later measured to be about 16 m asl (Engelstad 1925). The extension of the find area indicates that the finds probably derive from several house structures. The collection consists of four boot-shaped single-edged knives, four single-edged knives with heel, one ridged double-edged knife, six spearheads (several with barbs), two arrowheads (one is a Sunderøy preform), in addition to two harpoons (one antler, one bone) (Nicolaissen 1923, Gjessing 1938). The bone harpoon has a distinct circle ornamentation. The majority of these artefacts should date to the 3rd and 2nd mill. BC (Olsen 1994). The circle ornamentation bears close resemblance to a find from Nyelv, dated to 3200–3000 cal BC. The ridged dagger resembles daggers with elk-heads, dated to the late 4th or early 3rd mill. BC.

Unfortunately none of the fishing hooks can be dated with absolute certainty. Some find associations suggest quite early dates (5000–4000 BC), while others indicate a late date (into the 2nd mill. BC). It is quite possible that the type in question was in use over several millennia, however, the many identical details may suggest a more limited period of production. Considering the find from Neitilä and the dates for the other composite fishing hooks, I am personally inclined to favour an early date.

We must assume that many such implements have been lost whilst fishing. Similarly the shaft may in many cases have been made of other materials. Nevertheless the finds indicate the existence of a rather widespread community of practice, producing and/or employing nearly identical composite hooks. Even if the actual production was restricted to a more limited region the wider distribution is still evidence for widespread contacts of some sort, resulting in the spread of these artefacts. The fishing hooks have not been given much attention, and there may well be unrecognized items in the museum collections. Nevertheless the double jig does seem to be an exclusively northern type, with the two other types are predominantly known from areas further south and east.

Any definite dating for the composite fishing hooks of northern type is not possible at present. More reliable in this respect are bifacial chert points with pointed base. These points are quite common along the coast of Finnmark and probably further south, as well as along the Pasvik River, and date from the 5th mill. BC. A few items of the type have been found in limited numbers further inland at Finnish and Swedish sites. Interestingly, Marianne Skandfer has argued that although these points are found in both Eastern and Western Finnmark the *chaîne opératoire* differs between the two regions (Skandfer 2005, 2009). This suggests that there was one larger community of practice with regard to use of the point, but two different communities of practice when it comes to the production of them. The reduction sequence known from eastern Finnmark is found also on Finnish sites (Skandfer 2005: 16) and possibly on the Kola Peninsula (Gurina 1997: 37)

MUS. NO.	LOCATION	MATERIAL	SIZE	CONTEXT	REFERENCE
Sweden					
SHM 27538	Vakkokoski at Torne river, Jukkasjärvi, Lappland	Soapstone	45 x 11 x 8 mm; (5 gr)	Single find	Gräslund 1969
SHM 28476	Talludden, Övre Länsjärv, Överkalix, Norrbotten	Grey slate	43,5 x 11 x 8 mm; (6 gr)	Surface collection	Gräslund 1969
Not available	Revi, lake Kakel, Arjeplog, Lappland	Slate	Ca 45 x 10 mm	No information	Bergman 1995: 68
Norway					
Ts 2854	Halsen, Kvalsund, Finnmark	Grey slate	5 x 1 cm	Collection of several single edged knives, wide barbed spearheads and a slim ridged dagger.	Gjessing 1938 Nicolaissen 1923
Ts 3974 d	Steinsvik, Lødingen, Nordland	Soapstone	43 mm; (8,1 g)	Found with dagger and single edged knife, a greenstone chisel and a sinker.	Gjessing 1943: 17
Ts 5208 dd	Noatun Innmarken, Sørvaranger, Finnmark	Soapstone	48 x11mm	Collection from multi-phase settlement. Found together and with a flat adze of Rovaniemi greenstone.	Simonsen 1963: 18
Ts 5208 ee		Soapstone	34 x 9 mm Not intact		
Ts 5581 bu	Noatun Innmarken, Sørvaranger, Finnmark,	Soapstone	40 x 9 mm Not intact. Type uncertain	Collection from multi-phase settlement, found with Comb Ware and chert points.	Simonsen 1963: 66
Ts 4665 a	Noatun Løkka, Sørvaranger, Finnmark	Soapstone	42 x 11 x 8 mm	Collection from multi-phase settlement. The other finds include Rovaniemi adzes and Comb Ware.	Simonsen 1963: 123
Ts 5927 d	Stourajavre, Kautokeino, Finnmark	Soapstone	40 x 11 x 9 mm; (5,1 g) Not intact	Surface collection	TMU database
Finland					
NM 15671:1312	Neitilä 4, Luusua, Kemijärvi	Sandstone	39 x 11x 6 mm	Multi-phase settlement. Stratigraphically associated with Typical Comb Ware.	Edgren 1967, Kehusmaa 1972
NM 15042:171	Sotaniemi 3a, Luusua, Kemijärvi	Slate	42 x 11 mm	Multi-phase settlement, possible association with Kierikki Ware.	Edgren 1967, Kehusmaa 1972
Russia					
Not available	Mayak, Kola	?		Multi-phase settlement	Gurina 1997: pl 33, fig 23

Table 1. Fish hooks of northern type.

Finally Early Northern Comb Ware (earlier often referred to as Säräsniemi 1), dated roughly between 5500–4000 cal BC (Skandfer 2009) is found in eastern parts of northern Fennoscandia only. This northern ware is stylistically different from the early Comb Ware further south in Finland, suggesting different communities of practice. And Skandfer (2005, 2009) has demonstrated that even within the northern ware technological elements such as wall thickness, types of temper and choice of stamps differ between sites indicating very local practices.

The fishing hooks, the bifacial points and the pottery represent different communities of practice. Within them it is possible to find additional communities of practice, all depending on the scale of analysis and the elements studied (for example production sequences versus finished tools). The three are arguably contemporary and partly — but only partly — overlapping geographically. They are good examples of the complexity of collectives existing in past hunter-fisher societies. It is reasonable to assume that the fishing hooks, the bifacial points and the pottery were produced and used by different collectives of individuals, with different patterns of regional and interregional interaction and networking.

Skandfer (2009: 363) has suggested that the introduction of the Early Northern Comb Ware should be viewed as a catalyst, which initiated something without being a key product itself. If, for the sake of the argument, we assume that pottery was produced by women, then the knowledge of the *chaînes opératoires* would be transmitted within a collective of females. Since pottery production is generally acknowledged to require close interaction between potter and apprentice, pottery could not have spread widely just by seeing and copying. Experienced potters must have travelled. In other words, either women raised in the Southeast travelled north and settled there, or women from the northernmost parts of eastern Fennoscandia travelled to the Southeast, learned the pottery craft and later returned home. As there is little to suggest that the potters were part of a major northward migration, we are mostly likely dealing with either women being married into northern groups or possibly less extensive migration movements consisting of a limited number of families. The pottery craft does not spread further west, which suggests that whatever kind of network these women were part of (in addition to that of the craft), it did not for some reason extend beyond Varanger.

The fishing hooks and the chert points represent other activities undertaken by different communities of practice. Here the transmission of technology with regard to production and use display patterns different to those of the potters. Clearly the persons within these different networks followed separate patterns of interaction.

Whether or not these collectives were explicitly linked to particular social or cultural identities we can not say. However, the persons engaged in the shared practices in these collectives must necessarily have had something in common even if the related tasks were not an essential part of any overt identity. They would have learned these practices from each other and transmitted the knowledge between them in time and space, from generation to generation, and from region to region.

Across and Between

In the above I have focused on identifying collectives based on shared practices and the transmission of knowledge and items within these communities of practice. However, transactions between different collectives are of course also very common, and constitute much of the interaction in any society. Here the networking springs from diversity rather than from common ground.

Items will cross between different collectives. The point with regard to collectives and communities of practice is that although, as argued above, in a number of cases the distribution of a specific artefact and the technologies associated with it indicate the existence of a rather close collective, in other cases the distribution in no manner reflects a collective with a potential common identity.

While cultural and material difference is an important aspect of and even basis for cross-cultural interaction, it will in almost all cases also lead to a wider distribution of specific practices and material. With regard to communities of practice it may be important to distinguish between production and use. An item may cross into a collective that apparently does not know how to produce the item, or at least choose not to, but the use of the item is likely to be the same. While it may be argued that we are still dealing with communities of practice with regard to use, it is much less likely that there is any foundation for shared identities. Such items may well be obtained not because they are associated with shared social or cultural activities, but mainly because they are functional, are considered pretty, or have certain prestige value in the receiving collective or as part of a more complex and extensive pattern of interaction between collectives, i.e. they may be part of more elaborate gift exchange, where much of the immaterial aspects and relations are of more importance than the specific exchanged objects.

When evaluating the distribution of individual types, there are therefore many different types of collectives, networks and interaction to consider. Again the scale we select is at issue. There may well be exchange between separate households within a local group, or between different local groups if each household or group has specialized in certain practices, e.g. specific economic practices as has been demonstrated for groups located only 20 to 30 km from each other in the Varangerfjord (Hodgetts 2010). However, this may often be difficult to ascertain archaeologically. We are perhaps better equipped to deal with exchange between different regional groups.

While metal objects primarily date from the Early Metal Period, i.e. from the late 2nd mill. BC onwards there is an early metal horizon too. At the Comb Ware settlement of Lillberget in northern Sweden a copper bead and a fragment of copper plate were found (Halén 1994). The C14 dates from the site unanimously place the finds between 3900–3600 BC (Färjare 2000). The site is one of the westernmost settlements with finds of Comb Ware, and it also had numerous implements of eastern flint as well as Baltic amber. At Polvijärvi in Eastern Finland a copper ring measuring 6.5 cm in diameter was found in a homogenous cultural layer with Typical Comb Ware (Taavitsainen 1982), which should also

date the ring to the first half of the 4th mill. BC. Further north, at Kukkosaari, a forged copper adze was found at a site with mixed material. It has tentatively been dated to 3800–2500 BC (Huggert 1996). A cast copper adze was found outside any datable context in Varris, Sweden. It measures 9.8 x 5,1 cm and is 0.9 cm thick, weighing 238.9 g. The Varris adze does not bear resemblance to the adzes from the Early Metal period, but is not dissimilar to the Kukkosaari adze.

From several other sites in Finland copper finds (mostly unidentifiable fragments) have been reported (Lavento 2001: 119–20). Of these at least four are associated with Neolithic pottery. At Vihi in Rääkkylä nine fragments were found in a dwelling depression with Typical Comb ware; at Ankonpykälänkangas in Kerimäki a fragment was found in a test pit with Typical Comb Ware and Neolithic asbestos pottery; at Kuuselankangas and Purkajansuo, both in Yli-Ii, copper was found with Kierikki and Pöljä wares, that have been dated to between ca. 3350–2900 BC and ca 3500–2600/1900 BC respectively (Pesonen 2004).

Finally, a copper dagger was found in a midden next to a semi-subterranean house in Varanger, northern Norway. The house has been dated to the transition between the Neolithic and the Early Metal Period (ca 2000–1800 BC) (Schanche 1989), but recent re-examinations indicate that the midden may in fact be more than 1000 year older, with 4 C14 dates between 3400–2750 BC (Helama & Hood 2011).

The primary area for early metal production lies in the Oka-Volga area and into the Urals, but copper is also found in the bedrock on the western shores of Lake Onega in Russian Karelia, where it appears to have been exploited during the Typical Comb Ware period (ca 4000–3500 BC) (Huggert 1996: 77). The early Onega sites included furnaces, crucibles and axes, suggesting that smelting was indeed involved (Chernykh 1992: 188; Huggert 1996). These Karelian sources appear to have been exploited less intensively in the following period, which is characterized by asbestos pottery of Pöljä type.

Most scholars have looked to the Ural region as the point of origin for the copper and copper artefacts in this early horizon in northern Fennoscandia. As pointed out by Anders Huggert (1996) it is, however, a complex matter to determine the exact source of the copper from artefacts. Huggert (1996: 79) is of the opinion that several of the Fennoscandia items may consist of mixed material, thus complicating an analysis. Here it is of less importance if the origin was in Russian Karelia or further east. In any case it is obvious that artefacts were being exchanged over long distances, and that the objects entered new and different collectives. We are not able to extract much information about the circumstances for the distribution of these early copper items, but it is a general assumption that the objects would have been rare and viewed as exotic and perhaps prestigious. Interestingly they all appear to derive from settlements, rather than individual graves, this suggesting either that they were associated with a collective rather than an individual, or that the individual was not able to hold on to it, at least not after his/her death.

A similar and contemporary example is the exchange of amber in the 4th mill. BC. The amber was collected at the Baltic coast, manufactured into predominantly beads and pendants at a number of key sites, even in the interior (Loze 2003, Zagorska 2003). During the first part of the 4th mill. BC the hunter-gatherer societies to the north were obtaining amber from these sources. It is also clear that the amber was by no means evenly distributed. In Southern Finland a rather limited number of graves contained large numbers of beads (e.g. Edgren 1959, Katiskoski 2003), others a few beads, while most contained no amber. A few settlement sites revealed a great deal of amber, while most had none. And even within settlements such as Kierikki, some houses contained distinctly more amber than others (Vaneeckhout 2010). Morten Ramstad has suggested that while amber necklaces were kept intact in the southeast, further north where amber was even rarer, necklaces were taken apart, and the beads exchanged separately (Ramstad 2006). Also in northern Norway some areas seems to have had better access to amber than others.

The distribution pattern in each local area (cemetery or settlement) indicates that amber was not a material that could be readily obtained by everybody. Only some individuals or collectives had access to these objects. Furthermore it would appear that the onwards distribution was not a simple down-the-line pattern. Amber appears in good quantities in some areas and not at all in others. To me both of these patterns suggest that the exchange was part of socio-political interaction, possibly organized as partnership exchange. Described in relation to collectives, the distances that these objects are transported across, demonstrate (based on other knowledge of the larger area) that they are being exchanged between different collectives: produced in one, passed on between several others. They may have been bartered or traded, but for the period in question (late 5th and 4th mill. BC) there is little evidence for any extensive barter or trade activity of bulk goods. Instead, they may well have been handed on in gift exchange between collectives or perhaps between individuals with particular positions within their own collective, which were recognized as either equal or at least suitable for interaction.

While it is possible that copper was distributed across the landscape in much the same way as the amber, we may be able to trace different actual networks of interaction. The copper possibly derives from Onega, and appear to be handed on in a network going from Karelia into the area of the Finnish lakes and north around the Gulf of Bothnia. The amber on the other hand shows a different route of interaction and social networking, going from the south more directly north, although a few finds found their way across or around the Gulf of Bothnia. At present these possible routes are very uncertain. But with better dating of individual sites and finds, it should be possible to trace different routes of networking for different materials and artefacts. This would contribute towards understanding the complexity of interregional interaction between collectives in northern Fennoscandia.

While the interaction between collectives is mostly easily demonstrated in the case of long-distance exchange of more exotic items or materials, we should be aware that similar exchange may well have taken place regionally or even locally.

Conclusions

These few examples show how broadly contemporary artefact types and materials are involved in a wide variety of interaction, with potentially highly different distribution patterns. To understand why, to get to grips with the substance and background of the interaction, we need to look not only at the different functions and activities with which these artefacts were associated, but we also have to realize that a substantial part of the background for the different distributions are the different collectives and communities of practice to which they are linked, and how knowledge and objects are transmitted within and between them.

By breaking down interaction into an almost infinite number of practices, networks and identities I hope to have demonstrated the very complex nature of entangled relationships between material culture and interaction within and between collectives and communities of practice.

Often our data do not provide the fine resolution necessary to distinguish between various forms of interaction within or between collectives. Nevertheless, I would argue that it is important for us to develop our understanding of the many levels and varieties of interaction also affecting the material patterns that we are forced to work from. I also think that by considering the scale and the choice of data carefully we will be able to find data that can provide information on these aspects.

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A Permeable Border – Long-Distance Contacts Between Hunters and Farmers in the Early Neolithic of Scandinavia

Introduction

This paper discusses long distance interaction between hunter-gatherers and farmers in Scandinavia during the 4th millennium BC. The beginning of the 4th millennium coincides with the introduction of agriculture in South Scandinavia, and therefore the approximate year 4000 cal. BC is considered the start of the Early Neolithic (4000–3300 cal. BC) in this region. The Early Neolithic of South Scandinavia is not only defined by the introduction of domesticates, but also by a characteristic archaeological assemblage that include artefacts such funnel-beakers, polished working axes and polygonal battle-axes. This archaeological complex is known as the Funnel Beaker Culture, traditionally abbreviated TRB after the German term *Trichterbecherkultur* (Jażdżewski 1932; Becker 1948; Midgley 1992).

On the Scandinavian Peninsula to the north of the TRB there lived hunter-gatherers who did not adopt farming during the Early Neolithic; neither did they adopt the material culture characteristic of the TRB. Slate tools are a prominent feature in the archaeological remains of these latter groups, and the find-complex is therefore known as the Slate Culture (Brøgger 1906; Brøgger 1909; Almgren 1912). It can be argued that there really is a sharp divide in the Early Neolithic archaeological material across Central Scandinavia, with the Funnel Beaker Culture in the south and the Slate Culture in the north. There are, however, also traces of contacts across this border in the form of imported exotic objects. This theme will be explored further in this paper, starting with a discussion of an exotic slate knife found at the TRB settlement of Skogsmossen in Eastern Central Sweden.

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An Exotic Slate Knife from the Skogsmossen TRB Site

Skogsmossen is a settlement of the northern Funnel Beaker Culture, located in a forested area of Västmanland, in Mälardalen in Eastern Central Sweden (Figure 1). A part of the site was excavated in connection with the construction of a new railway in 1995, with minor research fieldwork carried out in 1997–98 (Hallgren et al. 1997; Hallgren 2008). The TRB settlements in the region Mälardalen can be roughly divided into two categories, land-facing settlements with an emphasis on cultivation and cattle herding, and sea-facing settlements with an emphasis on seal hunting and fishing. Skogsmossen belong to the former category, dominated by bones of terrestrial herbivores (N=104 fragments), of which determined species represent cattle (8) and sheep/goat (5). The settlement is located on the slopes of a moraine ridge, 62–54 m above present sea level, the distance to the Early Neolithic coastline (40–35 m a.p.s.l.) was no more than 100 m during the beginning of the early Neolithic and about 1.2 km at the end of the period (cf. Risberg 2002). The close proximity to the sea is also evinced by the presence of bones from seal (5 fragments) and fish (5), together constituting 4% of the osteological material.

Apart from settlement remains, the Skogsmossen site contains a small fen that was used for ritual depositions during the Early Neolithic. The find material from the fen includes, among other things, 155 fragmented ceramic vessels, 35 axes and 25 quernstones. Besides finds typical of the Funnel Beaker Culture, the assemblage numbers a few exotic artefacts in the form of slate tools originating from the hunter-gatherer society of Northern Scandinavia. One of these exotic objects, an intact knife of banded red and green slate (Figure 2) displays some interesting traits in both its design and the choice of raw material, which can be used to shed light on the character and scale of the social networks that cut across the "border" between TRB farmers and Slate Culture hunter-gatherers. Before this can be explored further, it is however necessary to present a brief overview of the archaeological materials grouped under the blanket terms of Funnel-beaker Culture and Slate Culture respectively.

The Analytical Constructs "Funnel Beaker Culture" and "Slate Culture"

The archaeological assemblages of the Funnel Beaker Culture sites in Mälardalen are characterized by a re-occurring set of artefacts such funnel-beakers, collared flasks, clay disks, polygonal battle-axes, point-butted and thin-butted working axes, saddle-shaped quernstones, etc. These artefacts can be viewed as the outcome of cultural practices performed in local, partly overlapping, partly separated *communities of practice* of differing composition (Hallgren 2008; cf. Wenger 1998). While being the outcome of craft practices performed locally, they nonetheless allude to a sphere beyond the local as, for example, the con-

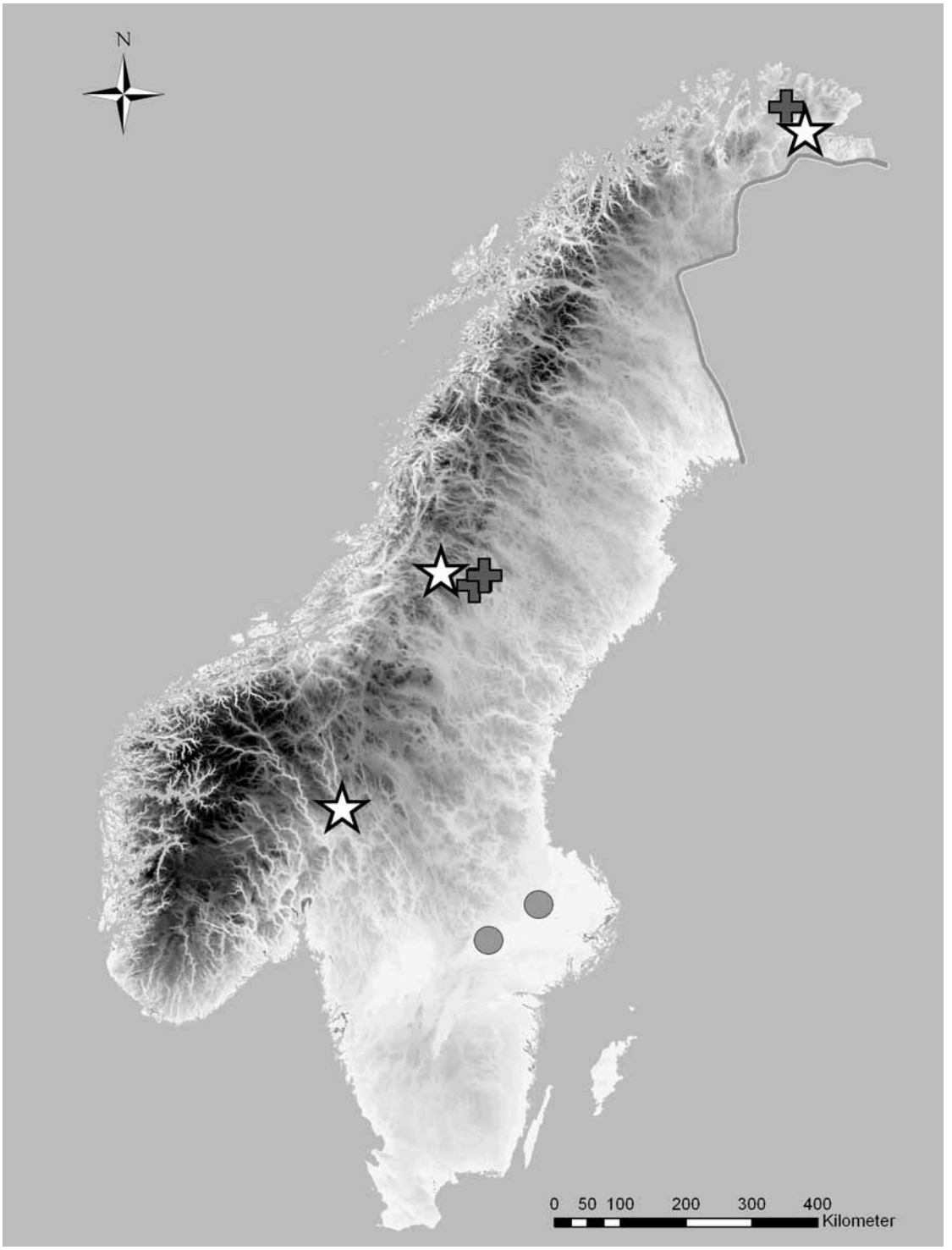

Figure 1. Map of the Scandinavian peninsula (Norway and Sweden) with key sites mentioned in text displayed. Legend, from south to north: dots – the Funnel Beaker Culture sites Skogsmossen and Nyskottet; stars – the Slate Culture sites Persmyra, Gäddede and Gropbakkeengen; crosses – outcrops of banded red and green slate with traces of extraction: Björnidet, Elakedan and Gohppevárri. (Map by the author).

cepts of the polygonal battle-axe or the funnel beaker are by no means local ones (Becker 1948; Zápotocký 1992). The polygonal battle-axes were, however, not only local versions of a pan-regional theme, but also the product of *regional* craft traditions. The battle-axes produced in Central Sweden and Southern Norway display a *regional* design that clearly differs from the battle-axes produced in Scania/Denmark (Zápotocký 1992; Hallgren 2008: 224–228). In contrast to the craft objects produced by local craft communities within the Funnel Beaker Culture of Mälardalen, slate tools only occur as exotic, imported objects during the Early Neolithic (Taffinder 1998; Hallgren 2008: 236–238).

The osteological record of the TRB of Mälardalen contains bones from cattle, sheep/goat, small forest game, seal and fish (Hallgren 2008). The domesticated animals were not only a source of meat and other primary products, but were also utilized in milk production, as shown by lipid analysis of potsherds (Isaksson & Hallgren 2012). Although some wild animals like seal and small game were hunted, elk and other large cervids are very rare in the osteological material. The botanical record includes evidence of the cultivation of wheat, barley, peas, beans and wine-grapes. As with craft traditions, subsistence can be viewed as cultural practices performed in specific social contexts, communities of practice, of differing composition. This theoretical perspective can also be applied to architecture. It is striking that the house building practices of the local Funnel Beaker Culture were guided by the same cultural norms that were also reproduced within the TRB of Scania and Denmark as there was a common design of post-built long houses of the Mossby type throughout these regions (Larsson 1992: 66–77; Hallgren 2008: 95–99).

As with the analytical construct Funnel Beaker Culture, the Slate Culture can be viewed as locally performed practices of non-local repertoires. A stone industry based on "slate" is for example a common feature (The raw material that by tradition is termed slate in the archaeological discourse is classified as siltstone or shale in the geological literature. I will keep to the archaeological terminology here). Another common feature consists of houses with a slightly sunken floor, surrounded by an embankment of sand and fire-cracked rocks from cooking (Boaz 1997; Lundberg 1997; Hesjedal et al. 1996; Damm 2006; Norberg 2008). Most settlements are found in close proximity to water, either coasts, lakes, rivers or brooks. A typical inland settlement may consist of between one and ten semi-subterranean houses located along the shores of a lake system (Lundberg 1997). In contrast, the coastal sites of Northern Norway sometimes contain as many as 80–90 Early Neolithic houses in rows along the ancient shoreline (e.g. Gropbakkeengen and Slettnes, c.f. Simonsen 1961; Hesjedal et al. 1996). While the scale of the groups gathering at these coastal sites differs from the interior lake sites, I am nonetheless prone to see the houses as variants of the same pan-regional architectural practices performed within local communities of practice.

Elk and beaver predominate among the osteological materials from the interior, whereas coastal sites also display fish, birds, seal, and in northern Nor-

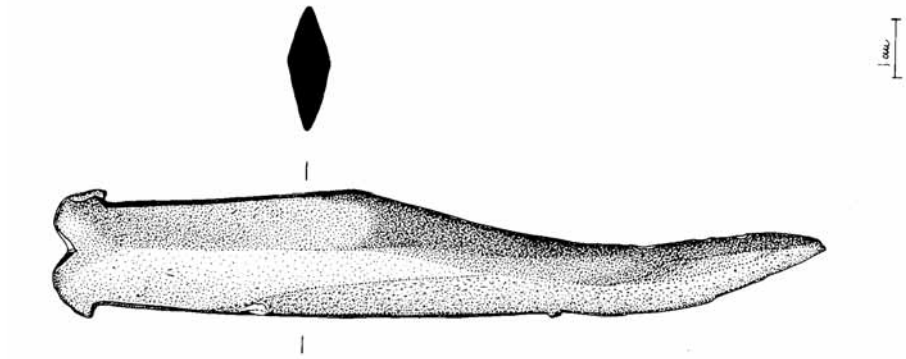

Figure 2. An "exotic" knife of banded red and green slate, found in the offering fen at the Skogsmossen Funnel Beaker Culture site in Västmanland, Sweden. Drawing by Alicja Grenberger.

way whale (Olsen 1967; Lundberg 1997, cf. Hodgetts 2010). In many regions within the slate culture there were heavy investments in permanent trapping systems for elk and reindeer, with fences and pitfalls (Helskog 1988: 2–3; 104–105; Selinge 2001). Elk and reindeer were a prominent feature in symbolism, appearing in petroglyphs and as slate figurines. Significantly, elks also appear at sites where the main subsistence activities are considered to have been fishing rather than elk-hunting, such as Nämforsen in Ångermanland and at Slettnes in Finnmark (Hallström 1960; Baudou 1992: 74; Hesjedal et al. 1996).

Local and Regional Traditions in the Slate Industry

Just as polygonal battle-axes can be viewed as objects produced in local craft communities following regionally reproduced norms, which refer to a pan-regional theme, there is a similar complex relationship between local, regional and pan-regional variation among the slate knives of the Slate Culture. This is a subject I hope to study more thoroughly in the future. In this paper I will focus on the design and raw material of the exotic knife of banded slate found in the offering fen at Skogsmossen.

In its present state, the knife is 13 cm long and consists of a curved, slim blade, and a straight handle that ends in two "ears" (Figure 2). The blade show traces of repeated resharpening. The border between the handle and the blade is marked by a small knob-like protrusion. It is likely that the knife originally had two such protrusions, one on each side of the handle (cf. Figure 3). As a result of the repeated re-sharpening of the blade, part of the handle (including the hypothetical second knob) was reworked into the base of the blade. The same detail appears on an exotic slate knife from another TRB settlement in Mälardalen, Nyskottet in Uppland, as well as on three stray finds of slate knives from Västmanland and Uppland (Taffinder 1998: 136).

When the find from Skogsmossen was first published (Hallgren et al. 1997: 92–93), I made comparisons with slate knives from Nämforsen, Ångermanland, in Northern Sweden, in which a somewhat similar design occurs. There is, however, a principal difference insofar as the knives from Ångermanland and neighbouring areas of the coast of Norrland have protrusions defined by notches rather than real protrusions (Jansson & Hvarfner 1960, fig. 49). A better comparison is a group of slate knives from Central Norway, where at least 16 specimens with knob-like protrusions are known (Søborg 1986). I am currently in the process of studying assemblages from Northern Sweden and so far I have found only two examples of this design, both from sites in western Jämtland: Gäddede in Frostviken parish and Faxnälden in Näskott parish (Figure 3). It thus appears that slate knives with protrusions are a regional design reproduced among stonesmiths in the western parts of Central Scandinavia (Trøndelag, Møre og Romsdal, Nordland, and western Jämtland), a region that seems a likely area of origin for the exotic slate knives found at Skogsmossen and Nyskottet.

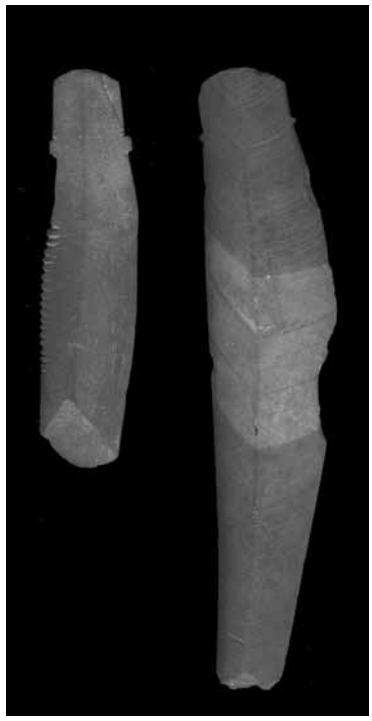

Figure 3. Slate knives with knob-like protrusions between handle and blade, found at Gäddede and Faxnälden in Jämtland, Sweden. From the collections of Statens Historiska Museum and Jamtli. Photo by Fredrik Hallgren. Scale 1:2.

The knife from Skogsmossen was made of banded red and green slate. Red or banded red and green slate is also the most common raw material in the slate knife industry of the likely areas of origin: Trøndelag/Nordland/Møre og Romsdal (Søborg 1986: 257–294) and western Jämtland (my observation). The availability of different slates in Central Norway has been discussed at some length by Søborg (1986), who found that red and green slate do not occur locally, whereas slate of other colour varieties do (Søborg 1986: 257–294). The preference for red or banded red and green slate among knife smiths in Trøndelag and neighbouring areas was thus *not* dictated by easy availability. Neither was slate in these colours available in Näskott and Frostviken, although the latter area is situated closer to the sources of banded slate (c. 55 km as the crow flies).

Banded red and green slate is available in outcrops at a rather limited number of places unevenly spaced along a fault line on the eastern border of the Caledonian mountain range. This fault line runs from Finnmark in Northern Norway southward through the interior of Sweden to the Mjøsa region in Southern Norway (Vogt 1924; 1967; Asklund & Thorslund 1935; Føyn 1967; Thelander,

1971; 1982; Gee et al. 1990). In these localities, beds of slate typically form layers between 15 and 200 m in thickness, often mixed with layers of sandstone and/or quartzite. The slate appears both as homogenous layers of red or green colour, and as beds where red and green alternate forming the characteristic banded slate. Red slate with spots of green, or green slate with spots of red also appear at some localities. There are variations in the hues and saturation of the colour of the slate, and accordingly "red" slate can be bright red, greyish red, dark red, violet and brown. Correspondingly, "green" slate may be moss green, grey green or a light green bordering on white. Apart from the primary slate outcrops, the moraine (till) deposits in the vicinity of these outcrops also contain boulders of slate of the same varieties.

One or several of the geological formations between Tana and Mjøsa must be the source for the red and green slate used in tool production in Trøndelag and adjacent regions (Søborg 1986). The first discovery of traces of extraction and quarrying red slate has recently been reported by Alsaker in a popular publication on the Stone Age of Trøndelag (Alsaker 2005: 70–71). The slate quarry in question is described as located by the river Sjoutälven in westernmost Ångermanland, Northern Sweden, where red and green slate appear both as outcrops and as boulders in the moraine. Although situated on the other side of the Caledonian mountain range, this red and green slate deposit is in fact one of the closest to Trøndelag (c. 150 km from the coast of Trøndelag), and Alsaker suggests that the Sjoutälven quarry may be one of the sources for the slate industry of the latter region (Alsaker 2005: 70).

During the summer of 2009, I visited several of the formations of red and green slate described in the geological literature, including locations in Vestertana, Smalfjord, Tana and Varanger in Finnmark, northern Norway, as well as Storbäck in Southern Lappland, Sjoutälven in western Ångermanland, and Storån and Strömberget in northern Jämtland, Northern Sweden. Along Sjoutälven possible traces of extraction of slate were found at Elakedan. This is probably the same locality mentioned by Alsaker (although he does not describe the exact location). Traces of possible extraction and quarrying were also observed at Gohppevárri in Smalfjord and at Björnidet at Strömberget (Figure 1). At Vestertana, Tana and Storbäck, slate of good quality was found but no traces of extraction were encountered during the limited surveying. Banded red and green slate of the same geological formation also occurs in the Mjøsa region of Hedmark, Southeastern Norway (Vogt 1924). Although I have yet to visit this locality, it is an unlikely source of raw material for Neolithic slate tool manufacture, as the find assemblages of the Mjøsa region only contain debitage of slate of other colours (my observations of the collections from Hedmark and Oppland at the Oldsaksamlingen, Oslo).

Tracing Long-Distance Contacts

Judging by its design, the knife from Skogsmossen was most likely produced by stonesmiths working in a craft tradition reproduced in Western Central Scandinavia, as discussed above. The raw material was however fetched either from the other side of the mountains in Jämtland, Ångermanland or Lappland, or possibly in Finnmark in northernmost Norway. Either way, great effort was made to acquire this specific slate despite the fact that functionally equivalent materials of other colours were available locally, for example in Trøndelag. The finished object was then used and circulated, first in the original cultural contexts, thereafter in *contacts across* the border between hunters and farmers, which may have been both peaceful and warlike. Finally, the foreign, exotic knife was incorporated in the ritual of the local farmstead(s) at Skogsmossen, being included among the offerings of funnel-beakers, axes and quernstones that the farmers deposited in their sacred fen.

Similar to the exotic slate knives that were circulated among the northern Funnel Beaker Culture, foreign stone tools such as battle-axes and four-sided polished working axes originating among the TRB were circulated and deposited among the hunter-gatherers in Central and Northern Scandinavia (Figure 4). One example of a Slate Culture context with exotic TRB objects is the Persmyra locality at Rødsmoen, Hedmark, Eastern Norway, a site complex with several semi-subterranean houses, two (R39, R112) of which have been ^{14}C-dated to the Early Neolithic (Boaz 1997). The osteological material is dominated by bones of elk but also include beaver, bear, wolverine, marten, otter and pig/wild boar. The houses are interpreted as winter residences for a group of hunters (Boaz 1997: 143). Among the stone finds that can likely be linked to the Early Neolithic phase of habitation are tools and waste of slate, mainly arrowheads (n=80) but also a large point (spearhead or dagger) and a point fragment of a slate knife. One of the slate finds, a handle of a fragmentary tool decorated by a series of a dozen notches on the butt end, has been interpreted as a part of a T-shaped artefact by Boaz (1997: 69–76) but may rather be the handle of a knife (I will discuss this implement further in another paper). The slate waste consists of knapped, sawed and polished pieces of black, grey and white slate. These variants of slate also dominate among the finished tools, but there are four arrowheads of red slate and the large point is made of banded green and red slate. Even though red and banded red and green slate is available locally in Hedmark, as discussed above, the lack of waste in these materials indicate that the red and banded red and green implements are imports from areas further north.

The finds from Persmyra R39 and R112 include a large quantity of knapped flint. Judging by technological and typological criteria, most of the knapped flint may be connected with the Mesolithic phases of occupation that also are reflected in the series of ^{14}C-dates (Boaz 1997; Per Persson personal communication; Steinar Solheim personal communication). Some of the flint is however of Neolithic age, and this dating can be attributed to a group of flakes with remains of polishing on one or more surfaces, i.e. flakes knapped from polished

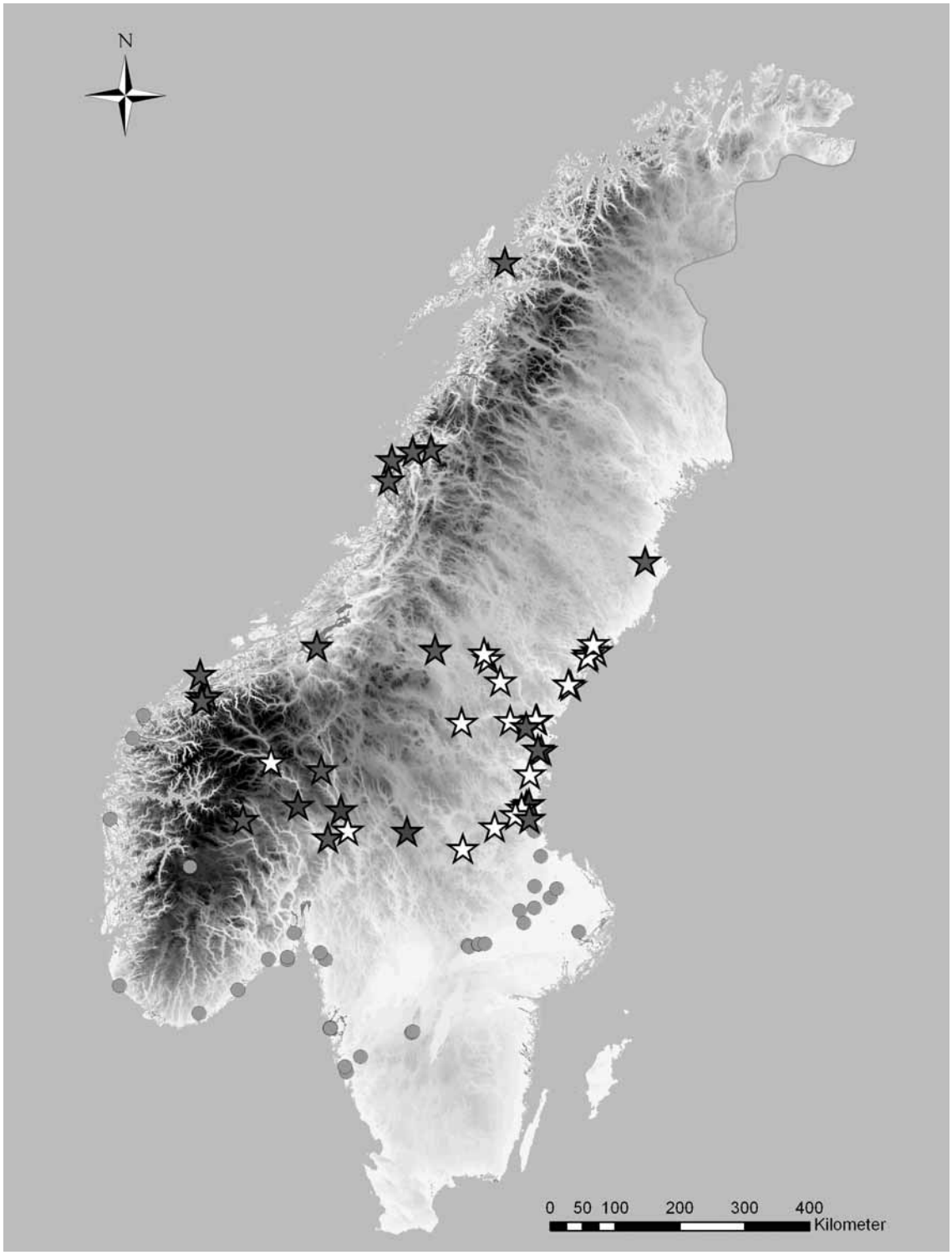

Figure 4. The distribution of "exotic" TRB axes (stars) found north of the northernmost known Funnel Beaker Culture sites in Scandinavia (dots). Legend: stars with white fill – polygonal battle-axes; stars with light grey fill – point-butted and thin-butted flint axes; stars with dark grey fill – point-butted and thin-butted greenstone axes. (Map by the author).

flint axes, originating in the TRB of southern Scandinavia. Rather than being evidence of the re-sharpening of flint axes, these flakes represent the utilization of flint axes as cores for the production of small tools. The raw material for the axes is flint from Denmark or Scania. Most of the flint axes found to the north of these areas are considered to have been circulated as finished objects, i.e. not only did the raw material originate in Denmark/Scania, but the manufacture of the axes also took place there (Welinder 1988). A possible exception to this pattern is the Oslofjord region, where local production of Early Neolithic flint axes made from imported flint has been suggested (Mjærum 2004). In either case, the fragments of flint found at Persmyra are examples of exotic objects that have been handled in a longer or shorter chain of events, from the flint mines in Denmark/Scania, through the craft community of flintsmiths either in Denmark/Scania or southern Norway, and then in the encounters of persons of the Funnel Beaker Culture with the elk hunters of northern Hedmark, who subsequently used these axes not as axes but as raw material for the production of small tools.

The find assemblage at Persmyra R112 also include a thin-butted greenstone axe, found in one of the two houses at the site. The axe is made of a variant of porphyritic dolerite and likely originates in the TRB of Oslofjorden or Central Sweden. The edge of the axe is damaged, but could easily have been re-sharpened and can therefore be considered as a "potential tool" intentionally taken out of circulation through deposition. Thus, while the utilisation of flint axes as raw material at Persmyra, stand out in stark contrast to the inclusion of the slate knife in the rituals performed at the offering fen at Skogsmossen, the intentional deposition of the greenstone axe at Persmyra may have been more similar in character.

Compared to the total distribution of Early Neolithic TRB axes found *north of* the regions with settlements from the Funnel Beaker Culture, the polished four-sided working axes of greenstone have a rather limited spatial distribution. As "foreign axes" they only occur in the southernmost areas of the Slate Culture, i.e. in what may be considered a contact zone between the TRB-farmers and the hunter-gatherers of the North (Figure 4). Within this region, flint waste with traces of polishing seem to be quite common (Danielsson 2000), indicating a similar attitude towards exotic TRB axes as at Persmyra.

The polygonal battle axes of the TRB have a more northerly distribution and appear as far north as Central Jämtland and Northern Ångermanland (Figure 4). There is a clear tendency that the distribution of these exotic implements follows the waterways, indicating networks of contacts along the coast and along water courses. Interestingly enough, the stray finds seem to cluster along specific river systems, while being absent from others. The two northernmost finds of polygonal battle-axes from the inland are a case in point, as they have been found a mere 10 km from each other along the same river. The river in question, Ammerån, is one of the few water systems in Jämtland not dammed for hydraulic power, and thus investigated to a comparatively small degree by archaeologists. It is quite remarkable that two stray finds of polygonal battle-axes have been made along this small river in the wilderness. One axe, an edge fragment

preserved from shaft-hole to edge (Figure 5, left), was found at Flyn in Stugun parish. Since the find was made, one semi-subterranean houses of the same type as described from Persmyra has been registered at the site (there may actually be two house structures at the site – my observation). Houses of this type are generally interpreted as winter dwellings (Lundberg 1997), and this may be also valid for Flyn. The other polygonal battle axe from Ammerån was spotted lying on the bottom of the river during ice-fishing (!) at Skyttmon, Borgvattnet parish, 10 km upstream from Flyn. Considering that this axe is an intact specimen (Figure 5, right), it may be an intentional water offering.

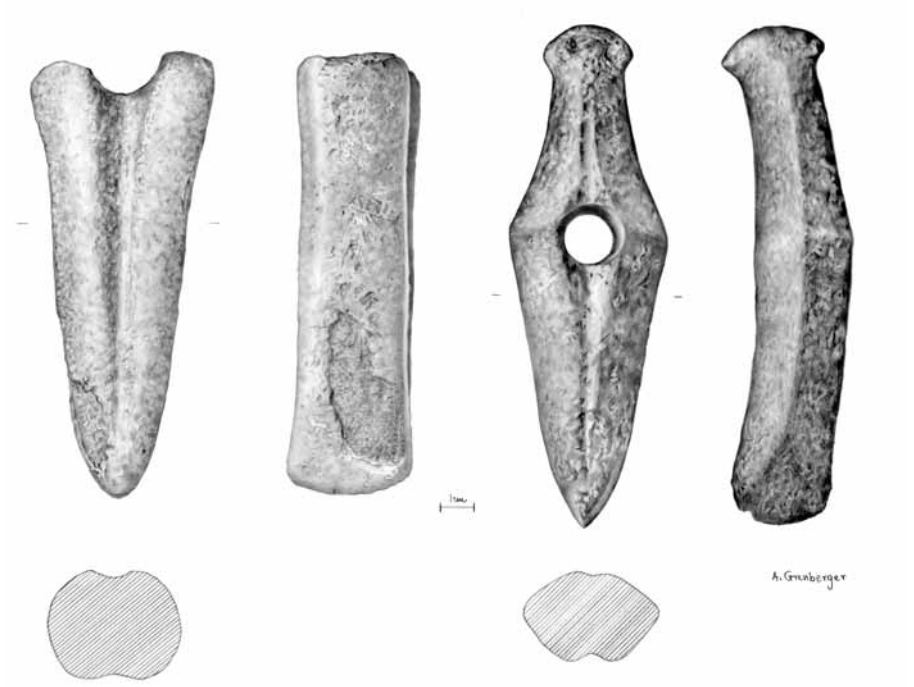

Figure 5. "Exotic" polygonal battle-axes found at Flyn and Skyttmon, along the River Ammerån in Jämtland, Sweden. Drawing by Alicja Grenberger.

The intact axe from Skyttmon can be determined as being a regional type common in Central Sweden and Southern Norway (Zápotocký's type III), as opposed to Denmark/Scania or Continental Europe where other designs prevailed (Zápotocký 1992; Hallgren 2008: 215–228). The edge fragment is more difficult to determine as to its type, but judging by the cross-section and the groove that runs from the shaft-hole to the edge, it is likely either a KV or a FIII axe. KV is a regional type specific to Central Sweden. FIII axes were produced both in Central Sweden and in Denmark/Scania, but as the design with a groove running from the shaft-hole to the edge is comparatively rare in the latter region it is likely that the axe originate in Central Sweden. The area of origin of both these exotic axes is thus likely the Northern TRB of Central Sweden/Southern Norway.

It would be tempting to see a direct connection with the clusters of exotic polygonal battle-axes in the Slate Culture areas of Jämtland and Ångermanland, and the relative abundance of exotic slate knifes in the TRB of Mälardalen. While there may indeed be a connection, it should be borne in mind that at least the knives with protrusions on the handle from Skogsmossen and Nyskottet (as well as the 3 stray finds of the same type), probably had an origin beyond the regions of eastern Jämtland and Ångermanland where polygonal battle-axes appear. As discussed above, the knives with protrusions on the handle may be traced back to westernmost Jämtland, Trøndelag and adjacent regions, areas from where no exotic polygonal axes are known.

Although polygonal battle-axes thus have a wider distribution north of the TRB, compared to the greenstone working axes discussed above, non have been found in northernmost Sweden (Lappland, Västerbotten, Norrbotten), and the distribution north of the TRB in Norway is restricted to Hedmark and Oppland (Figure 4). In contrast, the flint axes originating in the Early Neolithic TRB have a wide spatial occurrence throughout Central and Northern Norway up to Southern Troms (Valen 2007; Østmo 2007). The difference is less pronounced on the Swedish side, although the flint axes have a distribution that reaches both further north (Västerbotten) and further west (western Jämtland) than the polygonal battle-axes (Figure 4). As discussed above, the flint originates in Denmark or Scania, and most flint axes were also manufactured in these regions, and then circulated as finished objects. It may seem paradoxical that the exotic objects that are of the most distant origin also have the furthest secondary distribution, a paradox that may say something of the nature of the network of contacts that facilitated the circulation of exotic objects.

Discussion

As mentioned in passing above, the exotic TRB axes are not the only non-local tools in the assemblage at Persmyra, as several of the points are made of varieties of slate that are not utilized in the local craft tradition. Among these are four arrowheads of red slate and the large point/knife of banded green and red slate. Boaz suggests that these implements may derive from Northern Scandinavia (Boaz 1997: 143). As the large point/knife is made of the distinctive banded slate discussed above, this tool may originate from anywhere between Jämtland and Finnmark. Homogenous red slate, as that of the smaller points from Persmyra, is available as layers or beds in the same formations that also contain banded slate. Homogeneous red slate is also available in the Nordingrå formation in coastal Ångermanland (Lundqvist 1990). Judging by the slate tools, preforms and debitage in the Nordingrå region (e.g. the large assemblage from Överveda, Ångermanland), the red slate from Nordingrå clearly differs in hue and saturation from that of the red points from Persmyra (my own observation). Thus, the red points from Persmyra more likely originated in the outcrops of banded slate

discussed above, i.e. the eastern border of the Caledonian mountain range in Central or Northern Scandinavia.

The presence of both TRB axes from the south and slate tools from the north show that the group of people who lived at Persmyra participated in wide-ranging social networks that directly or indirectly stretched from Denmark to Northern Norway/Northern Sweden, and right across the border between hunter-gatherers and farmers. The same can, of course, be said about Skogsmossen, where both exotic slate tools from Western Central Scandinavia and foreign flint axes from Scania/Zealand were included in the rituals at the local offering fen, where also the locally produced funnel-beakers and porphyrite axes were laid to rest.

In archaeological writings, an asymmetrical relation between farmers and hunter-gatherers is sometimes assumed (eg. Ekholm 1909: 69, although more recent examples could be listed). In these narratives, farmers are described as dominant and active, while hunter-gathers are portrayed as submissive and passive. It may therefore be worth emphasizing that the data on exotic Funnel Beaker Culture axes and Slate Culture slate knives in Scandinavia do not validate such an interpretation. Neither the extent of the social networks that facilitated the circulation nor the circumstances of how these objects were intentionally taken out of circulation at places such as Skogsmossen and Skyttmon indicate that the relation between farmers and hunters was asymmetrical or could be described in terms of active and passive.

In the above text, the term "border" is used in several instances. The long-distance contacts between farmers and hunters traced through the circulation of exotic objects discussed in this paper show that this "border" was quite permeable. Rather than a barrier, the boundary between Funnel Beaker Culture and Slate Culture can be seen as a contact zone. It is sometimes assumed that contact and interaction creates similitude. The scenario discussed here could be taken as an example of the opposite. Despite the repeated and prolonged interaction across this zone of cultural difference, the contrast between North and South remained for the 30 or so generations we brand "the Early Neolithic". On the other hand, also this long-surviving boundary was eventually redefined at the onset of the Middle Neolithic, a subject that is discussed in Hallgren & Skandfer (in press).

Acknowledgements:

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Change and Recollection: House Structures and Social Identification in Finnmark, Arctic Norway 2400 BC–AD 300

Introduction

My intention in this paper is to discuss how and why societies remember by engaging in actions involving specific sets of material culture. It is now generally believed that Sámi identity emerged in Fennoscandia within a multi-cultural setting during the last millennium BC, but the motivations for this, the speed, the socio-cultural processes and effects and the geographical catchment of the formation are still blurred. In this paper, I consider some of the possible socio-cultural processes involved by exploring the role of memory, history and material objects in the Sámi identity formation process. My point of departure is provided by the large, semi-subterranean dwelling structures – the so-called "Gressbakken houses" – known from Finnmark, Arctic Norway. This house type has been dated around 2000 calBC, but it also has a phase of reuse around BC/AD. I suggest that the hunter-gatherer communities in Arctic Norway around BC/AD had a notion of a past which was tied to structures in the landscape acting as mnemonic devices. Around BC/AD, remains of "Gressbakken houses", well visible above the ground, were used actively to relate the present to the past.

Identification, Habitus and Collective Memory

In daily parlance, identity is often referred to as something almost physically solid, as a kind of "thing". However, as indicated in the title, identity is a dynamic process. In the following I highlight identification instead of identity to underline that this is about dynamic, multi-faceted, changing processes dealing with relations between "self" and "the other". Identification is a shared experience, both within and between groups of people. It is relational, in being held in contrast to others, and also situational. Identification can be specifically about ethnic group signalling, as described relationally by Barth (1969), or generally about personal and group identification as explored by Goffman (1992). Although identification is not a solid substance in itself, the relational identi-

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fication processes can have clear material elements. These elements can form recognizable material patterns at different levels – patterns that can be observed and used in archaeological interpretations. The material patterns can have the form of different tools or objects produced and used within different groups, as explored by Sackett (1977; 1982; 1985; 1990) and Wiessner (1983; 1985; 1990) in their classical debate on style in archaeology. They can also be found in different ways of relating to the same or similar material objects, such as food waste or organizing space. These latter patterns are what McGuire (1982: 163) calls "(…) material correlates of ethnic specific behaviour".

The past has an omnipresent role in the present. This is described by Bourdieu (1995) in his concept of *habitus*. Bourdieu introduced the concept in his theory of sociological distinction based on modern society to deal with the social distances between the different tastes of individuals and cultural capitals. In Bourdieu's original sense, habitus describes the important distinctions between each individual's social histories within a (modern) cultural setting. At every moment, new practices integrate past experiences for the individual to be able to understand situations and act accordingly. Taken into archaeological interpretation, however, the collective systems of durable and transposable dispositions characteristic of a group condition, the underlying precondition for the distinctions illuminated by the concept of *habitus* must be considered instead of individual *habita*. Such shared social systems of actions relying on past experiences are described in Goffman's presentation of our role-playing in everyday life. According to Goffman (1992: 20), society is based on the principle that a person with certain social signs has a moral right to expect others to appreciate and treat him or her accordingly. This is related to another principle, that when a person implicitly or explicitly exposes certain social signs, that person is actually whom he or she claims to be. The definitions of who a person is, is thus fundamentally dependent on other actors' understanding of the social codes and contexts in which the person appears.

The relation between past and present in everyday life can also be described with reference to the notions of isocrestism (Sackett 1982; 1985; 1990), cultural transmission (Eerkens and Lipo 2005; 2007), technological style (Lechtman 1977), technological choice (Lemonnier 1986; 1993; Pfaffenberger 1992), or the *chaîne operatoire* (Leroi-Gourhan in Dobres and Hoffman 1994; Gosselain 1998), where one strategy among other possible strategies is selected within a socio-culturally related group of people. The theoretical approaches all describe how material culture, actions and actors are situated within a social framework where structure and actor mutually influence on each other. Also, not only practical but moral, ethical as well as aesthetical considerations are socially and historically embedded – they are learned within socio-cultural settings as "the way *we* do things". All these concepts are well known in archaeological interpretations. However, when dealing with interaction processes, most insights related to archaeological material describe how identification patterns are maintained with the aid of objects and/or practices forming patterns, and give few suggestions as to how these patterns were established. In this paper, I suggest that identification and re-collection played an important role in the establishment of Sámi identity, and that this left patterns in the archaeological material.

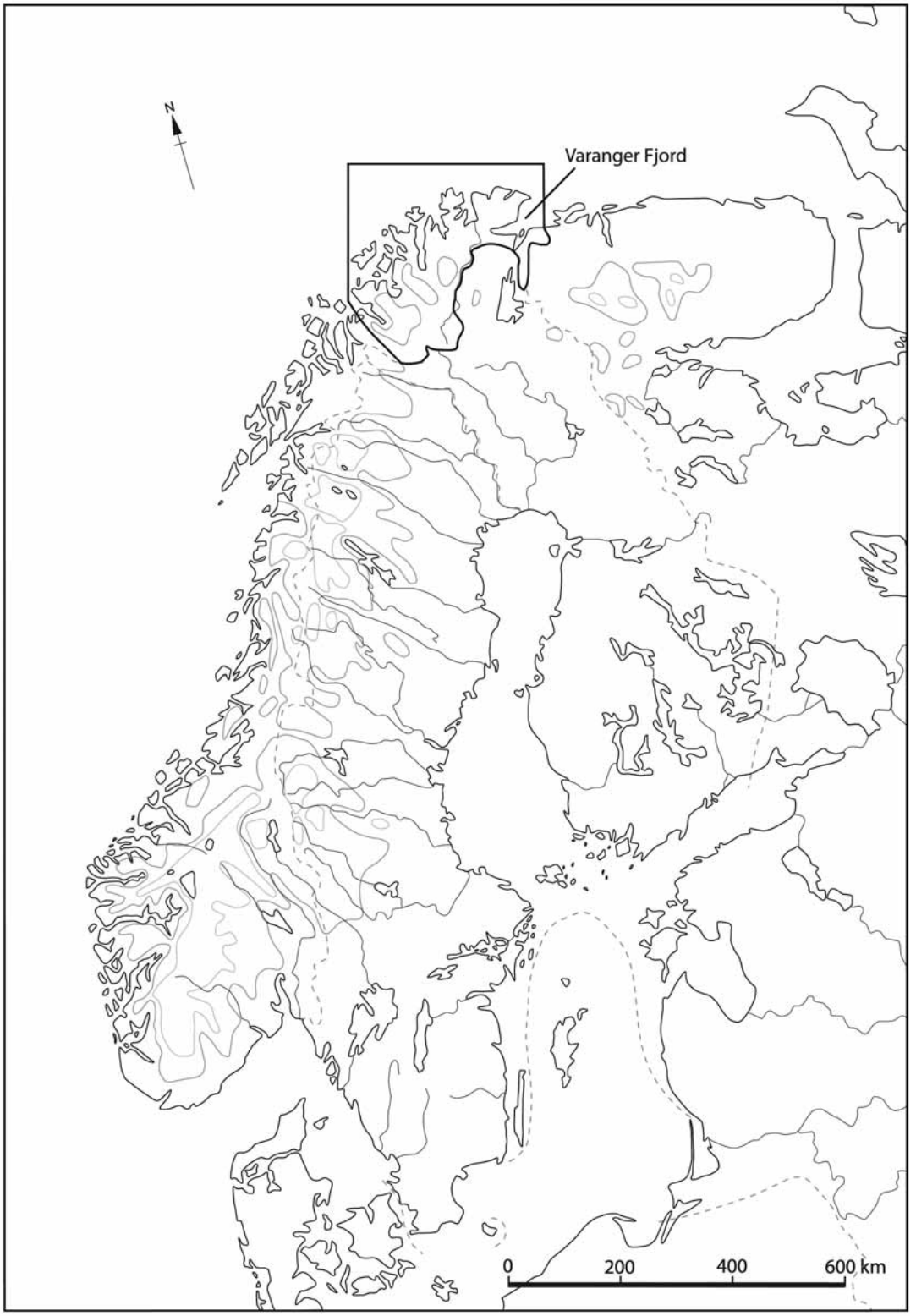

Figure 1. Map of Fennoscandia with Finnmark County marked out.

The Semi-Subterranean House as Tradition

Dwelling structures, most often in the form of semi-subterranean houses, are known from the coastal areas of Northern Fennoscandia from the Mesolithic to the Early Metal Age/Bronze Age. The oldest known house remains in Mesolithic Arctic Norway are generally small (c. 7–21 m²) round or oval slight depressions or stone-cleared areas (Grydeland unpublished; Hesjedal et al. 1996; Simonsen 1961). However, also a few much larger and at least partly semi-subterranean rectangular structures without distinct hearths have recently been dated to around 7000 BC (Henriksen, Skandfer and Valen 2010; Skandfer 2010). Around 5000 cal. BC, a small number of semi-subterranean rectangular houses with rounded corners (12–14 m²) and without stone-lined hearths appeared along the Finnmark coast (Figure 1). From around 4000/3700 cal. BC, groups of small roundish semi-subterranean houses – so-called "Karlebotn houses" – were established regularly in coastal settlements, at least from Varanger in the east and south-westwards down the North Norwegian Atlantic coast (K. Helskog 1980; Hesjedal et al. 1996: 204; Olsen 1994: 69; K. Schanche 1988). The houses lie in rows along the shorelines of their period. Some large concentrations of houses, up to more than 80 at the same locality, indicate that several houses on each site were used simultaneously (see E. Helskog 1983; K. Helskog 1984; Olsen 1994 for a discussion). This is further suggested by the fact that the houses are never superimposed on older structures. The "Karlebotn houses" initiate a tradition of building semi-subterranean houses which continued unbroken until c. 1400 cal. BC.

Although the technology of digging the house floors slightly into the ground was continued for over 2,000 years, other elements of the building technique changed during the long period of making semi-subterranean houses. I will here take a closer look at the rectangular houses of the so-called "Gressbakken type" which were built in Northern Norway from around 2400 cal. BC onwards. Characteristic features of these houses are several "entrances" symmetrically arranged on the middle of opposite walls, as well as double hearths, often arranged symmetrically along the middle long axis of the house (Figure 2). These features are only very rarely found in the older and smaller, round/oval/square semi-subterranean houses. The rectangular shape also seems to be accompanied by a markedly larger floor area: The "Gressbakken houses" in coastal Finnmark have floor areas of up to 60 m², in comparison with those of less than 20 m² ion of the older "Karlebotn houses". The large, rectangular shape is probably at least partly related to a different building technology than the smaller round or oval buildings, and it has been assumed that the "Gressbakken houses" represent a break with the earlier house forms. The structuring of the "Gressbakken" dwelling sites has been regarded as an extension of the suggested new ordering of the house, with large congregations of houses and more emphasis on symmetrical structure also in the layout of the dwelling site (Olsen 1984: 105; K. Schanche 1988: 130–131; Simonsen 1991: 364–366, see however K. Schanche 1994: 72–77).

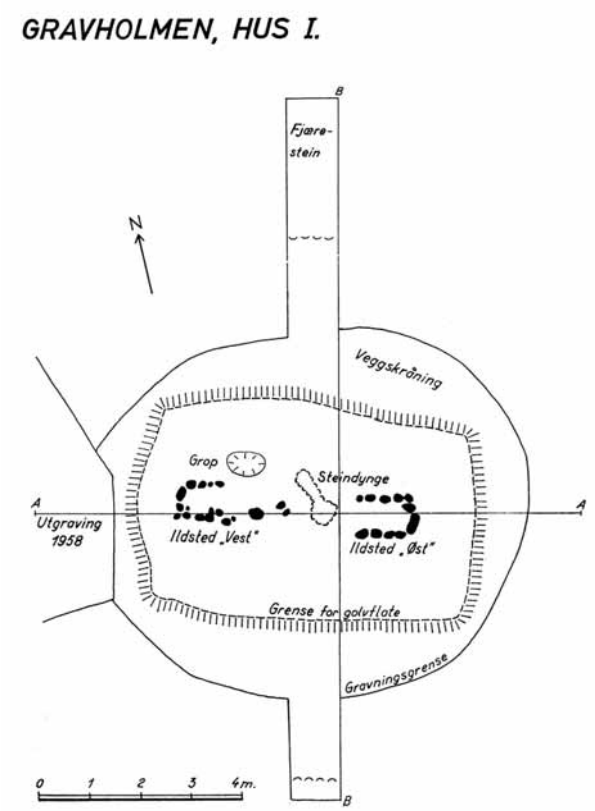

Figure 2.
Layout of a "Gressbakken house" excavated by Simonsen at Gravholmen Island, Pasvik/Paaččjokk/Báhčeveaijohka/Paatsjoki River Valley, Finnmark in 1959. ©Tromsø Museum, University of Tromsø.

The row organization of the "Gressbakken houses" as well as the house-plan itself, with double hearths along the mid-axis and several "entrances", gives the impression of homogeneity and symmetry both within each house and within each group of houses. It has been suggested that the symmetrical organization is a result of social stress in the hunter-gatherer communities, i.e. scalar stress due to larger congregations of people staying at the same dwelling site for all or at least most of the year. This in combination with increased internal social conflicts arising from struggles over prestige and political power related to external trading contacts providing access to new status goods, such as metal. The main factors – large congregations of people, sedentariness or semi-sedentariness and participation in new trading networks with assumed prestige items – are suggested to have developed as a direct consequence of the abundant and varied marine resources at hand for these settlements. (Olsen 1984; 1994; Renouf 1988; 1989; K. Schanche 1994). The Gressbakken Phase, materially defined by the large semi-subterranean houses, has been considered to cover a very short and hectic time-span, a maximum dating suggested between c. 2400 and 1800/1700 cal. BC (Engelstad 1988: 71; K. Helskog 1980: 51; Johansen 1998: 75–76; Olsen 1994: 85; K. Schanche 1994: 95–96). A re-examination of a midden at the Karlebotnbakken "Gressbakken house" site in Varanger, north Norway, including a copper implement, anthropomorphic bone figurines and various bone ornamentation, and signs of a specialized shellfish exploitation, has recently been dated

to c. 3000 cal. BC (Hood and Helama 2010). These finds have hitherto played a significant role in interpretations of settlement patterns, social complexity, status differentiation and economic interaction with early metal-producing societies in Russia for the presumed short "Gressbakken" Phase. The new dating of the midden is around a millennium earlier than the "Gressbakken houses" at the site, and demonstrates that chronologically the houses have nothing to do with the midden into which one of the houses was dug. Thus, the socio-cultural setting for the "Gressbakken houses" needs re-evaluation.

Regarding the layout of the sites, up to 20–30 "Gressbakken houses" have been registered on several coastal sites, but really large congregations are the exception rather than the rule. The most common number seems to be 6–9 houses on each site, and individual houses are observed. Strict row organization is not as salient as previously argued for the "Gressbakken houses", and it should be kept in mind that row organization of houses with their long axes parallel to the seashore is the most common organization of prehistoric dwelling sites in the Arctic coastal environment regardless of time period. Neither row organization nor large numbers of houses can thus be said to distinguish the "Gressbakken" sites from the previous sites with semi-subterranean houses. What about the enlarged size and symmetrically organized interior? Large rectangular and symmetrically organized houses are documented already from around 3200/3000 cal. BC (Simonsen 1963; Renouf 1988; 1989). It has been suggested that these so-called "Nyelv houses" represent a transitional construction between the small, roundish "Karlebotn house" and the large rectangular "Gressbakken house" (Olsen 1994: 71; Simonsen 1991: 375–376). It is noteworthy that their formal structuring was not related to signs of intensified or changed exchange networks or hunting practices, potentially bringing about social stress. A new dating of the earliest copper find in northern Norway to around 3000 cal. BC (Hood and Helama 2010) implies, however, that networks channelling metal into the Varanger area were established at this time, but not necessarily a millennium later. It should also be mentioned that several investigated "Gressbakken house" plans diverge from the symmetrical characteristic suggested by the double-heaths and several entrances: single hearths or no hearth have been documented, as well as only one or no traceable entrances.

Based on the above presentation, it could be argued that the focus on row organization and symmetry in the archaeological literature has concealed actual variation: solitary large, rectangular houses are known from several sites along the coast, and small round houses are regularly observed at the larger "Gressbakken house" sites. Thus, the dwelling structures of the "Gressbakken" type display greater variation in morphology and site structure than is often acknowledged. It could also be argued that the strong emphasis on the "Gressbakken houses" in North Norwegian archaeology has concealed variation within a long tradition of building semi-subterranean houses and replaced it with a seemingly fundamental break in dwelling forms. The "Gressbakken houses" seem to have predecessors at least in the "Nyelv houses" dated 800–600 years further back. Also of interest is the fact that the "Nyelv house" appears to represent a local

Varanger Fjord phenomenon, whereas the "Gressbakken houses", on the other hand, seem to be built in all parts of Finnmark as well as further to the east and south-west (Johansen 1998: 54–65, 74–75). This adds to the emerging picture of great variation in form, size and structuration of the large, semi-subterranean houses in coastal Arctic Norway (Engelstad 1988; Johansen 1998).

Although a large degree of on-site, local, regional as well as temporal variation must be acknowledged, the "Gressbakken house" can still provide a useful archaeological category as a prototype of the building technology prevailing around 2000 cal. BC in coastal Finnmark. Along with this technology follows a certain way of physically structuring the large house interiors. This, in turn, should be interpreted as bearing information about social entities and structures relating to the houses.

Archaeological investigation over the past few years has revealed that houses of the "Gressbakken type" are commonly found also in the inland parts of Finnmark in northernmost Norway, although not in the same numbers or in as large congregations as at some of the coastal sites (Skandfer 2009). In the interior, 1–3 houses at each site are the most common. Also here, they are row-organized along the river-banks or shores. The inland houses point to the ending of the initial "Gressbakken" building tradition around 1300 cal. BC, which is several hundred years later than previously suggested for the coastal houses. However, the suggested dating around 2000 BC for the formerly presumed short "Gressbakken Phase" under-communicates the fact that several of the dates obtained for charcoal from the fire-places and floor layers also in the coastal house structures extend to the 17th, 16th and even 15th centuries BC (K. Schanche 1994: 98). The late dates are further in accordance with several datings from "Gressbakken houses" outside the inner Varanger Fjord (Andreassen 1988: 16; K. Schanche 1994: 98). The new dates from the inland in general support Johansen's (1998) claim for a longer period of use for this kind of house structures. For the time being, the "Gressbakken houses" are the oldest known semi-subterranean houses in the interior, which thus seemingly lacks the long tradition of digging dwelling structures into the ground. In the inland, older settlements lack semi-subterranean house structures.

Investigations in the inland have revealed that here the "Gressbakken houses" had a second phase of use – in the form of reuse of old structures as well as building of new ones – around 300 cal. BC–300 cal. AD. This is probably not an exclusive inland phenomenon, although it has not been given attention in presentations of the coastal sites. Younger dates from houses with datings primarily around 2000 cal. BC are also known from the coast, indicating a period of re-use between ca. 1000 and 400 cal. BC (E. T. Helskog 1983: 35; K. Schanche 1994: 96). A kind of re-use concurring with the even later second use-phase in the inland is most strongly indicated by an asbestos-tempered vessel found inside a "Gressbakken house" at Kalkillebukta in Varanger, While the house midden is dated to 1965–2135 cal. BC, the vessel is dated between cal. AD 35 and cal. AD 550 and a floor layer is dated to cal. AD 340–125 (K. Schanche 1994: table 23).

To sum up, elements of the "Gressbakken house" structure could have been transmitted from an older local Varanger Fjord phenomenon to become a regional "type" around 2400/2000 cal. BC. With variations, this was maintained until around 1400/1300 cal. BC, at least in certain regions. After a "void period" of around a millennium, from which we have very little knowledge of what the dwellings looked like, the structure was re-introduced, at least in the inland. So far, we have no indications of new-built "Gressbakken houses" on the coast in this period. After cal. AD 300 the more than 5000-year tradition of building semi-subterranean houses ended completely.

Resource Availability

As pointed out by Friesen (1999) for coastal North Alaska and the Mackenzie Delta, Northwest Territories in North America, the characteristic "resource structure", i.e. the physiological and behavioural characteristics of the exploited resources in the northern landscapes are often that many of the most nutrition-rich, potentially exploitable resources are migratory and thus only seasonally available. This is also the case for the Arctic landscapes of Northern Fennoscandia. Here, different types of fish (e.g. Arctic cod, salmon), marine and land mammals (e.g. seals, whales, elk, wild reindeer) as well as birds are only seasonally present in the various regions. During the season, they are in abundance and can be relied on as predictable food resources. The "Gressbakken" dwelling sites, both along the coast and in the inland, relate potentially to varied exploitation of seasonally migrating resources. The strategies that the hunter-fisher-gatherer groups chose in relation to this resource structure would probably be based on several factors, among them social factors, and would in turn have impacts on the society.

The coastal "Gressbakken" sites relate closely to sea-mammal hunting and fishing. Hodgett's (2010) analyses of the faunal remains from several "Gressbakken house" middens in the Varanger Fjord demonstrate that there are marked differences in the resources that the people at individual "Gressbakken" sites chose to rely on, suggesting that people at sites with otherwise similar material culture exploited locally available species within relatively small hunting territories close to the sites. Resource availability is clearly linked to localized environmental (topographical) qualities, which were then among the factors conditioning the occupation season, length and reoccurrence of occupation. Similarities between inner fjord sites and south (outer) fjord sites respectively, suggest that inner fjord sites were most intensively occupied during winter and early spring and possibly occasionally used year-round, whereas most south fjord sites seem to be shorter-term spring and summer dwelling sites (Hodgetts 2010: 44).

The inland "Gressbakken houses" lie in clusters in relation to good reindeer hunting and salmon fishing localities, and close to pitfall systems for catching wild reindeer. In concordance with Hodgetts observation of localized resource

exploitation close to the dwelling sites at the coast, the locations of the inland "Gressbakken "sites suggest that reindeer hunting and/or salmon fishing could have been practiced from the inland sites. Unfortunately, no faunal remains are preserved. Salmon move upriver to spawn during the summer and in historically recorded times reindeer have migrated through this inland area in the spring and autumn, on their way to and from the coast. After a long winter the animals are thin and their fur is of poor quality, but by the time they start up their autumn migration, the adult animals as well as the new calves have put on weight, and the fells are of good quality. Autumn is thus traditionally the slaughter season among the Sámi reindeer herders in this area today.

Discussion

As shown, there is a long tradition of semi-subterranean houses along the Finnmark coast, as well as in the adjacent north Atlantic and Arctic coastal areas. This long tradition is not found in the inland. In the inland, the first houses with sunken floors are of the "Gressbakken type" dating from c. 2000 cal. BC, and prior to this only open dwelling sites have been found. It seems that for the first time the inland region was included within an already long building tradition. The investment in large and (more) permanent dwelling structures suggests that around 2000 cal. BC settlement became more regular in the inland region of Finnmark. A similar situation can be suggested for the northernmost inland regions of neighbouring Sweden (Nordberg 2008: 126) and Finland (Pesonen 2002: 15–16), where houses of "Gressbakken type" occur from the same time.

The inland Finnmark "Gressbakken houses" lie in clusters in relation to good reindeer-hunting and salmon fishing localities, these being summer and autumn activities. On this basis it can be suggested that the inland "Gressbakken" sites were summer and autumn dwellings. The houses lie close to the pitfall systems for catching wild reindeer, but never in direct visual contact with them (Figure 3). This stands in contrast to later dwelling structures which can be found located in between the pits, thus indicating that the later occupations occurred after the pit-falls had gone out of use. None of the hunting-pit systems close to the dwelling sites have yet been dated, but datings of pits in other systems in interior Finnmark suggests a marked intensification in pit-hunting from around 2500 cal. BC (Furset 1995; 1996), probably related to an increase in the interest or need for this primarily inland resource (meat, fur) from c. 2500 cal. BC. A direct relation between the houses and the hunting-pit systems can further be suggested by the dramatic drop in datings of the systems from around c. 1600–1400 cal. BC, concurring with the last dates for the older semi-subterranean houses. Catching reindeer in hunting-pit systems would have demanded the effort of several hunters, probably belonging to different households. From this it can be suggested that during the reindeer autumn trek (members of) several households gathered in the inland to take part in the reindeer hunt, and that this activity

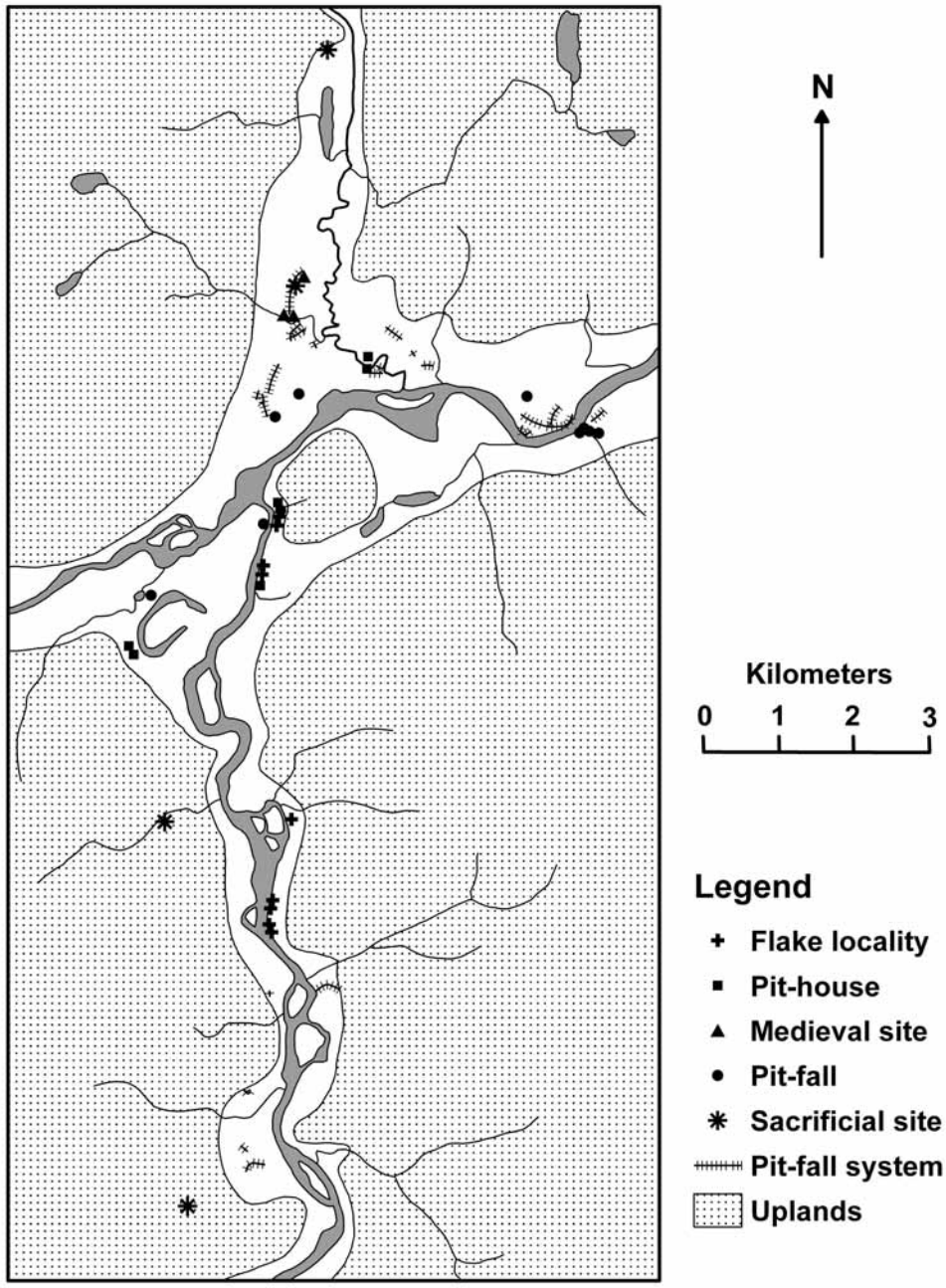

Figure 3. Mapped archaeological structures around the Kárasjohka and Iešjohka confluence. Note the geographical relation between semi-subterranean /pit-houses and pit-fall systems (Map by B. Hood).

was intensely practised in interior Finnmark at the time when the "Gressbakken houses" were built. Perhaps each dwelling site with semi-subterranean houses represents a hunting unit.

The number of house sites identified in the inland challenges the suggested heavy dependence on marine resources for the "Gressbakken" society, which has been linked to sedentism, high population density and hierarchical social organization (Renouf 1989; Olsen 1994; K. Schanche 1994). It must be kept in mind that these previous settlement interpretations were solely based on the coastal (Varanger) sites, and did not include the inland houses. Instead, the interpretation put forward here of the "Gressbakken houses" as dwellings for seasonally mobile groups falls in line with an earlier ethnographically based model suggesting seasonal movements between winter coastal and summer inland dwellings (Simonsen 1991). The interpretation is supported by Hodgett's (2010) observation that people exploited relatively small hunting areas with site-specific resources close to the dwelling sites and the acknowledgement shared by many scholars that the degree of sedentism varied between sites as well as on shorter and longer terms (c.f. Engelstad 1984; Renouf 1989; Olsen 1994; K. Schanche 1994; Hood 1995; Hodgetts 2010). Compared with the large settlements along the Finnmark coast, the sites in the interior are few. It seems that semi-subterranean houses were built only at a few selected sites. The building of houses and adjacent hunting-pit systems could relate to a degree of social regulation of the access to (a) certain resource(s). Perhaps the geographical distribution of the houses indicate that the inland region was divided into territories, each settlement exploiting different parts of the seasonally available resources and with a focus on river salmon but possibly primarily on wild reindeer. A similar territorial model has been suggested for the "Gressbakken houses" along the coast (K. Schanche 1994), with the watersheds marking the territorial boundaries between coastal *siidas*[1], as known ethnographically from the later Sámi social structure.

Based on the suggested general connection between "Gressbakken" sites and localized resource availability, I suggest that there was a situation around 2000 calBC when seasonally predictable rich resources, varying both seasonally as well as locally and regionally, were exploited from similarly structured houses and dwelling sites both along the coast and in the inland. Seasonal movements between sites with "Gressbakken houses" in different landscape settings, for instance between winter camps along the coast and summer – autumn camps in the inland, could be suggested. Reliance on at least partly seasonally migrating resources would mean that the "Gressbakken" societies were practising delayed return, probably with storage of food supplies for longer seasons. Some degree of transportation of food supplies between the different camps would have been necessary, although a strategy of moving seasonally between areas with vari-

1. S*iida* was the notion used for both people ("the group"), the political organization as well as the resource area/territory used by each group in Sámi society.

ous abundant resources, as suggested here, would probably speak against bulk transportation. Based on the suggestions made in this paper, it seems reasonable to think that the migrations and resource use were structured within territories, and that access to resources was regulated by social identification relating to the territories (see also K. Schanche 1994) where labour had been invested in the building and maintaining of houses as well as hunting-pit systems. I suggest that it was the same group of people who practised shorter periods of intensive exploitation of specific resources from various sites in different parts of a larger area, including inland as well as coastal landscapes. Further investigations are needed before such a model can be further elaborated.

As mentioned, the tradition of dwelling in large, rectangular semi-subterranean houses at least in the interior has a separate second phase after a "void" period of more than a millennium, from c. 300 cal. BC until c. cal. AD 300. This phase can, I suggest, be related to the forming of Sámi self-identification, and needs a different explanation than the first phase of building semi-subterranean houses in the inland. I posit that the formation of Sámi identity came about through a process of change, probably in several of the socio-cultural networks in which hunter-gatherers in Scandinavia took part (see Hansen and Olsen 2004: 36–42). Several indications of changes in contact networks can be pointed out. The sparse import of bronze implements from the Seima-Turbino culture in Central Russia during the second and early first millennium cal. BC took place some time after 900 cal. BC, lasting until c. 300 cal. BC (Olsen 1984: 66–68; Hood and Olsen 1988; Olsen 1994: 108), and was replaced by the introduction of iron technology in combination with moulded bronze technology from the Ananino societies. After that, it seems that the eastern network ceased to provide metal. In Northern Finland local iron smelting is dated from c. 400 cal. BC (Kotivuori n.d.), and there are also several indications of local iron working in relation to the Kjelmøy (Sär-2) asbestos tempered ceramics in Northern Norway and Sweden (Hulthén 1991: 34; Olsen 1994: 103). Asbestos Ware was a shared material trait over Northern Fennoscandia including North-western Russia and South Finland and Karelia (Jørgensen & Olsen 1988; Lavento 2001). Based on several 14C-datings it has recently been suggested that the two youngest asbestos ceramics, the Kjelmøy (Sär-2) and Risvik ceramics, should probably be dated between c. 900/700 cal. BC–0/ 100 cal. AD (Jørgensen and Olsen 1988: 65, Olsen 1994: 106) and 880–400 cal. BC (Andreassen 2002: 71) respectively, finishing a more than 2,000-year long ceramic tradition among the hunter-gatherer groups. Both the Risvik and the Kjelmøy ceramics point to comprehensive knowledge and use of metal (Sundquist 2000; Andreassen 2002). A depiction of two human figures with swords and shields at the youngest rock carving site in Alta, western Finnmark, suggests that the northern hunter-gatherers now experienced direct contact with southern Scandinavian Early Iron Age societies (K. Helskog 1988: 87), possibly in the form of expeditions travelling along the coast.

Between c. 300 cal. BC and 300 cal. AD several new material elements, recognizable and ethnographically known as culture-specific Sámi elements,

were established, at least in (parts of) Finnmark. Among them are new housing, burial and handicraft customs. The scree graves (A. Schanche 2000), *goahti* dwelling structures (Olsen 1993; Hesjedal et al. 1996: 227–229) and bone decoration schemes (Solberg 1918; Olsen 1984; Myrvoll 1992) are new material expressions indicating changes in several fundamental everyday as well as ceremonial practices. These elements can be seen as expressions of culture or identity-specific and ritualized behaviour, related to house structuring, religious ideas and handicraft, elements which are now established as material correlates to such a degree that they form patterns. The material changes from around 300 cal. BC can be interpreted as signs of a change in self-identification among the northern hunter-gatherers of Scandinavia and an ensuing establishment of Sámi ethnicity. The second phase of use and construction of "Gressbakken houses" in the interior should – I believe – be seen in this context.

Everyday activities and perceptions are structured, among other things, by past experiences through identification and recollection. Collective and individual identities have always been in constant flux. Within the overall flow of human action, some sets of actions are picked out and seen as more important than others. Ritualization is the process of choosing some actions and making them special (Bell 1992). Ritualized actions, formalized, repeated and bodily performed, will have time-binding properties and be important for maintaining and producing collective memory (Connerton 1989; Bourdieu 1995; Gosden & Lock 1998). In the context of a socialization process with competing identities some memories would have been highlighted, whereas other, competing, memories would have had to be forgotten.

One of the features that unite particular communities is their sense of sharing a common origin, and expressions of a common past or origin can be connected with such formalized sets of activities. Gosden & Lock (1998) propose that all prehistoric societies had a notion of a past (see also Bradley 2002; Knutsson 2004, Knutsson 2005; see however Bergman 2006; Knutsson 2007 for a discussion), and that in everyday life there was always a tension between "(..) the inheritance of the past, the intentions of the present and the possibilities held by the future." (Gosden & Lock 1998: 4). Gosden & Lock suggest that past societies dealt with this tension by treating time as genealogy or myth, and that the two concepts of time were not mutually exclusive, but could coexist in the same society. In genealogical history, relations of blood and kin are specified and form the basis for recounting histories. Other sets of mnemonics are also relied on, the nature of the landscape being the most prominent one. By treating history as myth, the past is thought of as a previous state of the world when humans had little or no power and processes of cause and effect manifested themselves differently.

Relationships between material culture, including landscape features, and social memory have been discussed to a great deal in archaeology, social anthropology and ethnography over the past few years (e.g. Van Dyke & Alcock 2003; Collignon 2006; Hautaniemi, Jarman & Macdonald 2006). It has been observed that sites and features in the landscape could be fundamental for the creation of

genealogical history, if ritualized acts aimed at maintaining and reworking these elements were linked to named antecedents. More ancient features would allow for a mythological as well as genealogical history with less familiar elements, according to Gosden & Lock (1998). They could be powerful in maintaining, negotiating and reworking history. Material relics from the past were present and open to interpretation and new meaning and significance also in prehistoric societies. As oral history operating in a continuum with the present lapse, the surviving physical remains would have yielded particularly significant information about the past, considered in terms of a genealogical as well as mythological history. In the following, I discuss how history and memory could have functioned in relation to the semi-subterranean houses known as "Gressbakken houses" in interior Finnmark.

The inland landscape of Finnmark, Arctic Norway was physically transformed through the performance of digging and building semi-subterranean houses from around 2000 cal. BC (and hunting-pit systems from c. 2500 cal. BC onwards). The house-building process would have demanded a collective effort in excavating the ground, finding building material and raising a structure above the floor. The structuring of the sites, most often with more than one house, suggests that one or several households were present at the same time, cooperating in the house-building as well as other activities on and around the site, perhaps including the building and maintaining of hunting-pit systems. It may be possible to see the initial inland houses around 2000 calBC as an extension of established "habitas" into new domains: The semi-subterranean houses are introduced to new landscapes and new resource exploitation activities. The bodily practices and collective performative memory related to resource management and long-house building traditions at the coast, as well as the performing of daily practices around the houses, were maintained in a new setting. This would have made the use of a different environment more familiar, and perhaps a genealogical concept of history was at work, placing the new activities (migrations into new areas, different resource exploitation activities) into the trajectory of the society's history.

Taking the starting point that myths as well as bodily incorporated memory can be important structures in producing and maintaining a collective memory of the past, I suggest that in the centuries around BC/AD the "Gressbakken houses" were understood as remnants of the past (Skandfer 2009), and that the bodily performance of re-building and re-dwelling in large semi-subterranean houses according to the original house structures was used as a strategy to remember. The long period of absence – around a millennium – indicates that an underlying continuity of human memory actually existed in these societies, probably in the form of mythical history. The repeated use of old sites and structures as well as the rebuilding of "Gressbakken houses", documented in the inland between c. 300 cal. BC and 300 cal. AD, point to a situation when reusing old marks and creating new, similar ones in the landscape seems to have been an important set of actions. It may have been a formalized and ritualized way of (re-)connect-

ing with past patterns of action and related socio-cultural values. The houses left permanent marks in the ground which are clearly visible today, 4000 years after the first ones were built. It can be mentioned that the depressions were still acknowledged as house remains in local Sámi oral tradition in the early 20th century (Qvikstad 1927; Tanner 1929), interestingly then attributed to a fairly recent period referred to as the time (…) "When my father was but a boy (…)" (Skandfer 2009). The several-thousand year old house remains are, in this tradition, understood within a short genealogical historical framework (see Bergman 2006 on the Sámi conception of time), but at the same time accounting for events of more mythical character which should be attributed to medieval times. This shows how a kind of social memory related to structures in the landscape can be maintained through long periods, even when the structures have gone out of use.

According to Eriksen (1996) myths can be a means of legitimizing a certain social order, including uneven power relations. Myths are understood as moral stories about ourselves, making the flux from past to present understandable and meaningful as a continuum, the past leading up to the present which in turn leads further into the future. At least in contemporary societies, times of crisis can give room for updating old myths and creating new, for making or underlining shared experiences. Feelings of break-ups and insecurity, discontinuity with the past, provide a golden opportunity for revolutionary forces to create something qualitatively new. In contrast, those who seek to conserve will do their best to create strong, positive emotions relating to the peoples' consciousness about the past. In this process, selected past events can be projected forward and given special status as shared history (ibid.). The re-building and re-dwelling in "Gressbakken houses" around 300 cal. BC–300 cal. AD falls into a period with several signs of socio-cultural change in Northern Fennoscandia, leading to an established Sámi identity. I therefore propose that the actions involved in the re-use of "Gressbakken houses" served as an arena for structuring and negotiating collective memory in a time of socio-cultural change.

Interestingly, another older material tradition – the asbestos-tempered pottery – which already seemingly had played an important role in social identification among the Northern Fennoscandian hunter-gatherer-fishers (Jørgensen and Olsen 1988; Hansen and Olsen 2006: 36–42), was maintained through this period, which I suggest was an important transitional phase in the establishment of Sámi ethnicity, from c. 300 cal. BC into the first centuries AD, but was then abruptly given up. Prior to this phase the pottery seems to have expressed regional and social differentiation and identification, and overlapping elements between the styles occur, illustrating the dynamic nature of identity (Jørgensen and Olsen 1987; 1988; see Skandfer 2011 for a discussion). In its last phase, however, in the centuries around BC/AD, the asbestos ceramics divided into two separate styles, Kjelmøy and Risvik, with complementary geographical distributions. The styles became more standardized, and now with an emphasis on minor, and as it seems more local, variations than earlier. The making and use of asbestos-tempered pottery in daily life could be another ritualized bodily

performed way of remembering, maintained in times of changing identities but then given up when a new social order was established. The deposition of late asbestos pottery vessels in an older "Gressbakken house" by the Varanger Fjord (K. Schanche 1994: 40) as well as in the earliest scree graves (A. Schanche 2000: 172–174) suggest that the pottery in its latest phase also had a religious and/or ceremonial meaning attached to it.

In contrast to the making and use of asbestos pottery, when the use of the "Gressbakken" building was resumed around 300 cal. BC, the activities related to its construction and use had not been practised for a very long time. I therefore suggest that this second phase of making and using semi-subterranean houses is related to an ascribed mythical value, representing perhaps a "Golden Age" long gone, or more substantially perhaps referring to rights to resource exploitation and landscape use (for a similar view concerning the Mesolithic in Northern Scandinavia, see Knutsson 2005). Relating to changes or intensifications in the network alliances between the hunter-gatherer in Finnmark and structurally different societies with a demand for hunter-gatherer products, perhaps most prominently furs and leather from land mammals as well as marine mammal blubber, oil and skins, the inland resources could again have been more sought. In a short transitional phase, the hunter-gatherer communities, among other strategies, used the past as a vital social resource as they put effort into reviving the mythical time of the "Gressbakken era".

Conclusion

While the trajectory of the past is shared, the same does not necessarily apply to history. The subjectivity and selectivity of written, Western history has become evident in the last few decades as parallel and even competing histories are being presented by women, indigenous peoples and various minorities. In this paper, I presuppose that notions of a past were present also in non-literate prehistoric societies, and that history was appreciated and negotiated within these past societies. In addition to oral transmission, history was recalled through sets of repeated actions which could be related to specific material phenomena, such as structures in the landscape. The past must necessarily be described selectively and subjectively. Although there are potentially indefinite numbers of histories that can be told and transmitted through time, only some are. Selected past events can be projected forward and given special status as shared history. Such events can be recollected through bodily performances of ritualized actions, related to mythical or genealogical history, following Gosden & Lock's (1998) distinction.

Identification is a dynamic process. In this paper I suggest that a uniting of past and new practices was part of the process of forming a distinct Sámi identity in the last centuries BC. The archaeological material indicates that ritualized bodily practices related to a mythical past, as well as practices relating to new and what was to become long-lasting burial customs, handicraft technology and

dwelling structuring, were among the activities taken on within at least some of the hunter-gatherer communities of Arctic Norway. This specific combination of past, present and future seems limited in time, and could well be limited in space (for instance north-eastern and mostly inland areas in Finnmark, Swedish and Finnish Lapland), but a general increased ritualization of activities in the landscape has been suggested for hunter-gatherer communities in various parts of Northern Fennoscandia from around 300 cal. BC (Fossum 2007: 2), concurring with the earliest dates for the second phase of use for the "Gressbakken houses". The use of the past in the past at this time in Sámi history could be the outcome of social strategies played out by different members of some of the hunter-gatherer communities, and it need not have come about without conflicts and disputes within and between individuals, families and different hunter-gatherer groups.

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Linguistics and Archaeology: A Critical View of an Interdisciplinary Approach with Reference to the Prehistory of Northern Scandinavia

Introduction

Archaeology and linguistics both investigate the past of human populations. They offer an opportunity to reach the past of mankind thousands of years before the present day and to obtain information on human groups of a particular period and region, their forms of livelihood, societal structures, beliefs and intergroup relations.

While linguistics and archaeology both have multiple methodologies and research materials, some fundamental differences can be discerned between them already from the outset. Whereas a linguist studies (mainly) mental and portable cultural heritage, the archaeological material is spatial and has a particular location. Linguistics studies cultural concepts and a human world view that is related to the physical world through a process of cultural conceptualization, whereas archaeology investigates practical and often neglected sides of human life – material remains and waste. Archaeological research materials almost always have an absolute chronology in years, whereas linguistic shifts, changes and vocabulary layers can, in most cases, only be dated relatively, in a relation to other shifts, changes and layers.

Notwithstanding considerable differences in both methodologies and research materials, the results of archaeology and linguistics have often been employed together to create a coherent narrative of the past. The goal in both disciplines has often been seen in the reconstruction of large-scale social models of past human groups, their complex interaction and the change of such actors in time and space.

It is obvious, however, that there are many caveats to such an interdisciplinary approach. The authors of this article, a linguist and an archaeologist, share the confidence that these two disciplines can indeed be used together fruitfully in the investigation of the human past, yet they also believe that many of those treatments that claim to combine their results, in fact, misrepresent the one or the other, or seek overly clear-cut correlations between research materials that,

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in principle, are of very different character and contain information that is connected with different aspects of the life of past populations.

The material discussed in the present paper is mainly from the field of Northern Fennoscandian prehistory and is connected especially with the Saami groups.[1] The article does not aim to provide a general ethnogenetic treatment of the origin of the Saami groups (such as presented by Hansen & Olsen 2004 or Carpelan 2003) and instead is theoretical in orientation. The authors set out to scrutinize the question as to what are the linguistically and archaeologically discernible phenomena that, in principle, can correspond to each other in the material related to the prehistory of a particular area where specific modern ethnicities subsequently emerged. They agree in that in many cases no clear-cut correlations between archaeology and linguistics can be established. The results of archaeology and linguistics are parallel, not correlating. They tell different stories of the same past, in a similar manner to separate witnesses who were involved in a series of events but experienced it so differently that the investigator is left with a variety of choices for reconstructing materialized incidence.

Many of the interdisciplinary treatments based on linguistics and archaeology available in the scholarly literature are attempts at a large-scale interdisciplinary synthesis of the origins of the presently existing linguistic and ethnic groups. This is the case in discussion on the origin of Indo-European speakers by Renfrew (1987), Mallory (1988) and Anthony (2007), a similar discussion provided by Heggarty (2007, 2008) on the origin of the Incas and the Quechua languages, and numerous papers on the linguistic expansion of Austronesian speakers in the Pacific Rim (for instance, in the collection of papers by Matthew & Spriggs [1997, 1998]). The present article differs from such approaches in that the authors stress the multiple characteristics of correlations between linguistics and archaeology. Instead of developing large-scale areal syntheses of the origin of the present groups, they suggest at looking for correlations at different levels, of a local, areal and network nature, and using the two disciplines together to interpret the cultural relevance of individual archaeological sites, the toponymy of a particular area, or the spread of a particular artefact type, to mention just some possibilities. While pointing to such opportunities of varied interdisciplinary cooperation, the authors take a predominantly sceptical stand on attempts to find areal correlations between past language areas and archaeologically definable zones.

The structure of the article is the following. Firstly, general remarks are made concerning the methodologies and research objects of linguistics and archaeology (next section). In this connection, some approaches which claim to combine linguistics and archaeology are criticized, most notably those which set up to look for the roots of present ethnicities as well as those based on the combinations of archaeological cultures and the past language areas. Various

1. The article was prepared within an interdisciplinary research group concentrating on Fennoscandian prehistory (*Early Networking in Northern Fennoscandia,* chair Charlotte Damm, Centre for Advanced Studies, Norwegian Academy of Science and Letters, Oslo).

problems related to such approaches are discussed in some detail in the section *Combining the Results: a Critical Account*.

Secondly, it will be demonstrated that other kinds of correlations could be established between linguistic and archaeological material which are, at least in some contexts, more reliable and fruitful, even if they also are less universal and less telling from the point of view of the past ethnicities and language areas. These correlations are discussed alongside the criticism regarding the areal and ethnic approaches (in the two next sections) and exemplified on the basis of material related to Northern Fennoscandian prehistory (in the section *Examples of Correlations*). Most notably, three types of correlations are discussed, namely

1) the local correlations of physical and toponymic environments, and archaeological sites
2) correlations of ecological areas, speech communities and clusters of archaeological findings
3) the network-like correlations of widespread linguistic features (especially cultural vocabulary) and materials, technologies, artefact types and, in some cases, whole archaeological techno-complexes

In addition to the aforementioned three main types of correlations, also other possible types of correlations are briefly touched upon in the section *Examples of Correlations*. The authors also stress that the correlation that is sought the most in the research history – correspondence between a language area and an archaeological culture – in fact occurs rarely, if ever.

Research Objectives of Linguistics and Archaeology

Linguistics

Although language is an essential feature of culture, thought and ethnicity, it is not always the main feature in any of them. Language as a socially learned but biologically determined capacity of the human race, is used as a communicative tool in warning, ordering, asking, assuring and persuading, but also as a cognitive tool in reasoning, learning, understanding and explaining. Through these functions it has evolved into systems of writing, reading, preserving and creating the cultural heritage as well as maintaining ethnic and other types of identities.

Historical linguistics uses material collected from a variety of sources and studies their variation in historical perspective. The study of the variation of linguistic features in different vernaculars as they evolve in space and time, and the classification of these vernaculars into languages are related enterprises. Historical linguistics investigates the hierarchies of languages, for instance, dialects, language families and phyla, and studies their emergence as well as contacts

between them. It consists of several more or less independent fields of study that concentrate on particular parts of the language system, such as sound history (the phonematic history of a particular language), etymology (study of the origin of words), contact linguistics (study of bi- and multilingual interferences), palaeolinguistics (study of the past cultures on the basis of reconstructed protolanguages) and toponymistics (study of place names). It presents its results in the form of reconstructions, taxonomies and their areal and historical interpretation. (For general references regarding the different methods of historical linguistics cf. Campbell 2004, Fox 1995; a good introduction aimed for archaeologists is provided by Heggarty 2007).

The research 'materials' of historical linguistics are not material in the strict sense, but consist of instances of speech presented in writing or recording. A historical linguist typically collects all instances of a particular item under investigation, whether a phoneme, word, grammatical structure or a toponymic type to study its variation. These can be found in written documents (if such exist), or dialectal and sociolectal material that is collected from the speakers of the investigated languages by field work. Depending on whether a linguist is interested in the history of a particular language or a group of languages he takes into account either all the dialects of one language or all the instances of the investigated item (a word, sound cluster, structure, etc.) in a group of languages.

As is reflected in the various methodologies of the historical linguistics, the language consists of many systems, some of which may have correspondences in material culture, and some of which do not have correspondences. For instance, the phonetic and phonematic level of the language does not appear to have correlates in the archaeological material (see section *Examples of Correlations*). The same appears to be true of the grammatical structure of the language. On the lexical level, however, the situation is much more satisfactory. It is obvious that the vocabulary of past languages denoted, among other things, the cultural (and natural) features that the archaeological record can uncover (cf. examples above and Tables 4–8).

It is the assumption of historical-comparative linguistics that words are either inherited, i.e. offsprings of words that were used in the predecessors of the modern languages, or borrowed, i.e. taken over from other languages to the language under investigation.[2] For instance, in the case of Northern Fennoscandia it is possible to make a distinction between the inherited Finno-Ugrian vocabulary of the Saami languages that has regular cognate words in other Finno-Ugrian languages (such as Finnic, and the languages spoken in the Eurasian taiga and tundra zone such as Mordvinian, Mari, Komi, Udmurt, Khanty, Mansi, Nenets, etc.), and the vocabulary borrowed into Saami from neighbouring languages (such as Scandinavian, Slavic and also Finnic that is historically related to Saami but, in addition to that, also a source of several layers of borrowings). However,

2. In addition, there are also derivations (words created from other words by morphological means, cf. *kind* à *kindness*), compounds (cf. *well-being*) and onomatopoetic words (*crumble*) but these are not of particular interest here.

the fact that such layers of vocabulary can be identified does not mean that a linguist would be able to identify outright also the regions and cultural networks from which those vocabulary layers derive, or give an absolute dating for such layers. The location of the speaking areas of Proto-Saami and Proto-Uralic and the dating of such protolanguages continue to be subjects of scientific debate (cf. Sammallahti 1995, Aikio 2004, Saarikivi 2011), as well as the location and dating of the language contacts of the Saami languages (cf. Aikio 2006; Aikio 2009; Häkkinen 2011). This is, in fact, a fairly usual state of affairs in historical linguistics where the location and dating of past protolanguages and linguistic contacts is typically established in a framework of a multitude of linguistic and language-external facts and is usually subject to dispute.

The next level investigated by historical linguistics that, in principle, may have a correspondence in the archaeological material is the language system as a whole (a dialect, sociolect, or a "language", however this is to be defined). It has been an implicit assumption of generations of scholars that languages can be identified also in the archaeological material by identifying the past speech communities of the languages under investigation in archaeologically definable areas.

Most of scholars agree, however, that several problems are related to such an enterprise. This is due to the fact that historical linguistics is mainly about the history of languages and the units that they contain (words, phonemes, etc.), not about the history of speech communities. Archaeology, in turn, is about artefacts, technologies, raw materials, communities and networks, not about historical sociolinguistics. Thus, as the whole discussion in this paper aims to demonstrate, various problems are related to linguistic identification of material remnants of the past linguistic communities (cf. section *Combining the Results: a Critical Account*).

Notwithstanding the difficulties, however, it is possible to reconstruct some of the social and ecological circumstances of past speech communities on the basis of the vocabulary of reconstructed protolanguages (palaeolinguistics, cf. above). Also, it is possible to reconstruct some of the contact networks of the past language communities on the basis of their loanword stock, if the borrowings can be reliably identified. Such an investigation creates prerequisites for locating and dating different phases of past language forms.

Although useful and necessary, the results reached by palaeolinguistic methodologies have been subject to criticism early on and they have to be implemented with a certain caution. For instance, it is technically possible to reconstruct a word meaning 'bullet' in Proto-Saami (cf. Lehtiranta 1988: 70–71), but on semantic grounds it is fairly clear that the word in question must have spread to individual Saami languages substantially later by areal diffusion. Further, the cultural concepts may have been familiar to the speakers of a particular protolanguage even if they have not employed similar features themselves. The fact that Saami had a Proto-Saami word for king, or words for domestic animals such as sheep or cow (Lehtiranta 1988: 54–55, 120–121, 58–59) does not have to

mean that the Saami themselves had a king, or that they kept domestic animals. Most likely, such concepts have been employed when referring to cultural institutions and living habits of the neighbouring Scandinavians. This hypothesis is supported by the fact that the words in question are Scandinavian borrowings (cf. similar criticism regarding the Indo-European protolanguage and cultural reconstruction by Heggerty 2007, 322 and Anttila 1989, 379).

From a point of view of identifying languages of archaeologically definable areas, it is worth noting that the archaeologically definable areas have been characterized by the use of common raw materials, technologies, artefact types and religious practices etc. Such culture complexes have, in the historical period, typically been multilingual. Notwithstanding this, languages of such areas have shared lexical and other linguistic innovations across language boundaries, many of them spread together with corresponding technological or religious innovations (cf. Christian terminology in Europe, the names of metals and technologies in various European languages, cultural concepts of Latin origin etc.). Multilingual speech communities covering large areas and comprising multiple speech communities have been labelled *Sprachbunds* (although the definition of such language areas tends to be fairly vague). These language unions comprise of languages that have engaged in contact through multilingual human networks and developed shared features. In many cases, it is reasonable to believe that such multilingual areas are more strongly visible in the archaeological record than the language areas, which are typically much smaller.

There is also linguistic heritage of local character that is helpful in identifying the languages spoken in a particular area in the past. Toponyms represent a special case of linguistic heritage in that they are fixed in a particular location both on a microlevel (for instance, pointing to a past dwelling or a cult site) and a macrolevel (revealing the historical spread of a particular language form). The authors of this article agree in that precisely because of its local character, toponymy is a type of linguistic material that has the most obvious correlations with the research material of archaeology. What is more, in a case of a language shift, a bulk of toponyms typically survives in the new language as a linguistic substrate, i.e., as an (often locally contained) lexical residue of an extinct language form. A layer of toponyms deriving from a certain language, more than anything else, provides the possibility to link a particular language with a particular geographical area in history with a reasonable degree of certainty (cf. Saarikivi 2007). As already noted, this is not the case with other types of lexical borrowings, which may have been relocated, together with the language form they belong to, from the area of their borrowing to other regions.

A toponym never describes a location as such, but denotes to it, i.e. its basic meaning is the place, not the semantic or lexical contents of the vocabulary from which it is derived (cf. Kiviniemi 1975; Ainiala 1997). Therefore, for utilizing toponymic material, an analysis of the naming patterns of the past populations is necessary. With the help of such naming models it is possible to partly reconstruct the ethnolinguistic world view and cultural knowledge of those people

who created the toponyms (cf. examples in Lavento & Saarikivi forthcoming). However, the problem with the study of toponyms as ethnogenetic material is that both the analysis of the structural types of the names, as well as the naming motivations can only be carried out when a substantial amount of geographical names from the same region are investigated simultaneously. In many cases such materials are not available. Notwithstanding this difficulty, results reached by analysis of only a handful of names are of much less convincing character, and stray etymologies for isolated toponyms from languages which are otherwise not attested in the region under investigation tend to be completely worthless.

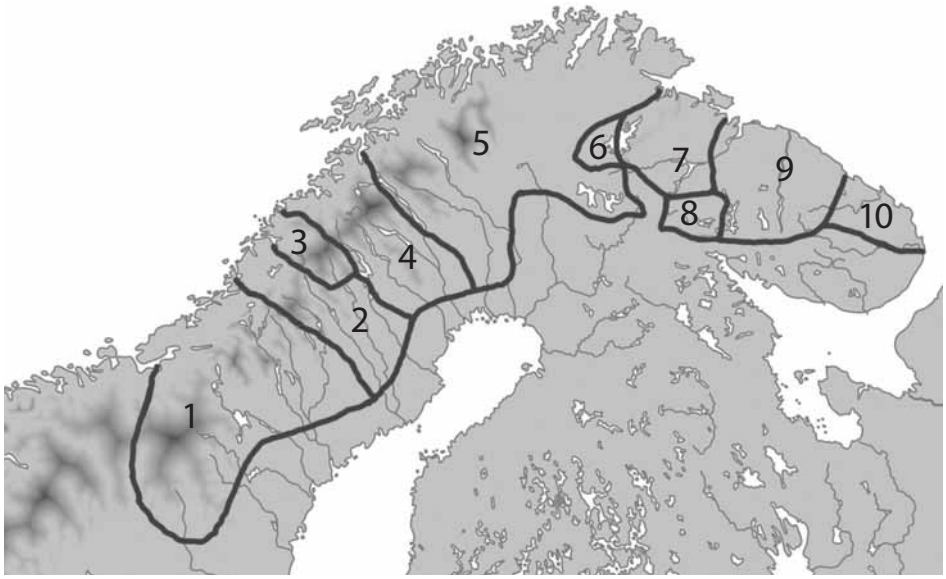
Archaeology

Archaeologists collect their basic research material in excavations and surveys and try to understand the attributes of the material and their variation in place, time and type. The methods employed include spatial, dating and classificatory approaches. Archaeological reasoning starts from the details – finds and sites – and proceeds from a local level towards communities, cultural areas and networks.

The first group of archaeological methods defines material objects in the context of three-dimensional space. The contexts can often be distinguished already in the field but this can also take place later by looking for the clustering of certain types of finds. The three-dimensional viewpoint also employs attributes that can be utilized in dating finds and sites. As a relative dating method, stratigraphy or shore displacement may be employed and the relative dates can be changed to absolute with the help of 14C methods or dendrochronology or some other natural-scientific dating method.

Further, archaeologists make an effort to understand processes inside the cluster of dwelling sites or at a single dwelling site. Here, the objective of research is the interpretation of sites, finds and their contexts. Archaeological research employs a variety of material details to reconstruct the past. A ceramic vessel, for instance, consists of attributes which imply information about manufacture, tempers, clays, forms and details in ornamentation. All these can be investigated in detail with the help of specific methods. The information related to such details is the substance which makes the understanding of the typology of artefacts and the distribution of artefact types possible.

The environment of particular archaeological sites can, in some cases, be investigated in the light of place names. As already noted, toponyms provide information on the language forms spoken in the area, on the forms of livelihood, religious practices and borders of the past population, as well as on the land use and cultural significance of the site. It is thus sometimes possible to interpret particular archaeological findings on the basis of their toponymic environment, for instance, when a particular location has been employed for sacral purposes and this is reflected in its name. Toponyms may also point to dwellings, constructions related to livelihoods (such as the reindeer hunting fences



Map 1. Distribution of the Saami languages.
1 = South Saami, 2 = Ume Saami, 3 = Pite Saami, 4 = Lule Saami, 5 = North Saami, 6 = Inari Saami, 7 = Skolt Saami, 8 = Akkala Saami, 9 = Kildin Saami, 10 = Ter Saami.

in the Saami context) and community borders. In many cases, toponyms can also be useful in developing the guidelines of archaeological investigation of a particular region. Some possible cases of such an analysis in the Saami context are provided by the authors of this article in another context (Saarikivi & Lavento forthcoming). However, this type of interdisciplinary approach is only possible to carry out regarding the relatively new archaeological periods. Stone Age sites, for instance, are so remote from present linguistic systems that there is little hope to interpret them in the light of toponymy that has been preserved in modern languages.

When comparing and locating finds in large areas, an archaeologist concentrates not only on the distribution of types. One of the main tasks in archaeology is to interpret the life of human populations in their ecological environments and the changes that take place in time in different forms of ecological and economic adaptation of the investigated region. This task is carried out with the help of the remnants of material objects that are investigated in their contexts. The researcher must observe the geographical and ecological context of the finds and be able to read the change of the culture in relation to the geographical and biological prerequisites of its existence. From a point of view of the linguistic reading of the archaeological material, it is worth noting, that language boundaries often coincide with ecologically definable areas. Thus, the areas of modern Saami languages are, in some cases, almost identical with catchment basins of rivers flowing to the Gulf of Bothnia (Lule, Pite and Ume Saami), or with the basins of large lakes (Inari and Akkala Saami, cf. Map. 1). Similar cases of ecologically determined language boundaries are to be found in many regions of the world, although, even in this case, the correlation is far from absolute and numerous counterexamples of ecologically complex language areas are also documented.

In the reconstruction of large-scale economic, demographic, ethnic and linguistic processes of the past, there are a number of difficulties related to the implementation of the archaeological methodologies. Therefore also the question as to how the language areas and spreading linguistic innovations are possible to observe in the remnants of the material culture is extremely complicated, as already noted above.

The idea that the archaeological remains of the past could be connected as archaeological cultures was first presented by Gustav Kossinna in 1911. This idea was then quickly adopted by other scholars and fairly soon archaeological cultures were considered identical with past ethnic groups. The development of archaeological typology offered positive evidence and they influenced the development of archaeological thinking up to the end of 1980s when the methodology developed. The role of implement types and typology was strong. Sites, graves and other similarities were found which further supported idea that archaeological cultures really existed (see Trigger 1989).

The definition of archaeological culture in both the traditional (culture-historical) sense and that of the so-called New Archaeology (processual archaeology with a focus on anthropological explanation of the finds) has always depended on many factors (Clarke 1968). An archaeological culture can be described as a complex of find types and sites that can be dated to a certain period and that occurs in a particular ecological area. However, the archaeological cultures that figure in scholarly literature have highly different characteristics. For this reason their comparison with each other is difficult. Usually, the cultures of the Neolithic periods are seen as more or less equivalent to ceramic types. However, coming to the Iron Age it is not possible to discover any easily definable ceramic groups. In these cases, the periods are defined by the time-scaling of historical sources (see in detail *Combining the Results: a Critical Account*).

The hypothesis that archaeological cultures are constructed on a material basis implies that similar archaeological finds represent an agglomerate of people who produced them. This led to the idea of the common ethnic background of these people but already this step remained problematic for many archaeologists and criticism regarding such an assumption was presented early on (Tallgren 1937; Allen & Richardson 1971; Trigger 1989).

The connection between material, ethnicity and language still remains unsolved. It can be stated that, in general, the archaeologists have too often solved the dilemma of the language and ethnicity of a past group by posing the hypothesis that the past languages correlate with archaeological cultures. It is reasonable to assume that, in many cases, language areas have little to do with the distribution of the typological groups constructed by archaeological analysis. It can be assumed that certain common words may have been in use to denote similar materials, types and artefact groups uncovered in the archaeological record in one language or a group of language but this is only an assumption which, in most contexts, is impossible to verify (cf. the discussion above under subtitle *Archeology*).

Common Methods or Goals?

As is apparent from the above discussion, there are no common research objects and no common methodologies for linguistics and archaeology. In the history of prehistoric investigation, various views have been expressed regarding the question how these two disciplines could be employed together in the interdisciplinary research of the past.

Already at the beginning of the 20th century the origins of the ethnic and linguistic groups were studied on the basis of archaeological materials. The scholars of this period were interested in the human anthropology and they used cranial material to determine the ethnic affinity of the past populations. Although such assumptions were seldom explicitly made, they also believed that the ethnicity and language were straightforwardly connected with each other and that a particular language was inherited within an ethnically definable group in the chain of generations unless something special occurred. Thus, it was possible to tell, on the basis of skull form, for instance, that a particular deceased person was a German, whereas another was a Saami.

In this period, the ethnogenetic processes were widely understood as migrations, and the ethnicities were typically considered as migrants from some other region. Thus, in the case of Northern Fennoscandia, Scandinavians were migrants from the south, and the Saami people were considered migrants for the east because of their Finno-Ugrian language and their physical characteristics (cf. in detail Hansen & Olsen 2004: 28–30).

In the latter half of the 20nd century, a more processual view of the origin of linguistic and ethnic groups gradually developed. Some of the most notable modern linguo-archaeological discussions centred on the origins and dispersal of the Indo-European language family. In his influential account, Colin Renfrew (1987) combined the spread of the Indo-European languages with the spread of agriculture in Europe. J. P. Mallory, in turn, building his argument on a long tradition of comparative Indo-European studies, united the origins of the Indo-European language family with the spread of horse, cart and wheel, all of which can be reconstructed in the Proto-Indo-European vocabulary (Mallory 1988). This concept has also been adopted by David W. Anthony (2007). Similar treatments regarding other language families have been provided on the Inca and Quechuan languages (Heggarty 2007, 2008), and on the Austronesian languages. Jared Diamond assumes that seven out of ten major linguistic expansions occurred in relation with innovations in food production, and two in relation with large-scale pastoralism (Diamond 2004, 398). Would this be the case, there would indeed be some type of an archeologically visible counterpart for all of them.

The opinions among the specialists regarding the credibility of such interdisciplinary syntheses differ widely. While some scholars such as those mentioned above, as well as Kuzmina (1994), Carpelan and Parpola (Carpelan & Parpola 2002; cf. also Carpelan 2008: 313–324) continue to be confident in that a

correlation between archaeologically definable areas and linguistic reconstructions can be established on ceramic types, the cultural or technological innovations that correlate with the reconstructed vocabulary of the protolanguages and a retrospective reconstruction based on the subsequently emerged linguistic situation, others are more sceptical. For instance, C. C. Lamberg-Karlovsky, in his discussion regarding the ethnicity and language of the Andronovo people of the Russian steppe, concludes that "contemporary methodologies, linguistic or archaeological, for determining the spoken language of a remote archaeological culture are virtually nonexistent" (Lamberg-Karlovsky 2002: 73). In a similar vein, the Altaist Denis Sinor considers it "impossible to attribute with any degree of certainty any given language to any given prehistoric civilization" (Sinor 1999: 396).

While such formulations are certainly exaggerated to some extent, it is worthwhile to note that the methodologies of linguistics and archaeology reconstruct the past groups in different ways. Resemblances between them should not be understood so that the two disciplines could have the same research object; rather they can be seen as analogies between different methodologies employing a similar spatial, typological, variational, semiotic and societal look at their material. Also, their results can only be made to combine via some third explaining force, such as the analogies of the behaviour of human groups in other contexts.

Thus, both linguistics and archaeology investigate the variation of units that have a geographical distribution and typological characteristics that change over time. It is a fundamental problem for both disciplines to identify the varying units, for instance, the archaeological types in different sites, or the instances of the common historical word stem in different languages and dialects. The units investigated by both disciplines are embedded in a system of other units that allows for reconstruction of the past local groups and their networks that spread technologies, raw materials, artefacts, religion, etc.

Both disciplines make a distinction between a cultural heritage that is transmitted locally and the type of a cultural heritage that is transmitted over long distances in different types of human networks. Further, both disciplines make an effort to understand the various semiotic meanings of symbols connected with ethnicity, or a local or religious identity. Conceptual systems have existed in the communities and their remains are visible at the sites and different types of archaeological material. The ideas of the world view and cultural identity of the people who belonged to the past populations rest on a reconstruction of a conceptual world view of the people who employed sites, certain artefact types and languages. This can be done on the basis of ethnographic analogies and the careful historical semiotic analysis of the cultural concepts employed by the past populations. This concept of the necessity of cultural reconstruction as a key to the interpretation of the archaeological material is stressed by Renfrew (2008).

The following tables illustrate some analogies of the methodologies employed in the historical linguistics and archaeology:

Spatial	Typological	Variational	Semiotic	Societal
locating sites	identifying types	describing variation of a type	investigating social memory related to sites and oral narratives	describing society around finds and sites
investigating human environment around sites	investigating use and development of a type	describing changes in type	identifying religious and ethnic markers	describing societal change
investigating finds and their distribution	investigating distribution of types	identifying autochthonous and contact induced change	interpreting meanings of the markers in finds	identifying the waves of cultural influence

Table 1. Archaeological methodologies.

Spatial	Typological	Variational	Semiotic	Societal
investigating distribution of the lexical items (words, toponymic types)	identifying the instances of same words in related or contacted languages; identifying languages	describing changes in words and their distribution	investigating the societal meaning of linguistic signs	describing a society that used a particular language form (on the basis of vocabulary)
identifying naming motivations and semantics of linguistic concepts; investigating their areal distribution	identifying changes in words and language systems; investigating the contexts of variants	identifying inherited and borrowed elements;	reconstructing the linguistic identities in the investigated context	locating and dating of (proto) languages

Table 2. Analogical linguistic methodologies.

It can thus be summed up that the linguistic and archaeological methodologies both approach their material by making assumptions on the human behaviour that caused its emergence. In this respect, they both depend on the assumption that similar developments recur in different environments. Also, interdisciplinary investigations of prehistory that make an effort to combine the results of linguistics and archaeology typically operate with the help of parallel cases from well-described contemporary cultural situations.

It is worth noting that such analogies can be conscious, so that an investigator interprets his / her materials with the help of better-documented cases or, and this is likely more often the case, they may be unconscious as, for example, when a modern nation-state model guides the interpretation of the past populations. While the analogies from more recent periods and the ethnographic record may be helpful in interpreting past events, it is also often the case that they are misleading because all the historical series of events have unique characteristics that cannot be tackled in the light of analogies. In order to successfully understand

past ethnogenetic processes, analogies are thus necessary, but often insufficient. They should not be considered as a key to investigating past populations but as a helpful and necessary tool for cultural reconstruction along with context-specific palaeolinguistic, toponymic and archaeological material.

Needless to say, perspectives for such a reconstruction are often fairly restricted. For instance, from the point of view of combining the methodologies of linguistics and archaeology, it would seem to be a fruitful idea to evaluate the social events visible in the archaeological record and to interpret them from the point of view of historical sociolinguistic situations. Ross (1997) speaks of 'speech community events' that, in principle, can be reconstructed to some extent on the basis of archaeological material. While such an approach is promising in principle, the problem remains that similar social process may have different linguistic and material outcomes in different contexts. For instance a merger of two communities may lead to a situation where one language becomes popular in the new community and the other language disappears, or two languages may continue to be used in a bilingual community. If the languages of the two communities were closely related, even a merger of two languages into one may take place.[3] Also, in the contact of two linguistic communities, the borrowing of vocabulary and other linguistic features is sometimes very active, whereas in other cases of very intense population contact only moderate borrowing is discernible (cf. Thomason 2001: 70–73). The linguistic choices of a language community leading to language change, or language shift and loss are guided by very complex networks and identities that are difficult to understand even in the present time when an investigator has all the sociolinguistic data available, not to mention past periods, the social circumstances of which are only very fragmentarily documented (regarding the social reality behind language shift modern contexts, cf. Labov 1972; Milroy 1992).

Chronology is a dimension necessarily embedded in the investigation of prehistory, whether linguistic or material. The effort to create an absolute chronology to be as accurate as possible is one of the central aims in archaeology. For this reason, archaeology also utilizes a large variety of natural sciences that can help in reaching such a goal. In historical linguistics, however, the chronology is relative and the changes in language are dated with respect to other changes.[4] Thus, the absolute chronology for linguistic shifts and changes is usually created by combining language data with the ethnographic, historical and archaeological record. An example of this would be the dating of a particular layer of vocabulary with the help of the archaeological material that includes the

3. Although it might not be possible to define a merger of two languages in a satisfactory way, there are grounds to believe that, in most cases, various linguistic processes only take place in a contact of two closely related languages, and almost never occur in a contact of languages that represent very different typological characteristics or different phyla. Such processes include widespread borrowing of inflectional morphemes and morphological processes.

4. There have been attempts to create different types of absolute chronologies for linguistics on basis of so called glottochronological methodologies. Mainstream linguistics has remained sceptical regarding the results that are to be achieved by such methodologies.

artefacts that it denominates (examples below in section *Combining the Results: a Critical Account*). This functions well in principle, as long as we can be sure that we can linguistically identify the communities that employed the artefacts. As already noted above, this is regrettably often impossible. In practice, most of the linguistic phenomena are given more or less vague datings in an interdisciplinary framework of facts, and the older the phenomena are, the less reliable the dating becomes.

Combining the Results: a Critical Account

Combining the Results: Traditional Views

Most of the scholarly literature that seeks to combine archaeology and linguistics in the interdisciplinary study of prehistory represents some common characteristics. As already noted, most scholars have been striving for areal synthesis and been looking for the past areas of present ethnicities and their predecessors, past language areas or made an effort to identify archaeological cultures linguistically. As is obvious from the aforementioned, such an approach neglects many aspects of both linguistic and archaeological investigation and often operates with ethnic concepts that derive from neither archaeological nor linguistic material.

Although something of an oversimplification, the basic assumption regarding correlations between linguistic, archaeological and ethnic entities in such a traditional research approach can thus be presented by the following scheme:

language area
↕
archaeological culture
↕
ethnicity

There are various problems related to such an approach, even if the correlations investigated would be understood as more or less relative. Such problems are related to the concepts of language area, archaeological culture and ethnicity alike and they are briefly scrutinized in the following.

Archaeologists are usually able to distinguish the borders of large areas with the help of some material group. However, it is much more problematic to find out whether the groups investigated were uni- or multilingual or to establish past language and ethnic boundaries between them. A group defined with the help of the archaeological material may have employed one, two or several languages. Their language(s) may have received borrowings and grammatical

interferences from other linguistic groups through various networks, from the neighbouring groups, or over long distances via trade and exchange routes. Although one is inclined to think that a substantial cultural change visible in the archaeological material always represented at least some linguistic change (cf. Carpelan 1999: 249–251), it is hard to attribute particular material changes to language shifts, for instance, and the other material changes to spread of loanword layers and morphosyntactic interferences. This is due to the fact that languages spread differently in different contexts (cf. in detail section *Language Spread as a Problem of Archaeological Investigation*).

Language communities have very different social characteristics. Some languages are bound to a particular group of people in the community, such as the upper class, whereas other communities have a minimum amount of social hierarchy and linguistic differentiation. There are multilingual communities that routinely use a particular language in a particular communicative context and another language in another context. And even if a language would be spoken in a relatively homogenous community, one needs to have a theory of language spread in the given context in order to find counterparts of the changing language areas in the archaeological material.

Linguists are well aware of the fact that there is no single way that languages spread and that the spread mechanisms differ in space and time even in the case of a single language. Language areas change by both expansion and relocation and it is quite typical that a present language map of a particular region is a result of relatively recent developments. It is also widely known that many languages have previously been spoken in other areas than at present (cf. Janhunen 1999: 200 for cases in Northern Eurasia). Both migrations and language shifts cause the expansions and relocations of language areas and it seems to be the case that the latter process is, most likely, the more important one, at least in the Eurasian context.

Language shifts typically spread languages over culturally significant boundaries and they thus become adapted to new ecological and cultural environments. Remnants of earlier languages of a particular region can, in such a case, survive as linguistic substrate, i.e. a residue of the earlier language of the region that is to be discerned in the place names and the lexicon that is related to local concepts such as the names of geographical features, flora, fauna, etc. (cf. Saarikivi 2000). From an archaeological point of view, however, the result of such a spread is typically a language area that is culturally not homogenous. If the language spread vertically, i.e. by a language shift, few traces of migrations are likely to be attestable. This question is discussed in detail by Anthony (2007: 108–115). This reminds us of the fact spread of a language is not necessarily accompanied by the spread of new materials, artefact types, technologies, dwelling patterns, etc.

For the Saami context, a relatively recent language shift of a pre-Saami population to Finno-Ugrian has been proposed on the basis of toponymic data and areal linguistic argumentation (Aikio 2004). However, there is no doubt that

the modern Saami groups, in a way or another, continue the cultural traditions from their non-Finno-Ugrian speaking predecessors and that they had, at the beginning of the 20th century, still retained some forms of livelihood that were characteristic of the Neolithic and Early Metal Period inhabitants of Northern Fennoscandia, such as small-scale nomadism and probably also archaic forms of small-scale reindeer herding. In a similar manner, south of the language boundary, in an area where Finnish dialects are spoken (from the 18th century onwards), many features of the Saami material culture and forms of livelihood (such as reindeer herding) prevailed even after the language shift to Finnish.

Language Spread as a Problem of Archaeological Investigation

From the point of view of language, the basic problem of the traditional research approach based on areal correlations of language and material culture is that the historical sociolinguistic information regarding the past language communities is typically very restricted. Therefore, it is often impossible to know what types of communities and mechanisms of language spread archaeologists should look for in their research material. As already noted, this is in stark contrast with the fact that the inner history of languages under investigation may, in fact, be fairly well described.

A speech community is almost never a homogenous entity. Typically, it consists of people speaking various dialects, sociolects and idiolects, and it is often impossible to indicate strict geographical boundaries for dialects and languages. There may also be different language groups within a single ecological zone or within similar cultural networks. Typically, these practice closely related forms of livelihood, employ similar raw materials, technologies and artefacts, etc. Needless to say, in such a case, it will be problematic to indicate language borders within the archaeological material.

John Terrell (2001) points to the northeastern Sepik coast of Papua where different groups "share a common pool of resources, material products and cultural practices" (ibid., p. 206) but engage in most multilingual social networks and typically master several languages. Despite intensive and far-reaching cultural contacts, no commonly used *lingua franca* has emerged in the region. In a similar vein, David W. Anthony lists examples from American and Pacific regions and concludes that "tribal languages are generally more numerous in any long-settled region than tribal material cultures" while, at the same time, "a homogenous tribal language is rarely separated into two very distinct bundles of material culture" (Anthony 2007: 104–105). He thus makes the assumption that persistent cultural and ecological frontiers have, most likely, also been linguistic borders. While such an assumption is certainly in place in some contexts, the Saami case would seem to be something of a counterexample to his claims in that in Northern Fennoscandia several culturally discontinuous language areas are to be attested. For instance, the culturally very different fisher Saami on the Norwegian Ice Sea coast and the reindeer herders of the inland still speak fairly

closely related dialects of a single Saami language (Northern Saami), although linguistic variation within the Saami groups is generally fairly broad. However, there would seem to be some grounds to suggest that Northern Saami has, at least in some cases, replaced other types of Saami languages on the Ice Sea coast although detailed investigations on this matter are not available. In a similar manner, across the materially fairly homogenous culture of the inland taiga zone there emerged in the 17th–18th centuries are language boundary between Finnish (and Karelian) and the Saami languages.

Furthermore, the role of the language as a social emblem, or bearer of ethnic identity seems to be radically different in different communities. As pointed out by Nichols (1999) there has likely been much less correlation between ethnic and linguistic identity in the Eurasian steppe zone than in historical Europe, both in the antiquity as well as the modern times. This is reflected in that the raids led by the Turkic-speakers (in the 9th and 10th centuries AD) ultimately spread an Ugric language (Hungarian) to Europe, and that the raids led by the Mongolian-speakers (in the 13th century AD) mostly spread Turkic languages. In a similar manner, the oldest literary sources regarding the Russian state point to a multilingual *Rus'* ethnicity based on a trade network that operated between inner Eurasian and Baltic markets and united Slavic, Scandinavian and Finno-Ugrian groups (Lind 2007). This is also reflected in that the population of Novgorod was linguistically mixed and, in addition to Slavic-speakers, consisted of Finnic and Scandinavian speakers (cf. Saarikivi 2007b). This is, in fact, characteristic of most of medieval European cities. (Regarding the archaeological material reflecting the merger of Slavs and Finno-Ugrians, cf. Rjabinin 1997; Makarov 1997).

Homogeneous and Long-Lasting or Versatile and Fluctuating Communities?

In the light of the archaeological material, the Northern Fennoscandian communities occur as fairly stable over long periods (Halinen 2005). It has also been often assumed that the linguistic multitude of present period, (i.e. the present nine [until 2003 ten] living Saami languages, Map 1), derive from a linguistically more homogenous past. This point of view is also reflected in many studies that stipulate that Proto-Saami, or even Proto-Uralic, would have been spoken in the speaking area of present Uralic languages for thousands of years and gradually split up into the present languages (cf. Sammallahti 1995; Sammallahti 2001; Wiik 2002).

However, if one turns to ethnographic analogies, it seems to be the case that language communities of the hunter-gatherers (and hunter-fisherers such as the Saami people) are typically of relatively small size. This state of affairs would seem to hint that also the linguistic past of Northern Fennoscandia was more diverse than at the present time and that there were many language groups in this region in the early prehistoric periods. Such a state of affairs would be in line

with the reasoning presented by Janhunen that the Stone Age linguistic communities were fairly small and the language families were numerous but small (cf. Janhunen 2008). Again, this is a purely linguistic conclusion on the basis of analogies from other regions, most notably Siberia (which is both ecologically and demographically fairly similar to Northern Fennoscandia). No traces of such Stone Age diversity, however, are discernible in the archaeological material. The Fennoscandian archaeological data from the Stone Age point to local communities that, from the point of view of material culture, have employed similar raw materials, artefact types and technologies over a large area.

Another and perhaps also more fruitful way of reasoning is to begin the archaeological research with the small entities and try to examine contacts between individuals through finds. The hierarchy between individuals defined their level of importance in the community and exchange systems typically operated between people at the top of the hierarchy. Among the archaeological material examples of rare and valuable objects are to be found which did not belong to all members of the society. In the case of the Saami living area, the valuable objects were coins or guns, for example. In the material culture, the distribution area of some find types is seen today as a past exchange network.

The populations that lived in Northern Fennoscandia and on the Kola Peninsula during the last 4,000 years offer the investigator various cases of documented cultural change. Already in the Early Metal Period (ca. 1900 calBC–250 calAD) but especially in the Saami Iron Age (250 calAD–750 calAD), the number of finds and sites is relatively small and the local populations during the period are poorly visible. The groups of this period are visible for an archaeologist only in the rectangular stone settings. Stray materials or artefact finds such as tinder flints are of minor information value from the point of view of identifying ethnicities. Pieces of metal (copper) plates cut into the form of arrowheads represent new practices during the late Iron Age. Although they are characteristic of the prehistoric groups in the Saami area their origin may reflect contacts with groups in the large area – with the forefathers of the Swedes and Finns, as well as the Karelians, and other Finno-Ugrian groups.

The visibility of the groups increased during the late Iron Age (750–1300 calAD) and during the Middle Ages (1300–1550 AD), in particular. In these periods, there appeared hearths and wooden remains of *goahti* (tent) dwellings which are visible at the sites. Apart from reindeer bones the sites are not rich in finds. Despite this, some find types connect the sites easily to certain periods and the distribution areas of finds indicate interesting characters of the network operating at different levels of the societies. In archaeology, this can be seen as the change of material. It is possible to distinguish spoons made of bones if the individuals in the groups left their visible marks on them when making them. However, a typology of this kind has not been done so far by archaeologists.

The winter villages of the 15th and 16th centuries indicate localities though the find material found in the excavations elucidates the local groups poorly. Local groups have naturally been visible also earlier although archaeologists are

not able to discern them easily. For instance, small iron knives resembling the modern fruit knives are visible at many of the sites, but the local Saami groups did not produce them. Their distribution area is large including the northern part of the Baltic Sea. The origin of this artefact type is thus not in northern Lapland but somewhere else and the knives represent a network that worked between the small group of active merchants and tax collectors and the locals and delivered the material from the southwest part of present-day Finland to the north (cf. Figure 1.)

Figure 1. Small iron knives ("fruit knives") from Nukkumajoki 2 winter village. Photo: Markku Haverinen, 2002. National Board of Antiquities, Finland.

Although archaeologists investigate first and foremost material culture, all kinds of data related to societies of the past are employed in the interpretation of the material remnants. The communities themselves are visible in remnants of the dwelling sites, but the fact that some neighbouring communities speak closely related dialects, while there is a language boundary across another community border is practically invisible in the archaeological material (cf. in detail Lavento & Saarikivi forthcoming). No general find types that could be used for separation of the emerging local Saami language groups are identifiable. In the archaeological material it is very hard to make a distinction between the find materials from different sites so that they would be explicable as linguistic boundaries. Notwithstanding this state of affairs it is fairly clear that the development of Proto-Saami into separate Saami languages in Northern Scandinavia, Finland and the Kola Peninsula occurred during the Late Iron Age, the Middle Ages and historically recorded times. It is also evident that this process involved a significant language shift among the people who spoke extinct Palaeo-European languages that can only be recorded in denominations of geographical features, flora, fauna and toponyms in the modern Saami languages. There would seem to be very few possibilities to

give an absolute dating for such a language shift but at least we can be sure that in the 15th–17th centuries, the immediate predecessors of modern Saami languages were spoken in a number of Saami winter-village-based communities.

The process that changed the societies in large areas began already in the second half of the Iron Age as a result of migration from the SE and S parts of Finland to the north and it also proceeded when the Saami bands adopted new ways of living. Spread of cultivation influenced in the middle part of Finland during the 8th–17th centuries AD, caused changes in the communities and influenced their borders. It developed a new type of division of labour between the agriculturalists and their northern neighbours. The reindeer pastoralism that developed to produce a large number of reindeer products for the European market did not reach northernmost Lapland until the 18th–19th century. This caused a series of economic changes in the eastern Saami communities because the wild reindeer disappeared. The people were forced to go over to semi-sedentary settlement, typically based on different summer camps, inland fishing or small scale reindeer herding.

The boundary between the Saami communities, on the one hand, and the Scandinavian and Finnic-speaking communities, on the other, is discernible in the archaeological material. For instance, the period of late Iron Age is clearly visible in the Southern and Southwestern Finland but in Lapland the material from the period is very limited (cf. Map 2). This difference continued to exist in the Middle Ages (1200–1550 AD). It seems reasonable to believe that the Early Iron Age settlement on the coastal zone of the Baltic Sea had a considerable role in the spread of the Finnic language form into the area of present-day Finland. From the 17th century onwards, permanent settlement becomes visible in all parts of Finland.

In inland Finland and the area between Lake Ladoga and Lake Onega, as well as in Ingermanland, the merger of hunting-fishing populations and cultivating populations took place during the second part of the Iron Age and in the early Middle Ages. It occurred in a different manner to the western parts of the country. The material culture and languages that developed in Karelia emerged within framework of the language shift of the Saami populations to Finnic (the fact that there were Saami or "Lapps" in this area is documented by history and folklore). Evidently, agriculture became the main form of subsistence in this region and this dramatically changed the societies and moved the border between the hunting and fishing Saami groups and the agriculturalists to the north (Korpela 2009; Korpela, this volume).

These developments can be regarded as process of relocation of the Saami languages from a taiga zone (where they originate) to a semi- tundra and tundra zone. However, it would seem to be the case that, once again, the main mechanism of the relocation was a language shift (with some migration from south to north). In this respect, it is worth noting that a similar medieval relocation from taiga to tundra seems to have taken place even in many other Uralic-speaking contexts including the Ob-Ugrian and Samoyedic languages of Western Siberia.

Ethnicity in Language and Material Culture

Ethnic identities are central signifiers of human groups everywhere. Therefore, it is understandable that an approach that explores the history of present-day ethnicities has not lost a certain appeal, despite all the difficulties related to it.

A critical scholar acknowledges that it may not be possible to define ethnicities even on a present-day level. Ethnicity is a fluid concept sometimes associated with language, sometimes with a form of livelihood, kin, origin, area, etc. Ethnic identities are subject to situational and network-based variation, and often perceived differently by different groups and individuals. In ethnographic research since Barth (1969), ethnic identities have been considered as boundary identities emerging in the process of defining the groups both by the people belonging to a particular group, as well as their neighbours. Such community borders are constantly negotiated or constructed anew, and this means that also the role of both the linguistic as well as the material emblems in them is not stable.

Due to its character as an ever-changing boundary-related phenomenon, it is very difficult to find any material group that could be easily used as a general indicator of ethnicity. This is true of the ethnographic and the archaeological material alike. Ethnic and linguistic identities often have certain material emblems (such as details of dress, or ornaments in buildings) but these are hard to identify in material related to the distant past. The characteristics of such emblems are often small features and when the relevant ethnographic information is lacking, it is virtually impossible to interpret the archaeological materials in ethnic terms on the basis of such emblems. In more recent periods, however, ethnographic analogies can be used for such a purpose.

In the history of archaeology, it has often been assumed that there is a certain correspondence between ceramic types and ethnic groups (cf. Carpelan 1999, 249). It has been argued that the pottery was mostly produced by women who resided in a particular location more permanently than men who were engaged in hunting and fishing. It has further been believed that this explains the stability of ceramic types over several hundred years. However, on the basis of the ethnographic record from hunter-gatherer communities, it is obvious that it was mostly women who changed their ethnic group through marriage. It has been assumed that the girls who changed their ethnic group learned already in adolescence many practical skills from their mothers-in-law (Arnold 1993). This assumption is supported by anthropological observations from several contexts.

Furthermore, ethnographic analogies from present communities seem to suggest that the role of ceramic types as an expression of identities varies widely in different contexts. For instance, Gosselain (2009) conducted a survey on correlations of ceramic types, ethnicity and language in southern Niger and found out that most of the innovations in pottery are transmitted over ethnic and linguistic boundaries and that no ethnic ceramic types are to be discerned in this area. However, he also found out that a certain correlation between ceramic types and ethnicity exists in Cameroon (Gosselain et. al. 1996).

In the case of the Saami groups, research can attest various types of ethnic identities depending on perspective. For Scandinavian and Finnish newcomers to this region the main ethnic division line was that between the newcomer ethnicities and the Saami. It is an open question, however, as to which amount traces of common Saami identity can be attested among the Saami themselves prior the emergence of the modern Saami identity in the 20th century. On the basis of the ethnographic record it seems clear that the Saami people regarded different Saami groups as different ethnicities for a long time. The modern Saami identity unifying different groups consolidated in a new situation where nomadic Saami groups came into contact with the culturally increasingly dominating Scandinavian and Finnic groups. Simultaneously, many areas where some type of Saami ethnic and linguistic identity had prevailed became subject to colonization activities within the Swedish state. The Saami groups in these areas became Fennicized both linguistically and ethnically. However, the fact that the Saami languages and also the ethnonym of the Saami originate in the Proto-Saami language that, with all likelihood, must have been spoken by a relatively small community in an area much smaller than present-day Saamiland (likely somewhere south or east of the modern Saami-speaking area), points to the fact that there had a kind of linguistically definable single Saami group somewhere in the past. However, one should be cautious in establishing links with such a past group and modern Saami ethnic identity.

The concept closest to ethnicity within the traditional Saami communities was the winter village based groups, the *siidas* (cf. Itkonen 1948; Carpelan 2003). These units had just (maximally) a few hundred members each but the membership and the borders between the siidas were respected by other communities and this type of ethnic identity was often also emblemized by a particular type of clothing. Land resources were divided between siidas and, within them, between individual families (cf. Itkonen 1948; Hansen and Olsen 2004). Marriages and kinship relations over siida boundaries were common and kinship likely played an essential role in the organization of the intergroup relations. Typically, a few neighbouring siidas spoke a common language and the language boundaries, where they existed, coincided with the siida borders. However, most of the siida borders were just dialect boundaries (with sometimes very little linguistic diversification). The fact that in just one case (the Inari siida and the Inari Saami language) there is a straightforward correspondence between the siida borders and the language borders hints that the differences between the Saami languages probably reflect some other type of community structure that existed prior the siida system. It also points to the fact that the division of people and land between the siidas is likely a relatively new phenomenon, probably a result forced by taxation (cf. also Lavento & Saarikivi forthcoming).

The changes evidently took place inside and between the siidas. There is evidence of the collapse of at least one winter village based community and the merger of two communities into one (in Inari, cf. Viinanen 2006). In addition, people who crossed over the community boundaries likely initiated linguistic

changes. Both men and women changed the groups in which they lived (cf. Hansen in this volume). It is likely that this also influenced their ethnic identity (at least as discerned by the other people). When people crossed the ethnic and linguistic boundaries, new ethnic identification problems must have emerged. A person previously regarded as Saami, for instance, may have adopted a Finnish or Scandinavian identity. Some members of his former community may have opposed his new identity choice, and probably continued to consider him or her as a member of the previous group. The collective identity and ethnicity were in flux all the time (cf. Hodder 1982; 1986).

It is quite clear that if the ethnic units of siida size prevailed among the Saami even in the more distant past, all kinds of changes must have occurred that had immediate effects on such small groups. Diseases or hostilities between communities may have reduced the number of individuals in such groups. Those who survived likely became members of other groups and adopted their speech habits and other possible ethnic emblems. Most changes of this kind must have taken place without leaving any remnants for archaeology or linguistics to investigate.[5] Some linguistic variation, for instance, closely related but irregular sets of false cognate words may derive from extinct dialects from which only a handful of words have been preserved as borrowings in other closely related language forms, but this remains an assumption.

Local Groups with Established Boundaries – and Their Long-Reaching Networks

Archaeologists now widely agree that a continuous inner change of cultures and groups occurred throughout centuries in Northern Fennoscandia. The geographical borders between Saami groups have been interlocked and changing in both the synchronic and diachronic sense. In classifying the archaeological material, the researcher can suggest models constructed on the basis of entities which are stable (e.g. grave types) or which have remained visible in the form of fragments of the material objects of various kinds. The problem for archaeologists is to find such qualities that could really indicate groups and ethnicity.

As is obvious from everything discussed above, most of the material entities do not necessarily distinguish the territories between ethnicities but instead distributions of the exchange networks of the artefacts, raw materials and technologies. However, it may still be assumed that the borders between ethnic groups were apparent to those people who were members of a particular group in the historical context in which it existed.

5. We could, however, note that many of the Northern Saami-speaking communities most probably used some other Saami languages in the past. This is notable in the substrate phenomena that can be attested in the phonematics, lexicon and place names alike. This kind of a language shift or merger is understandable in that the Northern Saami speakers dominated the networks related to trade with reindeer products and in that their group invented nomadic large scale reindeer herding in the late Middle Ages.

Many archaeologists believe that fixed territories with borders recognized by several groups may have existed in Northern Fennoscandia (Carpelan 2003: 68–70). However, the problem remains how to find and define the relevant groups in the archaeological material. The remains of the material culture are related to several groups, some of which are better observable than others. A stronger ethnic group often masks the "visibility" of a smaller one because of its active production and distribution of material. A group thus covering other local groups with its material is not necessarily a large one. It can represent an active trade or exchange network. Some well-visible products may be discovered in archaeological excavations with the result that many other products that would better indicate ethnicity remain less visible.

The Skolt Saami groups offer an example of a population where a great variety of cultural characters connect the group with different networks and waves of cultural influence. They are an example of a community mixing impulses from different directions and living in between the western and eastern cultures that influenced their religion, contacts and language. The linguistic boundary between the Inari Saami and the Skolt Saami can probably be considered as one of the deepest in the whole of Saamiland from the point of view of mutual intelligibility. In the 20th century, the ethnic border of the Skolt Saami, on the one hand, and the Inari and Northern Saami, on the other, was generally felt among the Saami. In the historical period the Skolts constituted a clearly discernible group due to their Orthodox faith that distinguished them from their Northern and Inari Saami neighbours who were Lutheran. The same cultural division was also reflected in their trade networks that were orientated towards Russia whereas the Northern and Inari Saami were predominantly orientated towards Sweden/Finland and Denmark/Norway. The Skolt Saami economy was based on both maritime and inland resources. Those who utilized the resources on the coast of the Arctic Ocean had their resource areas both on the coast and in the inland. Some individuals coming from the inland had difficulties in adapting themselves to the coastal zone.

Despite being such a clearly definable group in the historical period, the existence of the Skolt Saami is not easy to distinguish from archaeological materials alone. There is no individual material type that could indicate it during the Saami Iron Age or even later periods. Neither is there any clear indication that the Skolts in different siida*s* would have considered themselves a single ethnicity.

The number of Skolt Saami increased considerably during historically recorded times. A hundred years ago, this population consisted of several groups within seven siidas. In addition, the Akkala Saami group that has been linguistically classified as a separate entity displayed considerable similarities with the Skolt Saami groups. Linguistic differences between the Skolt Saami groups existed but were relatively minor in comparison with the differences between the Skolt and the other Saami populations. It is not entirely clear how the linguistic differences between the Skolts and the other Saami groups emerged but there are indications that in some past period there must have been a considerable distinction either between the networks or the inhabited area of the Skolts

and the other Saami groups.[6] As already noted, no corresponding archaeological material is available, however, as proof of such differentiating networks of the forefathers of the Skolt Saami.

Examples of Correlations

Three Main Correlation Types

The above critical analysis of possibilities for combining linguistics and archaeology in the study of Northern Fennoscandian prehistory is now followed by a discussion of the correspondences that could, in principle, be found in materials pertaining to the prehistory of the Saami.

In another paper by the authors (Lavento & Saarikivi forthcoming), the following scheme is presented that illustrates the correlations between archaeological and linguistic material at different levels.

	Location	Community	Network
ARCHAEOLOGY	site	cluster of sites ecological area	material technology type
LINGUISTICS	toponym cluster of toponyms	speech community	borrowing cultural vocabulary

Table 3. Three levels of correlation between archaeology and linguistics

The scheme makes a distinction between three levels of correlation between archaeological and linguistic material: a local, a community-based and a network-like correlation. Examples of possible correlations are given in Lavento & Saarikivi (forthcoming).

It is important to note that the human networks that spread languages and the networks that spread linguistic features are often fundamentally different. In terms of Nichols (1999: 227), languages and vocabulary spread along different trajectories. For transmitting a layer of vocabulary, for instance, a cultural contact is needed that spreads materials, artefacts, technologies, beliefs, etc. The fact that alongside such cultural innovations also the vocabulary related to them spreads has been one of the key assumptions in historical linguistics already for more than a hundred years (*Wörter und Sachen*). For transmitting an entire language, however, people also have to move, at least to some (sometimes very lim-

6. Siida is a designation of a traditional Saami community that resided together in the winter time in a winter village (approx. 100–200 individuals). It was a taxation unit (tax collecting occurred while the whole band resided together in the winter village). In addition, the land resources (reindeer pastures and hunting grounds, lakes for inland fishing) were divided between the siidas. The siidas seem to have been autonomous units of a kind until the beginning of the 18th century (see Korpijaakko 1989 for details). Around 40 siidas are known historiographically (S. Aikio 1985; Itkonen 1948).

ited) extent. As noted by Nichols (ibid.), the trajectories spreading languages in Eurasia often stretch from east to west in a region where there are no significant geographical constraints for the movement of people. The loanword trajectories, in turn, often stretch from south to north, from the cultural centres towards peripheries. In the case of the Finno-Ugrian languages it can be noted that this trajectory has subsequently also served as a trajectory for language spread.

While the authors are optimistic about finding networks of material culture that could correspond with the loanword trajectories, they are more sceptical about establishing the language boundaries. The correspondence most often sought in ethnohistorical research, i.e. between a language area and an archaeological culture, is lacking in the scheme. The authors assume that in the best possible case, when a past community can be established with a reasonable degree of certainty, it is more likely to correlate with a speech community than a language area. A speech community, in turn, represents a uni- or multilingual population of a particular settlement, or group of settlements. Large-scale archaeological entities such as archaeological cultures, in turn, are more likely to correlate with multilingual *Sprachbunds* than language areas. An archaeological counterpart for a language area, in turn, may be difficult to establish, at least in many Northern Fennoscandian contexts.

How, then, could these possible correlations of linguistics and archaeology appear in a particular context? For instance in Inari, the following types of correlations could, in principle, correspond to those presented above:

Location	Community	Network
Remains of winter villages in Nukkumajoki	Winter village of the Inari Saami	"fruit knives"
A standard toponymic environment pointing to a continuous settlement (?)	Present-day Inari-Saami speaking community (that employed the winter village)	Network transmitting artefacts and their names (Scandinavian, other Germanic borrowings?)

Location	Community	Network
The Nángunjárga hoard	far away from dwellings (Map 3)	necklaces, eastern metal artefacts
Toponymy pointing to a wild reindeer hunting region	The community used the area for seasonal hunting activities (Figure 3)	network connecting the Saami to other Finno-Ugrian groups in the east

Tables 4–6 illustrate examples of the correlations between archaeological and linguistic entities on the basis of material related to the prehistory of Inari (see Figures 2–3 and Maps 2–3).

Location	Community	Network
rectangular stone settings in Siuttavaara	similar settings in Finnmark, northern Finland and Kola Peninsula	rectangular stone settings of the Siuttavaara type, dating between 800–1400 calAD
toponymic environment pointing to present mixed economy-based northern Saami inhabitation (with eastern Saami substrate), not necessarily related to stone setting	present-day (but not the historical) Saami speaking area (Map. 1)	network connections between the Saami, Viking and Fenno-Ugrian groups

In Table 4, different types of correlations are established around an archaeological site complex on the River Uáđđivei (Fi. Nukkumajoki). This is a central archaeological site in Inari representing remnants of many winter villages that were in use in a period reaching from the 15th to the 17th centuries AD. It is notable that this abandoned central dwelling site is not pointed out by a toponym denoting to settlement. The Saami word for winter village *siida* is present in the Inari Saami toponymy but it points to borders between the old winter village based communities, not to the winter villages themselves (it is somewhat uncertain though if the Saami name of the river *Uáđđivej* 'sleeping river' would in some way be connected to a winter settlement). The site of the winter village is discernible in the toponymy through the lack of names pointing to any special features of land use, or past events. For instance, no names indicating notable fishing or hunting activities, use of land by particular people or names derived from past events are to be found in this region. This points to the fact that the Inari people resided in this area continuously and likely did not share the resources of its immediate vicinity among the families.

The finds from the site are not remarkably different from other winter villages known for archaeological record in the Northern Fennoscandia. These include the "fruit knives" that are originally of central European manufacture and characteristic of several sites in Northern Fennoscandia (Carpelan 2003; 74). They point to a network that has transmitted goods from the Baltic Sea region to the north. From a linguistic point of view, such networks can be discerned in that there are numerous loan words pointing to goods of European innovation and import ('bullet', 'silver', 'gold') all of which are of Scandinavian origin. In Swedish and Norwegian, in turn, such words are often borrowed from Low German, the main language of the Hansa that dominated the trade networks in the Baltic Sea basin.

From the point of view of the identification of the past languages it is important to note that the idea of Nukkumajoki settlements has belonged to the predecessors of the modern Inari Saami speakers is based entirely on the ethnographic knowledge that derives from historical period. In other words, we know that this is the case, because Inari Saami language is spoken in the area

at present. However, the finding material in the winter villages is not different from that of those winter villages of the same macroarea which subsequently appear in the Skolt Saami or Northern Saami speaking areas. This is the more important taking into account that both the livelihood related differences between Inari Saami, Northern Saami and Skolt Saami communities in the ethnographic record are very significant (cf. Tanner 1929; Itkonen 1948) and that these communities speak different (though related) languages (see in detail Sammallahti 1998).

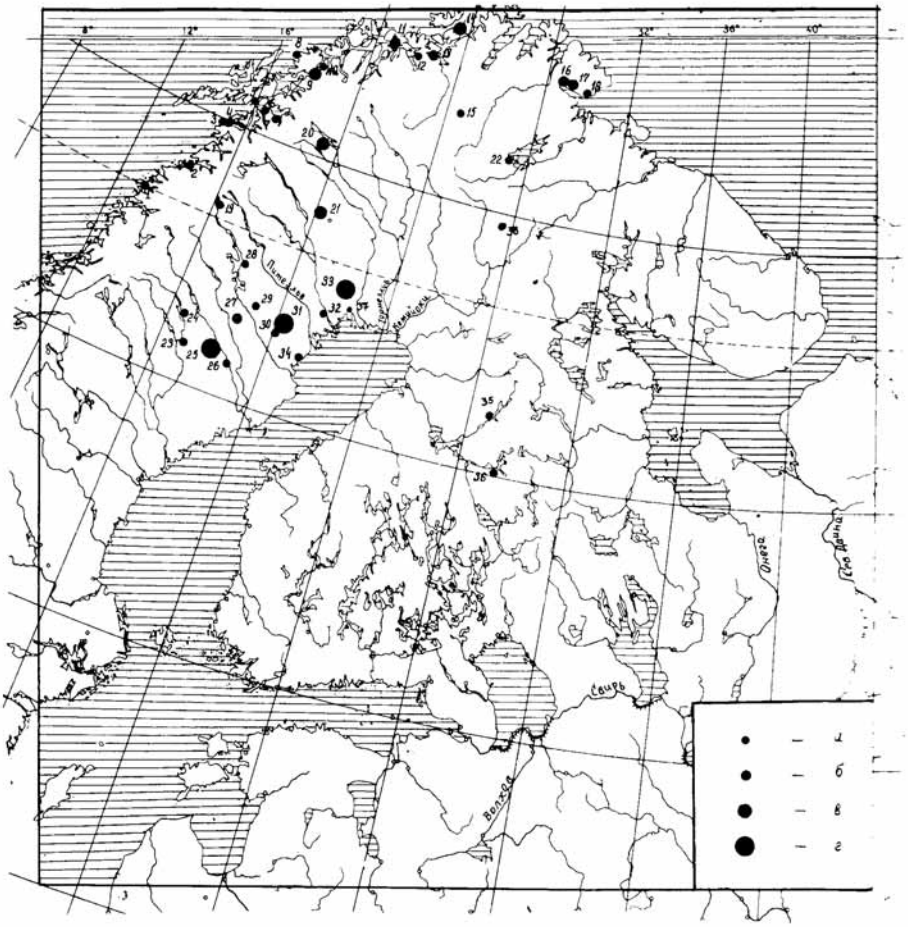
The finds from Nángunjárga are of an entirely different character. Here a rich hoard was uncovered with several notable metal artefacts of eastern manufacture (Figure 2). It belongs to the types that spread between ca. 800–1200 in the northern coniferous zone as a result of increased activities (Makarov 1992, 1997). From a linguistic point of view, this proves that the contacts of the predecessors of the Saami with the Uralic-speaking people south and east of their region were not cut off but instead active trade networks operated in the area. The numerous Karelian loanwords (likely more numerous than the Finnish borrowings) in the Saami languages point to networks dominated by Russian merchants with the Finnic-speaking Karelians functioning as middlemen.

The Nángunjárga region was most probably without permanent habitation but it must have been used for wild reindeer hunting since several toponyms pointing to such practices are to be attested in the region (Lavento & Saarikivi forthcoming). The toponymic evidence does not correlate with the hoard in any straightforward manner, although the fact that the region was visited occasionally but simultaneously relatively remote from dwelling sites makes it understandable that a valuable hoard was hidden here.

The spread of the Siuttavaara type of dwelling sites represents the northern Lapland manner of building dwellings ca. 1300–1600 AD. The distribution cannot be straightforwardly related with the languages or even any types of archaeological finds. Archaeologists, however, have regarded the Siuttavaara type of dwelling structures as a central entity characterizing a culture period. From a linguistic point of view, it is notable that the Siuttavaara type stone settings have been preserved in regions where the Saami languages have survived until the present day. Those Saami communities that existed in the Finnish inland and subsequently assimilated linguistically with the Finnic-speakers in the early historical periods (12th–15th centuries) did not leave behind such settings. This situation suggests a possible discontinuity in the material culture of the Saami groups that would also be helpful in explaining why the Saami assimilated with Finns in a particular area, whereas their culture and language prevailed in northernmost Fennoscandia.

The examples suggest that there are indeed various correlations between the archaeological and linguistic materials. The correlations scrutinized above point to local and network-based possibilities of interdisciplinary investigation, but do not permit a broad areal synthesis in which linguistically and archaeologically definable entities would neatly match each other and the groups that subsequently emerged in the investigated region.

Figure 2. Nángunjárga hoard. Photo: Marja Helander. Siida Saami museum.



Map 2. The East-European metal artefact finds during the early Medieval Period in Northern Fennoscandia. (N. A. Makarov 1992, p. 334.)

Expanding the Correlations

To illustrate different types of correlations between archaeological and linguistic material more fully, the following expansion of the correlation table presented above as Table 7 was prepared. Here, an effort was made to present different types of correlations between units that can be discerned at various levels of both linguistic and the archaeological investigation.

Needless to say, the table is only a first effort to create a system of correlations between the materials and results of the two disciplines and it does not strive to be complete. Most likely, it will be possible to present improvements to it on the course of forthcoming interdisciplinary investigations into prehistory of Northern Fennoscandia.

Discernible features	Discernible differences on a local level	Single item	Group of items	Group of people	Region	Macroarea	Cultural area	Time
?? phonetic feature in the speech of an individual	?? phonematic feature, sound change employed by a particular community	denomination of a cultural concept, for example an axe	layer of vocabulary related to a specific period; contact network	speech community (with inner variation)	a language form with several dialects or group of speech communities speaking different languages that engage in contact	group of related dialects or languages or languages that engage in contact	group of neighbour languages	period of reconstruction (for instance, a protolanguage, vocabulary layer)
vessel made by a particular potter	Subtype; local type	material object, for example an axe	several types, artefacts, etc.	site catchment area; band	group of bands with mutual contacts	culture / tribe	archaeological culture	calibrated period

Table 7. Examples of linguistic entities with their potential archaeological correlates.

The Table 7 represents an example as to how such correlates could, in principle, appear. One needs to bear in mind, however, that in many cases the investigator does not have enough reliable material to establish such connections between the archaeological and linguistic cultural heritage. In such cases some possible correlations are marked under question mark.

The Table 8 represents examples of the categories presented in the Table 7 above. As can be seen, they are, in fact, largely imaginary examples, because many of the presented correlations are not discernible in the material. The table is based on both archaeologically and as linguistically defined entities from the field of Northern Fennoscandian prehistory, for which possible correspondences have been sought in units investigated by the other discipline.

Beginning from the left, the smallest archaeologically discernible units can be found in the variables distinguished in finds. Some of them are of only

Attribute	Element	Implement	Subtype	Type	Type group	Site	Site group	Region	Area
a string impression	a row of string impressions	vessel	local ceramics	Kjelmøy ceramics	Säräisniemi 2 ceramics (including 4 ceramic groups)	Siuttavaara site with rectangular stone settings	sites with rectangular stone settings		distribution area of the Battle Axe culture
?? individual speaking habits	?? word referring to a particular type of ornamentation	word meaning 'vessel'	speech community	group of speech communities of the Early Metal Period	group of speech communities that were in contact; vocabulary spreading in such a network	Toponymy indicating no particular patterns of land use	Northern part of the subsequent speaking area of the Saami languages	Skolt Saami language	contact network that has distributed vocabulary

Table 8. Practical examples of linguistic entities with their potential archaeological correlates.

minor value while others can be essential because they shed light on significant evolution processes, for example, in technology. Ideally, an archaeologist can identify the remains produced by an individual, for instance, a potter who made several pots within a single site, by paying attention to features in the shape and ornamentation of several pots. From a linguistic point of view, it is clear that each and every individual has his own speaking habits, yet it is hardly possible to identify such features in any type of linguistic material related to prehistory. Therefore, there is nothing in historical linguistics that could correlate with the smallest discernible units in archaeology. However, the fact that individuals can be identified in the archaeological material reminds us that there has likely been significant linguistic variation within prehistoric communities investigated by archaeology.

At the next level, every material object belongs to a type that is a part of a type group. The archaeologist can classify items found at sites into subtypes or local types and this may raise the awareness of a linguist that there has been considerable variation in human populations and their networks in the past. It can be assumed that such variation may, in some cases, account to problems of linguistic reconstruction seeming to point to early linguistic variation that is discernible in the lexical material (that cannot be treated in a satisfactory manner with the normal comparative methodologies). However, even in such a case it is likely not possible to identify the particular correlating variables in the linguistic and archaeological material.

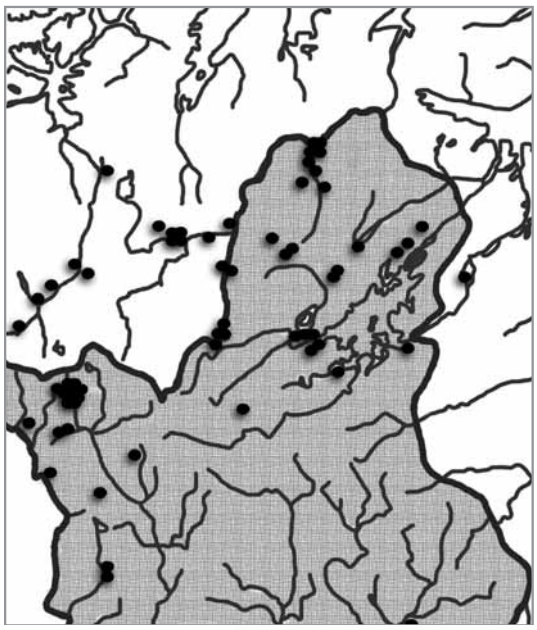
The same problem recurs at a lexical level. It is clear that all kinds of objects revealed by archaeology correlate with their names. Again, however, it is a problematic question as to how one can link a particular denomination of a material such as a metal, a denomination of an artefact such as a pot or a sword or

denomination of a particular technology with types that have been reconstructed on the basis of the archaeological material. This is especially problematic in that the reconstructive evidence in linguistics is often of fairly general character. This means that it may be possible to reconstruct, for instance, a word for 'sword' on a particular layer of vocabulary, but it is often not possible to know what type of a sword it has denoted. This is especially problematic if there are several words for sword in the language, and several types of swords in the archaeological material from different periods. An even further problem is caused by the difficulties related to the identification of the past language areas in the archaeological material that is addressed above in this article.

Notwithstanding all difficulties, on a lexical level it is sometimes possible to establish fairly reliable correspondences between archaeology and linguistics. As already noted, a fairly sound locating and dating of Indo-European protolanguage to the Southern Ukrainian steppe around 3500 cal. BC has been made on the match between the words denoting to 'cart', 'wheel' and 'axle' which can be reconstructed in Proto-Indo-European, and corresponding archaeological material (from the so-called Srednyj Stog culture, cf. Mallory 1989; Anthony 2007). This location is also well in accordance with the geographical spread of the Indo-European languages and linguistic features within those languages. In a similar manner, the spread of the Austronesian languages has been associated in research history with the spread of canoes equipped with the pontoons from Taiwan to the islands of the Pacific and the Indian Ocean. The words for such features can be reconstructed in Proto-Austronesian.

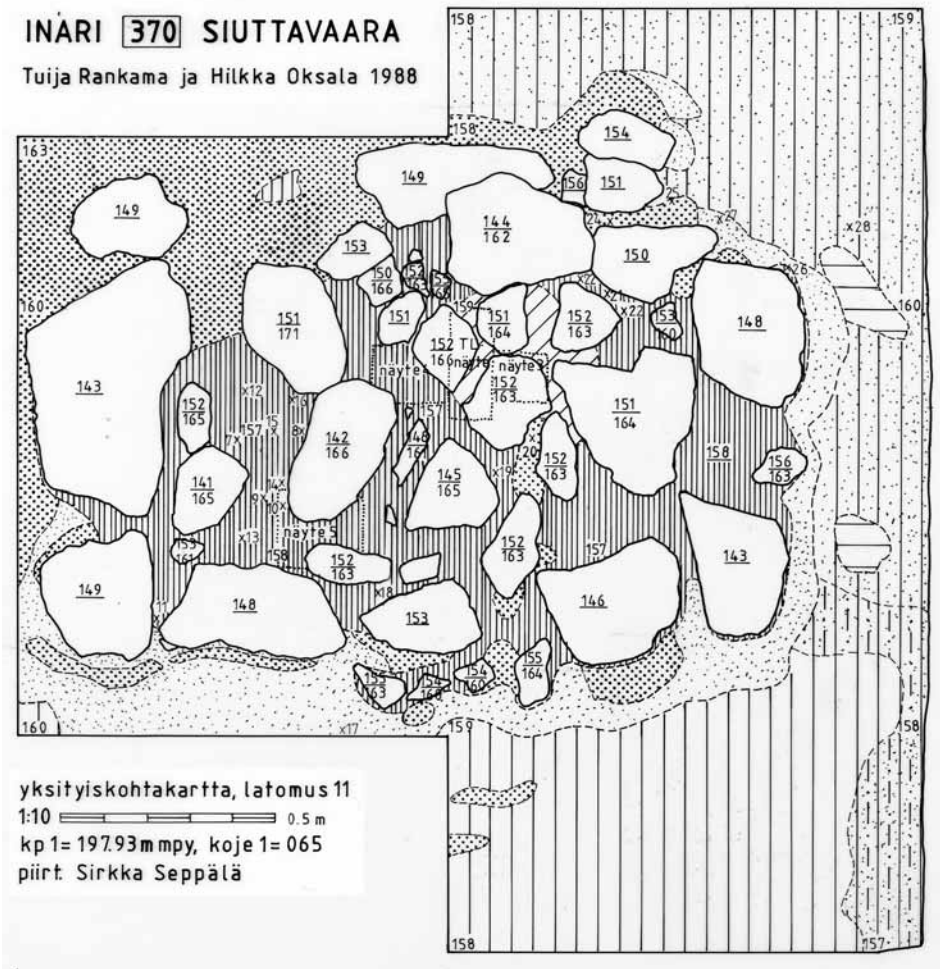
As for local archaeologically discernible phenomena, it is clear that their linguistic counterpart is, first and foremost, their toponymic environment. This may be multilayered both in terms of languages, as well as in terms of cultures. An archaeologist can read toponyms as a tool for understanding the meaning of places. The basic questions are: what was the meaning of the place to those people who created the names around it and how ought the site to be understood in relation to its linguistic environment. In many cases, the toponymic environment of an important site would not appear to be remarkable as such, but if interpreted carefully with the help of both archaeological material and ethnographic material from later periods, it may contribute to a better understanding of the function of the place. This is the case with many dwellings, sacred sites and borders. However, the different phenomena in the long chronological chain of the archaeological material do not always find counterparts in the present-day toponymic material. Many toponyms have disappeared, and complex toponymic systems may have broken down so that only single, hardly interpretable toponyms remain.

In an ideal case, it may be possible for archaeology to identify a cluster of sites that has formed a local community that can, with necessary caution, to be interpreted as a speech community. This is the case of the rectangular stone settings of the Siuttavaara type in Siuttavaara (Figure 3). The interpretation of a cluster of finds as a speech community may happen on the basis of ethnographic



Map 3. Distribution of rectangular stone settings of the Siuttavaara type (Carpelan 2003: 69).

Figure 3. An excavated rectangular stone setting from Siuttavaara. Sirkka Seppälä, 1988. National Board of Antiquities, Finland.



information, but it may also be based on ecological zones and the location of other clusters of sites. With remote historical periods, however, it may be impossible to know which language(s) was/were in use in this community and how its language differed from those of other nearby communities. In societies of hunter-gatherer type, these populations are often small. The larger the number of individuals, the more complex the structure of the population, which was most likely also reflected in linguistic identities. But even a small population may have been ethnically complex.

Ceramics is usually seen as an important denominator of an archaeological culture. For instance, both Lovozero ceramics and Corded Ware represent a relatively large distribution of ceramic types. The problem of interpreting such ceramic groups is still complex, however, because of their highly different characteristics. For instance, Lovozero ceramics defines a group of people that can be defined only on the basis of ceramics in archaeology. It has been employed in a few communities in a geographically fairly restricted area and it is, in principle, highly possible that these communities were linguistically close, although this might be impossible to prove (cf. Lavento & Saarikivi forthcoming).

The opposite kind of example of defining an archaeological culture is show by Corded Ware. It represents an extremely large entity including many subtypes of ceramics, grave types, several types of dwelling sites etc. This kind of large cultural group that covers an area of millions of square kilometres over a period of more than 600 years must necessarily have been employed by people representing highly diverse language groups. Corded Ware thus represents a cultural area comprising many linguistic groups that have employed similar cultural innovations and been involved in the same far-reaching cultural networks.

The borders can be drawn between the groups on the basis of material objects. Still some objects – battle axes, for instance – spread outside these borders. To assume that all the places where battle axes have been found denote the areas of a single population, however understood (an ethnic or a linguistic group), would be a most vague hypothesis.

One basic problem for scholars who try to correlate the archaeological and linguistic data is the discrepancy related to their meanings and distribution. Similar archaeologically identifiable objects can be found in different places but their meaning in those contexts can vary greatly. The meanings related to battle axes in different places where they have been found have certainly been very different for the different groups and individuals of the past. It would seem more likely that the battle axes show the relations between groups in the some kind of network system. From a linguistic point of view, such a far-reaching network that transmitted fashions and ideas of an artefact type most likely also transmitted some vocabulary. It is indeed possible that many languages shared the same word for ‘battle axe’, for instance, that spread from a language to another, although in some language it may also have been denoted by an autochthonous expression. Typically, the communities everywhere have participated in several such network systems which have connected them with different regions. Each artefact type reflects the history of the networking in its own manner.

Discussion

Combining the results of archaeology and linguistics ultimately means to combine different reconstructions of mental, societal, economic and religious culture. Although archaeology investigates sites and types and linguistics investigates phonemes and semantic shifts, the only way to correlate the two disciplines is to make assumptions of the cultural concepts employed in past societies.

Critiques of many traditional ways of combining archaeological and linguistic materials presented in this article are based on the several weaknesses of such approaches. Firstly, many of them operate through the concept of ethnicity, although the correlations between language, material culture and ethnicity are very complex, and there is often no straightforward correlation between linguistic and ethnic identities. For the second, they often proceed from the assumption that linguistic areas would have been fairly homogenous in the past, although in order to make such an assumption one should offer a historical sociolinguistic analysis of the past societal circumstances in which the languages were spoken. Moreover, the ethnographic analogies available suggest that the linguistic diversity in the past has been more significant than at present. Although some types in material culture have been used in archaeology for distinguishing entities such as cultures, one should be careful in interpreting them as parallel to language areas. In fact, the communities identified by archaeological investigation may often have been bi- or multilingual, or the languages spoken in them may have changed over time as a result of processes which have not left observable archaeological traces. The authors of this article suggest that the most typical linguistic correlate of an archaeological culture (where such can be postulated in the first place) would be a *Sprachbund*, not a language area. Last but not least, many attempts to combine linguistic and archaeology assume that the spread of languages is related to the spread of people, although there are various ways for languages to spread, both by migration as well as by language shift.

It was argued that in order to create more fruitful correlations between these two disciplines, one should reach behind the archaeologically and linguistically definable areas, and tackle the past forces that shaped these areas. For such a goal, one should have a theory of historical sociolinguistic situations in the investigated context, and a theory regarding the forces that spread language(s) in it. Furthermore, we should try to distinguish the types of archaeological heritage that, in a given context, can be associated with speech communities from those that point to cultural areas or cultural networks. Thus, one needs to focus on the cultural reconstruction of the particular aspects of the past societal reality and the forces that shaped it rather than on finding matching areas of linguistic and archaeological phenomena.

On the positive side, it has been demonstrated that there are indeed various types of correlations between linguistic and archaeological material and that an interdisciplinary investigation of prehistory with the help of the two disciplines can really be a fruitful endeavour. However, many of the correlations that can be established between the results of the two disciplines are not of areal character.

It seems that, from the various possible correlation types that have briefly been treated in the previous sections those that operate at the local level seem to come closest to real interdisciplinary correlation. Different connections between ecologically definable natural regions, the toponymic environment and the archaeological record can be complementary in a way that enables the reconstruction of different aspects of the life of the past communities of the relatively recent prehistoric periods, including community borders, sacred sites, forms of livelihood, etc.

In addition to local correlations between archaeological sites and toponymic material, it is possible to establish correspondences between networks that spread artefacts, materials and technologies and vocabulary that spreads within such networks. Such long-distance contacts are, in most cases, reflected in the layers of vocabulary shared by several languages, not in the past language areas. However, in material related to particular periods they are archaeologically more visible than the past language areas and often constitute regions that have been labelled as archaeological cultures, especially if common ceramic types were employed in them.

From a linguistic point of view, the problem with many accounts of prehistory is that they are not sensitive in respect of the role of language in the past communities. Although we do not have much knowledge regarding the linguistic identities of the past it would seem to be the case that in the Eurasian context ethnicity and language were not necessarily very intimately connected. Such a state of affairs is reflected in many early sources regarding Eurasian state formations. This suggests that many of the communities that archaeology can reveal were, in fact, multilingual and that, in many contexts, the linguistic boundaries, where they existed, were of pervious character.

Another much neglected aspect of the linguistic prehistory of Northern Europe is the tendency of linguistic diversity to diminish in the course of history. In light of ethnographic analogies from Siberia and the Americas there has likely been a remarkable linguistic diversity even in the prehistoric Northern Europe. The speech communities of the early hunter-gatherers have, with all likelihood, been small and consisted of several hundred or (maximally) a couple of thousand speakers. Language families may have comprised of few closely related languages but, quite probably, no large phyla emerged. In the light of the analogies, widespread multilingualism has likely prevailed in such communities. Because of the small size of the linguistic communities, even rapid changes may have taken place in the linguistic environment. Only remains of this linguistic diversity survive as a Palaeo-European linguistic substrate in Saami, Germanic, Finnic and probably also other language groups. In the Saami languages, the substrate vocabulary that, with all likelihood, derives from extinct languages can be found especially in the words denoting concepts of northern flora, fauna and geographical features, as well as in toponyms.

This kind of dynamic view of the past linguistic communities of Northern Europe during the Stone Age and the Early Metal Period is very different of the multiple approaches that deal exclusively with the Finno-Ugrian and Indo-Euro-

pean languages and their contacts. In the threshold of the historical period, the record reveals a chain of dynamic Saami communities involved in long-distance contacts with tax collectors, traders and missionaries and represent a complex mutual relationship involving an intensive movement of the people from one community to another. These groups spoke Finno-Ugrian languages that spread to this territory probably somewhere in the early Iron Age (probably mainly by language shift of the earlier populations) and they continued the cultural traditions of the earlier Arctic groups.

The active and culturally dynamic characteristics of the Saami groups at the beginning of the historical era hints to the fact that the Arctic communities were less stable in the prehistoric periods than would appear probable on the basis of the archaeological record only. It would seem possible that very substantial changes between and inside the Saami communities have taken place even before the historical period and that the economic basis of the communities may also have transformed fairly quickly from time to time. Such a state of affairs would call into question the view still prevailing in many accounts of Saami prehistory that the northern communities were stable over a long period of time.

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Networks, Diversity and Mobility among the Northern Sámi in the 16th Century

Introduction

The aim of this paper is to present some 16th-century features of the economy and settlement patterns characterizing a group of the northernmost Sámi, namely those living along the coast of the Arctic Sea from the Alta fjord in the west to Varanger in the east, as well as those living in the adjacent inland areas from the siida of Suondavaara in the west to Ohcejohka and Anár in the east (see map, Figure 1). The variation in economic profiles, as well as the patterns of mobility displayed by different sub-groups of Sámi within the area investigated, will be studied against the background of various trading networks, and their relative extent and importance for the Sámi concerned.

Since the surviving, quantitative source material only allows us to chart in detail a limited slice of the total economic interaction, two initial questions arise. 1) To what degree were the various Sámi communities dependent on *imports* from the different trade networks, for items/commodities which they could use for paying taxes, or to what degree did the Sámi communities pay the taxes with *self-produced goods* stemming from fishing, hunting or trapping in their own resource areas? In this way, we will be able to chart the major traits of the economic diversity that may be observed among the Sámi communities, for instance between communities situated in the inland or along the coast, or between different coastal communities. 2) Various kinds of *mobility* will be studied, relating to movements both within and between the communities. We will also seek to chart the degree or frequency of these movements.

We must first clarify the position which the Sámi found themselves in, vis-à-vis the surrounding state powers of the 16th century, and their varying aspirations and the demands of these state various powers for control of people, resources and production surplus in the Sámi settlement areas, including aspirations for exerting state sovereignty over this region.

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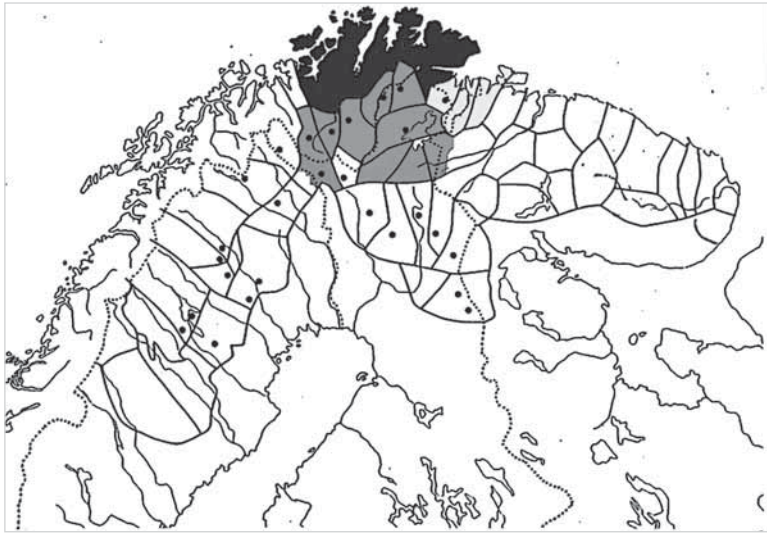

Figure 1. Area of investigation indicated. The map shows the boundaries of Sámi *siidas*.

The Sámi, their Habitat and Way of Life in Earlier Times

Due to a cultural diversification process among various heterogeneous groups of hunter-gatherers in Northern Fennoscandia, the earliest roots of a separate "hunter-gatherer identity" – the forerunner of the later distinct Sámi ethnic identity – seem to be traceable back to the first millennium BCE. This development seems to have been part of a reciprocal identification process involving intensified interaction with groups who were embarking at the same time on other cultural adaptations such as agriculture, animal husbandry, fishery or combinations of these, and who accordingly developed other identities. In the east, this seems to have involved contacts with metal-producing communities in present-day north-western Russia, as well as interaction with groups settled in present-day southern Finland, who later became known as *Hämäläiset* and *Suomalaiset* – predecessors of the later Finnish population. In the west, portions of the original hunter-gatherer population seem to have had an affinity with the agriculturalists of southern Scandinavia, borrowing cultural traits from them and successively adopting a Northern Germanic identity. Judging from the reproduction of sets of material-cultural features which reflect contrasting adaptations between various partners of interaction, it seems fair to surmise the emergence of a cultural complex identifiable with the distinct Sámi ethnicity of later times, during the centuries around the beginning of our era (Hansen & Olsen 2004: 38–41; cf. Odner 1983). This does not exclude the possibility, however, that the expressions of Sámi ethnic affiliation may have varied over time and according to context, and that Sámi ethnicity also may have been "generalized" further, to include more groups of hunter-gatherers as time went by.

In historically and traditionally known times, the Sámi habitation area included the northern and central regions of Fennoscandia, as well as parts of present-day north-western Russia. The approximate extension of this area is outlined on the map (Figure 2), which depicts the localization of the various Sámi dialects or languages, all belonging to the Finno-Ugric language family.

Despite their general and unifying characteristics, the Sámi also display various sub-groups, distinguishing themselves in material culture and not least linguistically, something which may indicate various connections and diversified forms of interaction with other groups, resulting in the exchange of diversified cultural elements. So far as the sources allow observation, Sámi groups along the coast, and Sámi populations settled in the interior of northern Fennoscandia, have shown different profiles in ecological adaptation. Fishing and hunting sea mammals seem to have played a great role among the Coastal Sámi, but these elements were also combined with the hunting of wild reindeer and fur animals (Vorren 1978). In contrast, the inland Sámi had to rely to a much greater degree on reindeer and fur-bearing animals, though they were also engaged in pike fishing in the lakes. Until the last part of the 16th century, or the first part of the 17th, the great majority of Sámi were hunter-gatherers, though small-scale sheep and cattle breeding had also been known among some of the coastal Sámi from the early Middle Ages onwards. In the southernmost districts, the coastal Sámi were even engaged in agriculture (Gjærevoll et al. 1978; Kolsrud 1947, 1961).

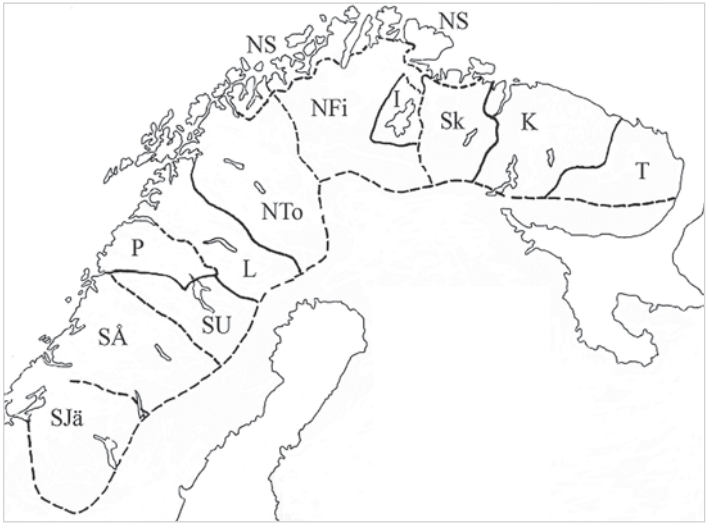

Figure 2. Extension of Sámi languages.

To a certain extent, some of the Sámi may even at an early point of time have kept a small number of domesticated reindeer for milking and draught purposes. The dating of the more definitive transition to specialized pastoralism is much debated, however. While it traditionally was held to have begun in the 17th and

18th centuries (Vorren 1978, 1980), some investigations have pointed to the High Middle Ages as the probable formative period (Storli 1994; Andersen 2002), while the most recent suggestion focuses on the later Medieval period, i.e. the 15th and 16th centuries (Sommerseth 2009). On the basis of ethnographic evidence from the East or "Skolt" Sámi areas during the 19th century, a model of siida life and organization[1] has been reconstructed, where one of the basic features is seasonal mobility. In spring, summer and autumn, families or households were living at different locations, according to the particular resource units that they were allowed to exploit separately, whereas in winter they gathered together in common winter camps, carrying out collective forms of hunting and taking part in various social activities (Tanner 1929). This model has also found some support in 16th and 17th century evidence for the communities in the Varanger fjord (Vorren 1978, 1980).

State Emergence, Taxation and Trade Networks

It should be noted that throughout the Middle Ages and until the end of the 16th century, large parts of the Sámi habitation area were not regularly subjugated to any state power or authority. However, as various forces among the surrounding peoples strove for state consolidation and territorial expansion, partly prompted by trade interests, northern Fennoscandia was successively divided into various spheres of interest and – especially from late Medieval times onwards – partially overlapping trading and taxation districts. From the west, the medieval Norwegian kingdom (later in union with Denmark) sought to expand northwards and eastwards, while the Swedish kingdom was acting from the south. From the east, the city-state of Novgorod established a network of fortified strongholds (Ru. *pogosty* = *погосты*) in the regions south of the White Sea, successively engaging in relations with the Sámi, partly with the Karelians serving as intermediaries (Hansen 1996). The role of Novgorod was to be replaced later by the principality of Moscow.

Striving to control people, trade, resources and territory in the north, these emerging powers competed in collecting taxes from the Sámi population. At the same time, comprehensive trade networks from all three sides were established, which were heavily engaged in trade and barter exchange with the Sámi, in particular demanding the precious furs that the Sámi could provide (Aarseth 1979; Hansen & Olsen 2004, Hansen 2005). Thus, the Sámi maintained relations with both tax collectors and private purchasers of furs from all three surrounding nation states and the corresponding trade networks (Steckzén 1964; Hansen 1990).

1. *Siida* is a traditional local Sami community or co-operative organization, consisting of several families or household units, who controlled a common resource territory and used it jointly for seasonal migration, hunting and the exploitation of various resource niches. As such the concept of *siida* connotes both a unit of social organization and the spatial extension of the corresponding usufruct territory (see Vorren and Manker 1962; Hansen 1999 and Helander 1999).

From the eastern side, the trade interests were represented by both Novgorodian and Karelian merchants, from the south Swedish traders and, in the north and west, the representatives of the Norwegian trading stations along the coast, attached to the Hanseatic network. Consequently, rather comprehensive records are preserved from the second part of the 16th century – particularly on the Swedish side – reflecting both royal taxation and trading activities. (Broch & Stang 1961; Hansen 1990; Rauø 2006). (See Figure 2).

The Source Situation

From the late Middle Ages through the second half of the 16th century (until 1595), the situation was that Sámi in the northernmost parts of Fennoscandia – in the regions that today make up the northernmost counties of Sweden, Finland and Norway – were regularly taxed by three states. From this taxation very useful annual records have been preserved on the Swedish side in the form of so-called "bailiff's accounts" for the northernmost provinces, covering the entire period 1551–1618, without any gaps. The records from the Norwegian side have not been preserved so well, but there exist useful Norwegian accounts dating from 1567 and the period 1593–1612 (Hansen 1990, Rauø 2006). Though there exist cadastres covering the Sámi settlements on the Kola peninsula from 1574 and 1608–1611 (Kharuzin 1890), the most interesting source of information about Moscow's tax-collecting practices dates from 1624. This survey gives detailed, geographical information and also contains a retrospective description of Muscovite taxation as practiced until 1602 (Broch & Stang 1961). In addition, the principles behind this taxation and some quantitative information about its extent have also been documented by Swedish officials in surveys from around 1600 (Hansen 1990 II: 135).

Furthermore, the Swedish "bailiff's accounts" provide information not only about taxation, but also about the trade that the Swedish tax collectors maintained with the Sámi on behalf of the Swedish state (monarchy). At the royal castle in Stockholm, there existed a special "Royal Fur Chamber", which channeled the fur surplus from the northern regions and handled its export to central European countries (Steckzén 1964). Thus, we also have detailed accounts of the quantity of furs that the tax collectors purchased from the Sámi, and what kind of goods they delivered in return, such as money, precious metals, woolen textiles, hemp, flour and butter. In addition, we should remember that the Sámi also maintained trade relations with other, private merchants from the Swedish side, who acted on their own and not on behalf of the royal trade. The relations of the Sámi to tradesmen from the other networks – the Danish-Norwegian and the Muscovite – are rather more scarcely documented, but they can to some extent be charted by way of more qualitative statements in later sources, and from a comparative analysis of what the different Sámi groups bartered with the Swedish tax collectors (Hansen 1990).

Thus, this study primarily focuses on the information that can be extracted from the Swedish records. In Figure 3 I have tried to present an overview of what kind of relations are best documented in the sources: 1) extensive information concerning both tax collection and bartering relations with the official Swedish tax collectors acting on behalf of the Crown, but no information about relations with private Swedish merchants; 2) more sporadic and late information about the tax collection from the Norwegian side, and no information about relations with Norwegian trade representatives situated along the coast; and 3) a few late and retrospective registers of Russian taxation, which may nonetheless be supplemented indirectly, with special statements in Swedish and Norwegian documents, regarding the typical and special preferences of Russian merchants.

For this study, which covers the period 1551–1600, I have used in total 10,644 individual entries from the Swedish tax records, which state the first name, patronymic and amount and type of commodity rendered as tax (i.e. whether the taxpayer paid in money, precious metals, textiles or self-produced items like furs and dried fish). In order to ascertain the length of the taxation period for each taxpayer, the identity of the individuals mentioned in recorded entries from year to year had to be established, and information concerning one and the same person had to be linked. It eventually turned out that this material actually comprised 2,119 identifiable individuals, all male.

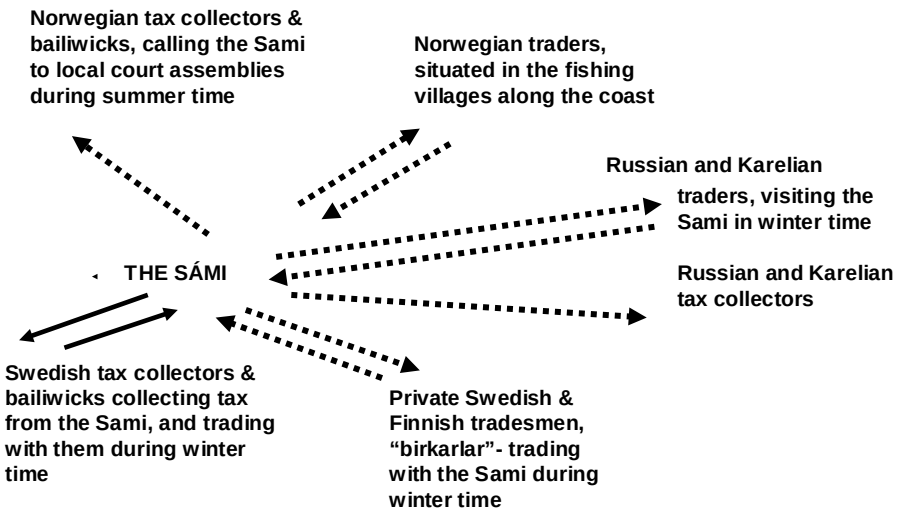

Figure 3. Relations covered in varying degree by the source material.

Methodological Considerations about Taxation Principles

A prerequisite for being able to draw conclusions about the economic diversity among the communities, or about the actual types of mobility is, however, that the principles making up the basis of the taxation system are properly understood. The question here is whether the taxes were based on an individual assessment of each payer, or if the taxes were levied on a kind of collective unit, a kin group, a household or a tax-paying unit consisting of several persons, so that they could divide a prescribed tax sum among themselves or take turns in paying.

Who should pay tax, and what are the possible connections between one observed taxpayer and the various kinds of social units, such as households, tax units or hunting groups? For instance, can we surmise that a household or family regularly stands behind any taxpayer, or possibly another kind of social unit? Taking a look at the whole Sámi area, and examining different periods, one can observe that both principles, the more individually based taxation and several kinds of collective units, have been applied, e.g. "bows" (Ru. *лук*), "hearths" (Swedish *rök*), and households as well. This has led to a lengthy debate among scholars and various conclusions have been drawn (cf. Tegengren 1952; Holmsen 1966; Korpijaakko 1985; Rasmussen 2002). However, while Russian taxation seems primarily to have been based on more collective units, like the "bows" which were used as a taxation unit for evaluating the resources exploited by various Sámi groups, individual statements from the earliest Swedish registers give the impression that the Swedish taxation principle was individually based:

> "Male census register and the tax of the Western Sea Lapps and they have discharged their tax according to what each and everyone can afford, but those Lapps who are well off are primarily to be found in Porsanger, Laksefjord, Tana and Varanger, and they pay yearly up to 3 marks of each lot that they can afford, but all other Lapps pay according to their fortune, and they do not have any permanent residence, so that they are not staying at one site for a long time."[2]

Corresponding headings are found in the accounts of 1562, 1564 and 1566.

The principle of individually-based taxation applied by the Swedish authorities in this period has been confirmed by a closer examination of approx. 1,800 identified taxpayers which has been undertaken as part of this study. One matter that can be ascertained, is that no Sámi woman is ever recorded as a taxpayer in the Swedish tax registers from the last half of the 16th century. (However, in the records of fur transactions, a few women do appear as fur-sellers.) Contrasting with the simultaneous tax records for the non-Sámi population, where the tax is levied per household and some women occur for shorter periods, this complete

2. Heading in the account of Nils Nilsson 1563: "Lengdenn på Nils Nilssons Rekenskap För Törnöö Lappemarck p. Anno 63"; corresponding headings in the accounts of 1562, 1564 and 1566 (Swedish National Archives, microfilm CD 2087).

lack of women should indicate that it is not the household which functioned as the tax unit among the Sámi during this period.

However, there exist irregularities where some taxpayers, who have similar names and were possibly identical, were left out of the records for shorter or longer periods. This might indicate that some collective responsibility was at work, whereby others paid the tax in the interim. Nonetheless, the amount of such temporarily "missing persons" is not sufficient to allow drawing such conclusions. The fact that the control of individuals is so accurate that it is reflected in the records that a taxpayer has temporarily stayed in one of the neighbouring communities and has been taxed there, seems also to substantiate that the basis for taxation was an *individual* assessment.

All in all, the overall principle which seems to have been followed in Swedish taxation during this period is individual taxation. The most probable conclusion for the area and period under investigation appears to be that taxation was based on males, who were noted down in the "male census" (Swedish *mantalet*) when they reached an age where they were capable of paying taxes, regardless of whether they were married or in charge of a household. As such, the records are therefore useless for calculating the number of households and population numbers, but all the more reliable for tracing possible patterns manifested by male individuals. Thus, the Swedish tax records dating from the last part of the 16th century seem to have applied an assessment principle rather similar to that used by Danish-Norwegian authorities about the same time, and which has been described in the following way by the historian Andreas Holmsen:

> "All men – and only men – paid the tax, the sons along with their father, and the brothers on their own, when the father was absent. The great majority within each 'village' or settlement gave equal yields; they were the 'full tax Sámi' [= they paid full tax]. Those who did not yield 'full tax' … or were not of 'full value' … paid half as much; those were the young boys, the elderly and the sick." (Holmsen 1996: 161; author's translation.)

However, towards the end of the 16th century there occur clearer distinctions and comments about those taxpayers who are "young" or have started to pay tax recently. Even later, during the 17th and 18th centuries, other collective units of taxation are known to have been applied from the Swedish side within Torne Lappmark, such as *rök* "hearth" from the 1640s and lasting well into the beginning of the 18th century (1724), and *skatteland* "tax land" from at least 1695, but probably introduced earlier (Rasmussen 2002: 58–66).

The very accurate tracking of the whereabouts of the taxpayers during the latter part of the 16th century can probably be explained by the presence of the so-called "Sámi sheriffs" (*finnelensmenn*). These officials, recruited among the local Sámi, were commissioned with various tasks concerning relations with the state authorities on matters of taxation, administration and jurisdiction. From a later point in time, we know from Danish-Norwegian sources that it was their task to oversee tax collecting, present summons to court and issue lease con-

tracts (Bratrein 1999). In the area in focus, a total of 38 "Sámi sheriffs" are mentioned in the records from the last 25 years of the 16th century, with periods of functioning stretching from 1 to 15 years, and an average of 4½ years. Towards the end of the century, we also find a distinction between the "Sámi sheriffs" for the Swedish authorities and those who acted for the Danish-Norwegian authorities. Obviously, one of their main tasks must have been to supervise the "male census" of the community, keeping a record of who was present and who was not.

Thus, based as they are on an individual assessment of male persons of various ages and stages of life, these tax registers cannot be used for computing the number of households, nor for deducting any other presumably collective tax units. On the other hand, since the tracking of the movements of individual taxpaying males appears so thorough and rather exhaustive, such observations about migration should be all the more reliable for tracing possible patterns.

Analysis of Economic Diversity between Regions, Fjords and Siidas

The analysis of economic diversity must be primarily based on the various items of payment registered yearly in the tax lists, as well as the selection of "exchanged commodities"[3] recorded correspondingly in the surveys of trade registers, year by year. In general, those commodities that were in use – both as means of payments and trade objects in the registers – regularly consisted of various quantities of Swedish and Danish money and precious metals like silver, copper and pewter, as well as various kinds of woollen textiles produced in Central Europe, e.g. *nersk*, *leysk, görlesk* and "English" – these named after the production centres Naarden, Leyden, Görlitz and England. In addition, the Sámi regularly bought or obtained by barter hemp, butter and flour for their own consumption. In contrast, the Sámi themselves produced rather large quantities of furs, stemming from foxes, otters, martins, beavers, ermine, squirrels, etc., as well as dried cod along the coast, and dried pike in the interior.

On the basis of the Swedish official records alone, it is therefore possible to chart the commodities received in trade from the royal Swedish officials, as well as the commodities and products paid to the same officials as tax to the Swedish authorities. Combined with more flimsy and sporadic statements and evidence documented in Norwegian and Russian sources, this material can be used for reconstructing the different and characteristic "trade profiles" among the various Sámi communities – in the siidas in the interior, in the fjords along the coast, and between the Coastal and Inland Sámi.

3. In Swedish *förbytte partzeler.*

For these purposes I have sorted the information about the various kinds of goods/commodities that the Sámi paid as Swedish tax into three categories: 1) the goods received in trade from the royal Swedish officials through the Swedish trade network, 2) the commodities stemming from the Danish-Norwegian trade network mediated through their merchant representatives stationed along the coast, and 3) items produced by the Sámi themselves, by hunting and by fishing. By calculating the relative proportion that each of these three commodity categories forms out of the total tax value collected from the various communities, it is possible to present the "trading profiles" of diverse Sámi communities in tabular form. In Table 1, the relative proportions of commodities stemming from the Swedish and Danish-Norwegian sides respectively, as well as self-produced items, are shown in quinquennia for various parts of the area investigated: the Varanger fjord and the Altafjord along the coast, the siidas Suondavaara, Guovdageaidnu and Láhpojávri, and Anár in the interior.

Starting from the easternmost coastal area, the Sámi of the Varanger fjord stand out as the most commercialized, with self-produced items counting for very little (if anything at all) of the items delivered as tax to Sweden. Apart from a miniscule amount of self-produced dried fish and furs in the intervals 1566–70 and 1571–75, all Swedish taxes over this period were paid with commodities and items delivered by either one of the trading systems. The bulk of the commodities paid in tax originally stem from the corresponding Swedish network itself, whereas the commodities reliably stemming from the Danish-Norwegian side take up a lesser proportion, and even decline further over the last 20–25 years of the 16th century. Nonetheless, we know from other, independent evidence that the Varanger Sámi must also have been heavily engaged in collective hunting and trapping activities during this period. Even if partaking in fisheries, animal husbandry and even a limited number of domesticated reindeer must have made up different aspects of a "combined way of livelihood", a great number of pitfall systems constructed on the isthmus between the Tana and Varanger fjords, as well as a considerable number of trapping systems deployed over the Varanger peninsula, shows that hunting and trapping activities must have been important, even at this period. The proceeds of these hunting activities are even recorded in the Norwegian county accounts of the 1590s (Hansen 1985). On the isthmus between the Tana and Varanger fjords, nearly 2,700 pitfalls have been registered, dispersed in 14 systems (Vorren 1998: 19; cf. Hansen 2009: 360–361). The only reason why these and other hunting activities are not reflected at all among the products delivered in the tax records, must be that Varanger Sámi maintained and exploited extensive relations with all three trading networks established in the area. A glimpse of what kind of preferences among their trading partners the Varanger Sámi could benefit from, is offered by the following statement about Russian merchants' demands, written by the Danish-Norwegian provincial governor Lilienskiold around 1700:

> "… and furthermore, regarding [the Russians'] desire for furs, one can expect a profit of two to three times as much, because while the Bergen merchants only give 3, 4 or 5 Danish *ort* (= 0.75–1.25 daler) for an average fox skin, and 4 to 6 *ort* for an otter skin, people may receive 13 à 15 ells of homespun (= 2.17–2.50 daler) by selling to the Russians, and even more for the otter skins. And such prices could never be expected from the Bergen merchants … Old tin and burnt-out, old copper is also subject to their desire …" (Lilienskiold 1942: 318f., translation by the author.)

Origin:	1551–1555	1556–1560	1561–1565	1566–1570	1571–1575	1576–1580	1581–1585	1586–1590	1591–1595	1596–1600
Varanger										
Swedish trade	37,78	5,31	77,66	77,31	72,04	68,57	82,58	86,94	93,05	99,17
Da.-Norw. Trade	33,03	94,69	22,06	20,79	25,37	31,43	16,80	13,06	6,95	0,60
Own products	29,19	0,00	0,28	1,90	2,59	0,00	0,62	0,00	0,00	0,22
Total tax Var.	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00
Alta – stationary taxpayers										
Swedish trade		8,27	37,72	55,83	58,77	60,50	69,26	52,05	64,17	92,93
Da.-Norw. Trade		91,73	59,70	37,25	32,92	25,77	20,80	34,62	18,75	5,10
Own products		0,00	2,59	6,92	8,31	13,73	9,94	13,33	17,08	1,97
Total tax Alta – stat.		100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00
Alta – mobile taxpayers										
Swedish trade		13,76	31,00	50,45	66,14	63,02	54,76	55,49	71,13	72,07
Da.-Norw. Trade		85,67	65,42	46,80	24,54	21,73	34,23	27,32	12,51	13,90
Own products		0,57	3,58	2,76	9,32	15,25	11,01	17,19	16,36	14,03
Total tax Alta - mob.		100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00
Suondavaara, Guovdageaidnu, Láhpojávri										
Swedish trade	0,00	2,42	24,43	37,83	26,32	11,97	25,62	24,21	30,00	27,56
Da.-Norw. Trade	0,00	4,66	9,02	4,40	2,94	4,85	12,30	13,68	5,58	2,52
Own products	100,00	92,92	66,55	57,78	70,74	83,19	62,07	62,10	64,42	69,92
Total tax	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00
Anár										
Swedish trade		0,00	0,00	0,00	0,00	0,00	0,00	16,73	15,03	
Da.-Norw. Trade		0,00	0,00	0,00	0,00	0,00	0,00	0,57	0,00	
Own products		100,00	100,00	100,00	100,00	100,00	100,00	82,70	84,97	
Total tax Anár		100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	

Table 1. Relative proportions of commodities paid in Swedish tax from various districts (in quinquennia).

The existence of several potential trading partners who might engage in transactions with the Varanger Sámi is further substantiated by sources documenting the yearly market activities at Karlebotn at the bottom of the Varanger fjord, where several groups of producers from coastal and inland regions met with merchants belonging to various networks. The so-called Varanger market is clearly documented from 1571 (Johnsen 1923: 225, 228), but probably has a continuous tradition dating back to the first decades of the same century, if not earlier (Hansen 1984: 59–60, Hansen 1990: 140).

A diametrical counterpart to the commercialized Varanger Sámi is to be found at Anár siida, forming the northernmost part of the Swedish administrative district Kemi Lappmark. In Anár, self-produced products, consisting of furs and dried pike, made up 100 percent of the total value paid as Swedish tax through most of the period, only declining to a little more than 80 percent during the last two quinquennia. Only in these two periods was a lesser amount of the tax paid in money, *Swedish* money. Danish dalers, which circulated in the Danish-Norwegian network, are completely unknown as item for paying taxes in this siida. Evidently, the Anár Sámi primarily had relations with trading partners from the Swedish side, when they engaged in such activities at all.

Between these two extreme examples of self-sufficiency and commercialization, the Altafjord and the other inland siidas show themselves as more transitional forms. Similar to Anár, the interior siidas of Suondavaara, Guovdageaidnu and Láhpojávri also show a predominance of self-produced items (i.e. furs) among the commodities that are used for paying the Swedish tax, but not to the same extreme degree. In these siidas, the Sámi people's own products form a relative proportion of total tax value fluctuating between 90 and approximately 60 percent. Even if commodities delivered by the Swedish network represent the greater part of the remaining tax value, items from the Danish-Norwegian side are also known and in general fluctuate between 4–5 and 12–13 percent.

The Altafjord for its part displays a pattern more in line with Varanger, but it is not so consistent. The results for this fjord area are displayed in two graphs, since the taxpayers here fall into two very distinct categories: the *stationary* taxpayers, who are registered as residing at one site for the entire period that they appear in the records, and the *mobile* ones, displaying a pattern of frequent movements between various settlement sites, with intervals from as little as 2 years to 5–6 years. We will return to an evaluation of these two groups later in discussing different patterns of mobility.

Here in the Altafjord too, the bulk of commodities used for paying taxes stem from exchange via the trade networks. The products received from the Swedish side play a leading role, but not to such an overwhelming degree as in Varanger – at least, not before the very last quinquennium. Complementary to the items procured by the trading networks, there is also a minor but steady contribution of self-produced items (predominantly furs) forming an average proportion of about 9 percent of the total tax value, when the whole half-century is considered together.

So far, the analysis of the various profiles of the different areas, concerning the relative composition of commodities and items used for paying the Swedish tax, seems to substantiate the following conclusions. First, the Sámi settlements along the coast appear to have been engaged in trade and barter with the various networks to a much a higher degree than the inland siidas. Consequently, a much higher proportion of the total value paid to Swedish tax collectors was paid in exchanged and bartered goods. Secondly, the inland siidas for their part are generally much more dependent on their own, self-produced commodities for paying the tax, but they also show clear diversity on this point. Whereas the siidas of Suondavaara, Guovdageaidnu and Láhpojávri were engaged in bartering activities with both the Danish-Norwegian and the Swedish networks, goods from the Danish-Norwegian side seem completely lacking in Inari, and a certain amount of Swedish money – presumably stemming from an increased exchange with Swedish merchants – is recognizable only from the last decade of the period under investigation.

For its part, the coastal area also reveals diversity on a more subordinate level. As mentioned above, the Varanger area appears the most "thoroughly commercialized" area, where a very high proportion of the tax value is paid in money or money equivalents, procured by the trading networks. In fact, a relative proportion of about 80 percent of the tax is on average paid in money and silver. Altafjord, on the other hand, notwithstanding its engagement in trade, delivered a minor proportion of the tax value in self-produced furs. This variation between various fjord areas may possibly be traced back to the various trade contacts that the two fjords were able to exploit. While the Sámi settlements in Altafjord had access to the Danish-Norwegian and Swedish trade, the Sámi of the Varangerfjord had in addition regular contact with the Russian trade network, represented by both Russian and Karelian merchants, which manifested its presence each year at the Varanger market.

Mobility between Various Sites and Communities/Siidas

The various forms of mobility can be studied both on a more general level, concerning movements *between* different siida communities and various fjord areas, and on a more local level, relating to possible movements between different sites *within* a siida or fjord area. In the latter case, it is a question of whether the movements were seasonal, as for instance proven for the Skolt Sámi areas, or whether they were of another kind, e.g. movements between various sites with intervals of a few years. Since we have previously established that the registers only record male taxpayers, whose household relations in principle are unknown, we are in a good position to chart movements undertaken by these men, but we are less equipped for drawing conclusions about household stability, permanence or movability. Furthermore, due to the way the tax records are structured, the conditions for studying intra-area mobility are best in the

Altafjord, as the records here relate the male taxpayers to different, specified localities. In the fjords further to the east, from Porsanger to Varanger, as well as in the interior siida areas, the taxpayers are listed together in one lump, without further details. Presumably, this reflects the way taxes were collected in these areas, at one specific site where the bulk of the population was gathered at specific occasions during wintertime, in connection with markets, court assemblies or similar events. Thus, we must distinguish between three kinds of mobility when we approach the tax registers:

a) Seasonal mobility, as depicted in the "siida model", based on the Skolt Sámi areas.
b) More permanent resettling between various siida and fjord areas, which would equal migration in the more traditional sense.
c) Mobility with subsequent stays or intervals at various sites, lasting from one to five or six years. It thus forms different "life histories" or biographies for the individuals in question.

Seasonal Mobility

One cannot, however, draw any absolute demarcation between these forms of mobility. Seasonal mobility is possible to detect from the tax registers if one can compare two lists recorded at different times of the year. Since Swedish taxation took place in winter, while Norwegian taxation was carried out in relation to court assemblies during midsummer, a comparison of such two lists should give some indication. The number of actual Norwegian records is small, but a preliminary look at those few at our disposal gives no indication of seasonal migrations within the charted entities, not even in the Altafjord where the conditions should be most favourable for detecting such movements. However, when we enlarge our view to include the closest neighbouring siidas in the interior, we find examples of a certain seasonal migration from these parts into the bottom of the Altafjord during summers. Evidently, 9 out of approx. 20 taxpayers usually registered in Guovdageaidnu in these years stayed in the summer at the innermost part of the Altafjord. Here they were presumably engaged in the salmon fisheries in the Alta river, though they may also have participated in the saltwater fisheries. In the same way, a lesser number of taxpayers resident in the neighbouring siidas of Láhpojávri and *Ávjovárri*, situated further to the east, also took part in seasonal migrations to the Alta river outlet or the vicinity of the island *Årøya* (Figure 4). These movements cannot, however, be taken as evidence of the "siida model" of mobility, since the actual persons sought another resource area during summers.

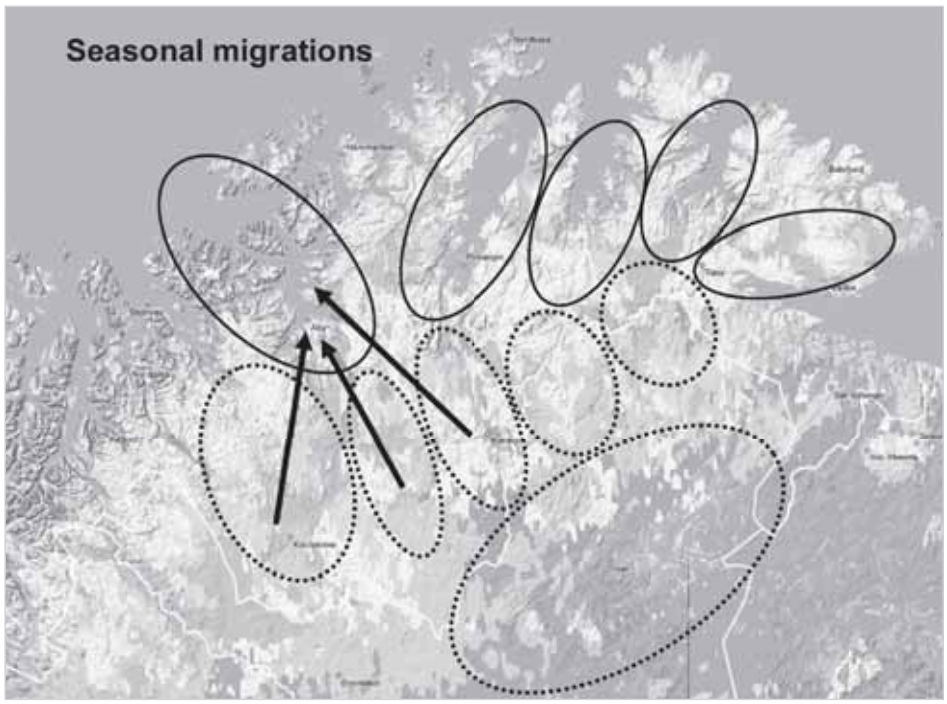

Figure 4. Seasonal migrations.

Permanent Resettling between Various Siida and Fjord Areas

The second kind of mobility – more permanent movements with certain intervals, but connecting greater entities, like various fjords and siida communities – can also be analyzed on the basis of the tax registers. The extent or frequency of such movements can be measured by counting the number of verified or most probable relocations made by individual taxpayers between such entities. The result is presented in Table 2 and Figure 5. The most frequent passages observed between inland communities and the coastal regions are the connections

a) between Ohcejohka and the Tana fjord basin,
b) between Ávjovárri and the Porsanger fjord,
c) and between Ávjovárri and Guovdageaidnu on the one hand, and the Altafjord on the other.

In fact, what really seems to be illustrated in this way, by counting and plotting these observed movements, are the main communication lines formed by the river valleys and water courses, namely the Tana river, the Lakselva and the Alta-Guovdageaidnu river. Secondly, one may also chart the most frequent re-

settlements among the fjord areas. Not surprisingly, the most frequent contacts are found between fjord areas bordering on each other, such as Alta–Porsanger, Porsanger–Laksefjord, Laksefjord–Tana, or between areas which are, as in the case of Varanger and Laksefjord, situated not too far from each other.

	Varanger	Tana	Laksefj.	Porsanger	Altafjord	Anár	Utsjoki	Tenoby	Ávjovárri	Kautokeino	Láhpojávri	Suondavaara
Varanger												
Tana	3											
Laksefjord	**4**	**10**										
Porsanger	2	1	3									
Altafjord			2	**5**								
Anár												
Utsjoki	2	**6**	1									
Tenoby		1		1			2					
Ávjovárri				**8**	1		2	1				
Kautokeino					**4**				7			
Láhpojávri										**9**		
Suonda-vaara												
Sum	**11**	**18**	**6**	**14**	**5**		**4**	**1**	**7**	**9**		

Table 2. Movements (highly probable) between different communities (siidas) and fjord districts, 1553–1600.

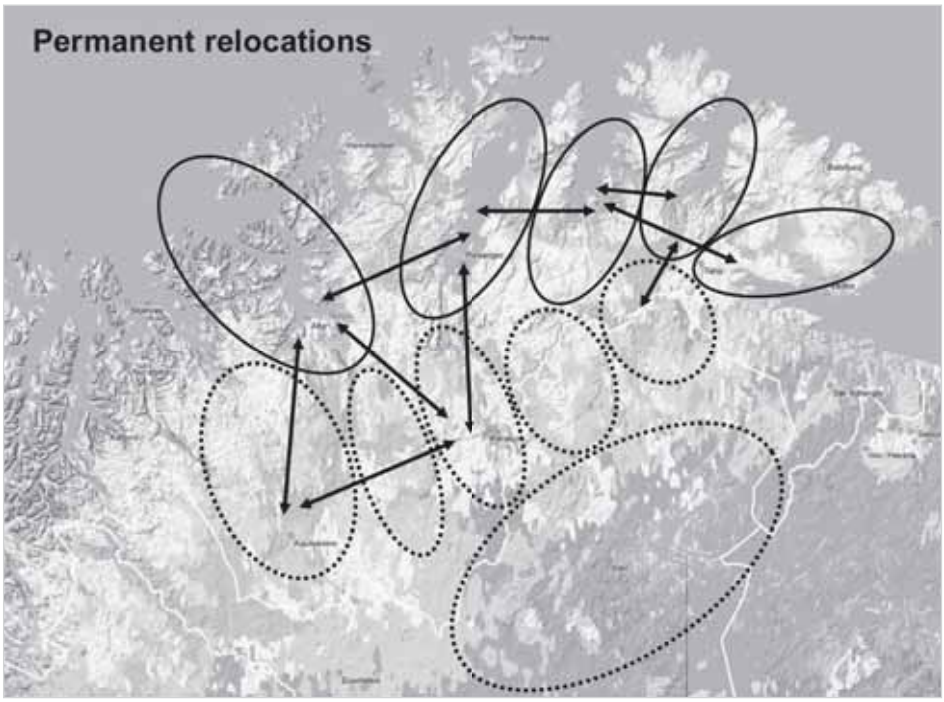

Figure 5. Permanent relocations.

Mobility with Subsequent Stays or Intervals at Various Sites, Located within the Same Fjord or Siida Area

This last kind of mobility – the "life history" kind, featuring subsequent stays or intervals of a few years at different sites in the fjord – is most easily traceable in the Altafjord. In fact, this was a common, predominant feature of settlement in the fjord at the beginning of the period under study. An analysis of taxed persons and their localization from 1551 to 1600 reveals that the taxpayers fall into two distinct categories. In total 127 persons were steadily on the move, while 181 persons maintained a stationary residence at one site during the entire period that they are mentioned in the registers. The average interval at which the mobile taxpayers relocated or resettled lies between 3 and 4 years, with the majority staying only one year at each place. Closer scrutiny reveals that the two groups also changed their relative proportions throughout the last part of the 16th century. While the mobile taxpayers make up over 60 percent of the population in the 1550s, they constitute less than 40 percent at the end of the period, towards 1600. The stationary group gains dominance during the 1570s, when there is a general increase in the number of taxpayers.

To present a highly illustrative, if extreme, example of such mobility within the fjord, the successive movements of an individual taxpayer by the name of Bjørn Hallvardsson (1562–1600) is sketched out in the survey below. It can be seen that this Bjørn Hallvardsson, over his 43-year career as a taxpayer in the Altafjord, undertook in total 11 relocations, staying at seven different sites. Four of these sites were visited more than once, and one of them (Korsnes) even three times. The average duration of stay at one site was 3 years and 3 months, ranging from three stays for only one year, through six stays with a duration of 3–4 years, and one single stay for as long a period as 9 years.

Number of succession in tax register	Location	First year of stay	Last year of stay
01	Alta	1558	1561
09	Langenes	1562	1563
10	Leirbotn	1566	1574
06	Korsnes	1577	1580
09	Langenes	1581	1583
06	Korsnes	1584	1584
04	Komagfjord	1585	1590
11	Lerresfjord	1591	1591
14	Rognsund	1592	1594
06	Korsnes	1595	1595
11	Lerresfjord	1596	1599
04	Komagfjord	1600	1600

Table 3. Movements of the taxpayer Bjørn Hallvardsson in the Altafjord.

Analogous to the study of resettling between siidas and fjord areas, this kind of subsequential mobility or contact "affinity" between the various sites specified in the fjord may also be measured by calculating the number of individual relocations or movements that connect these sites. It turns out that the frequency of movement is much higher between some of the localities than others. In Figure 6, which gives a simplified picture of the location of sites in the Altafjord, this has been illustrated by the thickness of the arrows connecting the locations, corresponding to the observed number of movements. Thus, it is a fair assumption that the varying degree of mobility between certain sites reflects some aspects of the social organisation within the fjord. Some localities are considered to be the legitimate resource area of some groups, rather than others. However, whether this really reflects some kind of siida organisation on a lower level within the fjord, or some other kind of social units or affinity, remains to be clarified.

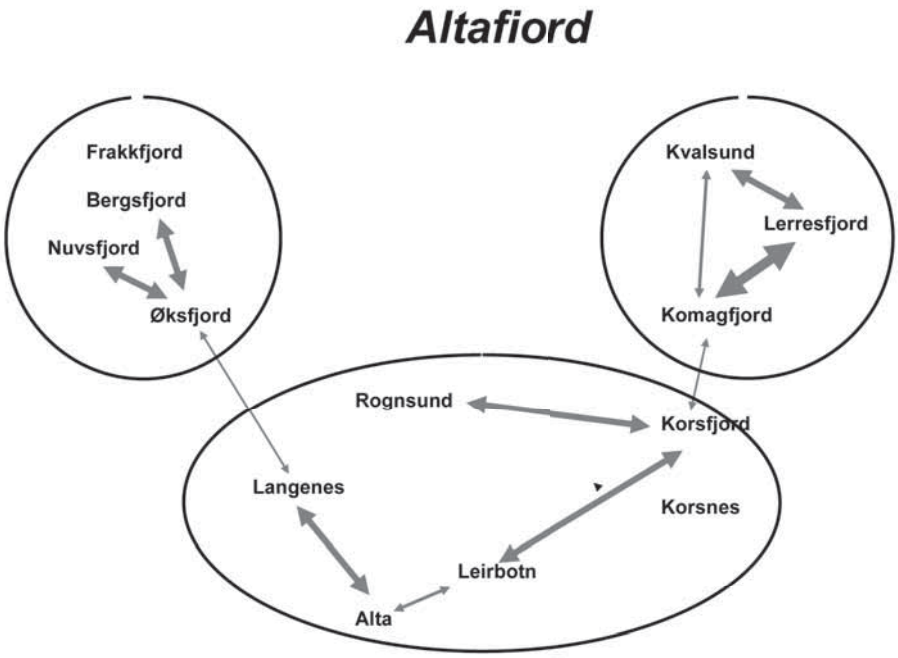

Figure 6. Relative frequency of movements between various localities in the Altafjord.

Some Suggestions for Explaining the Changing Relative Proportion Between "Stationary" and "Mobile" Taxpayers

As stated above, the relative proportions between the two groups of taxpayers change starting from the 1570s, so that the stationary taxpayers come to form the majority. How can this development be explained, and what kind of response to various challenges that arose may this steady resident location at certain already known and exploited sites represent? In conclusion, I would like to offer a preliminary hypothesis which might highlight some causes of this observed tendency towards sedentarism.

At least from the middle of the 16th century, the Sámi population of the Altafjord appear to have had a compound way of livelihood, combining such various resource exploitation and activities as hunting, trapping and participation in the commercial sea fisheries. Then something happens during the 1560s and the 1570s. The trade relations with the Danish-Norwegian network are reduced, both according to volume and importance. What can be observed is that a lesser proportion of the Swedish tax was paid with goods stemming from the Danish-Norwegian import, while a greater proportion was paid with commodities acquired from the Swedish side. At the same time, all Sámi taxpayers in the

Altafjord – both mobile and stationary – started to pay a greater proportion of their tax yields in *furs*, i.e. furs that they procured themselves, by trapping fur animals that were specific to and abundant in the coastal regions (foxes, otters). On top of this, they even engaged more eagerly in trade transactions with the Swedish tax collectors, selling them extra furs in addition to the ones paid as tax. At the same time, some of the localities on the eastern side of the fjord seem to have acquired greater importance for a portion of the Sámi, and it became more important for them to reside there permanently, controlling the resources there on a more continuous basis. Thus, it became imperative to steadily gain control over certain, selected localities. Alternatively, it became less relevant to practice a "mobile" lifestyle.

So far, this behaviour of the Sámi seems to be best explained as a response to certain immediate constraints and a temporary recession in the westerly-directed, Danish-Norwegian and Hanseatic trade, whereby the returns stemming from the commercial fisheries were diminished. We know for certain that such a setback really took place, and for the Norwegian fishery population its repercussions can be observed in the period between the 1560s and the 1590s. Among various measures of compensation, the Norwegians reacted by seeking to combine their traditional engagement in the fisheries with new ways of livelihood, so that they would not be solely dependent on the failing Danish-Norwegian imports to coastal Finnmark. Therefore, they engaged more eagerly in animal husbandry and cattle breeding, something which led them to seek to control a set of more varied resource bases (Nielssen 1986; Hansen 1990: 304–315).

The Sámi in the Altafjord may have undertaken similar ventures. Two options that must have stood out as the most relevant were the development of more specialized reindeer herding, based on domesticated reindeer, and increased efforts in cattle breeding. Both occupations were basic components of Alta Sámi livelihood a century later, when rudimentary cadastres and surveys give us a better exposition of Sámi resource exploitation.[4] For both of these forms of animal breeding, the resources attached to the sites on the eastern side of the fjord must have been highly relevant and sought-after. Controlling these resource-rich sites in a more permanent way can therefore have emerged as a central objective for certain Sámi families and/or household groups, who possibly had attachments to these places already.

A preliminary conclusion of this discussion might therefore be that the Sámi of coastal Finnmark met with a similar development as the Norwegians. But whereas the Norwegians tried to confront these difficulties and compensate for them by moving inwards into the fjords, starting to use resources that they had not exploited previously, the Sámi might have expended a greater effort in both reindeer herding and cattle breeding – something which may have given them a strong incentive for intensifying their exploitation of a set of localities

4. For instance: "Höyeste Bemeltte Kong: Commissions ForRetning Vdi och Offuer Findmarchen Thill Fiere och Fields; Begyndt Anno 1668", (*Chamber of Revenues ["Rentekammeret"], County Accounts, Vardøhus*, National Archives of Norway, Oslo).

that were already in use on a more ad hoc basis. Such a conjecture would form a parallel to the old hypothesis of Helmer Tegengren and Ørnulv Vorren, which concerned the development of reindeer herding as triggered by changes in the patterns of resource exploitation (Tegengren 1952; Vorren 1978, 1980). It would also coincide with their viewpoints about the chronological dating of this development. But whereas the hypothesis of Tegengren and Vorren primarily related the new reindeer herding specialization to over-exploitation of the traditional resource basis, this hypothesis primarily explains the newly observed practices as caused by failing export of fish and trouble with the provisions delivered by the Danish-Norwegian trading network.

Such a hypothesis could in the first place be tested by investigating to what extent the newly sedentarized, stationary taxpayers at the eastern locations used reindeer skins for paying the Swedish tax. Another way of highlighting a possible new emphasis in the patterns of resource exploitation among the Sámi, would be to study what measures they mobilized vis-à-vis a new, more acute demographic crisis that appeared around 1600.

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Migratory Lapps And The Population Explosion Of Eastern Finns: The Early Modern Colonization Of Eastern Finland Reconsidered

Introduction

According to the traditional account, only a few migratory Lapps were living in the forests of Eastern Finland during the Middle Ages, with peasants from the southern and western agricultural areas visiting the area during summers. They maintained small-scale cultivation, hunting and fishing. Each autumn they transported the harvest to their permanent living places in the south. This so-called "erämark" theory or wilderness economy model has been firmly established in the scholarly literature (Register på Erämarker 61–85; Gissel et al. 1981: 132–135; Taavitsainen 1994: 196, 200–203; Taavitsainen 1999: 310–313; Taavitsainen 2004: 47–48; Taavitsainen et al. 2007: 95–102; Björn 1999: 39–40; Mäki 2004: 138).

Over the last thirty years palaeoecologists have discovered in lake sediments the remains of small-scale medieval cultivation throughout the eastern Finnish and Karelian forest areas, but the quantity of the cultivation increases considerably only in the 16th century. The most recent and sensational finds are from Repovesi and Kuittijärvi (Vuonninen). The first offers proof of a large-scale and permanent human impact after the Viking age in a wilderness traditionally considered to have been unpopulated. The second indicates that the entire East Fennoscandian area was well-populated, because it is so far to the north (Vuorela-Hicks 1996: 245–257; Grönlund 1995: 6–36; Alenius et al. 2006: 164–165; Alenius 2007: 11–12; Alenius et al. 2005: 19–21; Saarnisto-Alenius [in print], cf. Korpela 2008: 118–119).

The results have been explained within the framework of the colonization and wilderness economy model: small-scale cultivation was part of the seasonal hunting and fishing culture, and the strong expansion of agriculture in the 16th century matches the new colonization and the large size of the new population, which was recorded in the contemporary tax rolls. Marek Zvelebil and Paul Dolukhanov call the transition from nomadism to farming "a revolutionary development that provides the basis of civilization throughout the world" (Zvelebil–Dolukhanov 1991: 233–278).

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Within this framework scholars have estimated the size of the population in Finland and its growth during the medieval and early modern period. Heikki Simola describes how the population of Finland rose tenfold, from 50,000 to 500,000, between AD 1300 and 1750, and another tenfold to 5,000,000 between 1750 and 2000 (Simola 2006: 165). 16th-century Savo has been called an area of population explosion. There were only some 600 households (6,000 people) in the 14th century, but there were 3,400 households (34,000 people) by the mid-16th century (Orrman 1999: 378–379, 382–383; Gissel et al. 1981: 132–135; Saloheimo 2000: 118–119; Soininen 1961: 11–20, 31–49, 57–58, 122–136, 211–242; Pirinen 1982: 50–104). The Savo people had colonized within a century the entire, previously unpopulated region of Eastern Finland and Karelia north of the modern town of Mikkeli to the coasts of the White Sea and Southern Lapland. Finally, they went on to Central Sweden and in the 17th century to America (Simola et al. 17–30; Gissel et al. 1981: 132–135; Lähteenmäki 2000; Pirinen 1982: 265–308).

The source evidence of the wilderness economy model is problematic. The main support can be found in the living model of Western Finnish societies and the sources dating to the 16th century. Scholars cannot explain in the medieval context of Eastern Finland, which differed considerably from that of Western Finland, why the people returned to the south each autumn. There were no legal, social, religious or other coercive structures that forced them to do so, nor were the families well organized into hierarchical clans, but rather they formed heterogeneous co-resident domestic groups that could not prevent members from going to new places if they so desired. Land was merely used and not owned, and therefore everyone was free to move about and start a new life. Similarly the homes were not large mansions with riches that had to be looked after. Moving over the East Finnish terrain is also difficult due to trees, stones, marshes and lakes. The only connections have gone along waterways. However, they connect the area to the South-East and the North, and moving from the South and the West has been very difficult, because it happens against the waterways. This difficulty explains even the modern cultural differences between Eastern and Western Finland. Finally, the Eastern Finns had no special idols that protected their home and property as was the case with the western Finns according to the 16th-century list of pagan Finnish gods drawn up by Bishop Michael Agricola (Agricola 1987, cf. III.211–213, Korpela [forthcoming(a)]).

The original reason for going into the wilderness could have been either a lack of food (impoverishment of the land, growth in population), which is not recorded in the sources (Solantie 1997: 48–52, 61–62), or an increasing demand for furs on the market, which was not the case after the 13th century. A third possibility is that no real movement or colonization happened. Our only source material for such movement lies in the medieval archaeological material and early modern tax records concerning colonization. The archaeological evidence is very accidental, because no systematic study has ever been conducted here. Should we assume moreover, that the archaeological (metal) objects reflect only

a small part of the old population, which was connected with the early, primitive exchange of goods with foreigners? Thus the number of such objects reflects only the long-distance contacts.

Tax rolls and other written materials of the early modern state are not useful sources for the population history of peripheral areas. They reflect the organization of the state and its smooth penetration and realization among the forest populations; they record only those people who paid taxes. The early modern state was not a territorial state which could control fixed land areas and their entire populations (Korpela 2004: 287–298; Korpela 2008: 270–285).

Sirkku Pihlman has discussed the problems of population growth in medieval South-Western Finland, and her ideas could support our conclusions as well. The connection between Christianization and population growth is a fact according to the written sources, but the traditional explanation for the growth is quite unscholarly, because it tries to connect the phenomenon with the prevention of a supposed pagan institution of child murder. Written documents of the early Christian Church and identified burial fields form a source-critical problem, as the areas concerned do not correspond to the size of the settlements. According to Pihlman, the burials identified represent only the upper class and the population that lived permanently in villages throughout the generations. The majority of the population lay outside these groups, subsisted on seasonal natural resources and did not create large farms. They therefore remained outside the sources until they become subject to the Christian administration and were recorded in the registers (Pihlman 2004: 47–98). The conclusion of Pihlman suits perfectly the results concerning the medieval population history of Central Europe (Moore 2000: 39–64).

Second, the first written indications are for the size of the population of Eastern Finland in the tax books of the 1540s, when there were 6,300 households in Swedish Karelia and 3,400 in Savo (Orrman 1999: 378–379, 382–383; Gissel et al. 1981: 132–135). Oiva Turpeinen, who has reconsidered population growth in Eastern Finland during the early modern period, regards the traditional figures of the population size by the end of the Middle Ages as far too low. According to him, the first reliable population statistics date only from the middle of the 18th century. Looking at this material, the growth in population would have had to be unrealistically high if the traditional estimations were correct (Turpeinen 2001: 11–12).

Third, the 16th and 17th centuries were a period of deteriorating climate (Lamb 1995: 211–217, 224–227, 229–233). This "Little Ice Age" could hardly lead to a huge growth in the population and movement toward colonizing the most northern areas. This period was moreover, throughout Europe, a period of strong expansion of taxation and other burdens due to state formation. All economic growth went to the building of administration and armies from the late 15th to the early 18th century. When the living standard collapsed, population growth could not take place without a revolution in medicine, but there was none. The calculations of Reijo Solantie also support this criticism. The

only area of slash-and-burn agriculture that was over-exploited during the late Middle Ages was Central Häme. The crisis of the old methods of agriculture in Southern Savo and elsewhere in Southern Finland occurred in the 18th and 19th centuries. There was no population pressure to warrant massive emigration from the old agricultural areas to form a new wave of colonization in the northern districts (Solantie 1997: 48–51, 58–62).

Fourth, the results of genetic studies indicate very limited male inheritance in the modern population of Eastern Finland. The number of original fathers in the population must have been very small and population growth took place without any major external male input. Rick A. Kittles et al. have proposed that the Finnish male population is of dual origin, i.e. the male inheritance may be derived from two early sources and further research has only confirmed this conclusion (Kittles et al. 1998, 1171–1179; Kittles et al. 1999: 381–399; Raitio et al. 2001: 471–482; Lappalainen et al. 2006: 207–215; Palo et al. 2009: 1336–1346). This result is not only a factor which must be taken into consideration in writing history, but it is also a serious scientific fact, which forms an absolute limit for the population history and therefore must be explained in some "absolute" way. It creates, in my opinion, an obstacle for any theories of external colonization of the area. If somebody wishes to discuss this issue, he or she must explain the genetic fact as well.

The early modern source evidence concerning migrations and colonization was partly administrative chancellery language and partly reflects an internal migration, which was the traditional way of life in the northern Eurasian forests until the modern period. The colonization of new areas within the huge tracts of forest must have been connected with the contemporaneous abandonment of other areas (Korpela 2008: 275–280).

Fifth, modern ecological theories also do not support the popular ideas of historical colonization movements after population growth. The people cannot survive the period of the colonization movements (the movement and the beginning of cultivation) if population growth is the primary reason. In primitive conditions, production is never so stable and ample that it could make large-scale supply and planning for the support of new settlers possible. In societies such as animal populations, hunger limits population growth to a reasonable level (Hanski et al. 1998: 231–288).

New innovations in food production could have caused a strong but short period of local population growth which diminished when the limits of the new resources were reached. The introduction of a new species of rye, the "root rye", and the burn-beaten technique of *huuhta* have been considered such revolutionary innovations, because root rye yields are high and the *huuhta* technique made it possible to use spruce forest for cultivation (Manninen 1922: 60–67, 113, Soininen 1961: 153–154). According to Reijo Solantie, an even more important factor was that this kind of rye was resistant to snow mould fungi, which had previously been the most important obstacle to successful large-scale cultivation in Eastern Fennoscandia. The conditions for this disease are especially good,

because the thick snow cover keeps the ground unfrozen in many places during the winter (Solantie 1998: 154; Solantie 1997: 28). The timing of the *huuhta* technique is disputed, because some scholars regard it as the original method (cf. Korpela 2008: 63). The problem of this entire explanation, however, is that the limits of the local resources were not reached before the introduction of the innovations, and therefore they did not fill some resource gap.

According to Marvin Harris, the transition to permanent agriculture did not depend on new knowledge, but on the fact that the existence of the population was challenged and it was forced to expand its production of food. The people of the forest zone of Eastern Fennoscandia obviously did not begin undertaking any large-scale agriculture earlier, because they did not need to. I have attempted to show that fish was the basic diet among the forest dwellers. They changed their way of life to permanent cultivation in the 16th century, because the new state power demanded taxes for the support of the army and the new bureaucracy, and this new taxation plundered the earnings of the locals for state building. In spite of the expansion of field cultivation, the standard of living collapsed in Eastern Finland as well (Harris 1991: 5–7, 18, 40–43, 101–123, 233–235, and passim, Korpela 2008: 200, 273–276).

In this small article I will try to discuss one aspect of the population numbers of medieval Eastern Finland and propose one explanation for the unrealistic population expansion in sources. The criticism of the medieval population size in Finland most probably fits the traditional calculations of the entire European medieval population as well. The idea of a strong decline in population after the fall of the Roman Empire is absurd; the administration collapsed, but this did not mean anything for basic food production and there is no other reason for a decrease in population. Our medieval sources for population size start only in the 12th century in connection with agricultural reform and parish building, which forced people to move into villages (*incastellamento*) and start field cultivation under the control of a local lord. The stories of unpopulated fertile territories were usually propagandistic writings, which sought to invite people to go to new areas and start field cultivation there to produce tax revenue (Moore 2000: 39–64; Tamm 2009: 20–25).

The People of the Medieval Backwoods

According to scholars, the "Lapps" formed the nomadic hunter-fisher populations of the backwoods, while others say that there is no evidence for the presence of "Sámi speakers" south of the River Oulujoki (Huurre 1995: 151–154; Huurre 1983: 412–414; Carpelan 1984: 104–107; Carpelan 2003: 59–69; Vilkuna 1971: 233–236; Lehtola 2008: 2–7).

Toponyms of Sámi origin are one important group of sources concerning the pre-European past of the forest area, because they have been identified all over Finland and Karelia. There is also a wide distribution of toponyms that

have the prefix *lappi-*, e.g. Lapinjärvi, extending from South-Western Finland to Russian Northern Karelia, and there is other vocabulary in use in the Finno-Ugric languages outside Lapland proper that has Sámi roots. The third set of evidence consists of archaeological finds from an area outside of Lapland that have been connected with Sámi speakers, including Lapp cairns and the Bronze Age culture of Eastern Finland (Korhonen 1979: 175–206; Itkonen 1984: 98–107; Kočkurkina 2005: 55–56; Pöllä 1995: 28–30, cf. Huurre 1995: 152–153).

We must distinguish the following concepts from each other: 1) Sámi speakers; 2) Finno-Ugrian speakers; 3) People who are called "Lapps"; 4) Semi-nomadic hunter-fishers of the forests; 5) Reindeer herders; 6) Subjective identity which plays a role in the formation of local unity; 7) Objective identity which is a classification imposed by outsiders (cf. Korpela 2008: 31–34; Korpela 2008: 42–55).

There are four words to refer to the Sámi. The most common, probably indigenous word is *sápmelaš*, while the second, rarer expression is *vuovjoš*, the third *lapp*(*i*) and the fourth *finn(a)r*/*skridfinn(a)r*/*terfinnar*. The medieval documents do not employ the first and second appellations, but they are known in toponyms, while the fourth is used in Danish, Norwegian and Anglo-Saxon sources. *Lapp*(*i*) is the word that the Finns, Swedes and others use traditionally, but in the early Baltic-Finnic languages it acquired the meaning of a remote district and the people living there as well. Some folk poems also use the concept of *lappi* as a synonym for heathen habits and paganism (Valonen 1984: 82–86; Korhonen 1979: 175–179; Carpelan 1998: 76–84; Nuutinen 1988: 128–133; Hansen–Olsen 2004: 47–51; Zachrisson 1997[a]: 158–174; Tarkka 2005: 98–99, 127, 303–304; Ušakov 1972: 21; Saxonis gesta lib. V:13:1; Historia Norwegiae, "De Finnis", King Alfred's Orosius I,I [pp. 16–17]; SKV 6, no. 2 [verse 31–32] [p. 2], no. 4053 [p. 939]).

Heterogeneous Finno-Ugric speakers inhabit forests from Central Norway and Sweden over Finland, Lapland and Estonia to Central Siberia. In the northern areas they are and were Sámi speakers, but in the south they are now Finnic speakers, and east of Lake Onega speakers of Russian and other Finno-Ugric languages. It is difficult to distinguish among the various Finnic languages in the medieval context, since the spoken forms have varied and the written standards have formed under a very strong influence from European state and nation-building procedures over the last five centuries.

The "Sámi language" is in fact a language group that consists today of ten languages. The Sámi languages in Southern Finland, which were spoken in the Middle Ages but which have now died out, may have differed less from other early Finno-Ugric languages than the modern language forms, so their disappearance may have only accentuated the differences between the Finnic and Sámi speakers (Korhonen 1981: 15–18, 48–50; Strade 1997: 175–185).

I do not deny the factual existence of different languages and their speakers in the medieval forests. I only stress that the foreign scribes were neither able nor interested in noting these differences and identifying the populations according to them. I also doubt that language served as an identity-making factor among

the populations. A supra-local consciousness and encounters with others are necessary preconditions for a linguistic identity. Semi-nomadic hunter-fishers hardly formed supra-local entities because their economic, cultural (religious), social and administrative structures were all formed around co-resident groups. Trade contacts did not result in regular encounters with outsiders either, because they were organized along networks and probably took place even in part as a goods exchange ceremony where the people did not always meet each other (Korpela 2008: 16–17, 31–34, 46, 55, 65–75, 208–217 and passim).

According to Lähteenmäki the populations of Lapland were divided into various groups and these established their identities in the 19th century according to their way of life. The Sámi language and its associated ethnic definitions concerned only a small minority, the nomadic reindeer herders, while otherwise the populations consisted of people with mixed backgrounds. According to Zachrisson, problems of identification concerning the medieval (Sámi) hunter-fisher culture of Central Scandinavia are considerable as well (Lähteenmäki 2004: 290–298, 474–475; Zachrisson 1997[a]: 171–172; Zachrisson 1997[b]: 186–188; Zachrisson 1997[c]: 189–220; Hansen–Olsen 2004: 45, 87–90; Odner 1983: 104–106; Aalto 2005: 102–106).

Fishing was the predominant source of livelihood in the medieval Sámi culture, while reindeer played only a limited role. Fishing must also have provided the main sustenance of all the medieval Finno-Ugric forest dwellers (Korpela 2008: 200), which makes it impossible to distinguish in economical terms the Sámi speakers from other Finno-Ugric-speaking forest dwellers. Most probably, the borders of various populations were overlapping and mixed. The economic categorization of the people was decisive in the eyes of outsiders (Pentikäinen 1995: 86–87; Vahtola 2003: 122–127; Nahkiaisoja 2003: 176–177).

The Beginnings of Royal Administration and Realm Formation

The formation of outer contacts led people to identify themselves as "us versus them". Because nearly all agricultural vocabulary in the Finnic languages is of Germanic origin, the division among Finno-Ugrian speakers took place when the inhabitants of the south introduced field cultivation and the hunter-fishers remained as they were in the inland forests (Hansen–Olsen 2004: 31–42; Odner 1983: 10, 104–107; Strade 1997: 177; Korhonen 1981: 37; Hansen 1996: 41–42). When the European monarchies were established, they also had to define their relationship with the forest dwellers. The royal steward Knut Jonsson called the people *homines siluestres et vagi, vulgariter dicti Lappa*, in September of 1328. At a later date, an unknown German chronicler counted the Lapps and Finns among the *wilde lude* (savage peoples) (FMU I 360; Ex prima continuatione a. 1395–1400, a. 1399 [p. 205], cf. also Lamberg 2006: 121–125).

The forest dwellers were not visible in the eyes of the authorities, and these authorities didn't acknowledge the rights of these peoples. King Albrecht of Mecklenburg gave the area of Sääminginsalo in the Central Saimaa region as a fief to the noblemen Nils and Bengt Thuresson in the 1360s as if it was an uninhabited area, but there is a number of records pointing to an earlier human presence there. The inhabitants had their own system for defining the rights to use and own natural resources and to resolve everyday issues, but these things were not real from the perspective of European rulers (REA 187; Vilkuna 1971: 225–228; Parviainen 1976: 42, cf. Lehtosalo-Hilander 1988: 150–151; Räisänen 2003: 130–131; Korpela [in print(b)]).

King Albrecht of Mecklenburg decided in February 1365 that one Matisse of Orewall had founded a farm according to the law in the wilderness of Valkeala, but the local inhabitants had expelled him from the region. The King ordered the men to return the lands to Mattisse. A folk tale also attests this "Matti" (= Mattisse), but it considers him a criminal. Following the royal declaration, Matisse had most probably taken possession of lands which belonged to somebody else according to the indigenous norms. He represented the new European order that did not acknowledge the traditional rights of use beyond the King's jurisdiction (FMU VIII 6585; Mulk 1996: 69–74; Rosén 1936: 95–111; Kepsu 1990: 110–111, 139, cf. also Nahkiaisoja 2003: 168–169).

When King Magnus Ericsson confirmed the rights of Christian colonists in the lands of the north ("Lappmarken") in 1340, he ordered that the colonists should have free ownership over all that they had taken into use and that they came under Swedish law. When his son, King Eric Magnusson, renewed their privileges in 1358, he explained that the colonists "are there for the increase of the Swedish Kingdom and Christianity" (DS IV 3473; FMU I 675).

When the bailiff of Häme, Magnus Kazi, donated the house of Kantala for the requiem mass of the late Bo Jonsson in 1390, he placed certain restrictions on his donation, one of which concerned "the Lapps that belonged to the house". Similarly, the bailiff of Norrbotten, Sten Henriksson, decided in 1454 that a group of Lapps who had arrived from Häme were not the king's Lapps but belonged to the Birkkarlar (private tax collectors) of Piteå and Luleå. Forest people seem to have been considered objects which could be owned (REA 187, 269; FMU IV 2959; Suvanto 1985: 197).

The Supervision Book of 1597 of "Muscovite Lapp *pogosts*" states expressively, "And in Kuittijärvi there were 33 Lapps living in the forest. And they paid 11 bows in tax to the ruler. In the year 99 [= 1591/1592] they were killed by foreigners. Now five new Lapps have arrived in Kuittijärvi and they pay one and a half bows." These people just came into existence out of nowhere when they were included on the tax rolls of the prince (Dozornaja kniga lopskih pogostov 1597g., p. 215, [l. 67–67ob.]).

We have similar evidence for Swedish Eastern Finland. In 1564 Judge Jesper Sigfridsson decided in Tavisalmi that the peasant Per Ollikainen could keep a field that the "fisher peasants" had cleared. Who were these fisher peasants

(*fiiskare bönder*) and why did Per Ollikainen receive their fields? According to the "law" of the slash-and-burn culture, the field belonged to the person who had cleared it, and now the king's judge was making a distinct exception in this respect. Is it possible that they were hunter-fishers who did not pay taxes and were therefore judged to be living outside the realm and beyond the king's protection (Domböcker 1559 och 1561–1565, p. 177)?

Demand on Resources and Control

The commercial turn of the early 14th century concerned the Eastern Fennoscandian area and cut off most contacts between the inland forests and Europe, which made the populations invisible in the sources for the next 200 years. The coastal and southern areas were integrated into Swedish, Norwegian and Novgorodian realm formation, some colonization took place and a permanent parish network was organized there (Mulk 1996: 75–76; Wallerström 2000: 3–39; Korpela 2008: 217–225; Hiekkanen 2002: 488–495).

Despite some early stories concerning the baptism of the interior of Lapland, as late as 1574 King John III of Sweden ordered priests to be sent to the Kemi region of Lapland because the inhabitants were living as pagans. The true work of incorporating the inhabitants of Lapland into the Swedish realm began during the last years of the 16th century, when new churches were built and priests sent off (Handlingar och uppsatser II, no. 1–3, 5–11).

Integration measures started in North-West Russia only in the 16th century as well, although single contacts are recorded earlier and the first monasteries were founded in the 15th century (FMU VII 5935; Korpela 2008: 144–145; Parppei 2010: 30–34; Makarov 1997: 8–47, passim, Ušakov 1972: 23–34, 41; Hansen 1996: 59–62). The Archbishopric of Novgorod was reorganized when Hegumen Makarij was appointed archbishop in 1526. Makarij started a systematic mission to Karelia and Lapland and continued this integration policy of the northern territories after he was promoted to Metropolitan of Moscow and all-Russia in 1542 (N4L 7034; Korpela 2005[a]: 44–53; Korpela 2005[c]: 61–82; Korpela 2010: 205–207, 210–212, 214).

The Supervision Book of 1597 records the number of houses and the names of the taxpayers in the Lapp *pogosts* (Lintujärvi, Semsjärvi, Selki, Paatene, Rukajärvi, Suikujärvi and Paanajärvi). There are Finno-Ugrian names such as Serguša and Kalinka Sjugiev, Klimko and Griša Nesterov syn Kičin, Timoška Gennjujev, Fed'ko Tjulljujev, Alekseiko Pitkäsilmä and Timoška Tikkela. Moreover, the scribe has attached the term *lopin* to some Slavic names, e.g. Ostaško *lopin*, Bojarink *lopin* and Ivaško Bezimjannov *lopin*. Ivaško Koivula *lopin* from Rukajärvi *pogost* belongs to both groups. The word means "a Lapp", but it is not clear whether it refers to a Sámi speaker or a Finno-Ugrian forest dweller in general. Moreover, these people bore Christian names, so they must have differed in some way from the pagan populations (Kniga sbora dannyh i obročnyh deneg,

pp. 181–185 [l. 678–685ob.]; Dozornaja kniga lopskih pogostov 1597g. pp. 192, 193, 198, 199, 204, 207, 208, 211–214 [l. 17ob., 19ob.–20, 29ob., 31, 42ob., 46ob., 47ob., 49–50, 58, 59ob., 60ob., 65], cf. also Itkonen 1984: 28; Černjakova 2003: 24, 27–28).

The Supervision Book refers to five "Lapp" newcomers. They had the Christian names Ivanko Igalov, Stepanko Rettij, Ivanko Kuz'min, Naumko Kuz'min and Panko Ortem'jev. They were evidently Christians who were living in permanent settlements, so that they had now given up their nomadic lifestyle and resembled the above-mentioned *lopin*. The definition of a "newcomer" refers obviously to those "coming" from outside of the realm, from "non-existence" (Dozornaja kniga lopskih pogostov 1597g. pp. 214–215, [l. 64ob. 67–67ob.]; Černjakova 2003: 28). The documents refer to pagans collectively with the expression *lopari*. In most cases the sources mention that they were living in the forests. These Lapps had no permanent dwellings by Muscovite standards but were leading a nomadic life.

There were three kinds of "Lapps", which formed predominantly the population of the inland *pogosts* of Kola ("distant" Lapland), e.g. Munomoše where 42 Christian "Lapps" were living in 15 villages. The "Christian Lapps" formed the first group of "Lapps" and were dealt with as a collective. The second kind consisted of those whose names carried the specification *lopin*. The peasant Mihalko Savel'ev, for instance, was designated as *syn lopin*, the son of a "Lapp", and Stepanko Dement'ev was also *syn lopin*, but his sister Iriška Ondreeva was a "Lapp" woman and the wife of a "Lapp" man from Munomoše by the name of Selivanov. Thus the local people were divided into "Lapps" and peasants, and an individual could cross the boundary between these groups, because it was one's way of life and not one's ethnic origin which mattered. The difference was so clear that the tax books did not use the concept of *derevnja* (hamlet or village) in connection with the "Lapps" but stated that "the Christian Lapps were living in *veža*", i.e. in a Lapp village. The Lapp identity was here subjective as well as objective, but it was an economic and not a language-based identity. (Vypiska, pp. 412 [cap. 12], 417 [cap. 31], 426 [cap. 64], 430 [cap. 80–81]).

The third "Lapp" group can be identified in Pääjärvi (Pjaozero). The great majority of the "Christian Lapps" of the tax books have Russian Christian names with some exceptions, such as Simanko Mustopartin, but unlike in other places, the names in Pääjärvi seem to be predominantly Sámi ones: Hanko Jungin syn, Sarrei Päiviev syn, Ikoiko, Igasa, Ikieva, Lemmit Torviev syn and his children Titto, Janka and Päivi, etc. The area was a remote one and only superficially integrated into the ruler's dominions (Vypiska iz piscovoj knigi Alaja Mihalkova, pp. 449, [cap. 150], 462 [cap. 196]). The "Lapps" of Pääjärvi might be those whom a Solovki scribe described, according to Afanasij Ščapov, as "living in inaccessible wildernesses without churches and without any dwellings or the necessities for human life", or those about whom the Supervision Book states, "And in Kuittijärvi there are baptised and unbaptised Lapps living in the forest who remained alive after the war against the foreigners. The foreigners killed

the other Lapps and burned their tents." (Ščapov 1906: 83; Dozornaja kniga lopskih pogostov 1597g. pp. 214 [l. 64ob.]).

The Russian material from Lapland shows the pattern of the integration. Pagan Sámi came from outside the records into documentary attestation when they started to pay taxes and settled down more permanently. First, they were referred to with ethnic names and considered "Lapps". The second level was the introduction of the Slavic Christian names, but they were still called "Lapps" due to their economic system. The third step was total integration into the economical mode of the larger society and the omission of the definition of "Lapp".

The integration of the southern areas of Eastern Finland and Karelia did not differ much from the process in Lapland. Only the most central areas along the shores of the Gulf of Finland, the Karelian Isthmus, and Olonec were brought into the medieval European realms before the end of the 15th century, when the castle of Nyslott was built and the first Muscovite tax books of Karelia were composed (Korpela 2005[b]: 64–65), which was the beginning of a sovereign, territorialized kingdom and state in these areas.

According to a letter of the State Council of Sweden, the countrymen of Savo and Karelia knew nothing of Christian doctrine nor did they go to church, but rather they were living like "Lapps and other pagans" in 1504. The Council ordered Bishop Laurentius of Åbo to found new parishes, because until that point some people had to travel more than 150 kilometres to attend church. According to canons Michael Agricola and Canutus Johannis Raumensis, the religious situation in northern Savo was still as poor in 1549 (REA 694; Handlingar till upplysning… VIII, no. 15, pp. 58–60). Archbishop Makarij described in a very dark tone the situation in Muscovite Karelia in 1534 as well, and Archbishop Feodosij continued along the same lines in 1548 (N4L 7042; Materialy po istorii Karelii, no. 52, 64). All of this information stresses that there were already many people living in forests outside of state/church control before the founding of the parishes, unlike the traditional literature's account that parishes were organized after the wishes of the colonists.

The introduction of large-scale cultivation, the change of the economic system and the registration of people as taxpayers took place during the 16th and 17th centuries hand in hand with the building of local administration, parishes and the allocation of the army to the area (Korpela 2008: 227–285). The building of the realm was a slow and enforced process. The peasants of Savo complained to the king in 1545 that Bailiff Clemett Henriksson Krook had ordered them to build a stone mansion in their forests, although it had been their common area for fishing and hunting and was their main source of sustenance. The peasants also wondered why the bailiff had denied them their traditional right to build new houses in the area. The royal bailiff introduced landownership, field cultivation and a permanent way of life among the locals, who simply did not understand these things and wished to continue their traditional forest economy (Handlingar till upplysning af Finlands häfder, VI, no. 147, pp. 309–312).

"Lapps" are recorded as taxpayers in Swedish registers until the tax reform of 1664. Some of them were known by name, such as "Kapain", "Pänsi", "Musta", "Hanno Lauri", "Suripettari", "Huumo" and "Suru". These people represented already a transition culture, because their way of life was permanent enough for tax collection. Per "Lappinpoica" (= son of a Lapp) of Visulahti is recorded in the silver tax register of 1571 as owning a cow, two sheep and one goat (Finlands silverskatteregister, p. 72; Pirinen 1982: 329; Sammallahti 1984: 148–149; Lehtola 2008: 8–14). Nonetheless there still may have been another kind of people as well, just as on the Muscovite side. According to a complaint by a working man, Mikko Kuokkanen, against local officials in 1764, "the inhabitants of Liperi (North Karelia) are moving back and forth in the forests like Lapps". This indicates that the way of life of the "Lapps" was still a concept in local everyday speech (Tuomiokirjat: Härads Rättens Dombok j Carelen för Åhr 1764, pp. 730ff. 114–117; Korpela 2004: 230–231; Wallerström 1995: 280).

From an economic point of view, there were nomadic hunter-fisher populations living in the forests of Eastern Fennoscandia in the 16th century. The border between these and the culture of permanent large-scale cultivation is unclear but not identical to the language or "ethnic" borders between the Finns, Karelians and Sámi. (Huurre 1995: 144–145, 153–154; Taavitsainen 1990: 54–55; Taavitsainen 2003: 21–47; Lehtinen–Sepänmaa 1995: 81, cf. also the map of Huurre 1995: p. 30).

Homogenization of Subjects, Change of Lifestyle and the Savo Population Explosion

The real number of medieval "Lapps" must have greatly exceeded their number in sources. If only a few poor fishermen lived there, why did Swedish peasant troops make raids through roadless forests to Dvina in places located more than 600 kilometres away from their homes? The story of the Lapps of Kuittijärvi as well as that about "fisher peasants" in Tavisalmi reveals the nomadic population that remained off the books. This population and their impact on the surrounding area are visible in the recent analysis of lake sediments all over Eastern Fennoscandia as well.

The supposed colonization and population growth of earlier studies can be easily explained by the notion that the building of the new administration registered the entire heterogeneous population of the forests as taxpayers and thus a medieval "invisible" population of the forests became "visible". The records about newcomers, new houses and considerable desertion can be easily explained as reflections of the traditional semi-nomadic way of life (Korpela 2008: 279–282).

The church was an organization that had control over everyday life, and therefore the religious reform of the 16th century meant the real start of the

cultural homogenization of the forest areas. An especially important tool was the use of local languages which started at this time. Medieval Latin or Church Slavonic were not suitable tools for the administrative control, cultural subjection and homogenization of forest dwellers.

The change in the economic system meant also a change in the objective identity of the southern forest dwellers, because the sources began to describe them in a different way: they were no longer "Lapps" and outsiders to the scribes, but rather they were now members of the same society, peasants. Most probably it meant also a smooth change in their subjective identity, because the people changed their way of life and religion and came in permanent contact with outsiders. They started to form a supra-local identity for themselves and to consider the last hunter-fishers of the forests as foreigners, the Lapps proper.

The new Swedish power integrated in the late medieval period the Finnic speakers of the south. When the development penetrated further north, these Finnic speakers formed an instrument of development and the new Finnish-language church supported this. On the Muscovite side, however, the times of troubles stopped the development in the north. Despite some possible early attempts at the creation of a written Finnic language for Muscovite northern areas, the language of church and civil administration remained Russian (Korpela 2010: 217–218).

Perhaps the southern Sámi and other "Lapps" were assimilated to Finns in the Swedish realm, where they formed the population of Savo, and the other Sámi were marginalized in the north, while in the Muscovite realm the integration took place in Russian, leading to a marginalization of Karelian and Sámi. The language shift of a population within a few generations is not at all a unique phenomenon in history but usually connected with economic turns, re-organization of societies and cultural ruptures. It enables the integration of locals into new structures and it supports their social rise (Fishman 1997: 40–67).

Thus the traditional population explosion theory of Savo people must be re-evaluated. The recorded colonization partly reflects the traditional semi-nomadic way of life and the description of the colonization process in the former studies has been limited within these cases. A more essential part of the registered colonists consisted of former forest dwellers, Lapps, who had now changed their economic system and were integrated into the realm and its records. A portion of this population were local Sámi speakers who had also now changed their language to Finnish.

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A Network of Missionaries and the Establishment of Knowledge: Creating Space

Introduction

The theme of this article is the institution of mission vis-à-vis the Sámi in Northern Norway during the 18th century, with special focus on the way it was organized. Apart from the religious objectives, these missionary activities launched by the Danish–Norwegian state also served as a device for consolidating its power in Northern Norway in general and within the county of Troms in particular. The organization grew rather fast and came to include a lot of persons who through their different tasks and roles established themselves as a new social segment. A number of persons possessing local knowledge and great competence in religious work were recruited to this network. Many of them were localized at Trondenes, a medieval stone church which had been the centre of a canonry. It was held by the Bishop of Nidaros until 1731, and still served very important functions connected to the organization of the mission. Other members of the missionary network were settled throughout the region of South Troms (Lysaker 1978: 206–207).

During my work within the field of Sámi culture and focusing, in particular, on the coastal Sámi settlement and the management of cultural and social identities in Northern Norway, I come to acknowledge that we as scholars are to a great extent influenced by ideas in line with the ideas that Sandra Harding (2006) has repeatedly elaborated concerning the western perspective or the colonizers' view. In spite of the great changes in research approaches which the various cultural disciplines have undergone over the last thirty years, I maintain that regarding our ideas about the population of Northern Norway, there are still a number of central areas where a natural incorporation of Sámi viewpoints is lacking or is only slowly being implemented. The same holds true for a gender perspective.

In order to apply a more adequate approach, I have found it useful to draw upon the viewpoints of the geographer Doreen Massey. She regards space as a product of interrelations within a sphere where different trajectories coexist in such a way that space is always under construction (Massey 2006: 9). For my purposes, this appears as a fruitful perspective in seeking to chart the network of

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local competence that was established, and to analyse how these different areas of social space, pertaining to various ethnic and social groups, were being transformed and restructured as a result of the activities of the missionary network.

After presenting Massey's approach, I will focus on the establishment of the mission and the role that it played for the building of state power in the area. Then I will look more closely into some examples and present some perspectives related to the question of how the missionary organization came to influence the state's policy towards the Sámi population of this area and their way of life.

The Network in South Troms

The efforts of the Danish–Norwegian state in establishing an organized mission vis-à-vis the Sámi people in Northern Norway has a global aspect. The Sámi were just one of many people as an aim for mission within that period. The process of organizing this mission in the county of Troms, which I will present here, is but one example of this global process, which we will also consider as a part of colonizing or state consolidating measures. However, this process also has an important local dimension, since it took place locally within a region of Northern Norway, and contributed to the inner restructuring and reorganization of this very region. The establishment of this kind of network within the region of South Troms was a central part of the state's efforts for norwegianizing the Sámi population of the area. In this way, it challenges the way we approach or conceptualize a 'region', when it moves through such fundamental processes of social and cultural change.

In her article *Global Sense of Place*, Doreen Massey (1994: 155–156) discusses a spatial approach as a *process*. Her article concerned an investigation based on contemporaneous data, but I would claim that it can also be useful for discussing the historical processes which a place undergoes in such a perspective. With her approach she also aimed at making the concept of 'place' operational for social research by pointing out that several processes may be in progress at the same time, representing a kind of joint action or social interaction. Furthermore, the conceptualization of place does not necessarily imply that various areas have to be delimited by fixed borders. She also pointed out that a place does not have one unique identity, instead she regarded it as a mixture and full of internal conflicts. Nevertheless she does not deny the uniqueness of one place. Peculiar aspects will be renewed continually, but this peculiarity does not result from a long internal history. As summed up by Britt Dale, the uniqueness of a place should be conceived as resulting from a long range of causes. Dale has pointed out that Massey's hypothesis of the development of a specific local community cannot be explained from a set of single mechanisms. Instead, we have to look at the development from an opposite angle – influenced by a long range of political, cultural and economical processes operating on different geographical levels (cf. Dale 2006: 161).

By a comprehensive discussion in her book for space Massey (2006) has further developed her processual approach to the concept of space as a process, by underlining the multiplicity that in her opinion characterizes it. Firstly, space should be recognized as a product of interrelations as constituted through interactions. Secondly, she proposes that we should understand space as a sphere of possibility based on contemporaneous plurality – as a sphere in which distinct trajectories coexist and which therefore is characterized by a coexisting heterogeneity. As such, space should be regarded as a product of interrelations and an assertion of the existence of plurality. Multiplicity and space are recognized as co-constitutive, something which is summed up in the following way: without space, no multiplicity – without multiplicity, no space. Her third proposition was that we should recognize that space is always under construction. If we read 'place' as a product of 'relations-between', which are necessarily constituted by embedded material practices that have to be carried out, it follows that it will always be in a process of being made. Thus, she claimed that space is never finished and never closed, something which permits the imagining of space as a simultaneity of "stories-so-far" (cf. Massey 2006: 9).

Massey concluded that in such an intertwining space there will always be possible connections or linkages which may be contrasted, and which will flourish through mutual influence, i.e. relations that will, or will not, be carried out. In her conception of space as a fluid, open plurality, Massey also underlined that space has to be "… multiplicity …" – a manifold of loose ends and lacking links. For the future to be open, space also has to be, maintained Massey (2006: 11–12).

This notion of space as an open manifold of relations which are steadily established and constructed, and which makes out a contemporaneous plurality, embedding various material practices and trajectories, seems highly relevant for the study of the networks established by the missionary organization and the relationships that it encompassed. The movements, journeys and marital relations in which the missionaries and their kindred were engaged, as well other various efforts implemented by them, may be conceived as "trajectories" within such a locally defined space. Their trajectories may highlight their career or chosen positions as part of such an ever-ongoing construction of a local space, given as a product of relations.

By studying the efforts of the missionaries, we can observe that their trajectories will be crossing as Massey (2006: 9) said: "… in the sense of contemporaneous plurality …." In this sphere, the coexisting trajectories given by the mission organization are in a state of being together in the same space, as well as the glimpses of information that we gain about the Sámi population which were the target of the missionary activities.

What is then accumulated, mediated, and passed on, through the networks established by the missionaries, and through these shifting constellations of trajectories and relationships? At an elementary level, glimpses of information are presented about the Sámi population and their religious and cultural behaviour. But this would presumably be integrated into a broader and deeper knowledge

about local topography, social geography including specific ethnic and social relations, information about local kinship and descent relations, local ways of behaviour etc. To understand how this competence relating to local conditions, and in itself contributing to a newly-constructed 'local space' was passed on or mediated, it might also be fruitful to apply the concept of 'habitus' as formulated by Pierre Bourdieu:

> "… The habitus, a product of history, produces individual and collective practices – more history – in accordance with the schemes generated by history. It ensures the active presence of past experiences, which deposited in each organism in the form of schemes of perception, thought and action, tend to guarantee the 'correctness' of practices and their constancy over time, more reliably than all formal rules and explicit norms…" (cf. Bourdieu 2009: 54).

Though 'habitus' according to Bourdieu is conceived as mediating past experiences, and thus presents actual options for action that are in line with historically generated schemes, he nevertheless underlines that it must not be conceived as rigid and constant, but always open to change, adaptation and revision, according to new premises, and recent experiences. The revision is never radical, because the 'habitus' in itself operates on the basis of the premises already established in a previous state. Bourdieu characterized the premises with a combination of constancy and variation, which varies accordingly to the individual and his or her degree of flexibility or rigidity (Bourdieu 2006: 161).

These features seems highly relevant when analysing the flow of information and knowledge that characterized the newly established missionary organization, set up in a region which was previously poorly known by the members, and where they were confronted with many unforeseen challenges.

At least, the missionaries might be regarded from two angles. In the first perspective, they might be conceived as a group or organization within which they occupy individual positions and create a social, cultural or religious space through their activities and interrelations attached to their professional tasks. In the other perspective one may focus on their roles as heads or parts of a household, where they are interrelated to a high degree by family or kin relations in such a way that these interrelations also contribute to creating a social space.

The Establishment and Organization of the Danish–Norwegian Mission

The Missionary Collegium was established in Copenhagen in 1714, as a separate governmental department directly under the authority of King Frederick IV. At that point, the king of Denmark was the only Lutheran monarch whose realm encompassed several nations which included Non-Christian peoples (Greenland-

ers, Sámi, Africans and Indians) (Nørgaard 2005: 42). The primary aims were to organize the mission in Tranquebar in India, but already from the start the mission to the Sámi people was included. Later, the mission to Greenland was established within the same department. The administration of the mission to the Sámi – the Seminarium Scholasticum – was subordinated to the Missionary Collegium, and placed within the school of the Diocese of Trondheim in Norway. By taking this international dimension into consideration, the organized missionary efforts vis-à-vis the Sámi might also be viewed from a third perspective, at an international or global level.

Thomas von Westen (1682–1727) was the central person in building up the mission of the Sámi people in "Fin- eller Lapmarken" – the Sámi habitation areas covering the northern areas of Norway (Steen 1954: 372). His studies and social relationships can serve as a background for understanding his later career. Raised in Trondheim, von Westen completed his studies in theology at the University of Copenhagen with a degree in 1699, at the age of 17. He later studied languages, including Sámi, to which he had been introduced during a longer stay as a private tutor with the family of the circuit judge *Jakob Dass* in Helgeland, in the present-day county of Nordland (Steen 1954: 153). From 1709 he was rector in the parish of Veøy in Romsdalen in the Western part of Norway where he in 1713 participated in establishing a study group within the framework of the State Church, bearing the name "The Seven Stars[1]". Their aim was to reform the church and discuss Pietistic ideas. This group formulated plans on how to organize the mission of the Sámi Population in Northern Norway.

Together with his qualifications, his participation and the work within the "Seven Stars" group appear to have been the principal reason why Frederick IV appointed von Westen in 1716 to organize the mission, especially with the tasks relating to the border issues and the religious conditions in Finnmark. In this work he displayed intensive engagement and put in a great effort. Partly he got in conflict with the established ecclesiastical organization about how to conduct the mission and how to build a separate missionary service/organization to serve the Sámi population. He became quite ill and died in 1727 very poor, partly resulting from his lack of control over his personal finances. His widow survived him to the age of 91 and died in 1746.

During a ten-year period, von Westen established quite a large organization covering the area from Trondheim to Varanger. This whole area was divided into 13 missionary districts where he engaged missionaries, schoolmasters, part-time teachers etc. In order to accomplish their tasks of educating and converting the Sámi population, these people studied at the Seminarium Scholasticum in Trondheim. In addition to theology, they read the Sámi language, which von Westen regarded as a necessary tool for making contact with the Sámi population.

1. "The Seven Stars" is the Norwegian term for the Pleiades star constellation, and in this context it referred to the composition of the group having seven members.

Von Westen's Efforts to Develop the Organization in the County of South Troms

Thomas von Westen put in a great effort for establishing the mission in the whole area with Sámi settlement in Norway, stretching south to the county of South Trøndelag. In the course of his work there were certain persons who quite early became important to von Westen and his organization. There is reason to believe that *Isak Olsen* (ca. 1680–1730), who was a teacher and cartographer, played a more central role connected to the development in the county of South Troms. He knew the Sámi language, worked as a Sámi schoolteacher in East Finnmark and had accompanied the Vardøhus bailiff on his travels to Kola during the years 1714–16. He had reported about the conditions from the border areas and made drafts of maps. Through his marriage to the widow Riborre Danielsdatter Hveding (1685–1776), he must also have acquired a closer connection to, and a better understanding of local conditions in the county of Southern Troms. Riborre was a daughter of the Ibestad rector Daniel Jenssen Hveding and his wife Birgitte Olsdatter. Riborre had earlier been married to John Steffensen, a merchant who had a trading site at Rolla in South Troms (cf. Nissen 1949: 447–455; cf. Hansen 2003: 310–313). Information about the county of South Troms is found in a more encompassing report written by Olsen in 1718, as well as a map he designed from the neighbouring areas (Løøv 1994). According to probate inventories he left a big collection of historical, religious and linguistic literature after his death (cf. Lid 1949). Another important colleague was *Jens Kildahl* (1683–1767), who was a vicar and missionary living in Ofoten, in the county of Nordland, south of Trondenes. Through his marriage with a local Sámi woman, Kildahl gained intimate knowledge of the Sámi traditional religion, which he later passed on to von Westen. In the initiating phase of the mission these three missionaries – together with a few others – formed a central group within the organization, which may be regarded as an upper level.

From a general perspective, we may emphasize some administrative measures initiated by the missionaries which served to ease the social conditions of the population in north. By addressing the government authorities, von Westen brought about an end to the death penalties imposed for pagan acts, as well as the practice of selling liquor outside the churches in connection with services. The last-mentioned practice had been introduced in the beginning of the 17th century. The other main area of results was that he again made information and education the main focus of the mission, according to Pietist ideas and practice with focus on the individual. This emphasis on individual education led to the establishment of schools, at first mainly to christianize the Sámi population. But already from the next decade, in 1736, the elementary school was introduced on a more general level, to the Norwegian population as well. In Northern Norway this emphasis on education for an ethnic population resulted in the establishment of a regional seminar – a teachers college at Trondenes in 1824.

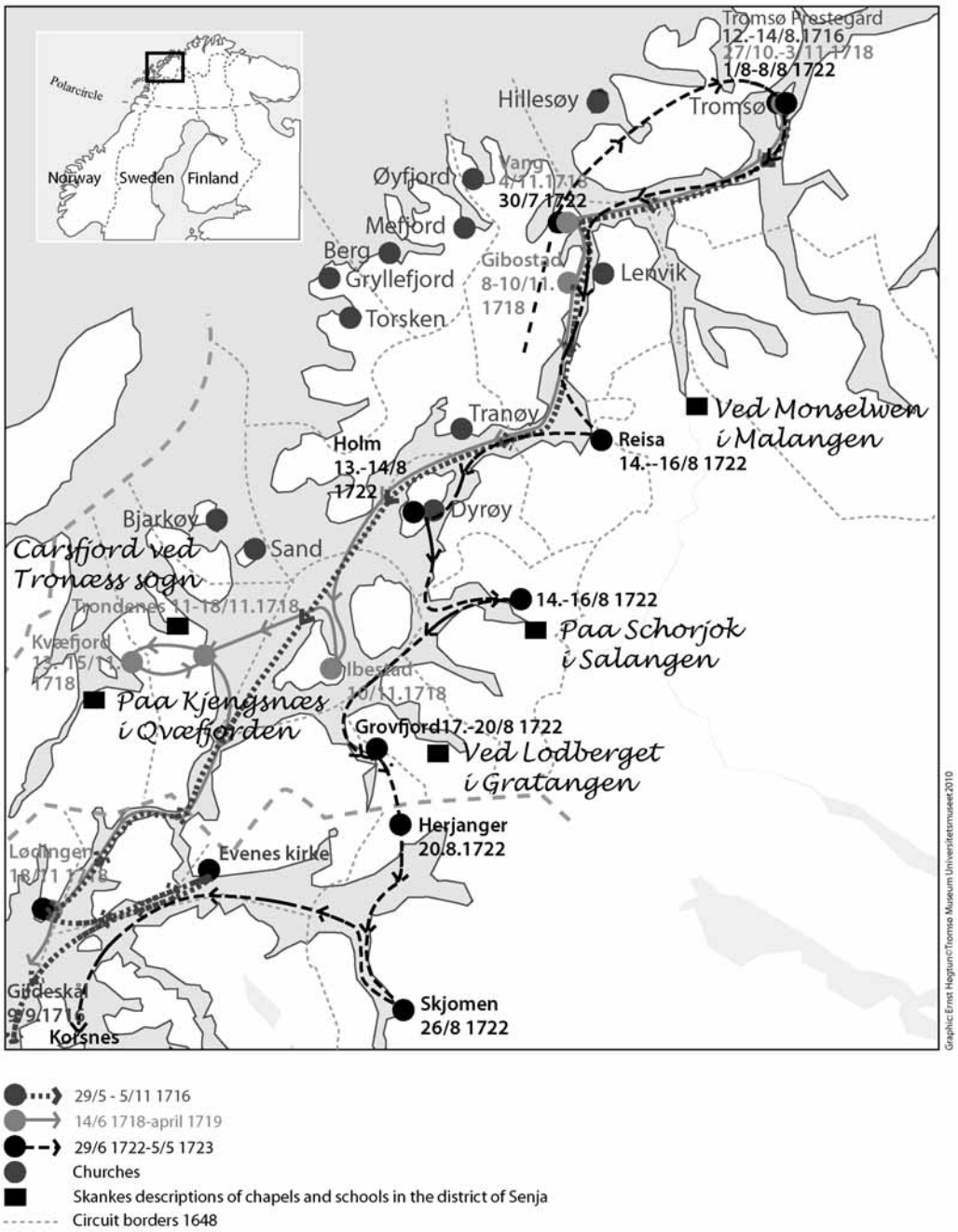

Figure 1. Map of the travels of Thomas von Westen during the years 1716, 1718–19 and 1722–23 in the southern part of the County of Troms. Localization of churches, chapels and schools in the mission district of Senja and Vesterålen are reconstructed after Skanke from about year 1730. Sources: Hammond 1787, Falkenberg 1943, Rydving 1995, Hansen 2003. Graphic: Ernst Høgtun, Tromsø University Museum 2011.

In the early phase of this project, Thomas von Westen recognized that also the Sámi population south of Finnmark were in need of his missionary work. In order to implement and develop his organization he travelled from Trondheim to Northern Norway three times between 1716 and 1723. The two first journeys were from Trondheim to Vadsø and back, one in 1716 and the next from the summer 1718 until spring 1719. The last one was to Tromsø in June 1722 with his return in May 1723. On the map I have reconstructed his travels within South Troms.

Already on his first journey, while he was travelling through the south part of Troms County, he engaged a missionary, a schoolteacher and two assistant teachers to conduct the mission for the Sámi population within that area. The next two times that he travelled within this area of study, he held meetings with the Sámi at their localities, and together with them made plans for future work. From these plans we can reconstruct that he wanted to establish assembly houses and schools localized at places where the Sámi population was settled. In South Troms, this was inland in the fiords and on the island of Hinnøya. Some of his work is described by *Hans Skanke* (1679–1739), one of the missionaries working mostly in the Diocese of Trondheim, first as a teacher at the cathedral school from 1709 and then as its headmaster from 1729. From his descriptions of about 1730 we learn that the sixth missionary district of Senja and Vesterålen, was divided for the missionaries and schoolteachers into three parts: Inner Senja, Outer Senja, and Vesterålen (cf. Falkenberg 1943: 11–13). According to Skanke (cf. Falkenberg 1943: 29) we are informed that chapels and schools were to be located within this mission district: "… – 1) … at Schorjok in Salangen, 2) Lodberget in Gratangen, 3) at the River Monselwen in Malangen, 4) in Carsfjord in Tronæss-Sogn (parish), 5) at Kjængsnæss in Qvæfjorden …" (cf. Figure 1). These localities are all within what we know to be areas of Sámi population.

Thus, chapels or schoolhouses were to be built at two localities in the northeastern part of the island of Hinnøya: one at Kjengsnes in Austerfjorden – a Sámi fjord – in the community of Kvæfjord, and the other in the bottom of Kasfjorden – today within the community of Harstad. Andreas Olsen, a former school inspector of the community of Tromsø, has reconstructed the story about the old Sámi school in Kasfjorden (Olsen 2006), which confirms this plan from the beginning of the 18th century. Relating to the information given about the neighbouring area in the west – Vesterålen – we learn that these schoolhouses or local assembly houses ("… Forsamlings-Gammer…") were planned to be built within the tradition of the local architecture, as turf huts (cf. Hammond 1787: 842).

From an overall perspective, we can conclude that the observed initiatives of Christianizing the Sámi population led to several results which changed the authorities' comprehension and knowledge of the population, as well as their economy and the whole area. The strongholds of the mission were localized within the fjords – areas opposite to where the ordinary clergymen resided, and which they earlier had visited only seldom. The missionaries and schoolteach-

ers were engaged to conduct their tasks within localities of the Sámi population. The mission organization promoted local people and the missionaries to build chapels and/ or assembly houses and thus established schools within these areas. The teaching of reading and writing in Sámi language – for children and adults – in order to enable them to confirm their Christian faith, was initiated by von Westen and followed up by the missionaries and the schoolteachers. Another important result, especially from the governmental point of view, was a considerable enhancement and deepening of knowledge about the Sámi settlement areas in general – and especially concerning the inner parts and mountain areas. Earlier this kind of knowledge had been quite superficial. The reports of the missionaries' travels, their visits, and other accomplishments which were returned to the Missionary Collegium in Copenhagen, laid ground for further studies of the northern areas during the later part of the 18th century. This knowledge and competence also paved the way for later investigations of the inland areas, which were undertaken during the years 1742–1745, when the question of drawing a precise border between Denmark–Norway and Sweden–Finland in the northern areas came on the agenda, and resulted in the final border treaty of 1751. Similar investigations were also carried out even later, as part of the preparations for colonizing the inner parts of county of Troms, viz. the valleys of Målselv and Bardu from the 1780s onwards (Storm 2010; Ramm 1813–1817).

Establishment of Local Knowledge

How was the mission organized locally, and what role did it play for the establishment and mediation of locally based knowledge and competence? How was this local knowledge acquired and passed on?

The establishment of the mission required personnel – numerous persons to conduct the different tasks initiated by Thomas von Westen. From the outset, missionaries, schoolteachers, assistant teachers etc. worked parallel with and alongside the ecclesiastical institution and its clergy. But very soon they alternated between the organization of the mission and the church, perhaps mostly of economic reasons. The networks among the missionaries can be reconstructed from written sources which are described in detail by Hans Hammond (1787). Later the theologian Andreas Erlandsen (1859) wrote a biography of the lecturers in theology, rectors and conrectors at "Throndhjems lærde Skole" Throndhjems learned School and the Seminarium Lapponicum focusing upon the 19th century, and Adolf Steen (1954) who himself was a missionary and a secretary of the Sámi mission, made an in-depth study of the Sámi mission and the work of Thomas von Westen during the 18th century.

Steen (1954: 389, 391–421) wrote a detailed overview of the missionary districts and the missionaries during the period from 1716 to 1814. In the biographical information there is a list of all the missionaries, their kindred and relationships with names, years, education and background – as well as their

place of origin and their work in the mission, positions etc. The close relationship that existed between quite a few of them can be recognized through their choice of spouses, as well as the contact they must have had through their tasks. It is possible to study further their practice, positions, later career, relationships and marriages. They were closely connected in various ways to the mission and the work of von Westen, through their education at the Seminarium Scholasticum, and by relationships, kinship ties or marriages. As we can see from the overview presented below, the missionaries applied for ordinary ecclesiastical positions when they had finished their duties within the mission. In some cases they held the two types of positions simultaneously. In the counties of Troms and Nordland, most of the missionaries appear to have continued in positions within the ecclesiastical institution.

Within the sixth district of Senja and Vesterålen, a region stretching from the large islands of Vesterålen and Hinnøya in the west to the areas of the inner fjords such as i.a. Grovfjord, Salangen, Lavangen and Sørreisa in the east, and south from the border of the fjord of Ofoten to the fjord of Malangen in the north, there were within the period of study eleven missionaries, in addition to teachers and their assistants. I will here give a presentation of nine of those missionaries who did their service within the district of Senja. Three were recruited from Sweden or Denmark, and four from the southern part of Norway. Only two of them were born within the county of South Troms: *Peder Krogh Hind* at Trondenes and *Johan Lorentz Burchard* in the community of Kvæfjord. In the neighbouring district of Vesterålen, there were two more recruited locally – the brothers *Willats* and *Jens Dreyer*.

The majority of the missionaries within this district were recruited from families with fathers holding positions in ecclesiastical service as clergymen and their mothers were regularly daughters of clergymen, merchants, government officials or farmers settled in the region. As demonstrated in the overview below, several of the missionaries were closely related to Thomas von Westen or *Knud Leem* (ca. 1696–1774) – an important missionary and clergyman in Finnmark. Not only was the mission in itself an encompassing, professional task which called for cooperation between the participants, it also resulted in other kinds of relationships between them, mediated by family ties and marital relations. It seems that the role of the spouses/ wives was also important for conducting the tasks. We can see that the missionaries and clergymen most often married again when their wives died. Some of them were married two or three times. It seems that through these close relations and through the contributions of the clergymen's wives competence must also have developed regarding Sámi culture and settlement, which has generally been overlooked. From the 19th century we have their own descriptions of their experiences, and they can serve as a gateway to a more intimate understanding of the conditions especially in which the women could execute their duties in their encounter with the local communities (Mamen 1976). Their relationships may have strengthened their local belonging, but they could just as well have pulled in the opposite direction to other, more important and, for their husbands, more remunerative positions in areas to the south.

Overview of missionaries of Senja district during the period of 1718–1788:

1) Kjeld Stub (1654–1724) Spydeberg, vocation as missionary in Porsanger 1716, *missionary in Senja and Vesterålen 1718–20*, Curate Skjerstad 1720, where he paid the costs of a teacher serving the Sámi population on his own account. Married to 1) Ingebjørg Leem, Grytten.

2) Erasmus Wallund, Denmark (1688–1746), *missionary to the Sámi population of Senja and Vesterålen 1721–24*, curate Skjerstad 1724. Married to 1) Dorothea (Dorette) von Westen (1692–1746) sister of Thomas von Westen, 2) 1729 Anne Margrethe Arentzberg, Salten.

3) Leonard Sidenius, Jemtland, Sweden (1702–1763), *missionary in Ibestad, Senja and Vesterålen 1725–28*, Vicar in Buksnes, Vesterålen 1728, rector in the same place 1740.

4) Erik Nielsen Berg, Århus, Denmark (†1760), *missionary in Senja and Vesterålen 1728–35*, vicar Vega 1735, rector Steigen 1752. Married to 1) Anne Pedersdatter Morup, Koldinge, Denmark, 2) Bergitte Cornelia Arctander, Lødingen.

5) Peder Krog Hind (†ca 1776) born at Trondenes, he was vicar in Tranøy at the same time as he served as a *missionary in Senja and Vesterålen during the period 1743–1756*. He became rector in Hemnes, the county of Nordland 1756. Married to 1) Maren Brose (†1794).

6) Elling Rosted, Bergen (1720–1796), missionary among the Sámi population in Tysfjord (the district of Lødingen) 1749, vicar Torsken 1750, *missionary in Ibestad parish Senja and Vesterålen 1757–59* and at the same time vicar and later rector of Tranøy 1759. Married to 1) Mette Sophie Nielsdatter Schytte, 2) 1754 Margrethe Hammer (1728–82), 3) 1785 Johanna Helm, Dverberg.

7) Jens Kildal, Hægeland (1683–1767), accepted by the Collegium in 1720 as a missionary in Salten, (1721–58) and Lødingen (1721–26) – both in the county of Nordland. He lectured in the Sámi language at the Seminarium scholasticum /(Seminarium Lapponicum) in Trondheim until spring 1721, unordained missionary Salten deanery 1721, he accompanied von Westen on a part of his third mission journey (1722–23), *missionary in Senja and Vesterålen 1759*. Married to 1) Karen Arnesdatter (†ca 1730), Herjangen. She was a Sámi; 2) Dorthe Pedersdatter (1712–47), Kjøpsvik, Tysfjord. Both were from the county of Nordland

8) Johan Lorentz Burchard (1733–1824) born in Kvæfjord with practice and examination in theology 1758, *1760–71 missionary and curate at Trondenes, 1765 also missionary at Ibestad,* rector Skjervøy 1771, Kvæfjord 1780–1815. He was married to Rebekka Elisabet Kildal (b. 1745) daughter of Simon Kildal the Elder (1701–61) and Maren Heggelund (1707–51).

9) Jens Kock, Sulen, Hitra (1757–1849), vicar Dverberg and *missionary in Senja and Vesterålen 1785–88*, missionary East-Finnmark 1788, rector Kjøllefjord 1788, dean / rector East-Finnmark deanery 1791, rector Folda, the county of Trøndelag 1801. Married to 1) Maren Heggelund Krogh (ca 1768–1849), Sand.

Those nine missionaries succeeded each other following the chronology of the list. There is a gap for the period 1735–1745, from which there is no information available about any missionary in the district of Senja and Vesterålen. The district of Senja and Vesterålen encompassed as we defined earlier three parts within a quite extensive geographical area with several vicarages. Three of the missionaries – Sidenius, Rosted and Burchard were localized to Ibestad vicarage which meant the inner part of the district. Burchard combined the position as missionary and curate at Trondenes as a missionary in Ibestad in the year 1765.

From other sources we know that the position of a missionary implied quite a lot of travel – by boat, on foot or in other ways to carry out their tasks. They travelled to meet the Sámi population along the coast, in the valleys, or in the mountains throughout the year. As we can deduce from the list, most of them served as missionaries for a period of two years, and then became more stationary, with a position in a vicarage or parish, and later in a rectorate. Some of them combined missionary positions with ecclesiastical ones. The reasons for such choices are worth to studying further; were they caused by lack of personnel or by economic considerations based on their own obligations as heads of households, among other reasons.

From the place names we can reconstruct the geographical space in which they acted, and how they thereby contributed to the creation of social space in a twofold way – both the social space defined by their professional duties as missionaries, and the social space stemming from their interrelationships of kinship and marital connections.

Localization of the Network

The clergymen previously stayed at the church of Trondenes. During the period of mission, we can claim that the missionaries travelled quite extensively, all year round to the various settlements with churches, chapels, assembly houses or schoolhouses in order to accomplish their tasks. The island of Tranøy was church property and subordinate to the Diocese of Trondheim. Until 1731, Tranøy curacy was organized under the church of Trondenes, when it was transferred to Ibestad vicarage, which had been given the responsibility for clerical service to the Sámi population of Astafjord parish. This parish encompassed the inner areas on the mainland, from the county border in the south and extending northwards through the fjords of Gratangen, Salangen and Lavangen. Thomas von Westen ordered that the duties of lecturing, teaching and other related tasks should be delegated to the curate of Tranøy (Eriksen 1972: 12–13). During the introductory period of the mission we know that the missionaries lived on the islands of Rolla, Dyrøy and Tranøy. The missionary Stub who worked in the period 1718–20 and Wallund during the years 1725–28, lived at Upper Selset at Rolla. About Nielsen Berg who worked from 1725–35 and Schytte during the year 1742, we have no information so far. Wegner lived at Tranøya as well as

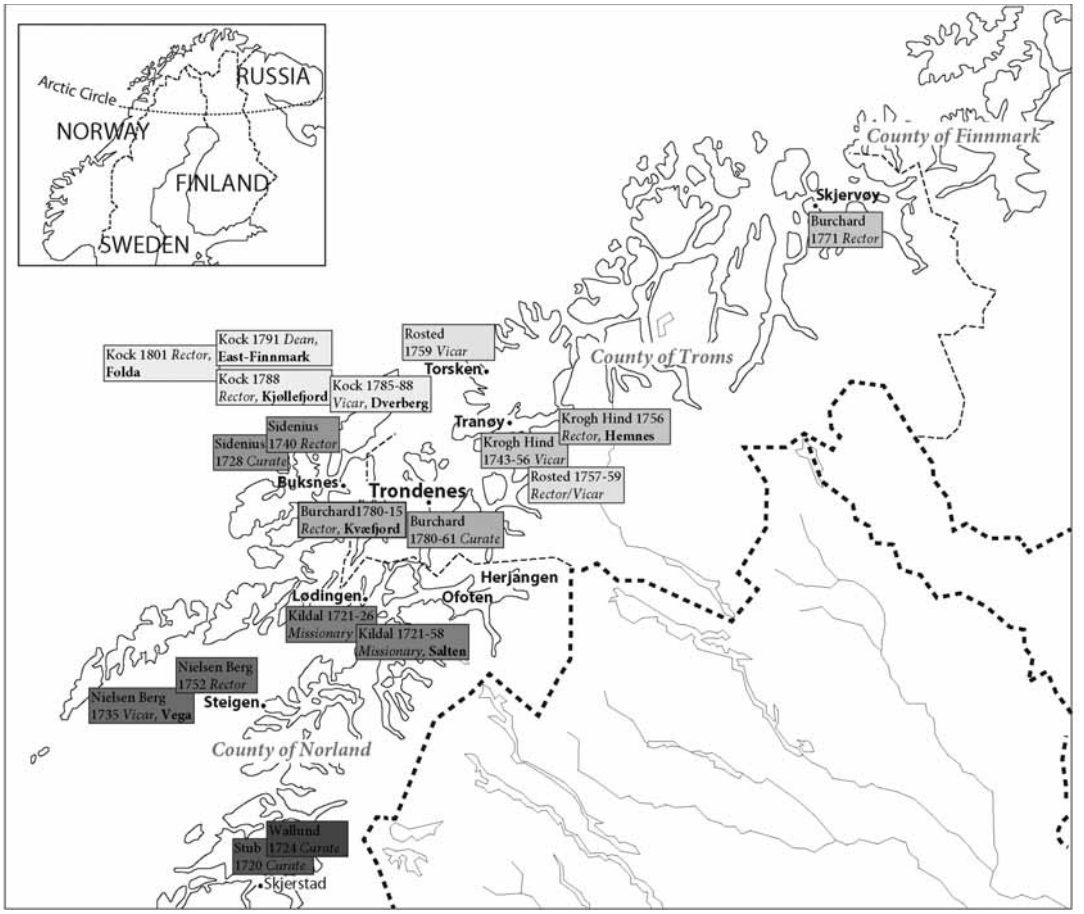

Figure 2. Map of the localized positions of the missionaries when carrying out their duties in the mission. Graphic: Ernst Høgtun, Tromsø University Museum 2011.

J. Shelderup during the last years of the 1740s. Peder Krog Hind who worked during a longer period from 1743–56, resided at Trondenes, but according to Arthur Brox (1956: 473–79), he lived at Tranøya. Elling Rosted lived at Tranøya during the years 1757–59/61.

The Families of von Westen and Kildal

By studying some of these missionaries in the network more closely, we can find examples of their being related to each other by marriage or other relationships.

We may start with the family of Thomas von Westen. He was the son of the pharmacist Arnoldus von Westen in Trondheim and the latter's second wife. The father came from Denmark and had an ancestor in Lübeck. Thomas von

Westen was one of altogether 12 brothers and sisters. We also know that one of his sisters was married to *Erasmus Wallund*, who was one of the first missionaries within the district of Senja. Thomas von Westen married Anne Pedersdatter who had previously been married twice, and had a daughter from her second marriage. The wife survived him and later moved to live with her son-in-law Thomas Hammond whose son became the well-known biographer Hans Hammond – known for his comprehensive work on Thomas von Westen (cf. Hammond 1787).

The second kindred we may focus on, is the family of *Simon Kildal the Elder* (1701–61) who was a younger brother of Jens Kildal. The daughter Rebekka Elisabeth of Simon Kildal and his wife Maren Heggelund was married to *Johan Lorentz Burchard*. The son-in-law of her sister Abigael Kildal and Jens Kock (1757–1832) also became a missionary, the last one mentioned during the period of my investigation. Simon Kildal the Elder (1701–1761) served as a missionary in Saltdalen, county of Nordland 1726–28 and in Karlsøy, county of Troms 1728–30. He was ordained as clergyman in Karlsøy, Troms 1730, rector in Flakstad, Lofoten, Nordland 1742, in Trondenes 1745 and became finally dean/rector in Senja deanery 1751 (Steen 1954: 408). Simon had even two more brothers *Sigvard K*. (1704–71) and *Søren K*. (1690–1762) who both also became missionaries. They served as missionaries respectively in Lødingen, Nordland and in Skjervøy, Kvænangen, Karlsøy, Lyngen and Ullsfjord 1723 – all located in the county of Troms (Steen 1954: 408–409). Their parents were *Ole Sørensen* Kildal (–1724) and his wife *Guro Kristensdatter*. They all grew up at Kiledal, Hægeland, in the southern part of Norway (Heide 1966: 25–39). Simon the midmost (1761–1822) – a son of Simon the Elder from his third marriage with Maren Testman Kaurin, was born on the day of his father's death. He became a vicar at Trondenes. His son also named Simon the younger (1796–1839), became the first head at the Trondenes Teachers College from 1826.

By unfolding these two kindreds of von Westen and Kildal respectively, we gain an insight and can connect to the concepts of space – or in this case the region – as constituted through interrelations of organizing the mission, not only at Trondenes but all over the region of southern Troms. The travels and work of the missionaries can be viewed as trajectories in social space, comprising their encounters with both the Sámi population and their colleagues, both professionally and mediated through personal relationships and kinship.

As the missionaries reported to von Westen – who again reported to the state – through their relationships and kin, a new kind of knowledge was established – about the Sámi population, their way of life and their settlements. But reporting within the network also contributed to the building of local competence among the missionaries and their counterparts within local administration.

Here we may observe that space was in a process of constant construction, just as Doreen Massey claims. The understanding and the conception of the northern areas changed by way of the missionaries' travels, their visits to the Sámi population, their teaching of children and grownups, saying prayers,

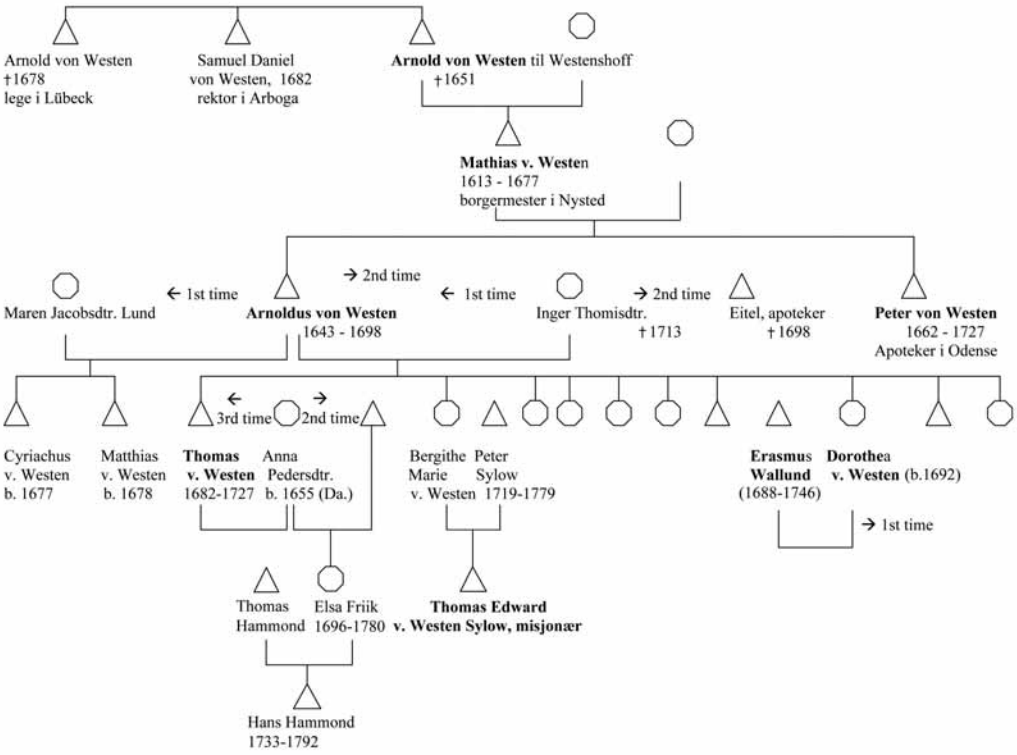

Figure 3. Kindred of Thomas von Westen. Graphic: Ernst Høgtun, Tromsø University Museum 2011.

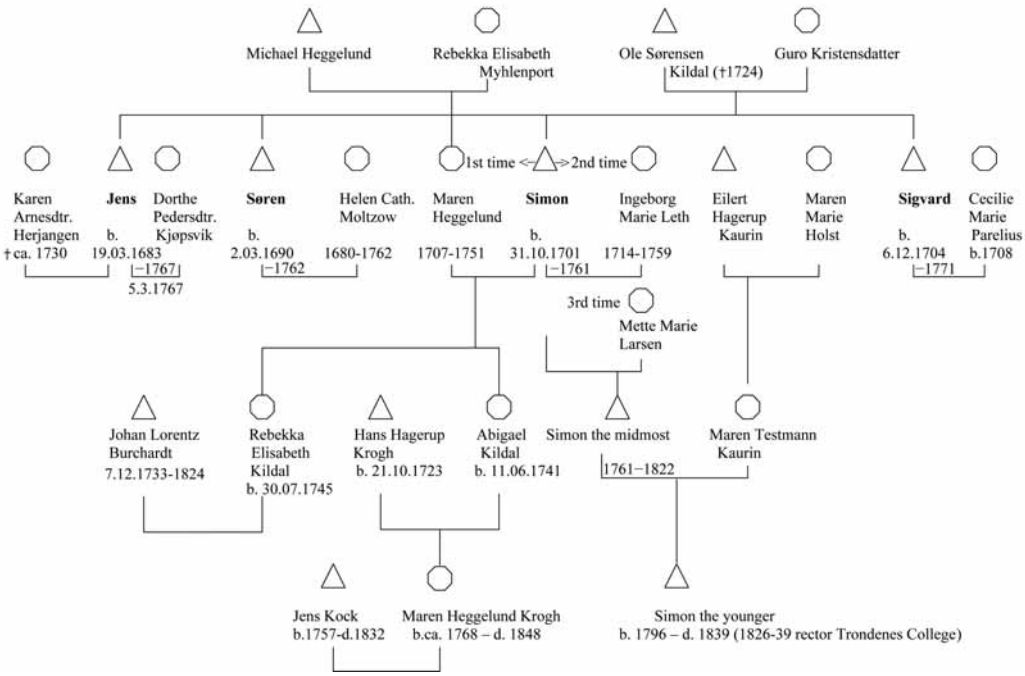

Figure 4. Kindred of Jens Kildal and Johan Lorentz Burchard. Graphic: Ernst Høgtun, Tromsø University Museum 2011.

and to the bishop, delivering reports of the state of the situation. The state was in a process from having focus primarily on the coastal areas to including the inner parts as well – something which in its turn opened up an arena for further studies, preceding and preparing for the border treaty of 1751, as well as the colonization of the inner parts of Bardu from the 1780s onwards (Storm 2010; Ramm 1813–1817).

Competence in the Sámi Language

According to Thomas von Westen, command of the Sámi language was the key to make contact with the Sámi population. How many of the missionaries within the district of Senja and Vesterålen had knowledge of the language and who used it? We do not have much information on this. For only two of the eleven missionaries mentioned, we can document that they had knowledge of the Sámi language – *Jens Kildal* and *Johan Lorentz Burchard*. Kildal had been educated in the language before he started as a missionary in Salten, in the county of Nordland. Steen writes that Kildal lectured in Sámi at the Seminarium Scholasticum in Trondheim until 1721, when he went as a missionary to Ofoten (Steen 1954: 407). Of Burchard who grew up in Kvæfjord, it is said that "…as a young boy he spoke Sámi as his mother tongue … (cf. Heide 1978: 481)." When we look at the clergymen in the same area of study, we find no systematic overview, but there exists information concerning the clergyman Simon Kildal at Trondenes noting he was able to speak Sámi (cf. Qvigstad 1907: 23). For the remaining missionaries we assume that they studied Sámi at the Seminarium scholasticum (Steen 1954: 198).

Women's Roles in the Network

From the 19th century we have first-hand written information in which the clergymen's wives tell about their experiences, their lives and the tasks of their husbands (cf. Mamen 1976). By looking into the marriages of the missionaries we can reconstruct some information about the roles of the wives and how they supported their husbands. By studying, among other things, stories, diaries, letters of the work accomplished by the husbands – the missionaries – we can find some information of the wives and their participation in the work of the mission.

From the area of South Troms and North Nordland we have a few examples and I present one which is closely connected to my studies. The role of the clergymen's wives can be illustrated by information on *Karen Arnesdatter*, the wife of Jens Kildal in Ofoten. She was lecturing among the Sámi women. She was paid an annual salary of 20 Riksdaler for this work (cf. Hammond 1787: 425, 836–46; cf. Falkenberg 1943: 225; cf. Kolsrud 1947: 195; cf. Steen 1954: 121; cf. Heide 1966: 28). The appreciation of her work can be deduced from the

amount she received, which was in line with the wages of the more experienced schoolmasters. That she in her work especially directed her emphasis on women is unique information, which could be interesting to study further.

Karen Arnesdatter was a Sámi woman from Herjangen. Her father was appointed to a guardian of the holidays "Helligdags-Vægter". According to Hammond (1787: 838), Jens Kildal, through this relationship by marriage, he achieved his intention of gaining everyone's confidence. What did she accomplish? Here I find it necessary to pose the question about her role within the mission. In his thesis, Knut Kolsrud (1947: 194–199) discusses, on the basis of written sources, the situation of the Sámi population in the fjord of Ofoten, and the cooperation and social life which characterized that society. From the information to which we have access, we know that Jens Kildal had acquired considerable knowledge of the Sámi way of life and the old religion from his wife which he later passed on to von Westen (cf. Hammond 1787: 843; cf. Steen 1954: 121). We do not know of the education of Karen, but from her yearly monetary compensation we must assume that both her own knowledge and an exchange between the spouses must have taken place. And we can assert that her knowledge of his theological learning and tasks/duties was recognized locally.

This small piece of information about the story of one of the missionaries' wives, like Karen Arnesdatter, underlines the perspectives of Harding (2006) who in her approach to science and social inequality discusses feminist and postcolonial issues. We recognize from our example that it is necessary to focus more interest on the role of the women as participants of the processes of the mission. Here, their stories can contribute as trajectories of understanding the social space of the mission.

Concluding Remarks

Through my studies I have come to investigate how the state or the Danish–Norwegian monarchy during the first part of the 18th century initiated studies on different levels which were laying the groundwork or preparations for a "silent revolution" relating to the consolidation of the nation-state as such, and how this consolidated state apparatus was to establish a tighter grip and fundamental control on the various groups of people living within its borders in the northern part of Norway. My aim has primarily been to identify these persons who were dedicated to the mission and ascertain where they were localized. How was it possible to carry out these extensive tasks?

The network that has been charted and the wider marital and kindred relations which have been revealed seem to provide an essential part of the answer. These interrelationships must have contributed to the construction, mediation and further development of local cultural competence which was acquired for the establishment of such a task. These developments and the mediation of required knowledge about the region and various local conditions appear to have

been passed on and transferred by the very kind of mechanisms and processes that are brought into focus in a more general way by Bourdieu's concept of habitus. Such transmissions lay behind the way the mission was organized locally, and at the same time contributed to the restructuring of social space.

In line with Doreen Massey's hypothesis of the development of a local community – or in this case – a region – I have pointed out that the space of the mission is constituted by interactions being in progress on a multitude of levels: All the way from the governmental bureaucracy, through the decision of responsible community authorities, and down to the local missionaries or schoolteachers, and by no means least, their wives. The trajectories of the missionaries, their relatives and kin which have been charted both by way of studying their encounters with the Sámi population, and through relationships between themselves and their kin, display a sphere characterized by multiplicity or coexisting heterogeneity. The development of the mission and the recruitment of missionaries, as well as the development and change of local knowledge and competence, gives at hand that the apprehension of space was under construction and restructuring. This was influenced by a wide array of processes, ranging from new governmental policies applied from the top, through the various decisions and implementations made by von Westen and the other missionaries to their mutual social relationships and encounters. A major outcome of these transformations was that the region was constructed anew, as an object for new kind of investigations of a new kind during the last half of the 18th century. This constituted new social structures and a new space to which the Sámi population had to accommodate itself.

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Variation in Ume Saami: The Role of Vocabulary in Dialect Descriptions

Descriptions of Variation in Saami

It is well known that Saami shows considerable regional variation and this variation can be found throughout the language, i.e. in grammar as well as in lexicon. The variation is so extensive that nowadays researchers in Saami prefer to talk about different Saami languages, not dialects. Six different written standards are in use for the varieties of different areas, but the number of Saami languages is usually regarded as being even higher. Finnish researchers in Saami usually distinguish between ten Saami languages (Sammallahti 1998: 1), earlier also called "main dialect groups" (Korhonen 1981: 15). There are, however, also traditions that distinguish "three principal branches" of the Saami language (Collinder 1949: 2), and there are still other ways of distinguishing main dialects or languages (cf. Korhonen 1981: 19). Thus even if the classification into ten languages put forward by Finnish researchers may be dominant today and can be supported with good arguments, there can hardly be said to exist any consensus as to the number of Saami languages or main dialects (Korhonen 1981: 18; Larsson 1999: 113; Larsson 2001: 54). Here it could also be pointed out that the eastern Saami varieties seem to have been divided into languages in a more detailed way than the southern Saami varieties. On the one hand, Sammallahti (1998: 6) distinguishes between Akkala, Kildin and Ter Saami languages in the east but regards South Saami as one language with two main dialects. Hasselbrink (1981: 21f.), on the other hand, distinguishes between three main dialects in South Saami, Ume Saami excluded (Larsson 1999: 114).

Of course, within each of these "languages", "main dialect groups" or "principal branches" there is considerable variation (see Sammallahti 1998: 6–38 for a good overview). Here I will use the terms *language* and *dialect* without any fundamental difference, since the only reliable distinction between them depends on political factors. I will use mostly the term *variety* when speaking about the language form of a specific village.

In general, the descriptions of Saami language variation and the definitions of its varieties are illustrated by means of maps showing the geographical distribution of different sounds and sound contexts (i.e. isophones). Some sound

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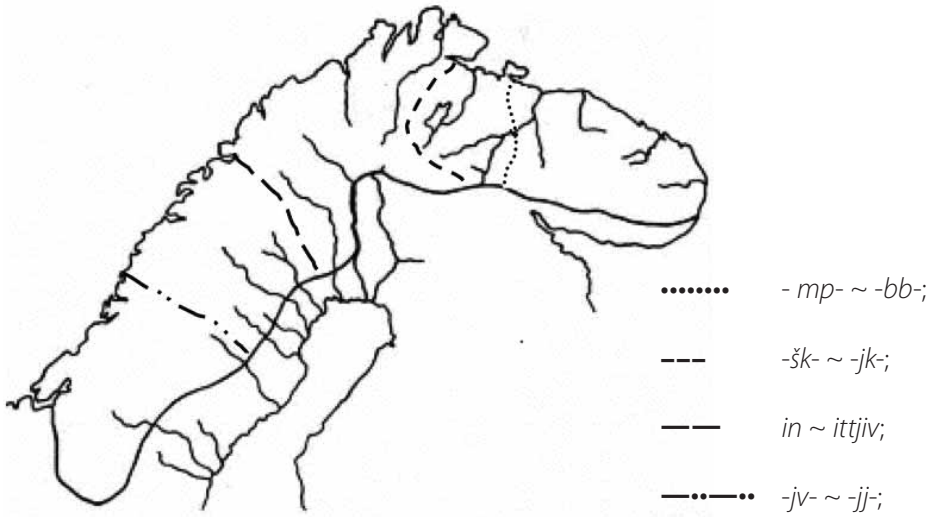
variations, i.e. changes historically speaking, are taken as fundamentally important and in many cases they divide the Saami language area into two parts, resulting in neat dialect maps. (The instances of such differences discussed here are shown on map 1.) Such a split of the language area can be observed in, for example, the development of *mp* > *bb* where only the easternmost dialects on the Kola peninsula have preserved the original combination of nasal + stop, e.g. SaaSk. *suä´b'b* ~ SaaKld. *suəmmʙ* 'stick'. In the case of *-*śk*- (and *-*śt*-) where the sibilant has either been preserved as a sibilant or changed into a fricative, the borderline runs further to the west, viz. between North Saami and Inari Saami, cf. SaaN. *guoika* ~ SaaIn. *kuoš'kâ* 'rapid'. The change of *-jv-* > *-jj-*, on the other hand, is restricted to South Saami, i.e. dialects south of Ume Saami, cf. SaaS. *biejjie* ~ SaaU. *bäìvee* 'day; sun'. Certainly, not only phonological differences can be described in this way. To give just one example from morphology, it can be mentioned that the negated past tense, e.g. 'I didn't work', is formed in two different ways in Saami. In the west and in the south, the negation verb is in the past tense and the main verb is in the connegative: SaaL. *ittjiv barga* (Neg.Verb + Past Tense + 1Sg 'work' + connegative). In the east and north, on the other hand, the negation verb has no tense marking but the past tense is expressed by means of the past participle of the main verb: SaaN. *in bargan* (Neg.Verb + 1Sg 'work' + Past Ptc). The isomorph between these systems runs between Lule Saami and North Saami.

There are several cases where we find variation between three or more forms among the Saami varieties. One such case is the accusative singular of bisyllabic nouns, where different endings have different geographical distributions: in North Saami there is a Ø-ending (making the form identical to the genitive singular), but in Lule Saami and further south we find different endings reflecting Proto-Saami *-*m*, such as *-v* and *-p*. This means that a map showing this variation would be rather complicated. On the one hand, there will be a borderline between varieties maintaining a distinction between the genitive and the accusative, but on the other hand there will be borderlines between the different forms of the accusative ending. In comparison, the genitive singular of bisyllabic nouns would offer a more clear-cut map. One isomorph would run between Ume and Arjeplog Saami, separating the southern dialects (or languages), where the case ending *-n* is to be found, from Arjeplog and Lule Saami where there is no case ending in the genitive singular. The other isomorph would run between the Unna Tjerusj (Sörkaitum) dialect of Lule Saami and Torne Saami, where the Arjeplog and Lule dialects make a formal distinction between the genitive and the accusative, whereas no such distinction is made north of this isogloss. (Korhonen 1981: 212)

Even if there are plenty of such instances of variation in Saami, phonological differences that divide the Saami language area into two parts are usually preferred on the dialect maps of Saami. Binary oppositions can be shown clearly by means of isophones and this way of presenting variation and distinguishing different languages (or main dialects) is mainly based on such differences that

Figure 1. Some frequently alleged isophones and isomorphs in Saami:



are regarded as important. Collinder (1949: 285) sees the degree of importance of such features as depending on two factors, either descriptive or historical. However, it would hardly be an exaggeration to maintain that, in general, the historical aspect has played the leading role. This is quite reasonable, since the connection between the dialect geography and the history of the Saami language(s) is so obvious, and since the dialect variation presents an extremely important source of material for understanding the historical development of Saami (Larsson 1999: 115).

One example of the interconnection of language history and dialect variation in Saami is the importance attached to gradation, where varieties without gradation have tended to be regarded as belonging to South Saami, even if other criteria would join them with Ume Saami (Lagercrantz 1941: 319; Hasselbrink 1944: 5, 13 and 1981: 21; Rydving 2008A: 162; Larsson 2009; Sammallahti 2009: 15; cf. Rydving 2008B: 370 for more criteria). With all probability this has to do with the importance ascribed to gradation a century ago, when gradation became "the crucial explanatory feature in the sound history of Uralic" (Korhonen 1986: 132). That view is also reflected in Moosberg's (STS) investigation of gradation in the western varieties of Ume Saami, where he describes gradation as "this very important feature". For such reasons, the existence or absence of gradation came to be regarded as a far more important criterion than e.g. the assimilation of *-jv-* to *-jj-*, (cf. Map 1), a feature that has a similar – but not identical – distribution to that of gradation. The varieties of Southern Tärna and Ullisjaure, which display *-jv-* but have no gradation, were regarded as belonging to South Saami – and are often regarded as such even today.

As could be seen already from this example, Ume Saami being positioned between Arjeplog Saami to the north and Vilhelmina (South) Saami to the south, displays dialect features corresponding to features in dialects both to the north

and the south. As in the dialects to the north, Ume Saami has (some) gradation and has preserved *-jv-*, but similar to South Saami it has e.g. the ending *-snə* in the inessive singular and a non-short high vowel in words like *bìrra* 'around' (cf. SaaS. *bïjre* / SaaArj. *pirra*) and *gùllat* 'to hear' (cf. SaaS. *govledh* / SaaArj. *kullat*) (Ume Saami forms according to Schlachter 1958, South Saami forms according to ÅaDB and Arjeplog forms according to Lehtiranta 1989). Such circumstances have led some scholars, such as Korhonen (1981: 17), to regard Ume Saami as a transitional dialect (or language). Other researchers regard Ume Saami as belonging to South Saami, but they then denote that unity as "South Saami in a broader sense of the word" (e.g. Hasselbrink 1944: 2; cf. Sköld 1961: 68). This uncertainty as to where to draw the decisive borderlines between the main dialects (or languages) depends of course on which criteria are regarded as most fundamental (Korhonen 1967: 14).

Choice of Criteria

As could be seen above, Saami dialectology tends to focus on isophones that divide the Saami language area into two parts and reflect such historical developments that are regarded as important. In Pekka Sammallahti's handbook of Saami (1998) the phonological arguments are fundamental to his presentation of the areal variation of Saami. There are over 80 such arguments, to which are added around 20 morphological ones – but there are no lexical arguments. Vocabulary questions are dealt with twice in Sammallahti's presentation, when he states that the vocabulary of the variety of the village Girjjis unites it with the Lule Saami varieties to the south but "structurally it belongs to North Saami" (Sammallahti 1998: 19). In other words, language structure is regarded as a more reliable criterion than vocabulary. In fact, Sammallahti (1998: 37) underlines that the Saami languages "have largely the same basic vocabulary", which he supports with an analysis of the Swadesh basic list of 100 words (on the Swadesh list see McMahon & McMahon 2005: 33; Tillinger 2008: 119). Even if it is true that very basic words, such as terms for parts of the body that tend to be very old in any language (cf. Larsson 1996), are generally common to most of the Saami varieties, it seems a little too easy to liberate oneself from the lexical variation in Saami simply by considering the top 100 words in this way.

Another point of view is put forward in the course book *Davvin* (Guttorm et al. 1983), a book written by first-language speakers of North Saami, where lexical differences are regarded as very essential (see, for example, p. 142). Here it is certainly not my intention to claim what is right and what is wrong, but I wish merely to illustrate the point that criteria can be selected in different ways.

In his book on Jukkasjärvi Saami, Björn Collinder (1949) deals with the question of Saami dialect boundaries in the north of Sweden in another way, placing lexical differences alongside phonological and morphological ones. Even if the instances selected by him seem to be rather haphazard, they nevertheless

raise the fundamental question of the relative weight of different criteria. I shall give a couple of concrete examples from Collinder's (1949: 277, 281) list of dialect features from Jukkasjärvi. As in the varieties north of Jukkasjärvi final *-m* has developed into *-n* in the 1 Sg. verbal ending (e.g., SaaKt. *manan*, SaaJukk. *manan* but SaaL. *manav* 'I go'), but on the other hand, the word for 'to shoot' corresponds to the Lule Saami word, cf. SaaKt. *báhčit*, SaaJukk. *vuohčit*, SaaL. *vuohtjēt*. It is always difficult, if not impossible, to weigh the relative importance of such criteria. While a sound change runs through the whole language system, differences in vocabulary may, on the other hand, cause greater difficulties in communication. Collinder (1949: 285) does not offer a solution to this problem, but instead he presents two different results, one counting the lexical instances and one excluding them.

There are no doubt strong traditions in Saami dialectology and the common opinion is largely dependent on a prevailing understanding as to which criteria are to be regarded as most important. However, Knut Bergsland (1968: 85) has put forward another viewpoint when he declares almost programmatically, "To clarify the history of the various dialectal areas it may be wise to put the old beliefs into the archives and to take out all the empirical material available." The present article is an attempt to live up to Bergsland's idea.

Ume Saami Lexical Variation

Differences in vocabulary seem to be difficult to deal with in the traditional framework of Saami dialect geography. The easiest way of attending to this problem would be to continue giving the highest priority to phonological arguments and use lexical instances only as support. From the lexical material one can extract phonological evidence and use it for traditional dialect descriptions. The words themselves would thus not serve as evidence in their own right. Applying such a method to the Ume Saami material of my investigation, one would, for example, find clear phonological differences between the eastern and the western area in Ume Saami, as in e.g. the development of the fricative *-δδ-* within the word. In the east this sound has been preserved but in the west it has developed into *-rr-*, cf. eastern *naδδə* ~ western *narrə* 'shaft, handle'. Some words, such as that for 'eagle', could be used as supportive evidence for this isophone, since it has the same geographical distribution (with the exception of the Maskaure variety where there is a variation *-δδ-* ~ *-rr-*; Larsson 2010: 216). If treated in this way, the lexical material will lack independence and will only be supportive of the "real", important arguments, in other words the phonological ones. That would, however, not be satisfying, since lexical differences are probably more disruptive to communication than phonological ones, as pointed out above.

In Saami studies so far, the notion of Ume Saami has been synonymous with Wolfgang Schlachter's dictionary *Wörterbuch des Waldlappendialekts von*

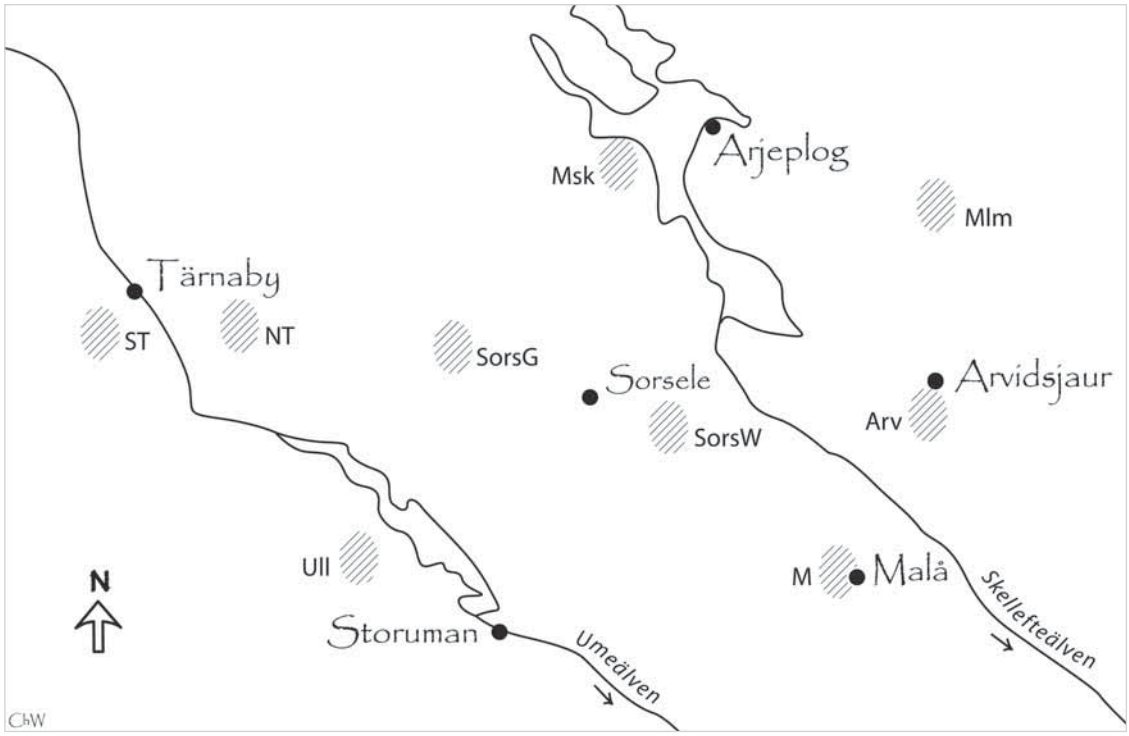


Figure 2. The Ume Saami localities investigated:
M = Malå, Arv = Arvidsjaur, Mlm= Malmesjaure, Ull = Ullisjaur, SorsG = mountain dialect of Sorsele, SorsW = forest dialect of Sorsele, Msk = Maskaure, ST = Southern Tärna, NT = Northern Tärna.

Malå und Texte zur Ethnographie (1958) in spite of the fact that this dictionary, regardless of its high standard, describes an idiolect: the language of Lars Sjulsson in Setsele outside Malå as recorded in 1940. Therefore, as long as this source alone is used in research, Ume Saami will be radically different from all other Saami languages (or main dialects) in not showing any regional variation. There is, however, rich material to be found in archives. The material in the SOFI archives at Uppsala and Umeå adds some 35,000 words to the 5,000 words in Schlachter's dictionary and this material represents up to nine different Ume Saami varieties. During my year at the project "Early Networking in Northern Fennoscandia" at the Centre for Advanced Study (CAS) in Oslo, I worked with Ume Saami material that can be utilized for investigations into the variation in this dialect (or language).

This archive material contains word collections more numerous and extensive than the available grammar descriptions. There are sketches of grammar from only three different localities – to which should be added the sketch on Malå Saami in Schlachter (1958) – but there are word collections of varying extent from nine localities.

In total the Ume Saami lexical material consists of five collections. The most extensive is the one by Axel Calleberg (ULMA 22480) covering five different localities, mainly in the eastern part of the area (Malå, Malmesjaure, Maskaure, Ullisjaure and Sorsele). The basis of this collection is K. B. Wiklund's collection from Malå (KBW 25-26). Then there are three vocabularies collected by Nils Moosberg that cover the western part of the area (Northern and Southern Tärna, Mountain and Forest variety of Sorsele; ULMA 16775: 1–2, 16776, 16777), and one collection by Tryggve Sköld from the Arvidsjaur (more precisely the village of Mausjaure) variety (ULMA 25660, DAUM 10670). Consequently, in the case of Malå, we even have two different collections at our disposal: the one by Calleberg reproducing the Wiklund collection from 1900 and the dictionary of Schlachter, the material of which was collected in 1940 and the book itself published in 1958. This is true also for the Forest dialect of Sorsele, which was described both by Calleberg and – to a somewhat smaller extent – by Moosberg. Sköld's material from Arvidsjaur diverges from the other collections: it was brought together some 50 years later than the other collections and did not follow the same pattern as they did. To give a concrete example, Sköld's Arvidsjaur material doesn't contain any word for 'beggar', as the other collections do, but it is the only one with a word for 'TV set'. Altogether the Ume Saami material consists of almost 40,000 words. Even if some varieties, above all the Mountain dialect of Sorsele, are not represented by any extensive material, the total material of the Ume Saami varieties gives truly solid information on the vocabulary of this dialect (or language) and makes it possible to present a reliable picture of Ume Saami variation. Today, Ume Saami is one of the Saami varieties in danger of becoming extinct, even if revitalizing efforts are being carried out. Whatever path that development takes, the old dialect variation is gone and can only be studied on the basis of archival material. In other words, the Ume Saami word collections seem to be an excellent example of archival material that has not been used and can help in modifying our picture of Saami language history and in grouping its varieties. The fact that the vocabulary collections represent nine localities, but grammar descriptions are available only from four villages – Malmesjaure (ULMA 2966), Malå (Schlachter 1958), Maskaure (ULMA 2860) and Ullisjaure (ULMA 2139: 2, 2784) – creates an urgent need for a method dealing with variation in vocabulary.

As pointed out above, in Saami studies Ume Saami has so far been almost synonymous with the idiolect of Lars Sjulsson outside Malå that was described by Schlachter (1958). This makes it somewhat complicated to draw the boundaries of the Ume Saami area, since the borderlines are dependent on what features are seen as characteristic of Ume Saami. In this article the varieties investigated are all found in the Ume Saami area of Sammallahti's map (1998: 5), with a slight adjustment of the southern borderline which I draw along the watershed between the Vojmån and the Ume rivers. I do not maintain that all these varieties make up the Ume Saami language (or dialect) – that is discussed in my extensive investigation (Larsson 2012) – but the archive material available makes it reasonable to treat the varieties in this area.

The Method Applied

Having rich lexical material and more limited grammatical material at one's disposal, one will inevitably have to address the question of lexicon versus grammar in dialect geography. Even if information on the phonological system can be extracted from the recorded word forms, it would seem strange not to investigate the lexical material itself, especially today when there is a growing interest in using words for grouping varieties of different kinds (e.g. Michalove 2002 with quoted literature; McMahon & McMahon 2005). The problem to consider then will be the weight of the various criteria. These difficulties are, however, caused by the mixing of grammatical and lexical criteria (Larsson 2010: 203). As long as isophones and isomorphs are treated separately from investigation of the geographical distribution of words, the question of the relative weight of the different categories of arguments will not arise. Furthermore, the distribution of words does not have to be dealt with using isoglosses (in the true sense of this notion) but by using statistical methods. One of the most important advantages of the work at CAS is the fact that projects in other fields of research are working in the same building. This favors cross-discipline discussions and it gave me a possibility to meet Graham Chapman, a researcher in social sciences who has solid experience in working with statistics. The method used here is heavily dependent on his expertise and the results would certainly not have been the same without our discussions and cooperation. The method used is described in detail in Larsson & Chapman (forthcoming).

This way of dealing with the material does not imply that I would give priority to lexical arguments instead of phonological ones. All arguments should be used – in their own right – to yield a full picture of the areal variation of a language. The results of a traditional dialect map based on isophones and isomorphs can be compared to the results of a statistically based analysis of vocabulary, and these results together will present a picture that is probably more realistic and certainly better founded than those based on some selected isophone(s) that are regarded as fundamental. After all, a dialect description based on all material available is what Bergsland asked for more than 40 years ago.

A great advantage of the method applied is that it can deal with the total lexical variation, not only those cases where there is a binary opposition, as in the way favored when working with isophones. There are instances where the Ume Saami varieties are split into two groups, e.g. the word for 'eagle' being in the western varieties (*h*)*àrʹčə* but in the eastern ones *àrtnəs*. There are, however, also instances where several word stems – all expressing one and the same meaning – are in use across the Ume Saami varieties. All such cases of variation can be considered with the method applied here. It must be remembered that shared elements in vocabulary are here understood as a sign of frequent communication, in other words networking.

The investigation starts from the collection of Calleberg, which covers five Ume Saami varieties. Since his material is arranged according to the meaning

of the words, I make meaning my starting point. To use Saussure's terminology, I start from *signifié* and first of all I exclude those cases where the *signifiant* is the same throughout the Ume Saami area; such instances say nothing about the variation within Ume Saami. Out of the approximately 4,500 lexical entries ("signifié") to be found in Calleberg's collection, some 750 show a variation in form ("signifiant"). These 750 meanings are then sought in the collections of Moosberg, Schlachter and Sköld. For eight localities, i.e. excluding the Mountain dialect of Sorsele, some 350 meanings show such a variation in form that can be utilized. The smallest amount of varying words (i.e. "signifiants") is, as could be expected, the words from all nine localities (i.e. including the Mountain dialect of Sorsele), where approximately 150 words displaying a variation can be selected.

When the form expressing a certain meaning in one variety – or several varieties – diverges from the form(s) of the other varieties, it is registered. The form itself is basically without importance and, what's more, the meaning is also unimportant in statistical processing. The varying forms express the variation in Ume Saami and the meanings basically serve to arrange the material. What really counts is the number of coincidences and divergences in the material and how they are distributed across the area. It could be seen as the ideal example of Saussure's thesis "Dans la langue, il n'y a que des différences." However, this numerical-statistical way of dealing with the material certainly starts with and is based on a linguistic analysis, considering which forms are to be regarded as identical, and it is possible to return to the word material to examine e.g. the semantics of words showing a particular geographic distribution.

Forest Saami Vocabulary

One example based on the sample of eight localities can elucidate the results of my investigations. As mentioned above, some 350 meanings are expressed with varying forms in the material from the eight villages. If we investigate which four localities show the highest number of coinciding forms, it turns out that almost 250 out of these 350 words are common to the varieties of Malå, Malmesjaure, Maskaure and the forest dialect of Sorsele, in other words to the dialects in the eastern, forest area. The following groups of four show some 150 words in common, i.e. a considerably lower number of convergences.

It might come as a surprise that the variety of Arvidsjaur is missing from this group of eastern forest dialects. Given its geographical position one would certainly expect it to belong to this group. This is, however, a consequence of the fact that the Arvidsjaur material is later and has a different character than the material collected by Calleberg and Moosberg. In fact, this explanation is supported by further arguments. If we make Sköld's Arvidsjaur material our starting point and investigate which varieties display the most coincidences with the Arvidsjaur vocabulary, we will find that it is close to the eastern varieties of

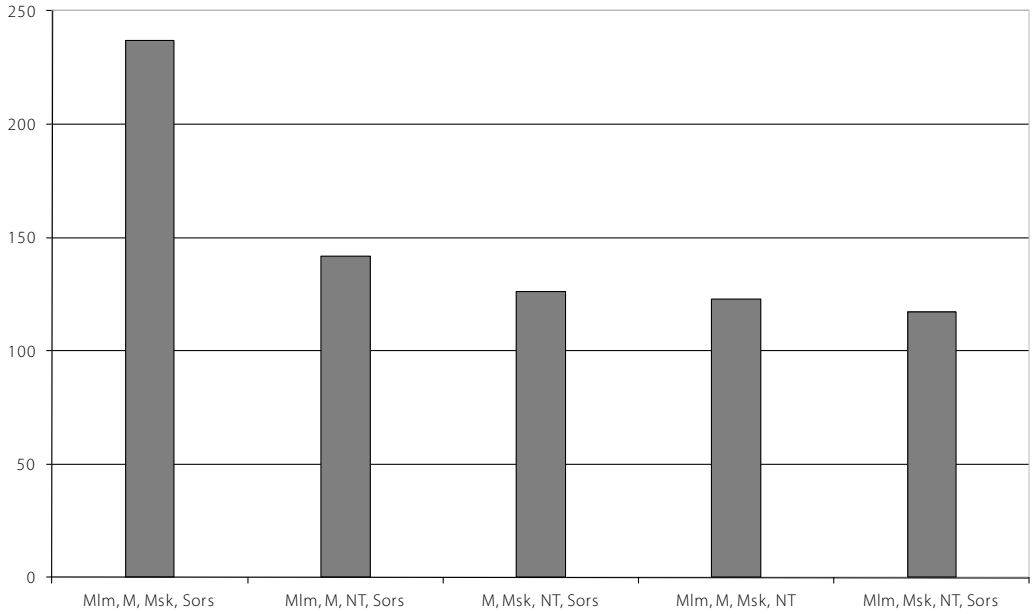


Figure 3.
Groups of four varieties arranged according to highest number of converging forms.

the Sorsele forest dialect, Maskaure, Malå and Malmesjaure. But if we start from some other variety, then Arvidsjaur will fall out due to the diverging material.

This is no doubt an indication – based solely on lexicon – that there is in fact a forest Saami dialect in the eastern part of the Ume Saami area. The phonological criterion presented above, i.e. the representation of the fricative *-*δδ*-, recurs in the results of this investigation into the lexicon. There is, however, a slight difference in distribution, because in the village of Maskaure there is a variation between the western *narrə* and the eastern *naδδə* form, but its vocabulary converges to a high degree with that of the forest varieties in the east. So, in the Maskaure case one could raise the question of which criterion is more basic – phonology or vocabulary – but as far as I can see, such a discussion would hardly be fruitful. Selecting the most important criterion is equal to simplification.

The statistical data on the distribution of words can, however, lead to further conclusions. As was shown above, the four eastern forest Saami varieties of Sorsele, Maskaure, Malå and Malmesjaure show the highest number of words in common. The following four combinations of four varieties having words in common are made up by three out of these four villages combined – in each case – with the variety of the Mountain Saami village of Northern Tärna far up in the north-western part of the Ume Saami area. It is not the variety of Ullisjaure, nor that of Southern Tärna, but always the Northern Tärna variety, that is the fourth member of the group. This distribution pattern obviously reflects the fact that the reindeer breeding Mountain Saami of Northern Tärna have their grazing lands in the winter down in the forests in the vicinity of the four Forest Saami villages mentioned. The wintertime contacts of the Saami of Northern Tärna

are reflected in their vocabulary. What is particularly interesting is the fact that the Northern Tärna informant of Nils Moosberg was not a reindeer herder, but a pauper woman living a more or less sedentary life with her family in Boksjön, Tärna. Nevertheless, her vocabulary shows traces of the reindeer herders' wintertime contacts down in the forest area in the east. Indeed, it seems to be justified to speak of a local variety of Ume Saami that reflects the networks of its speakers.

Conclusion

Taking the collections of Moosberg, Calleberg and Sköld under consideration will, of course, result in new knowledge about variation in Ume Saami. It goes without saying that when using Schlachter's dictionary alone, which is based on an idiolect, one cannot get any picture of regional variation. Since the bulk of my material consists of word collections, one should find a way of dealing with vocabulary in Saami dialectology. Lexical material can be taken under consideration in dialect geography, but it should be treated on its own and not mixed up with phonological or morphological arguments. Mixing arguments will inevitably lead to a discussion about the weight of different arguments.

Certainly one should pay attention to all differences – phonological, morphological and syntactical as well as lexical ones – since they all make up the areal variation in language. In new models of description the relative importance of isophones will decrease, since other arguments are also considered, and this will probably yield a more complicated picture of Saami language variation. All efforts to select *the* arguments that reveal the position of every variety in the Saami dialect chain only end up in a simplification. As an example of such simplified argumentation, gradation was used above. This kind of argumentation certainly provides us with a nice, clean-cut picture, as all simplifications do. I am, however, more interested in regarding as many criteria as possible when describing this highly varying language (or these highly varying languages). Above all, a more complicated picture of Saami language variation will certainly be truer than a dialect map where a few isophones divide the Saami language(s) into – what is said to be – fundamental parts. Reality can be rather complicated.

Abbreviations

SaaArj = Arjeplog Saami
SaaJukk = Jukkasjärvi Saami
SaaKt = Kautokeino Saami
SaaL = Lule Saami
SaaS = South Saami

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