



Faculty of Humanities, Social Sciences and Education

The Inter-Generational Transmission of Indigenous Knowledge by Nenets Women: Viewed in the context of the State Educational System of Russia

Zoia Jefimovna Vylka Ravna

A dissertation for the degree of Philosophiae Doctor – November 2019



To Evdokiâ Vylka (Ledkova)

Efim Vylka

Ol'ga Vylka

In Memoriam

Мань нябахаяуни, нисяхаяуни, не няни сава пян няю падвэми.

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Техэна" илена' ненэй не" нюхуто' мипава теневабцо':

государственной образовательной система школа-интернат' РФ

Зоя Ефимовна Вылка Равна

Диссертацияхана пады - нюдя пэвдей иры 2019

Abstract in English

This is a story about the ways in which a Nenets mother transmits her traditional knowledge and skills to children in a nomadic culture in the arctic Tundra. In ethno-pedagogical science it can be viewed as methods of transmission of knowledge. In this thesis I show this through different perspectives on the process of “*Vadameta*” (upbringing, education). Tundra Nenets mothers should raise their children as “*Tenevana*”, one who is “knowledgeable” and has “a great mind based on experience”. The text is based on an analysis of materials, collected during four fieldwork periods in various communities in two of the Arctic’s largest reindeer herding regions: the Nenets autonomous area and the Yamal-Nenets autonomous area of the Russian Federation.

The focus of this thesis is on traditional knowledge (TK). It consists of four articles published in various scientific journals and two chapters published in a book/ collection of papers. Each of the articles document one of the components of women’s TK: knowledge about the process of production and maintenance the dwelling (tent) in the arctic Tundra, knowledge of how to produce clothes and shoes from reindeer hides, knowledge about pre-, and postnatal care of infants in nomadic and extreme Arctic conditions and different forms of communication in the process of bringing up children in the Tundra. One paper focuses on the comparison of different types of TK within the nomadic communities. It also addresses the ways in which collective or cumulative TK is transmitted and acquired within a nomadic Nenets community generally, and the ways in which individual TK is transmitted and acquired by individual reindeer herder. Another paper explains the peculiarities of raising children in the Tundra with focus on the school year and year in nomadic conditions.

This study shows how nomadic Nenets mothers use their own approaches, based on life-experience and the experience of elders and traditional values, and their cultural knowledge and skills to educate their children in an extreme Arctic environment. In addition, despite the assumption that nomads do not have any systematic methods of educating their children, this research does demonstrate that nomadic Nenets do in fact have effective educational means by which they teach their children complex and sophisticated knowledge and skills for managing and surviving in an extreme and dangerous environment.

This study also reveals that the present state educational system, which provides boarding school teaching in settled villages for pupils from nomadic Nenets families for much of the year, does not support, encourage or compliment nomadic Nenets children’s educational needs. It does not provide them with the essential traditional knowledge and skills they need when they return to a nomadic life on the Arctic Tundra. The system undermines the ability of nomadic Nenets communities to maintain their traditional and unique Arctic nomadic culture, a culture based on reindeer herding. This story is about the maternal love, the struggles and the transmission of skills between the providers and recipients of care and knowledge.

Project supervisors: Professors Jens-Ivar Nergård, Geir Grenersen and Andrei Golovnev.

Abstract in Nenets

Тюку' вадета вадами' ханзер ненэй небя' нюхута ты' илаңгана" тарана теневабцо' мипи, тикы ня' амна џа. Наукахана тарця' процесс' тарем"нюмде пиры" – теневабцо' мипава". Тюку процесс юльце сававна «Вадамета» падаркана пады". Ненэй' небя харта' џацэкэмда вадамэтаңэ, теневанаңэ, вадабата тара" нив', тикы' теневабцода пуна' ты" пэртаңэхэбнанда нарка и" џудота"џэңунив". Тюку' вадетами' сидя яхад" ты" пэрти џэсыхыд ма" лавы: ЯНАО и НАО.

Тюку' диссертацияхана ненэй ненэця теневабцо' нямна џока' пеляда џа. Тет' главахад, статьяхад' падвы, хуркари' журнал, сидя книгахана. Хусувэй' статьяхана ненэй не' теневабцо' тая: хурка' тенз мяд', ханзер сертабада', мяры"бада (ханзер' ненэй' мядм' мэць' тара); ханзер' мэта" џамгэри' (пи"ва, мальця), ты' хобахад сэда", серта" тара.

Хурка' тенз' лахаре" ты" илаңгана тая, нацэки' табедамбава' ёльцңгана, едэй соявы џакэцы" ханзер манзяць' тара. Нопой статьяхана' хуркари теневабцо' тенз' пады. Ханзер' нюхуто' мипа" пэрьядо' ненэй' ненэця помнандо', тика нопой' нэсы", нопой паңг ненэця' теневабцо' тасламби'. Няби' статьяхана ханзер' тэхэт' товы џацэки' по'пелям" интернатхана мадаби, ханзер' та' тэхэна' иле".

Тюку исследованийхад' тарем' манзь' пиры: ненэй небя харто' илаңгана тохолоавы, пыдо' небянато' теневабцо', џарка ненэцие" теневабцо' нюхуто' мипи". Хусувэй' тэхэна" илена ненэця' луца подархана етя' тохолоавэдо' нацэки" ня'амна юңгу. Тарем џод нюдо' илебады, хуркари тенз" илаңгада пирџадо'.

Тюку вадетами Небя и" нямна Ёа, пыда манзарабцонда нямна, хусувэй' яля' нюхута минрена теневабцонда ня"амна. Тюку исследованиями тарем' манэ"ламдамбида: школа-интернатхана мэна" џацэки хардахана, тэхэна' небяхадато' нямвы таневабцодо' нидо' мэс". Тикар по' пелян' џацэки теневабцо' нулдамбида. Та" тэхэ' танемахадандо' теневабцодо' Ёани" таралңга. Теневабцода Ёармы' џацэки хойнярина мэць' пиртыда.

Научные руководители проекта: профессора Йенс-Ивар Нергорд, Гейр Гренерсен и Андрей Головнев.

Notes to transliteration and project information

Transliteration and translation

Nenets language: I refer to *Darka â* [Ngarka Ya] (Big Tundra Land) dialect; the transcription of Nenets words (written in Cyrillic) to English (written in Latin) is done according to ISO-9-system. This system is used for transliteration of common geographical, family and clans' names (mostly of different Nenets dialects); except a few well-established words (Yamal, Yar-sale). Note to the sound ŋ (pron. *ng*): in some of the western dialects it is not in use, then it will be stated in the text. I also excluded usage of *taser* (characters in the form of one and two commas to indicate sounds), in written text of video recorded interviews. The word *Tundra* is written with upper case letter, refereeing to the Nenets word “*Vy*” (the space of living).

Russian language: The original words are given in the body of text written with upper case letters, transliterated according to ISO-9-system.

Sámi language: I always refer to the most widely spoken Northern Sámi language.

Norwegian language (bokmål)/ Swedish: All written sources are provided in the original.

A Dictionary of common words and special terms is given at the end (with transcriptions and explanations in Appendix). The translation and transliteration as well as re-writing of all the specific determinations, words, terms, geographical and personal names from Nenets/Russian to English is made by me, if it is done by another researcher, it is specified in brackets.

Financing and infrastructure of the project

This thesis is a result of a four years project, under the umbrella of the international co-operation project: “Social-Ecological Transformations: Human-Animal Relations Under Climate Change in Northern Eurasia (HUMANOR)” (n:70766). Fieldwork was supported by The Fram Centre research program: the project LUMANOR (Land Use Change Among Indigenous Pastoralists. Mapping historic land use in Northern landscapes (n:1020845). The infrastructure of the entire PhD-project: NIKU (Norwegian Institute of Cultural Heritage Research) (n:1020327). The Norwegian Research Council financed the entire project.

I am very thankful to all contributors.

The List of Papers

Paper I. Ravna, Z. V. (2018). The Nomadic Nenets dwelling “Mya”: the symbolism of a woman’s role and space in changing Tundra. *AlterNative: An International Journal of Indigenous Peoples*, Vol. 14, Issue 1. DOI: org/10.1177/1177180117741221.

Paper II. Ravna, Z.V. (2018). “Nomadic Nenets Women’s Sewing Skills. The ethno-pedagogical process of transfer of traditional skills and knowledge by Nenets women through the generations”. *Arctic Anthropology*, Vol. 55, No. 2, pp. 97–116, ISSN 0066-6939.

Paper III. Ravna, Z.V. (2019). “Catching a Child”: giving birth under nomadic conditions. The methods of pre- and postnatal care of the Nenets mothers and babies. *International Journal of Circumpolar Health*, Volume 78, Issue 1. DOI: 10.1080/22423982.2019.1586275.

Paper VI. Ravna, Z. V. (2019). “Skills come with experience”: A pedagogical study of different forms of communication in Nenets nomadic communities in Northern Russia. Re-submitted to “*Learning and Instruction*” *The Journal of the European Association for Research on Learning and Instruction (EARLI)*.

Paper V. Ravna, Z.V. (2018). Сравнительный системно-антропологический анализ традиционных знаний на примере западных (европейских) и восточных (сибирских) ненцев [A comparative anthropological analysis of traditional knowledge based on the example of Western (European) and Eastern (Siberian) Nenets]. Chapter in book: *Реальность этноса. Роль образования в сохранении и развитии языков и культур коренных малочисленных народов Севера, Сибири и Дальнего Востока Российской Федерации*. [The reality of the ethnos. The role of education in the preservation and development of languages and cultures of indigenous minorities of the North, Siberia and the Far East of the Russian Federation], Sankt-Peterburg: Izdatel’stvo RGPU im. A. I. Gercena. (in Russian), pp. 485-490.

Paper VI. Ravna, Z. V. (2019). Ved verdens ende: om urfolkskunnskap i et internatbasert utdanningssystem [At the end of the world: about indigenous knowledge in a boarding-school educational system]. Chapter in book: *Kulturen som pasient (uvanlige møter for vanlige folk)*. [The culture as a patient (unusual meetings for ordinary people)]. J.-I. Nergård, P. Vitebsky (Eds.), Oslo: Universitetsforlaget. (in Norwegian), pp. 138-165.

Acknowledgements

The art of writing, in my opinion, is like sewing Nenets clothing from reindeer hides: first, preparing the hides for cutting, carefully choosing the right material according to colour, texture and pile. At this stage the artisan needs Indigenous knowledge. Many craftsmen and artisans have helped me in the creation of the work I now submit. When the artisan has cut out the material she does not need, she carefully reinforces the corners: these are tiny but necessary strips of cloth as they help preserve the material. In thesis writing it is like the process of citing primary sources. Like hypotheses and different theories, strips of cloth are also put in seams, to assemble the reindeer hide and decorate or give the clothing piece extra strength. As soon as the details are processed, you can sew the entire piece completely, by collecting together, as coloured beads, the individual articles.

I would like to thank for the help for the following summary, fire keepers and mothers Elena, Anastasia, Manja, Svetlana, Nadezhda, the clans of Âdne and Hudi, teachers of the boarding schools, specialists and practitioners of the native language and literature Irina Vanujto, Augusta Vylka and Matrena Taleeva. I would also give my thanks to reindeer herders of clans of Âptik and Hudi, especially Otto, Anatolij a.k.a. Nenčijko, Andrej, Roman, Nèvak, Semen, Gennadij, Denis and Artem Âr. To my “own” Nenets of the «Great Frozen Land» Masha, Sergej and Nikolay Vylka, Vladislav Vyučejskij, for the interviews and for their knowledge women of different clans of the western (European) and eastern (Siberian) Nenets territories: Lûdmila Kaneva (Ajvaseda), Nina Barkuleva, Lûdmila Bulygina, Larisa D’âčkova, Ekaterina Šukina (Eptunaj), 3oâ Ivakileva, Irina Hanzerova, Irina Hèno, Lûdmila Laptander, Satane Sèrotetta, Marina Tajbarej, Veronika Taleeva, Matrena Taleeva, Sofiâ Âr and Valentina Zganič. I would like to thank Michael Henrik Wynn for some translations and for proofreading this thesis.

I thank researchers from following universities and institutions, by countries:

Finland. University of Lapland, Rovaniemi: Bruce C. Forbes; University of Oulu, Giellagas Institute: Pekka Sammallahti;

Japan. Research Institute for Humanity and Nature, Kyoto: Satoe Nakahara;

Norway. The Arctic University of Norway (UiT), Tromsø: Jens Ivar Nergård, Geir Grenersen, Winfried Dallmann, Britt Kramvig; FRAM- centre: Ivar Stokkeland; Norwegian Institute for Nature Research (NINA): Jarle W. Bjerke, Karl-Otto Jacobsen, Britt Solli, Martin Svenning, Hans Tømmervik and other colleagues; Norwegian Institute for Cultural Heritage Research (NIKU): Stine Barlindhaug, Sanne Bech Holmgaard, Einar Eythórsson, Jan Magne Gjerde, Anders Hesjedal, Elin Rose Myrvoll, Ionut Cristi Nicu, Marius Warg Næss, Elisabeth Librekt Olsen and Alma Elizabeth Thuestad. I would like to express my gratitude and thanks to director of Várdobáiki Sámi Museum Marit Myrvoll for help in different stages on the entire project; NORCE (Norwegian Research Center): Jan-Åge Riseth.

Romania. University “Alexandru Ioan Cuza” of Iași, Institute for Interdisciplinary Research, Science Research Department: Alin Miha-Pintilie;

The Russian Federation. The Herzen University of Saint-Petersburg: Marija Barmič, Igor Nabok, Olesâ Bolotaeva. The Russian Academy of Sciences: Ol’ga Muraško; European University at St. Petersburg: Stephan Dudeck; Peter the Great Museum of Anthropology and Ethnography (Kunstkamera): Andrey Golovnev; Russian Ethnographic Museum: Valentina Gorbačeva, Irina Karapetova;

USA. University of California Davis: Randy Haas; University of Montana: Rosalyn LaPier, David Beck; University of Wyoming: Kenneth G. Gerow, Spencer Pelton, Christopher Caskey Russell, Sarah Strauss;

And my “strong women” all over the world: Elisabeth Utsi Gaup, Galina Idigeševa, Yulia Ingilæ, Toril Hanson, Sara Margrethe Olsdatter Hætta, Natasja Handova, Kristen Klaphake,

Lora Kolodij, Hilde Korsæth, Michelle Potter Mori, Andrea Olsen, Lidiâ Sâdejskaâ, Ul'âna Sâdejskaâ, Tuula Tuisku and Inga Kemi Turi.

And to my dearest husband and children: thank you for your support and patience!

The Ethics of Research

Since this project is developed and worked out on UiT- The Arctic University of Norway and NIKU - Norwegian Institute of Cultural Heritage Research, both situated in Norway, the Norwegian standards of the ethics of research are used. The National Committee for Research Ethics in the Social Sciences and the Humanities (NESH), publishes special guidelines on research ethics, the latest, the 4th edition was used (Hvinden et al. 2016). In this thesis I also refer to the previous edition, which was published in 2006, because I conducted most of the fieldwork (2015 and 2016) before the latest edition was published (*The Guidelines for Research Ethics in the Social Sciences, Law and the Humanities* 2006).

In social sciences and their subfields, like anthropology and cultural studies, the ethics of research are crucial, because the studied segments and objects sometimes cannot protect their interests themselves or adequately respond to the growing demands by different research communities. Indigenous peoples can be attributed to §23 “Research on other cultures”:

When conducting research on other cultures, it is important to have knowledge of local traditions, traditional knowledge and social matters. As far as possible, researchers should enter a dialogue with the local inhabitants, representatives of the culture in question and the local authorities [...] When conducting research on other cultures, either in other countries or in minority cultures, researchers should avoid using classifications or designations that allow unreasonable generalization” (Hvinden et al. 2016:26).

Since the studied people are living on the territory of the Russian Federation, a brief description of the ethics of research in this country would be needed. However, there are no written and accepted ethical conventions or guidelines on human research in social sciences in Russia (Standards 2013:66), new, updated edition (Standards 2019:88). There are no consequences or sanctions against researchers in cases of violation of ethics (Bojcova 2006:24).

Anonymity concerns (in all the Papers and this dissertation): all personal data, including names, surnames and personal Pidte” mâ (tags on reindeer hides) and Ha' matyr" (reindeer ear

– marks) are anonymized. This is applied both to collective and private households and enterprises.

Written informed consent was signed by all adults (over 16 years old in 2015).

List of abbreviations with translation and transcription

AKMNSS	(AKMNSS i DV RF) <i>Associaciâ korennyh maločislennyh narodov Severa, Sibiri i Dal'nego Vostoka Rossijskoj Federacii</i> . In non-Russian sources known as RAIPON (below).
ÂNAO	<i>Âmalo-neneckij avtonomnyj okrug</i> = YaNAO (Yamal Nenets autonomous area).
ÂŠI	<i>Âmal'skaâ škola-internat</i> (Municipal'noe bûdžetnoe obšeobrazovatel'noe učreždenie "Âmal'skaâ škola-internat imeni Vasiliâ Davydova") = Municipal budgetary educational institution "Yamal Boarding School named after Vasily Davydov".
GBUK	<i>Neneckij kraevedčeskij muzej</i> . (Gosudarstvennoe bûdžetnoe učreždenie kul'tury "Neneckij kraevedčeskij muzej") = State budgetary institution of culture "Nenets regional museum".
FGBUK RÈM	<i>Federal'noe gosudarstvennoe bûdžetnoe učreždenie kul'tury "Rossijskij ètnografičeskij muzej"</i> = Federal State Budgetary Institution of Culture "Russian Ethnographic Museum".
IK	<i>Indigenous Knowledge</i> . Defined by the identity of a person who possesses the knowledge. In the case of IK, the only indigenous representatives may be referred to as a "culture bearers" and be in possession of indigenous knowledge. Criteria of the indigenousness and who might belong to an indigenous people are defined by international and state conventions. In the Russian Federation it is the list of KMNS.
KFH	<i>Krest'ânskoe (farmerskoe) hozâjstvo</i> = Peasant (farm) enterprise.
KMNS	<i>Korennye malochislennye norody Severa, Sibiri i Dal'nego Vostoka</i> = "Numerically Small Indigenous Peoples of the Russian Federation divided into the geographical categories of North, Far East and Siberia".
Kolhoz	<i>Kollektivnoe hozâjstvo</i> = Joint ownership of reindeer herders, hunters and fishers.
Kultbaza	<i>Kulturnaia baza</i> = Cultural centre.
MOP	<i>Municipal'noe olenevodčeskoe predpriâtie</i> = Municipal enterprise of reindeer herders.
NAO	<i>Neneckij avtonomnyj okrug</i> = NAO (Nenets autonomous area).
NAO Law	<i>NAO Law of 18.03.2013 N4-OZ "On the Nenets language on the territory of Nenets autonomous area"</i> .

OGPU	<i>Ob"edinënnoe gosudarstvennoe političeskoe upravlenie</i> = the operational department of the state police. Existed under the official name as OGPU SSSR (1923—1934).
ÈKC NAO	(OGU "ÈKC NAO") <i>Gosudarstvennoe bûdžetnoe učreždenie kul'tury «Ètnokul'turnyj centr Neneckogo avtonomnogo okruga»</i> = State budgetary institution of culture "Ethnocultural Centre of the Nenets Autonomous Okrug".
PNOK	<i>Pervyj neneckij olenevodčeskij kolhoz</i> = The first reindeer herding kolkhoz.
RAN	<i>Rossijskaâ akademiâ nauk</i> = The Russian Academy of Sciences.
RAIPON	Association of indigenous few-numbered peoples of the North, Siberia and Far East.
RF	<i>Rossijskaâ Federaciâ</i> = Russian Federation.
RGPU	<i>Rossijskij gosudarstvennyj pedagogičeskij universitet im. A. I. Gercena</i> = Russian State pedagogical university named by A.I. Herzen.
SO RAN	<i>Sibirskoe otdelenie Rossijskoj akademii nauk</i> = Siberian Branch of the Russian Academy of Sciences.
Sovhoz	<i>Sovetskoe hozâjstvo</i> = Soviet enterprise.
SPK	<i>Sel'sko-hozâjstvennyj proizvodstvennyj kooperativ</i> = Agricultural Production Cooperative.
SRO	<i>Semejno-rodovaâ obšina</i> = Family or/ and clan (related by kin) community.
TEK	<i>Traditional ecological knowledge</i> (refers to mostly knowledge of the nature); ecology in its wider meaning understood as a system of interaction between organisms and their environment.
TK	<i>Traditional knowledge</i> . In Russian language the word “tradition” has been used by almost all the indigenous researchers. Usually it referred to the wider understanding of different aspects of cultural and ethnic body of knowledge; In English the word got a different meaning, due to decolonization process in different scientific disciplines. In anthropology and sociology, it refers to customs, skills and habits of practical activity, handed down from generation to generation. In ethno-pedagogical science, TK may be understood as a set of skills that children should possess in order to be able to work and live in their home environment, after finishing their education.

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1. Introduction

"Life is a long passage and the road is always chosen by a man"
Anna Nerlagi, The Nenets writer and pedagogue

1.1. General information

1.1.1. Women's untold story

From ancient myths to temporary action films, stories about super strong women are told. They are fascinating, intimidating and have interested people to this very day. These stories are to be found in different parts of the world. There are stories about Amazon women-warriors (Foreman 2014), witches, voodoo shaman women and healers, znaharki¹ and "Wonder Woman" (Jenkins 2017). The common narrative for all these women focuses on the superpowers (read: Knowledge) they possess. These stories are expressed in oral, written or visual forms and now also in scientific literature.

However, the "ordinary woman's" story and her role as a mother living in a nomadic dwelling, in a hunting village in the northern wilderness, or a town built on oil and gas money, is rarely told. Unless she is a possessor of extraordinary shamanic or handicraft skills, or, which is more common, the subject of media reports as a victim of murder, violence or other forms of sexual, psychological and physical abuse (Laforge 2010; Trozzo 2017). Many of these negative news reports refer to indigenous women who have left their traditional nomadic way of life voluntary or forcibly, to seek a better one in the settled villages of the Arctic.

In some places, the process of resettlement and displacement of indigenous women has been going on for centuries, as in the Americas. In other places, it is just beginning. Despite differences in timescales, the result of this process is almost always the same. As a nomadic

¹ Znaharka (from Russian verb znat' – to know) is a word for defining a woman, who uses her knowledge and experience to heal people with medical plants, massage, water and so on, in combination with different rituals. In Russia znaharki were served until the end of 18th century as medical doctors (Kravchenko 2001:180).

woman moves from her home on the Tundra to a settled village, she gradually becomes a part of a larger population, which does not value or require her traditional survival skills and knowledge.

Thus, societies, cultures and their values are constantly and progressively evolving, developing and adapting to new circumstances and environments (Korotaev 2003:8; Le Conte 1895). However, some cultures, as in the case of the nomadic Nenets, retain traditions and practices established over long periods of time, which are designed specifically for their unique needs and environment. An example of this is reindeer hide clothing made by Nenets women, the creation and maintenance of their dwellings (the tent), their traditional methods of giving birth and bringing up children on the Tundra.

1.1.2. The Tundra Nenets: background information

In understanding the current situation of the Tundra Nenets, it is important to look at the complexity of factors which affect the inter-generational transmission of knowledge and skills. One way of approaching this question is by using statistical analysis.

In the Russian Federation, the Nenets are categorized as KMNS (a Russian acronym), directly translated as “Numerically Small Indigenous Peoples of the North, Far East and Siberia of the Russian Federation”. At the time of writing, there are 40 identified indigenous peoples listed in the KMNS-list. One of the criteria for defining such a people is that it should not have an estimated and defined population of more than fifty thousand people, hence the use of the Russian term “*malochislennye*” (few-numbered) (Bogojavlenskij 2012).

The total number of the Nenets in 2010 (the last official all-Russian census) was 44. 640 (Rosstat 2018b). The criteria used for the KMNS also stipulates that these small indigenous peoples should still be located on and inhabiting their ancestral territory, preserving their traditional culture and way of life as characterized by their unique livelihoods and crafts and self-identifying as a separate and distinct ethnic group. The complete list of the all nationalities

today can be found in (Štyrov 2012:9).² Therefore, the Nenets can be referred as “the largest of the fewest”, because, according to the temporary categorization of indigenous peoples in Russia, they represent the numerically largest group.

The Nenets people use *Nenëj nenec'* as self-determination in singular and *Nenëj nenec''* in plural. It can be translated as “real human being”. The contemporary word in other languages is very similar (English: Nenets). Geographically different groups of the Nenets are categorized as *Vy' nenecâ* (Tundra Nenets) and *Neščang* (Forest Nenets) after the area of inheritance. The difference between these two groups are, in addition to language, is the territory they inhabit. The first group is moving on the Arctic Tundra, whereas the second with the seminomadic lifestyle live in the Tundra-forest. The Forest Nenets people are much fewer in number: approx. 2000 *Neščang* were registered in 2002 (Zen'ko 2003, 2006) and the number has not changed much since then (Karapetova 2012:92).

Geographically, according to the Russian historical sources, the Nenets themselves did not have any specific name for the “official” areas of their residence. In contrast, the territories of today's “okrugs” are written as *Samoyeda/ Samoiedia* on the maps of foreign travellers in historical literature, for instance, on map published by Mercator in 1630. According to Russian historians, the Russian people became the “state-forming nation” by the uniting into the Kievan Rus in 862. The Finno-Ugric tribes (Hajdu 1985:12) and the Slavic tribes united with the state during the Novgorod (862—882) and later Kiev (882—1240) periods (Ključevskij 2005). There are no written sources about the Samoyedic peoples (previous name of the Nenets people) at this time (see “A historical overview of state formation”). Archaeological excavations did not give any results, because the Nenets as nomadic people never built any permanent objects,

² In 2015, 40 ethnic groups are included in the list of indigenous peoples of the North, Siberia and the Far East: Aleuts, Alyutors, Vepsians, Dolgans, Itelmens, Kamchadals, Kereks, Kets, Koryaks, Kumandins, Mansi, Nanai, Nganasans, Negidals, Nenets, Nivkhs, Oroks, Orochi, Sámi, Selkups, Soyots, Tazy, Telengits, Teleuts, Tofalars, Tubalars, Tuvinian-Todzhins, Udegei, Ulchi, Khanty, Chelkans, Chuvans, Chukchi, Chulyms, Shors, Evenks, Evens, Entsy, Siberian Yupik, Yukagirs. In addition to these 40, there are 7 peoples that live in other regions of Russia.

churches, fortress or settlements on their residential territory and they only used materials, that were organic or disappeared within a relatively short time.

The Nenets occupy a midpoint of the land, or “geographical centre”, as Golovnev describes the Ural Mountains (2004:22). The territory of the Nenets is situated on both sides of the Ural Mountains, on the western (European Nenets) and on the eastern (Siberian Nenets) Tundra. These regions are known as The Nenets autonomous okrugs (areas). The first area, known as The Nenets autonomous area (the Russian acronym is NAO) is situated on the west side of the Ural Mountains (Golubchikova et al. 2005:603); the NAO was established in 1929 or 1930, according to different sources (Korepanova 2001; Prourzin 2000). The capital of this okrug is the town of Nar’ân-Mar (from *Nar’ân* (red) and *Mar* (town): The Red Town). The second region, the Yamal Nenets autonomous area (abbreviation in Russian is YaNAO) is situated on the east side of the Ural Mountains. The YaNAO was founded in 1930 (Golubchikova et al. 2005:1049). The capital of the YaNAO is town of Salehard (from *Salân* (cape) and *gard* (city or town): The Cape Town). The Nenets population in the YaNAO by 2010 was 29,772 individuals (5,9% of the total population in area) and in NAO 7,504 individuals (18,6% of the population in area). Compared to the western or European Nenets in the NAO, the Nenets population of the YaNAO is 3.9 times larger³.

In this thesis, the Nenets are subdivided and categorized according to the Tundra areas in which they live. There are European Nenets from the West to the East as follows: kaninskie and timanskie (Kanin Peninsula and Timan Tundra [people]); bol’šezemel’skie and malozemel’skie (Big and Small Tundra land [people]). The Siberian Nenets, which consist of several groups are categorized according to the same principle: yamal’skie (Yamal's Tundra

³ The third geographical area (which is not part of this research) is Taimyr (Dolgan-Nenets autonomous area). The name is based on two indigenous peoples, the Dolgan and the Nenets, established in 1930 (Kuzakov 1964). Total number of the Nenets population in 2010 was 3633 (Rosstat 2018b).

[people]), tazovskie (Taz Tundra [people]), kamennye (from the Russian word for stone (Ural Mountains) and nizovye (Low-lying land's people). Then, there are other groups, named after administrative units, such as nadymskie (from Nadymiskij Rajon).

The overall demographic situation among the Nenets in the Yamal-Nenets autonomous area, according to the available population data from the all-Russian census' of the 21st century, seems to be stable (Volžanina 2017:128), while the situation in the Nenets autonomous area appears less stable. According to official statistical data (Rosstat 2018a) life expectancy in the Nenets regions is estimated to be 18-20 years lower than the average for the Russian Federation as a whole. At the age of 60, 70% of the indigenous individuals of the North have died, in contrast to 30% in the Russian Federation in general (Lukin 2013:7). Among the reasons for low-age life expectancy are also high suicides rates.

More than 90% of suicides among adolescents are associated with family dysfunction, according to the results of the study “Mortality of Russian teenagers from suicide” (*Suicide among adolescents: UN*). The suicide and homicide rates in northern Russia, specifically in the Nenets autonomous areas, are much higher than in the other parts of the Russian Federation (Bogojavlenskij 2012; Sumarokov 2016). A general overview can be found in Položij (2016). According to the Nenets news agency, the number of suicides in 2016 increased by 2.4 times (in the first half of 2016 there were five cases), in total 12 persons committed suicide in that year (*NIA-24* 2019). Other causes of premature death may be that the transmission of knowledge that is essential for surviving on the Tundra has not occurred, as examined in Paper Four, “Skills come with experience”. Among these critical deficits in knowledge and skills are a lack of familiarity with the winter pastures, which can cause the death of young reindeer herders due to their lack of experience of moving across dangerous terrain.

Statistical data can identify and calculate the number of mother-tongue speakers compared to those who consider Russian as their native language. This is an important factor in evaluating

successful or unsuccessful education policies (from an indigenous teacher's point of view) and, according to researchers, is one of the principle indicators of cultural assimilation (Bogojavlenskij 2004). Russian federal statistical data show that 32,640 people were speaking Nenets as their first language in 2010. Statistics indicate that the possession of the indigenous Nenets language is gradually shrinking, in 1959 – 84.7%, 1970 - 83.4%, 1979 – 80.4%, 1989 - 77.1 % (Sjugnej 2008:30). Still, the level of Nenets language ability remains quite stable, compared to other indigenous people's languages in the northern regions of the Russian Federation.

The available statistics on Tundra Nenets in the 20th Century must be seen in the light of external influences such as the post-revolutionary civil war, forced collectivization, the Second World War, consolidation of settlements and the forced displacement of indigenous populations, massive military and industrial "development" of the North, and the collapse of the Soviet economic system. The indigenous population did increase during the 20th Century (Dallmann 1997), but not everywhere and not on the same level (Volžanina 2007, 2017).

1.1.3. The Tundra Nenets in the educational policy of the Russian state

Different political regimes and systems tried to displace the Nenets women off the Tundra and change their nomadic lifestyle. Since these processes of colonization started, first by Czarist Russian Empire, then by Soviet communists, and nowadays by the Post-Soviet "liberal-democratic" capitalist regime, the Nenets people have been under continual pressure by assimilationist policies. One of the most effective ways of implementing such policy has been, and still is, to prioritize the relocation of Nenets women into settled village communities. Today, Nenets women have a choice, after they complete their compulsory schooling, to select either a nomadic or a settled way of life. The tendency is clear: Nenets women are increasingly choosing a future in villages and towns (Tuisku 2001).

This trend mirrors the state's political and economic interests, which favour sedentary populations in villages and towns. These regions where indigenous and nomadic communities still live are subject to economic and environmental exploitation of strategic resources, such as oil, gas and minerals. One of the reasons for the displacement is the boarding school system, because Nenets mothers are choosing to stay in settlements to be together with their children. The comparative research data produced between different areas of the Nenets population show that in the western territories (The Nenets autonomous area), where the process of displacement of women has existed longer than in the Siberian (Yamal-Nenets autonomous area), the essential component of indigenous knowledge, the use of the Nenets language among the young generations, has almost disappeared (Hanzerova 2018).

The Tundra Nenets as indigenous peoples are in a special situation, both on the national and the international levels. On a national level, the state educational policies in the field of education, the Russian authorities proclaim to ensure "...Protection and development of the system of education of national cultures, regional cultural traditions and characteristics in a multi-ethnic state" (*Zakon ob obrazovanii 2012*). At the same time, to my view, the real situation today highlights the two conflicting interests of the state and that country's own nomadic populations living within the state's national borders.

At present, there is only one system, the residentially based state boarding school, available to Nenets children. This system requires that Nenets children are educated with a formal state curriculum for more than 8 months of the year, for a period of 8 to 10 years in total. The rights of indigenous and nomadic people are protected by Russian state laws (Krjažkov 2010), along with a special right to learn their mother tongue at school (Zmyvalova 2015). The sole remedy designed to comply with Russian law at national and regional levels was the establishment of residential, boarding school education for Nenets children.

From the perspective of nomadic Nenets people, the state's boarding school system is causing problems in the education, maintenance and continuation of traditional nomadic knowledge and skills. The Nenets language itself and women's traditional knowledge in particular, are affected by the displacement of Nenets women to settled villages and towns. Indigenous writers and activists have long recognized and prioritized the threats posed to indigenous and nomadic cultures by state run boarding school systems (Nerkagi 1996). They have also detailed the problems indigenous and nomadic children have in adapting to life in residential schools based on an educational curriculum which focuses on settled lifestyles. At present it appears to be difficult to find an educational system, which – at the same time – can meet the requirements needed to ensure the inter-generational continuity of nomadic Nenets culture.

1.1.4. Bringing up children in reindeer herding families in the Tundra

Nenets' reindeer husbandry as a branch of an agricultural economy is defined by scientists as a “Samoyedic type”. It is known as a “high-developed Tundra reindeer husbandry type” characterized by herds *regularly* (my cursive) moving across large distances under constant surveillance by herders (Hlobystin and Gračeva 1974). In Soviet times, reindeer husbandry was exposed to several forced transformations: collectivization (1930-1940); state nationalization (the end of 1950s – start of 1960s) and industrial exploitation (1970s-1980s) (Pika 1999:90-91). Despite all these transitions, including the collapse of the Soviet regime and its subsequent economic crisis, the Nenets reindeer husbandry is now the most successful on a global scale in terms of the number of reindeer and the people involved (Golovnev 2009).

At the beginning of the 2000s, approximately 850,000 reindeer were moving within an area of some 110 million hectares on both the Asian and European side of the Urals (Ůžakov 2006; Ůžakov & Muhačev 2000). The right to own reindeer and live on the Tundra is not a right solely reserved for indigenous people. Any person in the Russian Federation can work in reindeer

husbandry. This is different, for instance, from the Norwegian legal practice. In Norway the right to own reindeer is based on ethnicity, according to §9 of the “Law on reindeer husbandry” (*Reindrifstloven* 2007).

Nowadays, socially and economically, Nenets reindeer herders and their families are organized in various ways. Economically there are two types of ownership, collective and private. The herders and their families are usually working and moving together either in “brigades” or privately-owned enterprises. A “brigade” is a working unit, which can consist of several nuclear families and a few tents. Nowadays the term is used both for collective farms and a SPK (Agricultural Production Cooperative) or a MOP (Municipal Enterprise of Reindeer Herders). There are two privately owned organization types: KFH (peasant farm) and obšina (from Russian: family and clan community)⁴.

The Tundra Nenets refer to themselves as *Ty nû* (children of reindeer). They raise their children according to their own methods and principles. After all, these are future reindeer herders. This process is explained in the Paper Six: “At the end of the world” and Paper Four: “Skills come with experience”. According to scientists in various disciplines, the Nenets are in possession of knowledge about the land, the behavioural patterns of reindeer and, in particular, use of pastures. Reindeer herds are limited by the availability of food (Pika 1999:134). Already in 1995, the annual pastures on the Yamal Peninsula were described as being used at their maximum productivity levels (Podkorytov 1995:113).

Thus, in addition to the conflict between two paradigms, the sedentarism and nomadism, the size of pastures can also influence the displacement of a nomadic population. Another issue, in the western region they have a problem with the recruitment of new and younger generations of nomadic Nenets reindeer herders. The average age of a reindeer herder is 43 years and 60%

⁴ Obšina in this dissertation refers always to SRO (see List of abbreviations). This is a type of non-commercial organizations of indigenous peoples. In the registry of the Government of YaNAO, the main purposes are, among others: protection of the native habitat, preservation and development of traditional way of life, crafts and indigenous cultures of peoples of the North.

of the active herders today are more than 45 years old (oral communication, Vladislav Vyučejskij, Union of reindeer herders of the NAO, 2018). Another, main challenge in the NAO is the recruitment of women. The situation in the Siberian Yamal region is different in terms of the levels and aspects of nomadic Nenets women's displacement from life on the Arctic Tundra.

1.2. Research questions

The Russian state's boarding school system, as applied to indigenous Nenets people in the Arctic regions, is not unique, as examined in Paper Six: "At the end of the world". Similar educational systems for indigenous peoples can be found all over the world. After completing such an education, Nenets children are left with few choices: to stay in a settled community and find employment, continued education, or return to the Tundra to pursue a life of nomadic reindeer herding. However, if they do return to the Tundra as young adults, they will immediately be challenged by their lack of the traditional knowledge and skills which they need to survive on the Tundra. They have not been able to acquire this during their boarding school education.

In this thesis, this issue will be approached from two different perspectives: a case-perspective and a comparative perspective. The research questions are explained in all the Papers of this dissertation with focus on the woman knowledge: a woman's role and space in Tundra; Nenets women's sewing skills; the methods of pre- and postnatal care of the Nenets mothers and babies and different forms of communication in Nenets nomadic communities.

In order to get the whole picture, I also raise another, additional question: what kind of abilities and skills do adolescents should possess? This is a focus of Chapter four of the thesis.

The case perspective: This approach can be modelled as a triangle-shaped figure, and it also has the same shape as the Nenets dwelling from the outside, therefore I refer to it as "the Tent model". The Nenets use the concepts of "*Vadabava/Vadameta*" (upbringing, education) and "*Tenevana*" (knowledgeable) only in the nomadic conditions of the Tundra. This is why I

have selected this method. As for the case perspective, the main question is to find out how mothers in small communities in the Tundra transmit knowledge to their children under nomadic and extreme environmental conditions. Their available time is just three months between the boarding-school terms.

In the case-perspective, these models can be also listed chronologically, in accordance with my Tent- model: “Wonderful Tent” (during early Soviet years), “Red Tent” (Soviet Era through the 1930-60s) and “School Tent” (nomadic school in Post-Soviet time). These models are analysed in the Chapter three: “Theoretical background”.

After the Tent is removed, there is only a circle left known as Mâdyrma. In the Tent-model, this circle shows also the circle of problems, connected with the critical situation in the Tundra today.

These problems in ethno-pedagogical science can be categorized on several levels:

1. On the fundamental level (sedentarism – nomadism), where nomadism is decreasing.
2. On the national state level (boarding school education – Tundra education), where Indigenous/ Traditional knowledge is disappearing.
3. On the local level (women and their knowledge and skills), where the process of transmission of knowledge is broken.

When did I conduct my research?

The studied period is 2015-2018:

- 1) 2015, June-July: Fieldwork Yamal Peninsula, YaNAO
- 2) 2015, December: Fieldwork Yar-Sale, YaNAO
- 3) 2016, August: Fieldwork Tarko-Sale, YaNAO; Research on literature in Municipal central library of the Pur district, archives and libraries in St. Petersburg.
- 4) 2017, August-beg. of September: Fieldwork in NAO, Nar’ân-Mar, NAO, Research on literature in library of the Nenets regional museum, Nar’ân-Mar.

The comparative perspective:

1. Boarding School education – Tundra education/IK;
2. Two different regions: the western (European) and eastern (Siberian) Tundra Nenets.

1.3. Basic concepts

In this thesis the following concepts are used and explained:

The Nenets Concept of Vadabava/Vadameta

In the Nenets language there are several words for raising⁵, educating and bringing up children, for instance the word *Vadabava* (upbringing and raising); the collocation *Natseky Vadabava* is to raise children. The word *Vadameta* - knowing the word. For instance, *Vadameta natseky* refers to a child who can use words/ is able to speak. The word *Tokhodanva*, *Tokholambava* means education. The latter is also used to describe the process and the result, for instance, *Nisjada Njumda hanën toholada* (the father taught his son to trade). The word *Tokholada* means that a person is finally educated to do fishing, hunting or other trade.

The Nenets Concept of Tenevana

The word *Tenevana* - be able, knowledgeable. Female respondents explain the Tundra education of children with one concept “*Tenevana*”. The word has several meanings, but basically can be translated as “knowledgeable”. According to Barmič (2015), the word *Tenevana* has synonyms like *ibeta*, *ingudota*, *serota*, *va"lej*. All of them can be translated as “to have a great mind based on experience, knowledge”.

⁵ I am not discussing concepts in Russian or English about differences between pedagogical terms of education, upbringing or raising. This is a subject of special pedagogical research. The Russian term “upbringing” is explained, in comparison to the English, based on terms of education, development, socialization, training and scientific approach, see for instance, in the article by Stepanov (2017:121-129).

The Nenets Concept of *Njadena*

In the Nenets world there are the concepts of *njadena* (settled) and *njadèlc'* (to settle down) and *mjuserta* (nomadic), which relates to the word *ila(s')* (to rise up or move to the Tundra). These concepts are basic antonyms (the opposite words by meaning). In this thesis these concepts are explained on examples of sedentarism – nomadism as different ways of life (also analysed in the Paper Five: “Anthropological analysis” and Paper Six: “At the end of the world”) from the point of view of Nenets reindeer herders.

The Boarding School

The term “boarding-school” is used for defining particularly a school with a hostel for children from nomadic populations. The broader and detailed understanding of this concept is explained in Paper Six of this thesis: “At the end of the world: about indigenous knowledge in a boarding school-based educational system”.

2. Source base and methodology

*In Northern indigenous reindeer husbandry, experience was developed since the beginning of time and stories were told to transmit knowledge from elders to the next generation.
Jurij Vella, Nenets reindeer herder, writer and philosopher*

2.1. The Nenets indigenous knowledge in written sources

Written sources on the ways Nenets raise and educate their children (including transmission mechanisms) are very scarce. I have found small brochures published as methodological instructions, mostly for boys, for instance on how to make lassos, or how the Nenets caravan is organized (Ledkov 2008). There are almost no analytical sources on the practical education/training of nomadic children on the Tundra. However, there is a substantial body of written sources on different aspects of the life of Nenets nomads, where it has been possible to find some information on ethno-pedagogic methods of raising children on the Tundra. These sources can be divided into three categories: historical literature, including ethnographic descriptions; published pedagogical works on Nenets and anthropological literature (mainly with a focus on traditional/ indigenous knowledge) and books written by the Nenets educators themselves (school – practitioners and teachers and theoreticians).

There are works describing some of the customs, like the roles, the status of women in nomadic Nenets culture and gender prohibitions (Dunin-Gorkavich 1911; Kostikov 1930; Rusanov 1910) and about women's property rights, and their inheritance rights (Žitkov 1913). Nenets women were sometimes described by outside observers as having a pitiful fate, as according to Castrén, she is “a slave in the full sense of the word” (1858:313), and “the female gender is in surprising disregard” (Schrenk 1855:425). But there are alternative descriptions of Tundra women, for instance, “their wives have complete freedom” (Belâvskij 1833:159) and “their women are respected” (ibid:160). The traveller and artist Borisov described the “rich

Samoyed” wife: “Haaptis’s wife turned out to be very clean and especially attentive” (Borisov 1907:29). One work is dedicated to indigenous women’s reproductive health (Belilovskij 1894).

The sources published in Soviet times are of a different quality, not to say politically “tendentious” (Bromlej and Markov 1982). The life of women in the Tundra before the Soviet era was usually described as very bad, and in contrast, that only during the Soviet era did she “become free and independent”. The same tendency is found in historical examples of Russian and Soviet ethnographic and pedagogical literature.

In the Soviet Union, Nenets women’s knowledge about bringing up children and its specific problems have been studied by Lûdmila Homič (Homič 1950, 1974, 1976, 1988, 1995, 2003). There are almost no written sources on the life choices faced by young Nenets educated and living in cities and settlements. Nor are there any studies on who they are. In fact, most of the works describe the Tundra Nenets nomadic population: from clothes, sledges, and food, to family and wedding traditions in the past and present. Reindeer herding and related work have been the primary focus of researchers (Syrovatskij 1993, 2000; Ūžakov and Muhačev 2000).

Identity, which is usually studied by ethnographers within ethnic history, was described by many Soviet researchers (Rezvan 2017). They focused on the history and development of Nenets ethnic identity (Dolgiĥ 1970) and different aspects of the Nenets ethnic history (Golovnev 1995, 2004; Golovnev and Osherenko 1999; Golovnev et al. 2015).

Although, analysing the literature, especially documentary sources, it is often not possible to find descriptions of the traditional knowledge of the indigenous population from the point of view of the culture-bearers. Most of the different components of IK that I found were published in popular research literature and periodicals, such as magazines and journals. Among these are *Severnnye Prostory* [Northern expanses], *Mir korenyĥ narodov - Źivaâ Arktika* [Indigenous World - Living Arctic], *Punuška* [From the name of a bird “Snow Bunting” (*Plectrophenax*

nivalis]). The latter represents children's and youth media. Other sources are publications in *Nar'âna vynder* [The Red Tundra man], a local newspaper published in NAO. Due to the variety of articles and topics the “Scientific Herald of YaNAO” published by the Arctic Research Centre is also of interest.

In addition to magazines and scientific journals, a few articles on IK (indigenous knowledge) are published in several series or monographs within other academic disciplines. This is due to the diversity of the IK-components. Therefore, there are descriptions to be found, for instance, in sources on fiction literature (Cimbalistenko 2003, 2008), on medicine and medical treatment in the Tundra (Harûči 2012b), on women and gender issues (Sèrpivo 2012, 2014, 2017a, 2017b), as well as analysis on IK as part of religious beliefs and taboos and gender prohibitions (Lar 1998, 2001, 2003).

In terms of its complexity, IK can be studied by watching some of the films and programs made in the Nenets language, for instance, the program *Yamal'Il* [The Life of Yamal], by (Serashova 2018). On the history of the development of a written language and literature in the Nenets language, there are the works of (Cimbalistenko 2008; Sjugnej 2008; Vorob'eva 2014). The first scientifically approved textbook with the title “Edej Wada” (New Word) was published in 1934, grounded on a standard, Latin-based orthography, by the Soviet Russian linguist Prokofjew (Prokofjew 1934). The Finnish linguists Castrén and Lehtisalo created the script based on the Latin alphabet (M. A. Castrén and Lehtisalo 1940). However, this alphabet was abandoned six years later, when the Cyrillic alphabet was adopted in 1937 in the framework of Russian-nationalist policies under Stalin. The Nenets linguist Sajarati Pyrerka, in Russian Anton Pavlovich Pyrerka (1905–1941), is the creator of the Nenets written language, based on the Cyrillic alphabet (Vorob'eva 2014).

In order to get a comparative perspective, I also used sources on IK about other indigenous peoples, for instance about Udege IK (Podmaskin 1998); on Inuit IK (Karetak et al. 2017) and

the Sámi IK, for instance (Nordin 2008). By the beginning of the 2000s, very few scholars had investigated the transmission mechanisms of TEK (traditional ecological knowledge) (Haruyama 2003:109). Today, the number of written sources has increased⁶. A separate reference should be made about the contributions of Sámi researchers. As neighbouring people to the Nenets, Sámi researchers have published much on IK and its different components from a comparative perspective. Some of them have conducted research in the Nenets areas, for instance: on snow terminology (Eira 2012) and on state steering in western Finnmark, Norway and Yamal, Russia (Turi 2016). The Sámi have quite a substantial body of literature on IK and ways of understanding this concept from an indigenous perspective, as explained in (Guttorm 2011). However, searching through such a large amount of Sámi research is not a focus of my thesis. Even with the growing academic interest during the last 20 years for Nenets IK, it is still far from equal to the amount of literature published on the Sámi people. Western literature on the Nenets is also of a different quality, most of it is either academic thesis or articles within a ranking of scientific disciplines.

The written sources on the IK and the Tundra world of the nomads, mostly described the lives of male reindeer herders. Women's knowledge is often not in focus. To compare Western research literature to sources published on the Nenets in the eastern / Russian Federation is a difficult task. First, because of the differences in approaches: ethnography as scientific branch during the Soviet era developed almost in total isolation from the rest of the world (Bromlej and Markov 1982; Homič 1983; Tiškov 2003). Soviet ethnography is a qualitative science, with a well-established methodology of long-term fieldwork and production of literature based on this kind of research (explained in Chapter 3). Second, the ethnographic works of researchers from the west are usually from the Post-Soviet period. There are almost no comparative works from the early and middle Soviet era. Then, there is the variation in approaches and

⁶ Search on the library database: oria.no gives approx. 30.000 results (visited 11.04.2019).

perspectives. The literature written by insiders (speaking and writing in Russian/Nenets) is different: it combines depth (local IK components) with an outside view and manages to find a different perspective on diverse aspects of Nenets nomadic life.

Some of the insider sources are limited by their own position in space and time. Sometimes it is impossible to get a critical view, because the researcher is not seeing it, being too close to the studied object. This perspective is described by the term “home-blindness” in anthropology (Howell 2001). Another important feature of published literature in the East/ Russian Federation is the approach. The wisdom of nomads was underestimated, and often completely ignored. The literature did not recognize that the indigenous peoples brought up their children with respect and love, without physical punishment, and taught their values and traditional knowledge to the young.

In the light of the world community's growing interest in the Arctic and its indigenous peoples, especially on social media channels and the Internet, there are ongoing changes in the availability of sources and published literature. Thus, it might also spur scientific interests in these issues. One of these examples are the electronic catalogues of the Russian National Library, Peter the Great Museum of Anthropology and Ethnography (Kunstkamera) and the Russian Ethnographic Museum that are available online; many works are also published in open-access articles.

Then, there are works by Russian researchers focusing on IK and the effect of boarding schools on health conditions that are now available. Dr. Sumarokov has studied the link between high rates of suicide and alcoholism in the Nenets autonomous area. Research shows that this link is stronger among Nenets living in urban areas (Sumarokov 2016). Psychologists have studied the effect of boarding school education on children from Forest Nenets community in the YaNAO region (Fedorov et al. 2015). Both Nenets and non-Nenets have created theoretical and analytical works that reveal the characteristics of traditional Nenets culture and

show how it has changed due to interactions with the outside world (Esida 2014; Golovnev and Osherenko 1999; Harûči 2012a; Homič 2003).

2.2. Methodology

As a cultural anthropologist, I have studied the pedagogical methods that the Nenets nomads use for raising their children. I combine the results from this analysis with a statistical questionnaire-based method. Geographically, my journey began in Yamal, in a Nenets region known as the End of the Earth (the Â-land and Mal-end), or, as one Nenets man told me, the beginning of the Earth. It ends up in the western areas of the Nenets lands. At the completion of my research project I was supposed to have covered the two largest geographical areas of the Nenets lands: the Yamal-Nenets autonomous area, where most Nenets reindeer people are living today and the Nenets autonomous area, the second largest Nenets region.

Whether this is the beginning or the end of the land, is difficult to define, because it is all about subjective and relative perspectives. The same applies to research and the researcher, where the research and researcher are situated, whether s/he is an insider or an outsider, and if s/he is trained to do research as an anthropologist or a teacher.

At first, I wanted to collect as much data as possible from the elders about indigenous knowledge and its components. Based on these data, collected during fieldwork on the Tundra, I designed and drafted a questionnaire, for girls and boys separately (14 -18 years old; boarding schools of YaNAO and NAO). At this second stage, I decided that I should get data from the young Nenets from different reindeer herding communities about IK. I then created a comparative study on the effect of the school education on IK.

To find out how young Nenets themselves value the perceptions and understanding of IK, I used a questionnaire method, because then I could cover a larger number of grades and children at the same time. I wanted to understand how this IK is transmitted to the younger generations. It should be stated that the use of the questionnaire is a complementary method to my qualitative

studies, based on fieldwork on the Tundra. The third task was to describe the IK of women, as it is practised by an elder generation.

I divided the process of studying and the fieldwork into four stages, by time, regions and types.

- 1) 2015, June-July: Fieldwork Yamal Peninsula
- 2) 2015, December: Fieldwork Yamal, Yar-Sale, boarding school
- 3) 2016, August: Fieldwork YaNAO, Forest Nenets, Tarko-Sale
- 4) 2017, August-beg. of September: Fieldwork in NAO, Nar'ân-Mar, boarding schools

Studied groups that participated in the project:

Group one.

Members of a nomadic camp named “Brigade No. 5”. In 2015, the ‘5th Brigade’ was one of the 16 brigades within the ‘Jar-Salinskij MOP’. The Brigade No. 5 itself comprised a total of four tents accommodating 43 people.

Group two.

Women from different Tundra regions answered my questions (anthropological in-depth interviews). They were selected according to a defined and standardized criterion: that they should have been raised in a Tundra Nenets nomadic community. That the number of ‘in-depth-interviews’ with female informants from different regions was 16: that they were geographically from the Kanin Peninsula, Little Land Tundra, Big Land Tundra, Nadymiskij District, Purovskij District and the Yamal Tundra. The interviews were recorded during four field work periods in 2015, 2016 and 2017. The women were born between the 1940s and 1970s.

Group three.

The data on IK, in addition to the fieldwork and participant observation, were collected through a questionnaire (65 respondents) from adolescents from the various reindeer herding

communities of the YaNAO and NAO (born in 1998–2000). One respondent answered incompletely, therefore I used only 64 in the analysis.

2.2.1. The Nenets in science: a perspective of indigenous participation

I have been a documentary filmmaker and a teacher most of my working life. When I started to write a proposal for this project, I decided to use a camera and visual anthropological methods. In addition, I used the anthropological methods of study within pedagogical anthropology. To study the mechanisms of raising children, I used the same methods as indigenous teachers use, i.e. observation, conversation and dialogue. I used interviews with mothers and grandmothers to find out how they are/were involved in the process of bringing up children in the Tundra.

Insider-outsider position in social science research

About me as a researcher:

My background explains my interest in this culture and people. I was born into a Nenets reindeer herding family. I have been subjected to the effects of the globalization process all my life and have experienced first-hand a mixing of different groups of people, both ethnically, culturally and socially. This aspect of globalization has been described by Albrow and King (1990). I was born in the Soviet Union and have lived in Russia through its transition to the current Russian Federation. I belong to a group of Tundra Nenets that moves on Darka â, which in the historical literature translates to English as “The Great Frozen Land” (Jackson 2012; first ed. 1895). This is the area where most of the reindeer people were collectivized during the early years of the Soviet Union.

My father’s side of my family is from the clan of Vylka (direct translation is “Tundra man”, from word “Vy” – Tundra) and my mother’s side from the Ledkov clan (before the Christian churches began baptizing the Nenets, this clan was known under name Pahanzeda, also Pahanzada – “without roots”) (Hanzerova 2018a). Both clans are famous in different ways:

Vylka has several artists and writers, for instance, Nikolay Vylka is considered to be the founder of Nenets literature (Ogryzko 1998). My great-grandfather was a herder named Iga sindân, because he was one of eight brothers. One of his sons became a shaman: N,ebt âmbd (long-haired). In 1932, without public trial or investigation, he was illegally deprived of liberty for a period of 3 years by the operational department of the state police (OGPU). He was arrested for "anti-Soviet agitation". My grandmother Mariâ was the daughter of this shaman; her son, and my father Efim, was a reindeer herder all his life. He did have some schooling, but not much. He loved to read, especially long historical books.

On my mother Evdokiâ's side, there were not many educated people: her mother, my grandmother Anna, could not read or write, and she knew only a few words in Russian. However, Anna sent one of my aunts, Marfa (Maria), who is a twin sister of my mother's, to get an education at a boarding school in the village of Černaâ (Black). She worked as a Nenets language teacher all her life. My parents' generation could speak fluently in three languages which is rather common for this area: Russian, Komi and Nenets. This is due to the fact that the winter pastures are situated on the territory of the Komi Republic: our family visited settled Komi families in Novyj Bor during the winter season. In summer, Komi reindeer herders used to come to visit us on their way to the coast of the Kara Sea, where they have their summer pastures.

After finishing school, I went to study in St. Petersburg, after the end of the Soviet Union, at what was called the Faculty of Northern Peoples at the time (now Institute of Northern peoples). I studied and took exams in Russian literature and language but changed my mind after a few weeks. I decided that cultural studies were a much more interesting area of academic study for me. After five years, I chose to graduate with a final thesis on reindeer husbandry. During these years, right after the collapse of the Soviet Union, the crisis in reindeer husbandry, the privatization of reindeer and related conflicts affected my family a lot. My grandfather

Vasilij Ledkov opted out from the collective farm and his reindeer herd became a base for the reindeer people's union "Erv" (Master). Later, I made a film about this process, during my M. phil. in visual cultural studies (Visual Anthropology) in Tromsø, Norway (Vylka 2002).

The 1990s were a terrible time, as they brought total economic chaos to previously wealthy reindeer herding collectives and individual families. As a result of the subsequent collapse of social, economic, health and welfare services and resources, many people became victims of mental health illnesses, alcohol and substance dependencies and died prematurely, including many of my relatives, friends and former school classmates. Probably for this reason, and due to the tragedies in my own community, I dedicated many of my years to understanding and raising awareness about the many misfortunes of the indigenous peoples of the Russian Federation – from an insider perspective, but also from someone like me, from Nenets origins, who was now located on the outside.

These years were also productive for me in terms of a number of projects I became involved with. In my role as a trained anthropologist, I worked with the Nenets and contributed to the making of a documentary series about climate changes (Idivuoma 2009). I worked on projects relating to politics, oil and gas (Toverud 2009), health care for midwives and different issues for exhibitions in museums (Z. V. Ravna 2006). In addition, I published several papers, based on my experience of working with different indigenous communities (Z.V. Ravna 2007, 2010; Z.V. Ravna et al. 2008; Ø. Ravna and Vylka 2001). Among my translated work I would like to mention the ones on oil and gas exploitation in the Arctic (Fjellheim and Henriksen 2006), rights of indigenous peoples (Lile 2013), indigenous women gender issues (Roy 2005) and history of the Nenets people (Ø. Ravna 2002).

I have seen nomads burned out because they could not find their place in a "modern", well-equipped, warm house, after they lost their reindeer. My informants also confirmed that life in the settlements is not meant for everybody. There are several reasons for such a sad fate of

many Nenets people, many of them related to the assimilation policies in the wake of the boarding-school system. When I started to write my project proposal for this Ph.D. thesis, I decided to delve deep into the educational system, to see and analyse it from the insider perspective, how it has affected and still is affecting generations of Nenets people. At the same time, armed with the outsider's formal education received from the universities of St. Petersburg and Tromsø, I tried to conduct my research from an outsider perspective – grounded on comparative studies of two regions and with a focus on the social impact of education.

Nenets female researchers often emphasize that there are both positive and negative aspects to subjecting their own people to the scrutiny of scientific analyses, see more details in Harûči (2010) and Lukina (2002). I also observed this during this fieldwork project. Female researchers who are doing research should remember to follow and obey all traditions, especially gender-based ones. According to my informants, there are many important aspects of doing research on the Tundra. They explained their unwritten laws and customs to me such as prohibitions and taboos. Some of the subjects, for instance the land issues (carrying capacity, depletion, overgrazing, improper usage) and the sacrificial places are possible issues for discussion with them. But to go and visit these sacrificial places is prohibited. Once we moved closer to such a place and I asked the nomads about it. I got to know the story but could not go there myself. Another important point – one had to ask the women about the prohibition rules [in order not to violate them]. Even if the women (respondents) do not mention the prohibition, it would still be a violation.

On a general level it should be emphasised that my own background (born into a reindeer herding family), my gender (female), status (married and having children) and my first-hand knowledge and experience of living in this culture did give me significant advantages in conducting my research.

2.2.2. Description of my fieldwork

Fieldwork Period One: “The Year of Sorrow of Widowhood”

Time period: 2015, June-July

Base: The Tundra in the Yamal-Peninsula⁷.

When I was directly observing and taking part in the everyday life of the nomadic Nenets reindeer herders, moving from one place to another, participating in the construction of the outside and inside of a *Mâ* (tent), and helping in the conduct of rituals, I used the “participant observation” methodology. Observing everyday work with the reindeer, which is a long and complicated process, I have seen how children are trained to participate in small- and large-scale activities.

Most of these activities are gender-based. A female researcher trying to document women’s knowledge, should therefore interview and observe the women when they are working on their own. There are several reasons for this: firstly, to conduct an interview of married couples together will produce less detailed and reliable responses, because they will answer as a couple and not as separate individuals. Secondly, the knowledge and skills of girls and boys from approximately 5 years of age are acquired or learnt differently: therefore, in order to get better and more detailed/accurate responses, it is preferable to interview the parents separately. And thirdly, probably not least, is the perspective: both from the woman’s point of view and then in comparison, from the man’s point of view. It is thus easier to get their separate perspectives by doing interviews individually, without mixing their responses together.

However, as a female researcher, I do also face a few obstacles. Most of the Nenets traditional beliefs and customs relate primarily to gender prohibitions. Thus, some of the customs cannot be studied by the female “researcher” and as such, need to be respected by the researcher, for ethical and methodological reasons, if any objective, detailed and reliable data

⁷ Detailed map with the systems specification, is also provided in Papers I, II and V.

is to be produced. For instance, female researchers will never get to see some of the important sacred places, as it is prohibited for women to be present at such sites. Obtaining an interview with an informant, male or female, inside a Mâ-tent is extremely difficult. The tent is usually never empty, and other people are always around. It is easier to follow the subject outside. Most of my recorded interviews with women were done outside when they were working alone.

However, while sitting around at a small table and drinking numerous cups of tea with female respondents, I was able to collect most of my research data. That's why I called this method of collecting information the "tea method". In Norwegian this method is called the kitchen table approach ("kjøkkenbordtilnærmingen"), as demonstrated for example by Kiil (2019). Another method was also discovered by chance. Often, the only opportunity to talk to the women, alone and outside the tent was usually at the lake, when they were washing clothes, preparing a bird for cooking, plucking the feathers and downs, collecting firewood or carrying water. There were moments for conversation during the Erkulava - the gathering of reindeer in the corral. That's when I received interesting answers to questions about family matters, problems with children and husbands.

Despite my own background as a Nenets woman and many years of working with these indigenous people, I must admit that I couldn't avoid making mistakes. For instance, there were two *Sèra ne*" (widows) in the camp. The main taboo for a widow is a prohibition about discussing her deceased husband. However, this prohibition is only applicable during the first year from the date of death. By the time I started to do my fieldwork, this prohibition year was almost completed, but widow T. still had to follow this rule of not talking about her dead husband right up to the end of that period. I did ask her about the circumstances of the death of her husband, without knowing about the taboo, and this had later implications for my later work and interviews with T.

The main mistake was not that I asked about the dead person, but that I should have asked about the tradition itself. A widow cannot speak about her dead husband for a year after his death, nor can she mention his name. This prohibition also applied to interview and video recordings of the widow. After some days, when I got to know the widow better, the work, including the process of the collecting of the audio-visual materials, became easier. And I assumed that the rules did not apply anymore, since the “Year of sorrow of widowhood”, as I named it, was over. I was then able to talk about her husband, his death, and the life of T. as a single parent on the Tundra.

Fieldwork Period Two: “Mastering and possessing”

Time period: 2015, December: Fieldwork Yamal, Yar-Sale, boarding school

Base: Yar-Sale Boarding school in Yar-Sale;

Methods: gender-based questionnaires based on interviews with elders⁸.

Both questionnaires⁹ were subdivided into sections, which were again divided into subjects. The first section was dedicated to the whole complex structure and systems of the IK and its components. This section included questions about language, economic and other professional skills needed in reindeer husbandry, knowledge of nature, knowledge and possession of hunting skills, and knowledge of fishing areas and fishing gear. This section also included questions about the transmission of knowledge; who taught the student, and how did the student learn about the various categories of IK.

⁸ I especially thank the anthropologist Dr. Olga Murashko, Dr. Phil. in historical subjects and ethnography, along which researches the whole Russian North, from the Nenets autonomous area in the west to Kamchatka, Chukotka and Sakhalin in the East. She was (before 2013) "Adviser to the President of RAIPON (Russian Association of Indigenous Peoples of the North, Siberia and Far East); she had many roles, among which are members of the International Labour Group for the Indigenous People in Russia (IWGIA). Her current position is that of a researcher at Moscow State University. She is also "Expert of the State Duma and the Committee for Nationalities", and she is chief editor of the magazine *The World of Indigenous Peoples*. She has published several books and articles related to questions about impact assessment, industrial development, habitat and traditional lifestyle of indigenous peoples and traditional knowledge.

⁹ Both questionnaires (for girls and boys) are provided in the Appendix.

The second section was about family composition, life in the Tundra and practical information about how many members of the family or community are involved in reindeer husbandry. The third section was about the future. It is called “Me and my choice”, and this is where we find questions about professions and the choices made by the young Nenets. The two last subjects are about the Nenets adolescents and how much they know about taking care of their own health, and their own understanding of the concept of happiness.

Before delivering a questionnaire (consisting of several pages) to each adolescent I carefully explained to them how they should proceed with their answers. However, I was careful not to give my respondents any prompts or suggestions on what answers they were expected, or should, give in the questionnaire. In order to get as precise data as possible, I provided information about my work, why I do it and why I needed them to answer the questions presented to them. The main key to their interest was, as I found out, that I myself came from a reindeer herding family and that I am one of their own people. One of the girls answered: “thank you for your work!!!” (This is an actual copy of text taken from a written response in the questionnaire.) “I really enjoy answering your questions!!!” (my translation, punctuation by the respondent). As far as I understood, nobody had been asking them about IK before.

The results are analysed and published in Paper Five: A comparative system of anthropological analysis of traditional knowledge based on the example of Western (European) and Eastern (Siberian) Nenets], and in “Results” in this Chapter. Briefly summing up, I found a significant difference between the possession of IK by gender: the girls and boys; differentiated by the area in which they lived and their ability and use of the Nenets “mother tongue”.

Fieldwork Period Three: “Politics and Indigenous Knowledge”

Time period: 2016, August

Base: Tarko-Sale, Nar’ân-Mar;

Methods: in-depth-interview, collecting of video- and photo materials.

During this fieldwork I conducted interviews with women, did research on literature in the Municipal Central Library of the Pur District, Tarko-Sale, and in the Public Library in St. Petersburg, the library of the Ethnographic Museum, as well as private archives and libraries of researchers of indigenous cultures in St. Petersburg.

The collecting of the video-materials, especially the interviews, went smoothly. I was able to engage effectively with the respondents. This part of the fieldwork focused on the Nenets women who were born and grew up on the Tundra in reindeer herding families. They have accumulated significant life experience as nomadic Nenets women. The main objective for this fieldwork was to document, in addition to the IK and its components, specific women's knowledge, their leadership skills and their transmission of IK to younger generations.

The Forest Tundra women (three interviews) were interviewed in the Mâ tent of the family-based community of indigenous northern peoples, the Obščina "Kanevskaja" (see explanation on "List of abbreviations"). The group of women were filmed while they were talking together and later, one by one, outside of the tent. By the end of the fieldwork I managed to interview 14 women of Nenets origin. This group was mainly comprised of pensioners. Before retiring, they were reindeer herders' wives, political leaders of different ranks, teachers and workers in local enterprises.

Fieldwork Period Four: "Free science is a myth"

Time period: 2017, August-beg. of September

Base: Nar'ân-Mar; Methods: questionnaires, in-depth-interviews, collecting of video- and photo materials.

The first task of this fieldwork period was to collect materials about women's knowledge, which was successful in terms of the number of respondents and the total volume of the recorded interviews. However, my attempts to achieve another goal of the fieldwork period,

namely, to collect data from the school, can be described by one word "a disaster". The local people were afraid to cooperate. My original research plan was to collect questionnaire derived data from all the state-run boarding schools in the Okrug region. In an echo of Soviet times, I was required to submit my proposed questionnaire to the education authorities and be interviewed by the Department of Education's Director, before being given permission to start my fieldwork. My research proposal was declined by the Director, based mainly on the fact that my research was funded by foreign donors. He subsequently wrote to all teachers in the NAO instructing them to not co-operate with or assist my research.

It was a long and difficult process. In total, only two boarding schools helped me to complete the survey. I feel that I am no longer familiar with how the "system" still operates in Russia nowadays. It feels to me that in Russia we have returned to the xenophobic attitudes and defensive state bureaucracy of the Soviet era. We cannot speak freely and are subjected to a remote and authoritarian bureaucracy. After writing up my data and after some consideration, I decided not to attempt to do further research in this region, but to focus my analysis on the data collected during interviews with teachers and my research conducted in Yamal (YaNAO). The data collected in the NAO are used in addition to published, open-access materials (Hanzerova 2016).

Finally, I will provide a brief outline of my methods:

- Participant observation, in-depth-interviews
- Oral stories and/or in-depth-interviews
- Conversation or dialogue;
- Formal in-depth-interview;
- Questionnaire

Methods	Reliability	Validity	Comments
Participant observation, in-depth-interviews	High (due to consistently in work and repetition of daily activities). The field work was done in their home environment. A high inter-rater reliability due to recorded form of answers (all interviews are transcribed)	The interview - method is valid only for Tundra Nenets nomads. It is not valid for other groups, for instance, for stationary reindeer herding communities, because it is worked out for nomadic herding groups.	Despite of the variety of the geographical regions (Tundra) of the interviewed respondents, their answers are almost similar.
Oral stories and/or in-depth-interviews	The context of this method is based on video-recording, which is a high stress-factor. Could be avoided by dividing into two stages: 1. including several respondents (conversation or dialogue). Then, 2. Stage: formal in-depth-interview.	Both types are valid and trustworthy, due to the cultural features and the number of interviewed peoples.	All the interviews will be published and made available for local community, future researchers and other interested (at the stage of this project it is not yet possible).
Questionnaire in-depth-interviews	High (due to the reliable assessment). All the questions are constructed in connection to the answers of the elders; therefore, adolescents can easily recognize the topic, without misunderstanding and misinterpretation. All questions are gender-based and adapted to the age of respondents.	Based on their answers, it is possible to make specific conclusions on level of possession of skills and knowledge. Since all the questions are gender-based, it is showing also the main difference between girls and boys (for instance, in Tundra, boys are better to recognize reindeer earmarks, then girls).	This method has unlimited applicability: it can be use in all nomadic communities and different type of enterprises. Due to the small size of communities, the anonymity of names, surnames and name of the clan. It should be explained and prioritized, also in bigger enterprises.

3. Theoretical background

*Instruct the children while they are young.
Donald Uluadluak, Inuit elder*

3.1. What is indigenous knowledge?

In this chapter I explain the main theme of this thesis: transfer of indigenous knowledge in Nenets reindeer herding communities. I am focusing on detailed description what mothers need to know in order to raise a child to become *Tenevana*. An understanding of indigenous knowledge and how it differs from other types of knowledge is an important basis for determining how to use it. Knowing what it contains and how it is acquired and held is fundamental to being able to make good use of the knowledge and to encourage all parties to be aware of the value its use will bring. Today there are different theoretical models and approaches for studying the transfer of knowledge.

In anthropology, the process in general is examined as design of the future professional skills (Nosulenko & Terekhin 2017:108) or in indigenous societies as the transfer of traditions (Muraško 2013:12). The qualities and skills are explained from early inclusion of children in the labour activity of the family, along with a very good physical preparation through different methods of training and exercises. Usually by the age of eight to ten boys and girls have mastered all processes and performed the types of work which they are expected and able to do. This has also been described in several works by indigenous researchers, see for instance (Oosten & Miller 2018). According to Rasing, children of the Inuit of the north-eastern parts of Canada are learning by watching, through observation and imitation (Rasing 2018:9).

There are discussions on the definition of “indigenous peoples” (Burger 1990), which I am omitting here, because nowadays scientific literature researchers are using the ILO definition (ILO Convention 169) and Convention on Biological Diversity (CBD).

There is no mutual agreement on the definition of indigenous knowledge, since there are general differences in the understanding of the word “tradition” and thus the whole concept of “indigenous knowledge” and “traditional knowledge”. There are three main definitions that can be found in the literature with abbreviations/ acronyms: TEK (Traditional ecological knowledge), TK (traditional knowledge) and IK (indigenous knowledge). In addition, there are: LK (local knowledge), indigenous people’s knowledge and in Russian literature I often found the definition “folks’ knowledge”. The definition and validation of traditional, indigenous or local knowledge has been examined by many researchers, for instance by Matsui (2015), Purcell (1993, 1998) and Sillitoe (2009).

According to Nordin, there is a clear difference between TK (traditional knowledge), IK (indigenous knowledge) and LK (local knowledge) (2008:2). The TK and LK are closely connected and quite similar, at the same time the concept and definition of LK is not necessarily connected to indigenous peoples. For instance, the knowledge about fishing places or usage of fishing resources of the non-indigenous fishermen who live by the coast is LK. The IK by definition belongs to indigenous people and it exists only in their communities (ibid:3).

There is a long discussion within social studies on this subject, from Geertz (2000a, 2000b) who believed that the role of anthropologists is to interpret the guiding symbols of each culture to representatives of “indigenism” (Porsanger 2004, 2014; Rigney 2001, 2006; L. T. Smith 1999), who believe that the research should be done according to the needs of indigenous communities and that the indigenous knowledge belongs to indigenous peoples.

All, TK, IK and LK are forms of knowledge based on experience but also on practical logic needed for developing and improving it, whilst academic knowledge is based on logical systems, scientific theory, evidence-based facts, measurable and provable outcomes. Thus, there is a common problem with the definition of both traditional/indigenous knowledge and the academic knowledge (Watson-Verran & Turnbull 1995:115). At the same time, knowledge

is a subordinate, "non-autonomous" form of capital (Eyal 2003:4): possessing as it does, components which will not provide social advancement, and therefore special strategies are required to obtain its public recognition. It should not only be turned into a rare, and therefore valuable commodity: its carriers must prove their "monopoly" in possessing it, and this can be done only with reliance on some "real", recognized power. In other words, to recognize the science (or "truth") of knowledge, there must be some guarantors (you cannot "just" declare something true). As such, there are social institutions, primarily academia (Gapova 2013:34). Thus other, non-academic knowledge carriers can have a problem proving that they are in possession of knowledge. Their knowledge is usually referred to as traditional/ indigenous/ environmental /local/ folk's knowledge. In the Tundra IK gives status and is meaningful, but in a more bureaucratic environment it needs institutional power to persist.

3.1.1. Definitions of knowledge in indigenous languages

Based on the statements above, indigenous researchers are trying to make definitions of IK in their own languages. Thus, the knowledge of the Sámi people is called *árbediehtu* (*árbi* heritage and *diehtu* knowledge); but there are as many definitions as there are people (Nordin 2008:). The central definitions that are discussed in Sápmi (The Land of Sámi people) are conceptualized, for instance in Sweden, in a government assignment (Redovisning 2018:11). There are contemporary works in different scientific disciplines in Sámi academia (I. M. G. Eira et al. 2013; I. M. G. Eira et al. 2018; Guttorm 2011; Huber and Pedersen 1997; 2010; Turi 2016; Tyler et al. 2007).

In the language of other peoples, for instance, Inuit, their knowledge is called as *qaujimajatuqangit* (*qaujima* to know) and could be literally translated as "that which has long been known by Inuit") (*Inuit Qaujimajatuqangit. Education Framework 2007*; Karetak et al. 2017).

According to Purcell, there are connections between indigenous knowledge and applied anthropology (Purcell 1998:258). Purcell also argues that anthropologists should pay greater attention to facilitating the practice of indigenous autonomy. He compares the anthropologist to a broker. The indigenous perspective, according to Purcell, represents the “meeting point” between the evolution of anthropology and wider historical forces, which shaped applied anthropology (ibid:260). This view has, without doubt, influenced me, since I use both indigenous and scientific knowledge.

In social sciences, the IK of the Nenets as well as other indigenous peoples’ knowledge, cannot have one single definition, since different components of IK are tightly connected to their communities. As described earlier, the “traditional or indigenous knowledge” phenomena are understood and interpreted in different ways: from the perspective of those who possess it and from the perspective of different scientific disciplines. “Traditional” is often used in opposition to “modern”, even in Russian literature.

Nenets researchers use the word “traditional” in their scientific works constantly; for instance, in the works of Galina Harûči (Harûči 2001, 2012a, 2012b, 2013) and Stella Sèrpivo (Sèrpivo 2014, 2017a, 2017b). At the same time, the word “traditional” is not in used by reindeer herders or their wives (but they understand it, when I asked them about the traditional knowledge during my interviews, written in the Russian language). They use materials, clothes and methods to bring up their children, developed by previous generations of Nenets. But they use it now, therefore it is also “modern”. The two concepts are not opposites for the Nenets. In fact, there is no word such as “traditional” in the vocabulary of the Nenets people; they use the word *Nevkhy* (old time) when they are talking about the past. IK in this context, is thus a form of knowledge specifically originating and developing historically over time in a specifically defined culture, in which it is required and applied. The main difference in the Nenets' understanding of the concept of IK has been described by Njaruj and Serpivo (2005). The

primary educational principles of IK can be categorized as an environmental and labour education within the family (ibid:42). Thus, IK is reflected in the Nenets children's possession of traditional and cultural skills. This is also explained partly in Paper Two: "Nomadic Nenets women's sewing skills" and Paper Five: "A comparative system of anthropological analysis of traditional knowledge based on the example of Western (European) and Eastern (Siberian) Nenets."

3.1.2. Definitions of knowledge in official and scientific sources

The description of IK, that applies to all indigenous peoples, is provided on the United Nations website. The Director General of United Nations Educational, Scientific and Cultural Organization Federico Mayor defines indigenous knowledge as follows:

"The indigenous people of the world possess an immense knowledge of their environments, based on centuries of living close to nature. Living in and from the richness and variety of complex ecosystems, they have an understanding of the properties of plants and animals, the functioning of ecosystems and the techniques for using and managing them that is particular and often detailed. In rural communities in developing countries, locally occurring species are relied on for many - sometimes all - foods, medicines, fuel, building materials and other products. Equally, people's knowledge and perceptions of the environment, and their relationships with it, are often important elements of cultural identity" ("Alaska Native Science Commission" 2018).

In the report of The Arctic Council "Ottawa Traditional Knowledge Principles" ("Ottawa Traditional Knowledge principles" 2015), however, they do use the word "traditional". In addition, the word "systematic" is used in the definition of "traditional knowledge". It is stated that

"Traditional knowledge is a systematic way of thinking and knowing that is elaborated and applied to phenomena across biological, physical, cultural and linguistic systems".

In a dissertation by Dr. Hammersmith, who uses the definition "indigenous knowledge", IK is also;

"practical common sense based on the teachings and experiences passed on from generation to generation. Indigenous knowledge covers knowledge of the environment - snow, ice, weather, resources - and the relationships among things, holistic; it cannot be

compartmentalized and cannot be separated from the people. It is rooted in the spiritual health, culture and language of the people. It is a way of life” (2007:3).

However, not all these statements are possible to follow in practice, for instance, the assertion that IK may not be separated from those who possess it. But this will happen, both in positive and negative ways. The Nenets knowledge and skills may be termed “indigenous knowledge”, because it particularly belongs to the Nenets reindeer herding communities. It is logical, systematic and passed on from generation to generation. Dr. Hammersmith's definition is, however, applicable and useful only in English; there is no direct translation of the connotation “indigenous knowledge” in the Russian language.

In brief conclusion; “TK”, “IK” or “LK” cannot be created other than by a long historical process of cultural development of specific experience and applied skills, within a defined environment, challenges and demands. Like “scientific knowledge”, it is also developed and applied within a philosophical, analytical and empirical approach and set of principles. It is another form of knowledge and is not to be seen as a dichotomy in competition with “scientific” knowledge.

3.2. Pedagogical models for educating on different levels

The Nenets, like many other indigenous peoples that inhabit the northern arctic areas, are known as “severnye” - northern peoples. Scientific studies in the Soviet era on these regions were termed “*severovedenie*” (studying the North). Within this specific area of study, researchers developed different ways to identify and classify these peoples: ethnographic (anthropological), linguistic, geographical, economic and cultural classifications were created. It should be stated, that the IK -systems were never part of these models/ theories/ discourses/ and approaches. Theories concerning the manner in which the education of indigenous children should be conducted were formed at the very beginning of the Soviet era. In the case-perspective, these models can be listed chronologically, in accordance with my Tent- model:

“Wonderful Tent” (during early Soviet years), “Red Tent” (Soviet era through the 1950-60s) and “School Tent” (nomadic school in Post-Soviet time).

3.2.1. “Wonderful Tent”: fundamental level

The theoretical foundations of formal education, known as “universal primary education”, were institutionalized by a statute of the Central Committee of the Soviet Union in 1930. The main elements of the curriculum were theoretically determined by the original theorists of communism (Sazhin 2012:163), i.e. Lenin, Marx and Engels, who created its philosophical educational foundations within a theory of dialectical materialism. Dialectical materialism is a philosophical doctrine that is based on the analytical method of dialectics, which is both the study and method of understanding and knowledge of reality and its revolutionary transformation (Kravchenko 2001:144). In the Soviet era, theoreticians in pedagogical science developed a theory of a society of economic egalitarianism, based on equality: (fr. égalitarisme, from égalité - equality). It is a concept founded on the idea of creating a society with equal political, economic and legal opportunities for all members of society (Długač 2000—2001). Therefore, the nomadic Tundra Nenets, as a “backward” and underdeveloped social and economic “class”, became the subject and focus of Soviet experiments in social engineering. The XII Party Congress held in 1923 formulated tasks in relation to “the backward peoples” as such:

There are republics and peoples who have not passed or almost not passed through capitalism. They do not have, or hardly have their own proletariat, and are therefore lagging in economic relations. They are not able to fully use the rights and opportunities provided to them by national equality. They will not be able to rise to a higher level of development and catch up with the nationalities that have gone ahead, without real and long-term outside help (Popov 1932:18).

This “outside help” during the Soviet times, was expressed in different forms. One of them was to protect these “northern” peoples, by providing them with a modern, Soviet style, education.

The main aim was to train a Nenets youth “cadre”, which could then return home and indoctrinate the rest of the Nenets population in Soviet communist values and practice. Consequently, in Leningrad (St. Petersburg) in 1925, an educational faculty was established with the name *Rabfak* (Rabočij fakul'tet; working faculty); renamed later as the Northern Institute of Living Eastern Languages and later as the *Sevfak* (Severnyj fakul'tet; northern faculty) (Smirnova 2012:52-53). This unit has changed its name and status many times and is now called the “Institute of the northern peoples” of the RGPU (Russian State Pedagogical University) of the Russian Federation (I translated it as “Institute”).

The students were recruited from various indigenous peoples and regions. They usually did not speak Russian at all. They were also illiterate. The Institute managers had a lot to do in order to organize the infrastructure, as their students came from all over the Eurasian continent (Ledkov 2000:402). After completing 3 years (middle level), followed by 4 to 6 years (high level) of education, many students got their diplomas and returned to their homes, where they worked as professional teachers themselves. Many of them became representatives of the Soviet national intelligentsia. Back home, amongst the indigenous Eurasian groups, in their native languages, the Institute got the nickname “Wonderful Tent”. The students were called “red shamans” because they could read and write.

Together with the education of teachers, who were supposed to work in primary and secondary schools in the North, the Institute also became the alma mater for many indigenous researchers. During the 1930s, a “Research Association” was established at the Institute, which initiated five areas of research, linguistic, historic, ethnographic, economic, pedagogical and anthropological studies (Smirnova 2012; Voskoboynikov 1958). At this time, the main theory was that each student had the potential to become a researcher of her/his own people and their environment “on the Taiga and Tundra” (Smirnova 2012:58). Ideologically, providing an education for indigenous and nomadic students in a large urban environment such as Leningrad

was a way of “socializing” and assimilating students into becoming modern Soviet citizens. However, many students failed to adapt to the climate and urban environment of the city, and some became ill or even died. The Soviet policy at the time accepted such injuries and fatalities as the unavoidable collateral losses of modernization projects. Other educational units, apart from the “Leningrad School” were established at this time, with different pedagogical approaches (Lârskaa 2016), within a State program “to fight illiteracy”.

One of the theoreticians in psychology, L.S. Vygotsky, introduced the theory of a differentiated approach to educating children of indigenous peoples. He emphasized that the involvement of “backward” nations in the general circle of economic and cultural construction must be accompanied by a change in the entire cultural order of their life (Vygotskij 1929:369). According to his approach, pedagogical work with children of national minorities should also consider their specific and unique differences and educational contexts. Understanding the child as an inseparable part and natural product of the specific environment in which it grows and develops, and thus children of national minorities are different from most other children, i.e. Russian children. As a consequence, education of these children should be planned and delivered in accordance with these differences (ibid:368). But this statement contradicted the Soviet communist principle of egalitarianism, which is why, for many years, indigenous children were educated in accordance with the same ideological and pedagogical principles as any other children in the majority “Soviet” population.

Another pedagogue, A.S. Makarenko, developed a concept of productive labour in the educational system, along with the methodology of the educational process itself. The principle “the object — the subject” of education is only one of the factors that shape a person. The definition of the “the object” and “the subject” are both used for a collective of individuals. By collective Makarenko meant a group of children that is united by common, socially valuable goals and joint activities organized for their achievement. In this regard, the important features

of any team are a common socially significant goal; common joint activities to achieve it; relations of mutual responsibility and dependence between team members among others. Thus, entire environments are shaping the individual. The process of teaching should be organized in the most advantageous way around the central point, which is the economic process, according to Makarenko (1990).

Later, one of the followers of Vygotsky, P. Tulviste worked on the theory of “traditional activities”, based on the assumption that the indigenous child’s ability to engage in cognitive thinking does not concur with Darwin’s theory of evolution, also the theory of Social Darwinism (Tulviste 1986:105). Therefore, the education of these children should be conducted in a more child centred manner, complimenting their own unique ways of learning, for instance, in “learning by doing”, during their everyday activities.

The early years of “enlightenment” of the indigenous population were mainly characterized by the enthusiasm and self-developed teaching methods of many Russian pedagogists (Sinicyna 2000:431). One of the examples is the method of teaching with unique tables and drawings, developed by the teacher Dimov (Čuprov 2003:31). Later, major changes came with the Red Terror, the repressions under Stalin. The overall aim of the Soviet State gradually changed, away from the protection of the vanishing peoples and languages. Now these “underdeveloped/ primitive pre-capitalist peoples” had to move into a settled urban environment according to the model of the Soviet worker (Pika 1996). The ideals and aims supporting the survival and continuous use of their native indigenous languages and, by implication, their nomadic culture, were gradually abandoned.

3.2.2. “Red Tent”: national level

Another Soviet innovation is also named after a dwelling, the Mâ (tent). It is the so-called “Red Tent”, which was established with the aim of providing basic information to the local indigenous, mostly illiterate, nomadic peoples of the North. According to Vitjazeva (2001:140),

a Red Tent team consisted of a number of members: a manager, a cultural worker, a “fighter of illiteracy” (read: teacher), a medical worker, a herder and a “čumrabortnica” (from Russian: čum (tent) and rabotnica (female worker)). The female worker was responsible for keeping and maintaining the clothes made from reindeer hides, cooking and taking care of other needs, such as water and firewood. Usually there was also a Bolshevik propaganda specialist and a few soldiers for security. They travelled with a single tent, on sledges, pulled by reindeer. The “Red Tent” soon became a symbol of Soviet power in the North. To communicate with the locals, Soviet authorities invited local Nenets to join them, usually young girls and boys, whom they trained to speak Russian. The Red Tent along with the travelling teachers can be considered the first educational units in the North (later some of the Red Tents were renamed into “Kultbaza” (cultural centres)).

However, the systematic education of indigenous children only started with the creation of boarding schools. As a system it was established during a long period, which has been categorised by Lârškaâ into four main stages: the 1920s to mid-1930s; mid-1930s to end of 1950; then from 1950s to mid-1980s and from mid of 1980s to recent time (2004:70), in an article in English (Lârškaâ 2013:160-161). It should be stated that this is an approximate periodic classification of developmental phases.

In the NAO, in 1929/1930, there were 19 schools of various levels and five boarding schools. The total number of children was more than 800, among these 140 Nenets (Korepanova 2001:39). Establishing schools on some of the remote islands like Kolguev in the territory of the NAO, took a longer time. The first permanent school on this island dates back to the 1930s (Sinicyna 2000:421), due to underdeveloped infrastructure and transportation system. On Novaya Zemlya, according to a book written by a teacher (an essay published under pseudonym Pêlâ Punuh), the first school was built in 1925 (1929:9) and in Peša in 1929 (ibid:20).

According to historical sources, in 1936/1937 in YaNAO (at that time the “Yamal national okrug”), there were 26 schools for early-years education, 7 schools for limited secondary education and one for the complete secondary education. The total number of students was about three thousand, among them 600 children from the indigenous population (Zelenin 1938:29). In addition to these schools, there were six Red Tents (ibid:29).

At the beginning, the main theoretical doctrine was to get children into boarding schools on a voluntary basis. However, indigenous parents were convinced that there was no value in education, therefore, they were reluctant to send their children to study in the settlements. At the same time, the parents were illiterate themselves. They could not understand the policy of taking away children in order to educate them. More about the boarding schools and about indigenous knowledge in a boarding-based education system is presented in Paper Six: “At the end of the world”. Until the 1950s, there were a number of outreach teachers who travelled and worked on the Tundra (Interview 8), in addition to the number of existing boarding schools.

It is true, we had a teacher who tutored us after we came from fishing. He was a Nenets by nationality. We used to go away. We explained it by the fact that we had no time - we had to sew winter clothes [and shoes], otherwise how could we walk on ice. We were told that we should study - for the sake of your teacher at least! (Interview 8).

In the 1960s-1980s according to Lârskaa (2004), (or even earlier) the boarding school system became a reality all over the North. Formal education became mandatory, which meant that nomadic Nenets parents were no longer allowed to refuse to send their children to the settlements to study in state-run boarding schools. The establishment of a state-run educational system proceeded more quickly in the NAO than in YaNAO. At this time another, unexpected problem appeared, the increased number of indigenous individuals being educated in Russian away from their families in state boarding schools, with a subsequent loss of their native language (Sjugnej 2008:30-33). The negative social impact of education on children is associated with a long separation from the family (Podšivalova 2002).

3.2.3. "School tent": local level

After the collapse of the Soviet Union, and the changes in ideological foundations of school-education, a need for a new, different theoretical approach arose. The indigenous peoples were not to be labelled as "backward" anymore. Even so, in the Post-Soviet era, there were still no suitable alternative pedagogical models and practices available to meet the educational needs of indigenous nomadic people, whilst still respecting and complimenting their different cultures. Basically, at that critical time, nobody knew what should now be done (Čillingarov & Kokorev 1997). Thus, the theory of neotraditionalism (Pika 1999) gradually evolved as a method of educationally supporting indigenous people to develop within their own geographic areas, environments and cultures.

According to Pika, this new "traditionalism" was meant to be the way forward. It focused specifically on the situation in the northern regions and among the peoples of the Russian North. A new socio-political concept should accumulate the best from the historical experience of the governance of indigenous peoples in Russia. The outside help was as paternalistic as before, but on a more structural national level. At the regional level, this concept should, if necessary, function as a direct intervention to protect the interests of the peoples of the North in conflicts with regional and national political and industrial structures. At this level, state institutions should provide legal, political and partially economic assistance (Pika 1996) to these "disappearing peoples" ("The Red Book of the Peoples of the Russian Empire" 2001).

Based on recent statistical data, the Nenets is the only ethnic group that doesn't fit into to the main policy definition of a "disappearing" people (Lukin 2013). Therefore, another theoretical model was developed. The theory envisioned a transition of the ethnic population, from the ethnos (ethnic group) as demos (people) to the ethnos as society (Klokov & Hrušëv 2008; Volžanina 2017). According to this model, there are two types of demographic reproduction of ethnic groups. The first is influenced by the leading role of the endogenous

factors. Among them are the predominant role of traditional families that preserve nomadic lifestyle and language (Klokov and Hrušëv 2008:49). The second factor is based on the lack of influence of a cultural elite in Nenets society. In other words, the researchers emphasize that living conditions do not play a significant role in demographic growth, but that the endogenous factors do (2008:49). Large families with many children are more common for the nomadic Nenets communities, compared to settled Nenets families (Klokov 1996:23; Volžanina 2007, 2017).

This also supports the assumption that assimilation will proceed faster in those areas dominated by settled Nenets than in areas where there are mainly nomadic Nenets. This is what happened to the western, European Nenets. The process of displacement of women also proceeded more quickly here (Tuisku 2001). The displacement of women (followed by the building of houses for nomads) started in the most western Nenets areas at the end of the 1950s. This is mentioned by Okladnikov, who describes the settlement of Indiga (Kupriânova 1965:113).

As a result of these theories, ideas about a nomadic school came to light in the years between the 1990s and the 2000s. This was partly due to local initiatives and self-determined political movements of indigenous peoples to get back control over social development in their lands, their languages and their cultures. Theoretically, in the minds of the indigenous intelligentsia (teachers, politicians, decision-makers of different kinds) nomadic schools were seen as the opposite of the boarding school system. There are many obstacles to establishing such a school. For instance, there is no law that could regulate the process, except a few local laws, for instance in Saha (Yakutia) (Zhirkova 2006) and in YaNAO (Terehina 2014).

The Institute of Northern Peoples in today's St. Petersburg is still at the forefront of educating teachers for nomadic schools in the North. To date, I could not find any analytical sources about this initiative, because it is just in its infancy (2019 is the first year of education

of a group of teachers from the YaNAO) (from conversations with pedagogical staff at the Institute).

However, one type of educational institution should be mentioned, due to its uniqueness. This is the “Municipal educational institution: The Nomadic School of Anna Nerkagi”. She is famous as a Nenets writer and according to the Department of education of Priural'skij rajon, she is also an author of programs on the ethno-pedagogical education of indigenous children. She started this school about 27 years ago to teach children – the orphans and children of reindeer herders from nearby nomadic camps.

The main idea behind her school is the combination of theoretical subjects with daily work on the Tundra: in addition to their literacy and numerical education and other subjects, children also learn to herd reindeer, pick berries, catch fish, and manage housekeeping in the nomadic Nenets tent (Poljakova 2017). Adolescents can learn all the necessary skills for survival in the nomadic Tundra culture and at the same time get an education and the basics for a future profession (for example, veterinary).

Few nomadic Nenets children have the opportunity to get an education at this school, due to its relatively small size, limited resources and the underdeveloped infrastructure of the region. The idea of providing a specially designed education for nomadic Nenets children, located on the Tundra whilst living with their families, should be studied further.

Another way to avoid the loss of language, according to indigenous teachers, is to implement IK-components into the main curriculum (Njaruj & Sèrpivo 2005) of the state-run schools that already exist. The principles that are described in this work by indigenous teachers do not differ very much from the pedagogical models of Vygotsky, Makarenko or Tulviste. The model of Vygotsky on a differentiated approach to educating children of indigenous peoples, the model of Makarenko on productive labour and the model of “traditional activities” in the process of education all correspond to the ideas of the Nenets educators. We see this is in

Nerkagi's nomadic school, where she combines a theoretical approach with a practice-based approach of "learning by doing" daily work on the Tundra. An environmental and labour education corresponds with all three models, whilst the educational process in a nomadic school should be inspired by the upbringing that the children would receive with their parents at home on the Tundra.

3.3. Indigenous knowledge in the school system

The teaching of indigenous knowledge on the tundra is to some degree as formal a type of education as found in formal, institutionalised state schools. However, because of cultural differences in the perception and recognition of such educational similarities, they can be missed by the outside observer. As an example, the acquisition and skills developed for using tools, specifically for use in nomadic reindeer herding communities, can be observed as a quite systematic and formally taught and learnt educational process. Despite the high levels of technical ability achieved by Nenets children in the use and application of such tool using skills, there are no formal and recognisable "educational" tests or exams to measure, document and verify these educational achievements. The success of such traditional educational measures is only to be seen in the survival and capacity of Nenets people to live out on the tundra. Such successful achievements in educational learning are currently only recognised within the nomadic Nenets community, with the child having become and known by the title "Tenevana". These issues have prompted a current debate as to the possibilities of integrating indigenous/traditional knowledge into the mainstream formal school curriculum.

3.3.1. Indigenous knowledge in the curriculum

Dr. Hammersmith (2007) did a theoretical analysis of what would happen if you introduced traditional knowledge into the curriculum and incorporated it into the Western system of higher education, providing a critical review and theorizing such concepts as "traditional" and

“western” knowledge within the scientific apparatus. His research is based on the study of Canadian indigenous history.

In Norway, the implementation of Sámi IK into the curriculum in secondary schools has been described by Dr. Hirvonen (2004). Based on teachers’ evaluations, Hirvonen conducted a study on how state administrative regulations in the Sámi curriculum have been implemented in Sámi schools. The Sámi school should be closely linked with its immediate environment, nature and nature-based occupations; in this way it would help maintain traditional sources of livelihood for the Sámi reindeer herding communities. The question is how such a school can prepare its youth for the challenges of the future (Hirvonen 2004:156). There are less than 3000 individuals involved in reindeer husbandry in Norway ("Reindriften i Norge" 2018). In one of the official reports, a committee of researchers stated that traditional knowledge must have a central place in all Sámi education. In Sámi teacher education, this is of vital importance (NOU 2000).

The concepts presented by Njaruj and Serpivo (2005) for Nenets education are quite similar to the model which tries to introduce nature-based occupations in Norwegian Sámi schools. They propose environmental and labour education within the family of Nenets nomads using sewing skills as an example, and the authors also propose, that the overall aims of such programs, among others, are to acquaint children with the Nenets method of taking measurements, to value and develop an awareness of these traditional skills and respect for the work of Nenets artisans (ibid. 149-153). In addition, both Nenets girls and boys should learn some degree of competency in these matters. This theory is explained partly in two of my papers: Paper two: “Nomadic Nenets women’s sewing skills” and Paper Six: “At the end of the world”.

An aspect of this research was to describe how children are brought up in nomadic families. Thus, the IK will be tested by the life in a local community only, and by the results from trading,

hunting or fishing activities. The women's sewing skills will be also approved/ disapproved by the user, and sometimes by some of the experts in local competitions, which are taking place annually during the gathering for celebrations of reindeer peoples, for instance, on Yamal in March or in Darka â in August.

In school, the rules and criteria for evaluation, as well as conditions for exams and tests are supposed to be equal for every student. The set of questions should also contain the same information. Meanwhile, there are no such formal tests for young reindeer herders, when they start their working life. One can test these competences, by allowing fellow community members to evaluate or judge the abilities or skills. The level of possession of different skills and knowledge areas can also be an important marker for the success of the future reindeer herder.

There is no formally accepted concept of competence that a student must possess before the end of training and education in secondary schools in various countries. Different researchers describe the skills and competences that children should possess, see more in (Stepanov 2017). Stepanov refers to Smith (2006) and Weinert (1999), who analyse the competencies that a person should possess at the end of educational process. Among the competences are cognitive abilities and skills that individuals have or are able to master in the learning process to solve certain problems, as well as their associated motivational, volitional and social readiness and abilities that enable them to successfully and responsibly solve problems in complex situations (Stepanov 2017:122). Although nomadic Tundra children, because they are following the same school programs as the settled children, possess different types of competence. In addition, the nomadic children possess many skills, but these skills are of different character and types.

Another dilemma is that in the indigenous as well as in the non-indigenous world it is fashionable to complain about the gap between generations and that the traditions are dying. Perhaps it is a natural consequence of the modernization, or acceleration of history as many

researchers commented, for instance (Rozov 2015). If each generation lives in its own era, the legacy of previous eras may simply not be useful for the next generations. But without the legacy of previous generations the people on the Tundra will not survive. And they may only acquire this knowledge from living on the Tundra. Both kinds of knowledge can and should be used by reindeer peoples today, according to my interviews (Interview 17).

Today, most of the children are getting their compulsory education by staying at boarding schools. This right is guaranteed by the state (Sazhin 2012). The school year of nomadic children does not differ from that of children from settlements. The process of transportation, organization and difficulties that Tundra children meet at the beginning of the school is described in Paper Six: “At the end of the world”.

3.3.2. Implementation of indigenous knowledge in the curriculum

During the interviews with teachers and administrative staff, including the director (principal), at the boarding school in Yar-Sale, where I did some of my fieldwork, I received the following information. From the age of approximately 7, children are picked up by a school helicopter from their families living on the tundra for transportation to a settlement boarding school. Then they usually go through an adaptational period for about one month. For Russian speaking children, it is often easier. The school also has teachers who speak their native language, which is of help to the children who do not speak or understand Russian.

However, majority of teachers are still Russian, and they often do not understand or appreciate the culture of the Nenets children they are teaching. This situation can lead to nomadic Nenets children being marginalised by the formal educational system and being structurally and systematically disadvantaged. Some of the teachers and administrative staff explained the Tundra children’s readiness for school:

[Unlike other children, Tundra] children have a more narrow view of life (krugozor), and limited vocabulary [in Russian]. Therefore, we are working on expanding their horizons,

memory, attention, thinking. So that the school material is more easily acquired (Interview 22).

After the adaptational period is over, the children do not get any specific or additional teaching support, except if the child is recognised as not coping in the classroom. Then they will be placed in special groups known as “classes of special correctional education”. In Yar-Sale, there are two categories for children who might be described in western education as “children with learning difficulties” or “special educational needs”: 7th and 8th, where the first one is for children with «developmental delay» and the 8th is “heavy” [teacher’s word, mean difficult to educate] children. In order to get into this group, a child should go through a procedure by the so-called “medical-pedagogical commission”. Only after this commission reports to the school, may a child go through an individually customized study plan.

One of the most vulnerable groups, are children of previous nomads, who, as a consequence of internal/ external influences, moved to a village and became *Njadena* (settled). These children are now raised by parents, who sometimes cannot adapt to the settled way of life. And, because they have lost a lot of their IK – components, they cannot live on the Tundra either. Therefore, they cannot provide both the necessary care and knowledge for living in a settlement or the traditional IK-skills needed for living on the tundra. Some of them turn to alcohol to “escape from the reality” (from interview with teachers). In the system, they are defined as “dysfunctional” families. One of the “special teachers” (title for teachers working with special cases and children), Tatiana, explained the situation of such families:

Today, we have one family, which is officially registered as a “dysfunctional family”. At the same time, it is difficult [to register them]. Finding out [when the family gradually become dysfunctional] is a complicated issue. The nomads do not officially inform us about the changes in their status (nomadic/settled) officially. The misuse of alcohol, drugs and other consumption is not difficult to uncover, but to register it is again a complicated process. First, the police should visit the family and write a report about a child’s condition. Only then we can question the parents rights.

Then the children will be taken into the same boarding-school, but on a different basis: now as a child from a dysfunctional family. In general, the education of the Tundra children's education is built on the same principles as any school in Russia. Due to the fact that most of them are indigenous children, the school must follow special "okrugs" school subjects. Thus, there are a few "indigenous" subjects.

Altogether, pupils are getting IK through the school year in this way:

Native language and literature – 2 hours a week (one hour-language and one hour-literature).

Children from grade 5 to 9 have the following subjects.

Culture of the people of Yamal – 1 hour a week. For children from 5,6,7 grades.

Geography of YaNAO – 1 hour a week. For children from the 8th grade.

During my second fieldwork period, when I was working in a school, I received an invitation to join other teachers to participate in a so-called "open lesson". This lesson was prepared by an indigenous teacher, Polina Maksimovna Sandomina, Khanty by nationality (Khanty are a neighbouring indigenous people, 30,943 in number in 2010) (Rosstat 2018b). She chose the subject of making "the Akanj doll". During the lecture, children got to know about the role of Akanj in children's education. After the lecture, I asked her about this tradition.

According to her:

The traditions of the people are gradually lost. Akanj is our tradition, a Khanty doll. These are sacred dolls that we give to each other. It is a symbol of femininity and helplessness (meaning that a woman is physically weaker than a man). The doll helps us teach the skills of adulthood [to children]. When I am teaching, we – I [and children] must sit down with faith. The doll has no face or other human features.



Usually, the school curriculum does not include this kind of knowledge. This was an exceptional case. For the “open lecture” a teacher can choose any subject or topic. After graduating from school, children in Yar-Sale usually get their certificate in June, after grade 9 (junior high school) and 11 (high school).

In the NAO, IK is introduced from the first grade. The total number of hours is not much:

We have three hours for the Nenets language. I think this is very good... The new standards are an improvement on the old, before that I always had two hours. One hour, for example, at the beginning of the week, and one by the end. And then I have time to repeat, and if there is new material, then in the third hour I can summarize and repeat with the students... (Interview 10).

On YaNAO, this specific area of pedagogy is called “Ethnocultural education” (*Doklad, YaNAO 2017:20*). The main idea behind the introduction of indigenous knowledge in the curriculum, according to this report, is to try and revive, preserve and develop the traditional industries (livelihood) of the indigenous peoples of the North. Along with the implementation of IK-components in the school curriculum, the introduction of a system focused on the continued education of teachers carries with it a positive and beneficial socio-economic effect (*ibid:22*).

4. Transmission of indigenous knowledge

*We are born moving and we will die on the move.
Denis Hudi, Yamal Nenets herder*

In this chapter I will try to explain another main theme of this thesis: The Transmission of Knowledge and the answer to the question: What a child should learn, so that he or she can become *Tenevana* (knowledgeable)? I will explain this with examples of the different abilities and skills required of future reindeer herders. Viewed from a systematic perspective, I will explain how instead to become *Tenevana*, they often end up as “dysfunctional”. This is a focus and a core aspect of this thesis.

4.1. The transmission of knowledge

4.1.1. Learning Tundra Nenets skills on the Tundra

In ethno-pedagogical science on the fundamental level (sedentarism – nomadism), nomadism is decreasing. Due to the educational system, there is a conflict between nomadism and sedentarism as a way of life. The Russian state’s interests are unsupportive of the traditional nomadic way of living and way of thinking of nomadic Nenets people. This process, as it is described in scientific literature, is affecting similarly on the adolescents after boarding school education. According to Laugrand & Oosten, “the children no longer resided with their families, the traditional patterns of educations were not available to them, and they found themselves alienated from their parents...” (2018:85).

Therefore, the abilities and skills included in Nenets IK, compared to the volume of formal knowledge taught in the classroom, are a very small part of school teaching programs. Some of IK knowledge components can be included in the curriculum in school. However, there are types and components that are impossible to learn in school. My informants talked about the

different qualities and abilities of a “real reindeer person”. These skills are mostly different types and components of IK within the labour education in the family.

Thus, the knowledge about medicinal treatment, plants, and first aid in Tundra is also within the concept Tenevana, which is also an example of the values of being strong, self-reliant (children learn to be independent from early childhood) and being hard-working (most decent people work). These statements are also partly documented in the articles of this thesis: in Paper Three: “Catching a child” and Paper Four: “Skills come with experience”. Here an informant from the Little Land Tundra explains why it is important to pass on knowledge to the next generation:

It is necessary to know pastures, in reindeer husbandry, you know, reindeer herders need to know these areas. Winter, autumn, spring and summer pastures, one needs to move all the time. And not stay in one place. We usually move every 10 days. In order not to destroy these pastures. We move at least 10 km. In July, when [sometimes] it is terribly hot, we do not move. Autumn is very difficult, especially when the mushrooms appear. They [the reindeer] go crazy... We must be clever about everything... They [outsiders, here referred to as researchers] think its so simple (Interview 3).

Most importantly, because they are physically present, the children learn the structure of summer pastures and the colours and appearance of the animals. They learn about nature around their dwellings and along the route and the nutritional composition of plants in the pastures. They acquire knowledge through observation and by working together with their parents. They learn, for instance, how long a herd may graze on different types of pastures and still maintain the sustainability of their feeding locations and resources.

The child is learning a lot, spontaneously, by playing and copying in their play different types of activities. The child's education and the process of upbringing and shaping the right behaviour are influenced both by individual members of the community, and by other, non-members. However, the Nenets do not get a lot of visitors in the Tundra, thus the influence of outsiders is less significant. If we compare the children in the Tundra with children in settlements and look at the influence of the technologies and internet in self-education, the

difference is still large, as one can imagine. The influence from the world outside is much stronger today, and this is not necessarily always positive. How much knowledge will the mothers or IK bearers manage to pass on to the next generation by means of the methods I have described, technologies and other, indigenous ways of transmission?

4.1.2. Abilities and skills of a future Nenets reindeer herder

In her theory on “Upbringing in the Tundra”, Turutina (2007:6) provides a few examples of moral qualities: kindness, humanity and responsiveness. Moral qualities, like abilities, may vary and they are not separated from each other, according to my respondents and my analysis of the fieldwork materials. Therefore, I will examine qualities and abilities together, on following examples:

The quality/ ability to be honest:

Our parents brought us up to be always honest, hardworking, to do things in such a way that no one would have to second guess your work. And you yourself were pleased with your work. And they showed this example of conscientious work to the younger generation. We worked in any weather. We worked in severe frosts, as our parents did. We went hunting, grazing reindeer. The winters back then were fierce, minus 50 degrees and more. But nevertheless, it was necessary to support a family, to get firewood, and to get food (Interview 12).

The quality/ ability to trust people (often, by outsiders this quality compared to naivety):

The Nenets do not lie, they do not cheat. For instance, if he says that his head hurts, then he is believed. It is true. Someone told him that the Russians do not believe mere words, they need a piece of paper. You must, no matter how your head aches, either call a doctor at home or go to the clinic, see a doctor and they will give you a piece of paper confirming that you really have a headache! (Interview 1).

The quality/ ability to be rational:

If we take the Tundra Nenets, then there is no one more rational [than them]. Because the nomads of the Tundra must be rational, otherwise we would not have survived in our snowy Tundra. [The nomads] are self-organized. Everything is rationally organized: near the tent, inside the tent, in the Nenets sledge, in the Nenets caravan, inside of the sledge, even inside of the tuča (woman’s bag)! The Tundra people’s thinking is rational. The organization of the workplace is rational. Absolutely! Order is everywhere (Interview, 2016).

The quality/ ability to make decisions quickly:

We have to do everything in the Tundra quickly, during the daylight hours. We have to manage to do everything! But for them [Russians] it is not necessary to hurry! They measure the same day by hours! These are the nuances. We need to explain to our children that they might not get a second chance!

There is a difference, not only in relation to time, the Tundra space and the landscape differs from the settled world. The ability to navigate the landscape is something each boy should know by a certain age. Especially, when he is entrusted a herd for a nightshift. The knowledge of fish, lakes and rivers is important for all adolescents.

The future reindeer herder should be quick, sharp-witted, hard-working, easy-going. A real Nenets should be able to raise a reindeer herd. According to their values, the more reindeer, the better it is. If there are reindeer, the rest can be produced/ made/ created by people themselves. Along with the Tenevana concept, children should learn and understand the concepts of *njadena* (settled) and *njadèlc'* (to settle down) and *mjuserta* (nomadic), which relates to the word *ila(s')* (to rise up or move to the Tundra). In the world of nomads, the life on the Tundra is something to which everyone should seek and aspire. This world is “clean” and free. By contrast, the settled life is not for everyone. Due to genuine differences in the understanding and perception of time and space, as I am explaining in Paper Six: “At the end of the world”, the former nomads have difficulties adapting to certain aspects of settled life. Some informants also emphasize the concept of co-operation in the Tundra:

The Nenets have always solved their problems on their own. They depended on no one. Even in the hungriest years, when the reindeer died, people would never fall into despair. First, they never let each other go under. The families were large, the people had relatives. They knew that it is impossible to survive in the Tundra on your own, therefore they always supported each other. Nobody was going to beat their heads against the wall. We had no walls either (Interview II).

Boys are considered to be mature and are allowed to work as assistant herders at the age when they receive their own sledge and the reindeer to pull it, at approximately 12-14 years. The age of mastering all types of women's work is 16-17 years. Girls at this age can work and teach

others. At the same time, boys should learn to be active, as being passive bystander in reindeer herding is unacceptable. Whilst, girls should learn patience, know cultural values, taboos and other immaterial types of IK components. This was also emphasized by several female informants.

At the same time, they must learn the capacity to adapt quickly, because the Tundra life is changing. Some must stay in the village and assist their nomadic relatives. Many adolescent respondents mention that they have elder siblings on the Tundra. The composition of siblings is especially important. According to their answers, out of 142 brothers and 129 sisters, 29 brothers and 22 sisters are working in reindeer husbandry. Thus, in case they do not manage to graduate from school or find proper work in the settlement, they can always rely on these relatives on the Tundra. This fits with the theory of “ethnos-demos” and “ethnos-society” (Klokov & Hrušev 2008) which focuses on the leading role of endogenous factors, such as large families. Therefore, on Yamal, neither language, nomadic lifestyle nor IK are not yet endangered, as long as families are moving together (with their elders).

I found that the school system is functioning in accordance with the goals set by the state:

- 1) that children should learn to live in modern Russian society;*
- 2) to permanently settle the several nomadic communities located in the Russian arctic;*
- 3) to reduce reindeer herds to match available grazing areas, because pastures shrink every year due to oil and gas industry exploitation, among other reasons.*

According to the Nenets, the school system is not functioning well enough to help Nenets children to learn indigenous knowledge. I will explain this further in the next chapter. Children have to acquire all the knowledge in a mere three summer months. Based on interviews and questionnaires, I found that along with specific nomadic Nenets, skills and abilities and qualities there are several more values that are important when you try to raise children on the Tundra: mutual trust, mutual assistance and supporting each other. Girls of Forest Nenets should be

brought up to learn modesty, diligence, accuracy and obedience, according to Turutina (2007:6). It is worth noting that I never heard of obedience being a necessary quality among the boys. In addition, nomadic children should possess abilities like independence of thinking, speed in decision making and originality in problem solving.

4.2. Knowledge transmission throughout the year

Nomads attach much of their philosophy of life to the landscape (Vy - Tundra), therefore I am providing a detailed description of the calendar, based on their annual movements (this is also described in Paper Six: "At the end of the world"). Since the children are in the Tundra only for three summer months, it is important to understand what they learn during this time and what they are supposed to learn (of IK) during the whole year.

Even though the nomads have never grown and harvested their food like the settled population – farmers and pastoralists, their year is also divided into two cycles, or - as the Nenets themselves say - *Po* (Year). The first cycle is called *Syra* (Year – Winter (cycle) and the other is *Ta'* (Year – summer (cycle). The Nenets woman's year is also divided into two cycles - the cycle of collection and the cycle of consumption. This subdivision depends directly on the cycle of nature, the northern nature's rapidly blooming and almost instantly fading fertility of the land.

The calendar year for nomadic Nenets is different from the Gregorian calendar. It is not 12 months, but 13 months (Interview 8). According to researchers, there are many different calendars, because of the variation due to the different geographical conditions of Nenets' habitation, the profile of their trading and economic activities, as well as climatic conditions (Susoj 1994:47). Some researchers, for instance Golovnev (1995:298), have collected data about 14 different calendars. Other, well known works on the Nenets calendars are published by the Nenets and Russian ethnographers, such as (Černecov 1987; Harûči 2012a; Homič 1995).

Figure 2: Map.



No.	Name in Nenets language	Name in Russian (ISO transliteration)	Name in English	Translation of original place name segment
Nenets Autonomous Area [Neneckij avtonomnyj okrug]				
1	Jabta-Sale Ja	Kaninskij poluostrov	Kanin Peninsula	long, narrow cape
2	Timenskoj Ja / Tim Vy' / Timečkoy	Timanskaja tundra	Timan Tundra	From timbja (split) referring to rocks split along shistosity; word origin from legendary Sihirtâ people
3	Njudi Ja / Nudi Ja	Malozemel'skaja tundra	Little Land Tundra	little land
4	Njarka Ja	Bol'sezemel'skaja tundra	Big Land Tundra	big land
5	Jugor	Jugorskij poluostrov	Yugor Peninsula	ambiguous origin Yugra: historical name of land and people between Pechora River and Urals
6	Holngov ŋo	Ostrov Kolguev	Kolguev Island	corner, hill island
7	Vajhabc'	Ostrov Vajgač	Vaygach Island	death island
Yamal-Nenets Autonomous Area [Jamalo-Neneckij avtonomnyj okrug]				
8	Ĵorvoš rajon	Šuryškarskij rajon	Shuryshkarsky District	(from Khanty lang.)
9	Pe"hevhy rajon	Priural'skij rajon	Priuralsky District	by the Urals
10	Njadei Ja	Nadymkiy rajon	Nadymsky District	lichen land
11	Pur'rajon	Purovskij rajon	Purovsky District	mighty river
12	Njaryj mačy rajon	Krasnoselkupskij rajon	Krasnoselkupsky District	(from Selkup lang.)
13	Ja'mal	Jamalskij poluostrov	Yamal Peninsula	end of the Earth
14	Sèr ŋo	Ostrov Belyj	Bely Island	white island
15	Tasu'Java"	Tazovskij rajon	Tazovsky District	flooded river
Taymyr Dolgan-Nenets District [Tajmyrskij Dolgano-Neneckij rajon]				
16	Tajmyr Ja	Tajmyrskij Poluostrov	Taymyr Peninsula	ambiguous origin

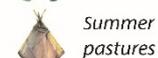
Legend:

Regional boundary

Boundary between region and associated autonomous area

District boundary

Summer pastures



Winter pastures



Compiled by Zoia Vylka Ravna (Norwegian Inst. for Cultural Heritage Research, NIKU) and Winfried K. Dallmann (University of Tromsø)

This calendar is the so-called "Folks calendar", which is not officially recognized. The folk's calendar is an approximate categorisation of physical time and space, based on mythology and observations of natural phenomena, such as moon phases, the arrival of migrating birds, the appearance of the sun after a polar night, and so on. Each month is filled with its own, inherent kind of work and economic activity.

The *Syra* (Year-winter) begins with the first snow, usually includes the months from October to March and the *Ta* (Year-summer) starts with an ice drift (from April to September). Autumn in the Nenets language is *Ḍèrë / Ḍèrëj* and spring is *Nara* and *Ânuj / Venuj*.

There are variations in the names, depending of the geographical positions. In the language of the western, European Nenets there are many words and names that are written differently (see table in Appendix). The word for month is *Irij, Iry* (in dialects east of the Urals) - this word denotes the moon, which is typical for many other northern peoples. The day is *Âlâ* - this word denotes light, while the night is *Pi*. The word Time is *Ël'c" (n)* and a calendar in Nenets is connotation *Po tolobava* (Time counting).

A reindeer year for Nenets children can also be divided into two: the first part, the shortest, is the summer. Then the children move with their families. The families move with reindeer, dwellings (tents), supplies and equipment between 300-500 km. in the western Tundra. The longest route is taken by brigades of SPK (Agricultural Production Cooperative) "The path of Ilyich", which is up to 500 km. On Yamal, some of the brigades move between 1,400 - 1,800 kilometres each year (up to 550 km. in summer). In addition to the interviews with reindeer herders of this brigade, the data collated during interviews with female informants are used to show the variety of IK- components. My description of the economic activities during a year, including harvesting of wild plants, processing and conservation of fish products and further storage, is based on the 2015 (two fieldwork periods) data. The following text is about Brigade No. 5 of MOP (Municipal enterprise of reindeer herders) "Âr-Salinskij".

4.1.1. Syra (winter)

On the territory of European Nenets and Siberian Nenets, winter starts at the end of October. Every herder should prepare to move over the rivers, as soon as they are covered with ice. The herders that have summer pastures in the Yamal Peninsula move to the south side of the mighty river Ob. Some of the European Nenets groups move to the other side of the Pečera River. The pastures there are the main reason for this southern migration. The Tundra-forest and the forest are rich in lichen that the animals can get hold of during the winter.

The main activities for reindeer herders in winter include grazing reindeer and providing good pastures with a lot of lichen (currently there is not much other food available for them). Then, there is hunting, for instance for ptarmigan (*Lagopus lagopus*); fishing and the gathering of Chaga -mushrooms (*Inonotus obliquus*), the qualities of which are described in Paper Three: "Catching a child".

October is given the name *Hor Iry*" (the month of the rutting of reindeer). A mass rut begins at this time. There are often clashes between males. Reindeer (castrated) lose their antlers in October. Other reindeer (males) are starting to look for females. The herd should not be disturbed at this time of year. Herders are only watching the herd, trying to keep animals together, waiting for the rut to end. After the rut, the camp moves to the winter pastures. Nowadays, the time for moving is regulated by the authorities. Private herds, however, may move as they wish. The difference between a "private" herd and any other type of herd is regulated by the authorities.

Men are then working with cutting, drying and the preparation of special types of trees for reindeer sledges, for poles for the Mâ (tent) and other necessary equipment made from trees. Women spend the wintertime sewing new clothes for their husbands and children, as well themselves.

On the other side of the Ob, we allow the reindeer to graze freely. While we are there, we prepare details for sledges; poles for tents and we move occasionally. When we are back on this [summer pastures] side, we make sledges ready (Interview 17).

During these months, when the weather is nice, people travel to visit their friends and relatives.

The darkness is not any hindrance for travelling, even for long distances. Usually the Nenets travel at full moon.

She took me across the Tundra... Nenets usually ride when the moon is full. Well, its like a streetlight. She will sometimes say, oh, we must hurry, already "laborovos' mè!" – it will soon break off. I think by myself that the moon breaks apart into pieces... I remember, she took me from herd to herd. I wake up sometimes in our sledges: the stars shining, and we are alone. Women, can you imagine, all alone ride on a reindeer sledge in the Tundra! (Interview 3).

This female respondent was not the only one travelling alone. Another informant told me her story:

I knew the route well. I do not need any Jasavèj (pathfinder)... I knew the Tundra very well... One should know Nezemendja (lead reindeer) well. When you are planning to travel great distances, you take two Nezemendja. On the way forward, you use one Nezemendja and one the way back the second one. The first one is then harnessed on the right side. Which stood on the right, i.e. Pelej, will be harnessed to the left. It was interesting [to travel] (Interview 2).

During the winter, people do not move often, once or twice during a month. Therefore, sometimes, they refer to these periods as "holidays". At the same time, herds need to be watched, because of predators. According to respondents in different areas of the Tundra, the situation is better now. Before, there were many more predators. The herd used to be watched by two or three armed herders. One informant remembers these years:

Then, there were a lot of wolves in the forests. It was terrible, how many wolves! When we went to sleep, we even took our dogs into the tent. In order to protect them, because we had the feeling that the wolves' eyes shone in the darkness... Once, of course, at night, many reindeer were killed. It was most likely a pack [of wolves]. Herders silently collected the carcasses... Pregnant females... Young females with calves... There were a lot of wolves then, it is not like this now. Now, people have become like wolves themselves (Interview 3).

Today, there are not so many wolves or other predators, but many poachers, that are shooting domesticated reindeer. That's why this informant compares these people with wolves. A young male from completely different area, the Tajmyr, gives a similar response.

I am private herder. Our herd has about two thousand reindeer already... We manage to grow the herd. First, the wolves are gone [extinct]. Secondly, we learned how to treat diseases. We are buying first-aid kits, for veterinary treatment. Thirdly, probably, we learn how to think (Interview 18).

The last sentence refers to the concept of Tenevana. As this young herder explained, he is supposed to make decisions on his own now. Because many of young herders of his age have grown up in boarding schools, they haven't learnt about winter pastures or other winter activities and skills by experience. Thus, he is saying “vzât'sâ za um” or literally “to come to one's senses”. A man becomes Tenevana, or knowledgeable, after the actual training of youth. He gains experience through the work in the Tundra, under the supervision of the elder, more experienced herders.

At the end of winter, the reindeer herders usually count their animals. For Brigade No. 5, this is usually done at Nâby Si'vy (the meadow surrounded by forests). When the count is completed, the intensive move to the north begins.

In the middle of March, we count our animals [of reindeer]. We do this, according to the circumstances, when we manage to collect them all. We do it in a certain order, we pass the herd through corrals... Usually we do it in March 25-26. Last year, however, due to ice, we started on March 10th (Interview 17).

Late March and the beginning of April are known as the Month of False Calving, because the very first calves are born at this time. This is also a time when Brigade No. 5 must cross the river Ob. Sometimes the brigade moves up to 60–70 kilometres each day. They are in a hurry because of the melting snow. May (the Month of the Ordinary Calving) and/or the Month of Singing Water is the most hectic month for reindeer herders and their families. Calves are born every day and it is necessary to keep close to each of the new-born calves. In June, the last

calves of the year are born. Usually, the herd is split into two parts: the calves and their mothers, while the second part consists of other reindeer.

Young people are trained to help with the calving this time of the year. One of the women told me how:

I lived in the Tundra for a long time. I worked as a herder sometimes. During calving in spring, the different parts of the herd are separated. I finished my 7th grade in school that summer. The family was big. Mom was sick all the time. Then, the father told us [me and my sisters] that some of you will continue to study, and some will need to help mom. I was a very active energetic girl, so I stayed. In the spring, when the male reindeer were separated from the main herd, we need two herders to watch the herd. One - at the head of the herd, and then usually an experienced herder is watching the calving. I have always been there, at the head of the herd. After one or two days, I was moved to watch the male reindeer part of the herd... because it was necessary (Interview 7).

Since each female reindeer remembers where it was born, she will return to the same places, year after year, to give birth. The reindeer herders know this, and therefore they are all in a hurry to get to these places in time. The calving sites require a very specific set of natural conditions. The reindeer mothers are trying to find open spots on the ground. There should not be too many trees, preferably small hills, where the snow melts first. The reindeer herders try to help female reindeer by protecting them against predators, such as polar fox, wolf, owl, buzzard and eagle. Also, there are often blizzards at this time of the year.

The herders also have another observation for snow blizzards at this time of year:

“The wind in June is breaking the ice on the Kara Sea” (Yamal, 2015).

Spring fishing now begins. Women must pack all winter things and store them for half a year. The solution for storing of winter covers for tent, winter clothes and shoes represents the accumulated experience of generations of nomads. Since the route is always the same, the Nenets leave winter equipment in cargo sledges, which are left in open, windy places, usually on the top of the hill.

This place should be reached between 10th -15th of June. It is a time, when people change the winter covers (see more in Paper One: The nomadic Nenets dwelling “Mâ”) of the Mâ (tent),

winter shoes and clothes to summer covers, clothes and shoes. They are waiting for nice weather, when it is dry and sunny. All the equipment made from reindeer hides should be dry, before it is stored for approximately five months. Brigade No. 5 usually store the winter sledges near Ûgly Po'se. Women and men pack and tie the sledges and leave them until the autumn. Then, on the way back, usually between 10th to 20th October on the way to winter pasture, when the nights become colder and first snow can already cover the earth, the brigade will come to this place again. Then the summer sledges will be changed to winter sledges.

Stored winter clothes, shoes and tent covers will be taken out for usage in the wintertime. The summer things will be packed for the next year. Usually, children's sledges, toys, clothes and other equipment, like fishing nets will be also packed for storage here, because the school helicopter takes the children to the settlement. Other Nenets people never touch these sledges, because it is their custom. Neither do predators destroy it, because it is too far north, as the reindeer herders explained to me. By contrast, the southern brigades may sometimes have their sledges ruined, turned upside down or destroyed by larger animals, like bears.

The main principle for such a logistical solution is to avoid carrying "everything at the same time". The summer sledges are lighter in weight, but in contrast, they can be easily broken in winter. Since the reindeer are used as transport animals both in summer and winter, and for both cargo and passenger sledges, construction and the weight are of great importance.

During the winter, brigade No. 5 travels about 20-30 km. a day during one movement (Yamal, 2015). Of the 88 sledges, approximately half are used as "winter" sledges (they are built heavier, longer and higher). Other sledges can be used for the whole year, usually these are passenger sledges. The list of sledges with explanation is provided below (see Appendix).

Figure 3: Caravan.



The caravan reindeer appear in the following order: *Nerdena* (in front), *Muzandana* (leading), *Pudana* (the last). (Interview 17).

4.1.2. Ta (Summer)

In summer, the brigade moves almost every day. Their journey terminates on the northwest side of the Yamal Peninsula by the Kara Sea. Out on the Yamal Peninsula, the reindeer gets relief from annoying mosquitoes and other insects and can graze peacefully. By the coast, the animals have access to good and lush pasture with green grass, leaves and other green food. Later, on the way back, reindeer will start to search for mushrooms at the end of summer. The whole peninsula is rich in fish both in rivers and its countless lakes.

Fish is the biggest and most important part of the everyday menu in the summer. There are many types of fish. Among them are Arctic char (*Salvelinus alpinus*), Arctic cisco (*Coregonus autumnalis*), Sig-pyzhyan (*C. lavaretus pidschian*), Muksun (*C. muksun*), Brod whitefish (*C. nasus*), Pelyad (*C. peled*) and Nelma (*Stenymus thymnus*) (Bogdanov & Melnichenko 2016). The fish are eaten boiled, raw or fried over a fire. Reindeer herders use fishing nets which they set at the end of large lakes. One or two experienced men usually go with the adolescents to

fish, just after the brigade stops to build a new camp. While the women and the oldest children set up the summer tent called "Tany Mâ" (Paper One: The nomadic Nenets dwelling "Mâ"), collect firewood and drinking water, the men often return with a supply of fresh fish. The fish are usually divided equally between all those living in the brigade. Reindeer meat is rare at this time of the year. Only on special occasions can you slaughter for food during the summer. The workday often starts at night. Unsurprisingly, nomadic people do not follow the same rhythm as settled populations.

There is a proverb saying that there are not Nenets for reindeer, but reindeer for the Nenets. A Nenets obeys the rhythm of the reindeers life. He gets up at 4 am in the winter and in the summer. As soon as the birds twitter, he gets up. I remember – we sleep, very well, about 4 in the morning. Father, standing on a sledge, claps on the walls of the tent: "Still sleeping?" We get out, quickly. You cannot hesitate; especially in the summer. The gadfly will destroy the reindeer; they will lose weight and their skins will become bad, thats all (Interview 4).

Summer is also time for gathering eggs, hunting goose, ducks and other types of birds. According to Nenets custom, only one or two eggs can be picked from one nest. None of the other eggs should be touched. Late in the summer, Marangga (cloudberries *Rubus chamaemorus*), Lamtuj (blueberries *Vaccinium myrtillus*) and at the end of August, Enzedej/ End'ej (lingonberries *Vaccinium vitis-idaea*) and Harë ngodâ (cranberries *Vaccinium oxycoccos*) are ripe. Then women and children go to pick the berries.

August *Pilû irij* (Botfly *Hypoderma tarandi*) is also the month for the slaughter of this year's calves that provide hides from which the Nenets sew new clothes and shoes (see more details in Paper Two "Nomadic Nenets women's sewing skills"). The men select calves, slaughter them, and cut the meat while the women dry their hides and prepare them for further treatment. At this time, girls learn the basics of reindeer skin preparation, as well as *Pena* (the hides from reindeer feet) used for sewing shoes and bags. Children also help by placing hides over the sledges, in order to get them dry. Boys learn how to repair fishing and hunting equipment, how to shed *Tynzâ* (lasso), slaughter and cut the meat as well as how to find fishing spots.

In addition, the elderly generally spend a lot of time telling the youth about traditions, special signs to be thoroughly familiar with in these areas, as well as stories associated with certain or special places. As for the women, many summer evenings are dedicated to sort, arrange, pack, and make new clothing. The men at the same time arrange winter equipment like making new lassos, repairing sledges, or fixing the harnesses they use for transportation.

In September *Veba'ha'amva irij* (The month of Fall of leaf) also called *Selbjja irij* (the month of ossification of reindeer antlers), the brigades and their reindeer start slowly to move southward towards the winter pastures.

For all nomads this phase is also a very stressful period in terms of emotions. Children leave for a long time. The changes that are happening with Brigade No. 5 not only decreases the human population (since all children of school age are absent), it also decreases the number of tents. In the summer of 2015, there were four tents in total (in Brigade No. 5), because one of the brothers to O. joined our camp. This is another logistical solution, created by the Nenets nomads.

In summers, when the *Dovta Dÿsy* (joint grazing), usually at end of June, beginning of July, the reindeer herders join together. As they say, “the gnats gather reindeer” (Interview 17). The main reason for joint grazing is that in summer it is easier to watch and protect larger herds than smaller ones. But there is a need for more herders.

Depending on the livestock, if he for example has 500 heads of reindeer, then he needs to change the pastures much more often. In other words, having many reindeer is good, having few is bad. The one who has fewer reindeer is more mobile. At the same time, you have more control over a smaller herd. The one who has a lot of reindeer can share these. It is more profitable to have more people [herders] (Interview 17 and fieldwork book 3).

In order to get a picture of the whole year, I will shortly describe the year of one of the nomadic groups of European Nenets, one of the private reindeer herders (based on interview 20).

The winter pastures are situated in forest and Tundra-forest areas, European Nenets use the Komi republic territory in order to get “proper” forest pastures. The herders do a detailed check of where the herd is grazing, then the whole camp follows as well. Sometimes they go "with a reserve" in two or three days. This means that the main herd is left behind, while the camp, with the tents and all the things, moves on for several kilometres more. This is done to avoid building new camps too often. They can stay for one or two months at the final camp sites. And the herd may graze quietly in one place. Sometimes they change to another route. Usually they move by the same route, but they may change it in connection, for example, with the provision of firewood. For instance, if there is no firewood in the old place, then the camp may be relocated to a new more forested area.

The usual movement of the herd is up to 15 kilometres per day, known as one *âmdanka* (Russified: from the Nenets verb *Âmbtanava/ Âmdanava* to move). In the summer, it is 4-10 km, but they will travel even further if it is required, in order to keep following the reindeer. Often, they move at night, because it is easier to walk on the wet fallen dew. Then the camp rests for a week or two. They usually plan their route, especially through the corrals, to complete the work, including reindeer counting, vaccination, etc. By mid-July, this is the period of summer camps. Then, on August 1st -2nd, they turn back, and on the 10th day of August they start to move again towards their winter pastures.

In general, the camps have a large degree of independence from the brigades. Mainly they adhere to the official map of movement and routes, provided by the authorities. But there are exceptions, for example, “The path of Ilyich” and “Ižma Reindeer-herder”, both border collectives. “The path of Ilyich” moves along the Karatajka river, almost to Amderma. These are approximate territories, and people agree these boundaries and routes among themselves. As soon they see that the pastures are empty, they occupy it. Because resources on the Tundra are limited.

4.3. Discussion. Changes in life on Tundra.

*What should we do in “times of great loss of reindeer”?
Otto Áptik, reindeer herder*

The transmission of IK and how the educational system is affecting possession of knowledge is analysed in detail in Paper Five: “A comparative system of anthropological analysis of traditional knowledge based on the example of Western (European) and Eastern (Siberian) Nenets”. In this chapter I am explaining the problem of transmission of indigenous knowledge using examples from the reindeer herding communities. These communities are undergoing changes, and these are caused by both inside and by outside influences.

According to the elders, the changes that are occurring now can be categorized as follows (without dividing them into human or non-human causes):

- Fewer girls and young women will continue to live on the Tundra;
- Decreasing number of elders in the Tundra (the needs of old people cannot be taken cared of due to a shortage of female workers);
- Increasing number of people in the nomadic community, compared to the late 1990s (on the Siberian side of the Ural Mountains);
- Increasing usage of modern artificial materials that do not decompose (for instance, diapers, canned food, plastic packaging, and so on);

Then, there are other problems, not directly influenced by the school-system, but the ability to solve these problems is dependent on the possession of IK.

- Unstable weather (temperature variations from high to low, especially in winters);
- Changes in the structure of pastures: sands are increasing, some places have increasing wetland areas, in other places lakes are drying up.

On the territory of the European Nenets, in addition to the mentioned changes, the lack of girls in reindeer husbandry has become a crucial problem. A lot of women were displaced in the Soviet years. My respondents categorize this also as one of the inside influences. Because it is an internal wish of parents to provide the necessary resources to educate their children (see questionnaire results); and to let children, especially girls continue their education. All these changes can be seen in the following interviews.

One of the reasons is also explained by a respondent:

Why the girls today do not want [to live in the Tundra]? I think it is because they went through the school system. Passed through boarding schools. The living conditions are much more favourable, there is an accomplishment there. Nice, warm toilet, shower rooms. Of course, now that they have this, they do not want to live on the Tundra. Other interests have emerged. Those who study in Nar'ân-Mar want to stay in Nar'ân-Mar. Some study outside the area, in Arkhangelsk, in Moscow, in St. Petersburg. Of course, it is more interesting to live there, life there is more fun, more diverse, fuller. There are places to spend your free time... to have fun (Interview 7).

Another important change that is more common now on the territory of European Nenets, is the displacement of elders. Due to the official policy, pensioners should leave the Tundra and move to the village. Since there are so few women to take care of the old and the disabled it is an impossible task:

I used to visit a man, from Âmb-to [Long lake]. He was an elder, placed in Indom (from Russian: invalidnyj dom: the disabled house). So, he wanted so much to go back to the Tundra. When I came to visit him, I used to give him a cell phone. I dialled the number to his children, and they talked. And he said all the time: take me, take me! He spoke in the dialect [of the Nenets language], I hardly understood him. ...Once, they didnt take him there for the summer, and he was so worried. So, when I came the next time, he talked to me as if they had already planned to go next summer. He says theyll come to take me! I need a bag. For my daughters-in-law, please buy the shawls. He then collected this bag. But they [his children] did not take him, and he was so disappointed... And the next summer I told his children: take him! He wants it so much, at least for a while! They finally brought him home the next summer, but the weather was so hot there and he died. From a stroke, or from something else. But at least, he was there! At home [in the Tundra]! (Interview 9).

On Yamal, this tradition is still alive, but for how long, it is difficult to say. One male respondent told me:

When I was a child, I was given for upbringing to another woman. Because she lost her son (someone shot him to death while he was studying [in the city]). Although O. grew up in the same tent with his own mother. Thus, I must provide care to another “mother” in her old age. Because of this [custom], for the last three years, when she could not walk herself, I carried her in my arms: from the sledges to the tent and back. So, she moved with us until her last days. After she was buried, I lived in that brigade, number 4, for some time and left. Later, when there was a crisis, I took leave to find out what to do in times of great loss of reindeer (Interview 17).

The matriarch in Brigade No. 5, “Big Mother”, mother of three reindeer herders, will be carried too, and she will continue to move on the Tundra as long as she is together with her children.

Along with social and economic factors, there are natural reasons for the changes. There is an ecological limit on the land, and everyone from the nomadic community is aware of this limitation. It is the only land they have. Their culture and life depend on these pastures, in which productivity is so low that reindeer would not survive if they don’t find a Nârèj (lichen grazing places) in winter, late autumn and early spring.

The process of destroying of pastures is explained by reindeer herders as follows:

This is a multi-step process. At first, the reindeer tread down and thin the [fertile] soil. Then, due to global warming, the temperature rises and contributes to an even more destructive environmental factor - the permafrost layer thaws. Furthermore, the permafrost does not penetrate as deep into the ground, and the sand masses come out, and rise. The protective layer again becomes smaller and waterlogging begins. And again - moss is being supplanted. Sandstones spread faster due to the wind (Interview 20).

Nowadays, reindeer herders also consider the traces after the camps as a problem, for several reasons. The Mâdyrma (campsite) after the Mâ-Tent can be only seen by the discoloured circle on the surface and garbage, which is usually cleaned up and collected in a nearby slope or pit. In order to get an understanding of the influence of these slopes or pits on reindeer herders, it is important to recognize their way of seeing nature and at the same time to use the scientific biological knowledge of processes of decomposing of different types of garbage in high latitudes.

The reindeer herders in Soviet times, when there were not so many private communities, had control over their pastures, because each brigade had a route and the campsites (not a tent)

were always built on the same place, within a few square km. Now, due to the changes, there is almost no control over the private communities, the campsites are chosen at random, according to the whims of each reindeer herder:

Now, there is a Mâdyrma on all the hills here (Interview 17).

The consequences of these campsites are heaps of garbage which does not decompose. Due to changes in habits, like the use of diapers, plastic toys, bags and different objects made from artificial materials, littering has now become a problem in previously clean Tundra areas. This pollution is spread by the nomads, not caused by the industrial development in this area. Generally, the changes can be both positive and negative, according to the reindeer herders. There are a lot of variations in the use of indigenous knowledge under changing conditions:

The old people were moving; they were trying to not “destroy the land”. They were not leaving any garbage behind. Today there are childrens diapers. Earlier all the surfaces on the Tundra was cleaned. Now, when we arrived at our campsite, there is garbage everywhere. A. is trying to clean everything up, including the boxes. Old tin cans are usually buried (Interview 17).

Another problem on Yamal, connected to the increasing of the number of herding communities, are structural changes: reindeer herding has become more and more focused on meat production; therefore, the number of animals is now at a critical level of carrying capacity (approx. 750.000).

There is less and less lichen for the reindeer (Interview 17).

The economy of each individual family is often vulnerable because it is based solely on the number of reindeer owned and the subsequent financial income produced by that reindeer herd. Too many reindeer have problems getting enough food. Then, many reindeer starve. Another reason for the death of reindeer is natural disasters. For a number of reasons, the death of reindeer is not something unusual, it is in fact more common because of disasters in recent

years: death from hunger in 2008 and 2013-2014, death from anthrax in 2016, death of calves in the spring of 2017.

The catastrophic year was the winter of 2013-2014. The first year's calves were all dead. From the total number, 10% survived, the year calves all died. Less than half of the adult ox population survived, because the stock has been exhausted. The transport reindeer, usually oxen, are constantly exhausted, and the animals are heavily emaciated by spring. Almost all female reindeer survive (Interview 17).

The brigade at that time had about 120 reindeer. This informant had only 30 left from 60. Some of his reindeer were mixed with other brigades or private herds. He had to go to Salemal by the river Ob to collect his reindeer. Some of the nomadic herders become involuntarily settled. The herders talk about losses without emotion, but I can see that they are sad.

2015 - the second year after the terrible 2013, when 1/3 of the total livestock fell (half of the unrealized production), if you include unborn calves. The year started hard. Despite all the efforts of the reindeer herders, we came to Ûribej too late. Since the herd was so weakened. We waited for a long time, about three weeks, because the rivers thawed earlier [than usual]. Spring took us surprisingly early. We usually cross over the ice. In 2015, everything was already melted (Interview 17).

Some of the changes are critical. For instance, they are facing more frequent climate changes. The reason for abnormally rapid melting of snow and ice, the reindeer herders explained to me, are many sunny days, plus high temperatures. All of it influenced the ability of herd and people to cross rivers. Therefore, at the beginning of my field work, the whole human community of Brigade No. 5, was stranded on the southern coast, whilst herders and the whole herd, including the transport ox, had crossed to the other side. Because of this, the son of one of my informants was left to stay in the village. He was lucky to get work as an electrician. However, he was not envied by the other nomads:

It is impossible to predict [these changes]. The old men in the 1970s survived a total loss of reindeer. All the reindeer died. People were left without reindeer. They sat down in the villages. Became carpenters, etc. A few were left in reindeer husbandry and managed to rebuild the herd. These were able to restore the herd and [help to return to Tundra] (Interview 17).

This shows that changes affected the people and the herds in the past too. Reasons may have been different, but we live in a changing world. According to herders, you need approximately 10 years for the pastures to recover and about 5 years to restore the reindeer herd.

If there were good years, then you need 5 years to restore the livestock. It is necessary that it is chilly in summers. It all depends on nature. Old people say that there are usually three bad years in a row. (Interview 17).

At the same time, these numbers only apply if there are no additional impacts. Once, on the winter or forest pastures, as they are also called, the Yamal reindeer herders were on the Hënkaâ side (winter pastures):

Once there was a major forest fire, and the pastures here couldn't be used for 20 years (Interview 17).

The Yamal Peninsula has also been under the pressure from the oil and gas industry for about 50 years. In the years 2000-2010 many infrastructural facilities were constructed there, and most of them are built on pastureland. These pastures were used by generations of the reindeer people of Yamal. Among the industrial constructions is a railroad known as the Obskaja - Bovanenkovo – Karskaja-line. It runs from the river Ob, the gas extraction and production facility “Bovanenkovo”, to the last station, situated by the Kara Sea. The main purpose of this railroad is to deliver shift workers and cargo for Bovanenkovskoe and Harasavèjskoe oil and gas condensate field. The settlement of Bovanenkovo together with the Bovanenkovskoe field used to be summer pastures for the Nenets and it is situated on the route to the Kara Sea. The reindeer herds move there every year in the middle of July.

Bovanenkovo is now a huge settlement, almost a town, with many shift workers. The railroad has transported people and goods since it opened in 2010. Brigade No. 5 still use the same route to the Kara Sea, however. One of the reindeer herders told me about their annual difficulties crossing the railroad and the Bovanenkovo settlement. Since the road was built, the pastures are exhausted, because every family and every brigade now use the same route.

We don't have Synej anymore (Synej nâda - a good place, with a lot of lichen, at the same time without much biological diversity. Reindeer eat a lot, but they do not really grow in body-mass and fatness; like they should. Important in terms of resting area). The problem is that the pastures have been exhausted by the time we arrive (Interview 17).

Since everyone is moving the same way, there is ongoing conflict over the pastures. At the same time, reindeer herders in Yamal all agree that the reindeer husbandry should be preserved.

It can be adapted to changes, if herders themselves are active:

The Nenets reindeer husbandry is preserved because we are constantly with the animals. The shift method is unacceptable for us. Passivity in reindeer herding is unacceptable. Let's imagine that I have a breakaway, and I will not manage to collect them in a month. Other herders cannot know where and under what conditions the reindeer have gone. But I know, because I know where the reindeer disappeared. Because I constantly use cargo bulls (Interview 17).

When I ask them about the future of reindeer husbandry, they all agree that it will be difficult due to the changes in the Yamal area:

In 10 years, there will be chaos here. The more civilization comes, the less land we have. The more we lose. About 50% of the land on the Yamal Peninsula is no longer suitable for reindeer herding. And more and more this land will be lost (Interview 17).

In summary, the reindeer husbandry on Yamal (YaNAO) and NAO today faces the following changes:

Changes observed in nature: continual warming, in the late autumn the usual temperatures would be about 40-45 degrees C° below zero, now such temperatures are rare. Ice on pastures occurs more often than before. Sometimes, there is too much snow on the winter side (southern bank) of the Ob River. Rising temperatures in the Arctic can lead to more humidity and snow fall.

Changes caused by humans: Environmental depletion due to too many reindeer, overgrazing, capacity is much less than before. Shrinkage of pastures due to gas pipelines, infrastructure, construction of numerous industrial facilities. Loss of Nedarma (a dry, hilly

place) and good grazing land. The winter pastures are now in use during the summertime, which is unfavourable.

Social changes in NAO: Recruitment and retention in reindeer husbandry is now an urgent problem. At the same time, due to a long period of displacement of women, the problem is also found in the loss of the Nenets language. Displacement of elders cause an additional obstacle for the transmission of IK components.

4.3.1. The women's knowledge and skills of the Tundra Nenets

The women play different roles in a family. Skills of the Nenets woman are of different types and levels, in general they can be described as follows:

- family economy;
- packing and transportation of women's sledges;
- food (packing during transportation and processing of fresh meat and fish for storage);
- clothes (from reindeer hides production to maintaining; other washing and drying);
- the tent (both inside and outside covers);
- babies and children's care
- cooking and general domestic tasks and management

Within the frame of this thesis, I am providing an analysis of the first example: the economy of the family. Other skills are analysed in different papers, except traditional food¹⁰. The survival of reindeer husbandry as a way of life was often unaffected by the general development of the economy in the Russian Federation. In spite of this, it has managed to survive and even

¹⁰ There are works available on food and changes (transformations, innovations) in the life of the Tundra Nenets, see for instance, dissertation of Harûči (2001), research papers of Esida (2014) and Murashko and Dallmann (2011).

developed during a few periods with favourable conditions. Based on the interviews with women from different Tundra areas, I was able to construct the following picture of a typical nomadic Nenets woman's life.

When the money came, the woman always had to take care of it. I judge by my mother. She really was a leader... Father was the master. But my father did not know how to count money. Mother did everything. She was planning [procurement] of food, products, how many [reindeer] we should slaughter today, this year. To replace Malitsa (men's clothes), to whom to sew a new Piva (Russian: pimya (shoes)). All of this. (Interview 6).

One family usually buys (they shop twice a year, approximately in November and April): tea, sugar, flour, salt, tobacco, buckwheat, rice, pasta, dry bread, cookies, crackers and gingerbread, salt, mustard in powder form. The main food is still the reindeer meat, and they usually need two reindeer carcasses, over 40 kg. in a month. Women sometimes also buy several boxes of stew. In summertime, the different types of fish and bird's meat is the main diet.

Another female respondent explained the role of women in economy:

Because ... in the tent, who cooks the food? The women. Therefore, she knows how many products go into cooking dinner. Therefore, she presumably assumes how much is needed per day, per week, how much per month. The man would come home from work, he had been on duty all day, he would have no time to do it. How much pasta does she throw into the soup? How many potatoes does she clean? He just came home, he must be fed. His clothes must be dried. He just has other responsibilities. Therefore, the woman knows better. And probably, therefore, she oversees the family purse (Interview 7).

The leading role of women in economy is also emphasized by the interviewed female leader:

Women have always dominated, but by tradition she could not show it. Behind the scenes she was still leading. She led from the shadows. And even in family life. We say that the man is in charge. Any woman will say that the man is the main one in the family... But inside, we perfectly understand that a woman oversees everything. That's what they say, where the neck turns, the head will follow. She even decides everything herself, and only asks her husband... She will tell what to do, and then she will ask her husband, and the husband will do what the wife says. Therefore, most nations are still led by a woman. Behind the scenes. Because she is better. She keeps the house. (Interview 15).

The role of women on the Tundra is usually described as a "mistress of the tent".

On the Tundra, as the parents used to say, the woman is the mistress of the tent. And since early childhood she should be brought up with all the qualities of a Tundra woman. The woman of the Tundra can do everything (Interview 10).

4.3.2. Transmission of Tundra Nenets skills on the Tundra

I found out that the majority of the Yamal adolescents master IK at such a level that they are able to survive and live successfully on the Tundra. Girls can arrange all the necessary equipment for their future husbands, while boys are ready to manage reindeer herds. They usually cannot have the full responsibility for the herd yet, but within a few months or a year on the Tundra they are able to cope.

The elders are increasingly moving to permanent settlements and villages. Something that happens more often in the western areas, where many elderly people now only live on the Tundra in the summer. Then they can contribute to the transfer of IK to the younger ones. Since the knowledge is place-bound, the youth and the children learn much more about summer grazing, for example, but not enough about winter grazing. Precisely because older people are there in the summer, they can tell stories and thus transfer more knowledge about summer grazing.

Moreover, skills and knowledge of the landscape can be learned through intuitive understanding and physical presence. It is therefore crucial, for example, that young reindeer herders stay longer with their parents or grandparents in the winter. Now they are familiar with summer grazing, with fishing lakes and rivers, since they move with their families during the summer. Field materials also confirm that IK is a type of system that cannot be learned without practical exercise.

Another important factor is learning to relate to an adult, because they are separated from their parents. Within the existing education system and within the community of the Tundra, children learn to "respect" an adult, someone who is older, because of his/her life experience. In this way, boarding school children must follow orders to become "obedient", both from the cultural perspective and from the formal educational perspective. This sometimes means,

unfortunately, that the younger generation never learns to resist if an adult or person is wrong or does something that is not right. The system is not functioning, because it fails the most vulnerable – children and young people. To change this, all three major players in one child's life must come together: the state, the education system and the family. As I have described earlier, the target group is youth, who must choose their path in life after 9 or 11 years at the boarding school. The Tundra youth face much more far-reaching changes than adolescents who live with their families in villages and cities. The Nenets raise their children to be kind, strong, broad-minded, honest, reliable persons. They should become *Tenevana* (knowledgeable) and develop to become a Nenèj nenec' (real human being).

According to elder informants it is possible to gain a lot of knowledge in three months, in spite of the fact that this is very short period of time, compared to the time they spend in settlements.

Three months pass quickly, but they are very rich. The activities are repeated every day. If a child goes to the Tundra for holidays, it gets more [skills], than it gets somewhere else. When it grows up, it will see everything anyway. Why take him out? Let it take a vacation at home on the Tundra. And it will be resting there. And it will be free. When it looks at its parents, it absorbs how parents do it all. This is a completely pure period in life for it - in summer. It learns, that the calving is the most important time. Then harvest. Then the work in herd: by slaughtering [to build a healthy herd] (Interview 6).

Children learn differently than in a classroom and under very different conditions. As a result, they learn faster, acquire more IK. This does not, however, apply to all the necessary skills. For instance, helping a child to become more communicative, easy to talk to and to build communications skills, is more difficult. As explained by this informant:

I do not know how to explain it... To grow a child! Help it to become successful. This has become my meaning in life. It turns out that we are working for the benefit of the state. But the state is faceless. Here we have a specific child. The most important thing is that children learn to communicate. They should be interested in becoming successful. For example, they should take an interest their studies, so that they become interested in learning as process. I have three children, they are about 10 years now, and they are all in 4th grade. We have been doing homework together for three years. I am afraid of letting them go, it seems to me that they will miss out on something. We are still making considerable efforts. From my own experience, I still think so. It is imperative that children take early career guidance, so that

they won't uselessly study all the subjects in a row, but purposefully study certain specific subjects. Because it is important for later school admissions. When a person does not know where to go, after graduating from school, then this becomes a total mess! (Interview 9).

The upbringing on the Tundra is purposefully organized. The children are learning what they need to learn. It means that they get it right the first time. As the Nenets say, it takes much more time to retrain than to learn to do it correctly from the start. In the case of using knife, rifle and different tools for making sledges, for instance, the technique is extremely important. The wrong technique can also damage the materials or tools. The children might also get hurt, cut or burn themselves.

In conclusion to this chapter, we see that ethno-pedagogical science, on a fundamental level, within nomadic culture is rapidly decreasing. This is primarily caused by a mandatory state education system which puts nomadism and sedentarism into conflict. The increasing displacement of nomadic women into settlements is undermining and obstructing the continuing existence of the indigenous Nenets language, which is rapidly disappearing, and the traditional knowledge and skills of not just nomadic Nenets women, but nomadic Nenets culture and communities generally. This unique culture's continued existence, of nomadic Nenets reindeer herders in the arctic, is increasingly threatened by not being protected or supported by the national state in which it is located and by the agency of an institutionalised educational system which does not meet the traditional linguistic, economic, environmental and cultural needs of the Nenets people.

In the next chapter (consist of four articles and two chapters on books) I am providing a detailed description of some of the main components of nomadic Nenets women's IK. Each of the articles document one of the components of women's TK: knowledge about the process of production and maintenance the dwelling (tent) in the arctic Tundra, knowledge of how to produce clothes and shoes from reindeer hides, knowledge about pre-, and postnatal care of infants in nomadic and extreme Arctic conditions and different forms of communication in the

process of bringing up children in the Tundra. One paper focuses on the comparison of different types of TK within the nomadic communities. Another paper explains the peculiarities of raising children in the Tundra with a focus on the school year and year in nomadic conditions.

5. Results: Transmission of Nenets women's knowledge

*“One child, many children - all equally loved”
(Okotetto 2013:15).*

In this, final chapter I will try to explain the third main angle of this thesis: Transmission of Knowledge and answer the main question: What knowledge mothers should transfer so that the children can become *Tenevana* (knowledgeable)? This question is answered in all the papers of this dissertation. Here is the list of the topics, in the order they are presented in the Papers:

- 1) *The Nomadic Nenets dwelling “Mâ”: the symbolism of a woman's role and space in changing Tundra.*
- 2) *“Nomadic Nenets Women's Sewing Skills. The ethno-pedagogical process of transfer of traditional skills and knowledge by Nenets women through the generations”.*
- 3) *“Catching a Child”: giving birth under nomadic conditions. The methods of pre- and postnatal care of the Nenets mothers and babies.*
- 4) *“Skills come with experience”: A pedagogical study of different forms of communication in Nenets nomadic communities in Northern Russia.*
- 5) *A comparative anthropological analysis of traditional knowledge based on the example of Western (European) and Eastern (Siberian) Nenets.*
- 6) *At the end of the world: about indigenous knowledge in a boarding-school educational system.*

Paper One: The Nomadic Nenets dwelling “Mâ”

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**The Nomadic Nenets dwelling “Mya”:
the symbolism of a woman’s role and space in a changing Tundra.**

Published in:

AlterNative: An International Journal of Indigenous Peoples

Vol. 14 Issue 1, March 2018.

DOI: [org/10.1177/1177180117741221](https://doi.org/10.1177/1177180117741221)

The Nomadic Nenets dwelling “Mya”: the symbolism of a woman’s role and space in a changing tundra

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AlterNative
1–11
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DOI: 10.1177/1177180117741221
journals.sagepub.com/home/aln


Abstract

The official policy of the Soviet state toward nomadic populations was to change their way of life by implementation of enforced collective property (on reindeer), boarding school education, and the displacement of nomadic women to settlements. This policy, however, never totally succeeded in all the Nenets areas and among all groups; many Nenets people remain living in a nomadic community. Today, globalization in the form of modern technologies, industrial development, exploration of underground resources and climate changes are affecting the lives of the Nenets. This article draws from several ethnographic fieldwork surveys of nomadic Nenets families conducted between 2015–2017, within the area of the arctic tundra and among the Forest Nenets of Northern Russia. The author’s aim is to address one aspect of Nenets’s life impacted by modern globalization: their dwelling space. Their traditional dwelling, the “Mya” has been only marginally changed and is still in use in almost all the areas in which Nenets families and communities can be found. Can it be that the displacement of women, originally caused by official Soviet state policy, has also affected the sacred symbolism of the traditional Mya?

Keywords

Nenets, Yamal, Mya-Tent, women, traditional knowledge, reindeer husbandry

Introduction

The Nenets have been using their mobile house or tent (Mya) for centuries, if not thousands of years. This is the only known dwelling that has been created, maintained and used by nomadic Nenets reindeer herders throughout the whole year. From the beginning, they have exclusively used the materials that nature provides. With the increasing introduction and availability by merchants and travellers of new manufactured products and materials, which have proved more effective, the Nenets started to implement these in their households. These things also need to be, and should be, much better than the previously used “traditional” technology and materials. This happened, for instance, with the *Tynzya* (lasso). Men are sometimes using a plastic lasso. Another innovation is the artificial thread for sewing reindeer skins that is now used by many women instead of the dried and tanned tendons of a reindeer.

The state government was also trying to provide different housing, to enable the men to work with reindeer in shifts and the women to stay with the children in the villages. This was a long process; in some areas, this policy was successful, as in the western areas, in the Kanin Peninsula and on Small-tundra land. In some, as on Yamal, this policy of resettlement in the villages failed.

The main idea of this article is to find out the reasons for such resilience in traditional culture in the nomadic Nenets home, the Mya tent. One can presume, that the drastic

changes in the life of the Nomads (establishing of the Soviet system, collectivisation, enlargement of collectives, perestroika and globalisation with its technological development) will influence the nomad’s dwelling, but it seems that there are no changes, neither in construction nor in the variety of the Mya – tent. To find it out, one should look at the core of their worldview, and find out if the displacement of women has also affected the sacred symbolism of their dwelling. The two largest Nenets regions were chosen for this case-study and a comparison is made, based on the results of four field-work periods (2015–2017).

Background: indigenous ways of thinking

It is the summer of 2015 and our research team¹ is in Russia, on the Yamal Peninsula, visiting brigade² number 5 of “MOP Yar-Salinskoye”.³ We are living in the tent of a family, the

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Figure 1. Radik is playing during one of stops on the move.

Yaptiks, which consists of two parents, two teenagers and four younger children. Once I had entered the Mya (tent), I got a surprise.⁴ All the children were wearing fur clothes: boys in *Mal'tsya* (men's clothes) and girls in *Pany* (women's clothes) and all sitting together in a line. Nobody was talking or playing as usual, only looking at each other without speaking. Manya, the mother and keeper of the fire told us a story to explain this strange behavior for us:

Two years ago, the brigade, as usual, was moving from one place to another. As the evening approached, the sky was suddenly streaked with lightning and later the sound of thunder rang across the tundra. We had no choice but to continue moving. After a few minutes, a bolt of lightning struck the reindeer sled and hit the sledges in the caravan and the reindeer of the leading sledge, which was being driven by a six-year-old boy. All his reindeer died immediately, so did other reindeer which were running nearby. The brigadier told me, that he had never seen such a disaster before, when reindeer just fell to the ground and died.⁵ Later he called for an ambulance helicopter and asked for medical assistance for the boy. Doctors took the boy to the nearest hospital, but could not save the life of the poor child.

So, now all the children in our Mya sit quietly, waiting for the thunder to pass. According to traditional beliefs, the thunder “Khe” and lightning “Khekhe'mu” are water-earth-beings that are also people who reside in heaven. They travel on iron sledges. In one legend, lightning bolts are the wings of a thunder bird, which looks like an iron duck (Kharyuchi, 2012a). I used this example to show the vitality of Nenets traditional⁶ beliefs and their present usage, even though by now, many generations of Nenets children have received their education in urban settlements. Another example of this is that people do believe that their clothes made of reindeer skin are protecting them. They also called themselves “Ty'nyu” – children of reindeer (Figure 1).

Theoretical background for the article

Many researchers have attempted to describe the dwelling and the meaning of spaces inside and outside of the dwelling in the nomadic culture of the Nenets people (Golovnev, 2004; Habeck, 2014; Kostikov, 1930; Serpivo, 2014; Terebikhin, 2004; Usenyuk, Dudeck, & Garin, 2015).



Figure 2. Manya - Keeper of Fire. Picture: Stine Barlindhaug, PhD.

Previous research has focused on “large issues,” like adaptation and conflicts between different groups about land, and “small issues,” like gender places inside of a nomadic shelter. Anthropological work typically concentrates on larger issues, such as reindeer husbandry, men, and their skills. In contrast, the focus on the role of nomadic women and their space remains quite narrow, except in a few works (Tuisku, 2001). This appears to be for the following reasons:

First, the authorities and official policy in the Soviet era (1922-1991) was against traditional, so-called “family-based”⁷ reindeer husbandry. According to Soviet officials, women in the tundra were «powerless and humiliated», some of the traditions such as *Ne'mir* (marital contract of payment for the bride) and polygamy were declared as “remnants of the past” (Khomich, 1950, p. 88). Nenets women should move to the settlements, start to study and work (Khomich, 1950; Lyarskaya, 2010; Tuisku, 2001). Second, the social and economic sciences were under the direction and control of the Soviet state, so researchers had a mission to do research about reindeer people within the frame of “Marxism as methodological basement” (*Этнография/Етнографія [Ethnography]*, 1982, p. 25). Therefore, little research was done about women, their feelings and roles as mothers, keepers of fire and custodians of traditions. And third, in general, despite the collapse of the Soviet Union and thus the end of its official policy, the resettling of women is continuing. There are other reasons for it nowadays, but the consequences are the same: less and less young women will live or choose a life on the tundra. In this article, the symbolism of the nomadic shelter and the position of Nenets women are shown from the women's own perspectives. By analyzing written sources published by Nenets researchers (Kharyuchi, 2010; Pushkareva, 2003; Serpivo, 2014), I will give an ethnographic description of the Nenets tent, the Mya and *Sym'sy*, the sacred pole, by using data drawn from field-work materials and interviews, I will try to analyze the position of a Nenets nomadic woman in such a social and physical environment (Figure 2).

The tundra: horizontal geographical, vertical religious and interfamilial space

The world, according to a Nenets point of view, is geographically divided into several “tundra” and in religion vertically – into three “worlds.” This tundra division is also



Figure 3. The Nenets: The Vy (tundra) or Ya (land) ©Zoia Vylka Ravna/ NIKU / UiT (Picture source: NIKU / 2014 Esri).

The Nenets autonomous area (established in 1929):

(1) Kanin Peninsula / Yabta-Sale Ya; (2) Timan tundra/ Timanskoy Ya or Timechkoy; (3) Small-tundra land / Njudi Ya; (4) Big-tundra land / Narka Ya; (5) Yugor Peninsula.

The Yamal - Nenets autonomous area (established in 1930):

(6) Jamalskiy rajon / Ya'mal; (7) Priuralskiy rajon/ Pe"khevykhy rajon; (8) Nadymskiy rajon/ Njadei ya; (9) Purovskiy rajon / Pur 'rajon; (11) Krasnoselkupskiy rajon; (12) Tazovskiy rajon / Njedy Ya.

Taymyr (Dolgan -Nenets autonomous area (established in 1930 – renamed in 2007): (12) Tajmyr Peninsula / Tajmyr ja.

historical, within the category of space in anthropology (Miggelbrink et al., 2013). Nenets people ask, “From which tundra are you from?” in addition to “What family do you belong to?” Nenets divide themselves into several tundra or land areas called “Ya” – land or “Vy” – tundra, from the west to the east as follows: The European part, on the west side of the Ural Mountains is the Kanin tundra, Timan tundra, Njudi Ya and Narka Ya (Directly “Small-tundra” and “Big-tundra” land). Rivers or coastal bays border each of the tundra. On the eastern side of Ural Mountains or Asian part, there are three peninsulas: Yamal, Gydan and Taymyr inhabited by the Nenets.

There are also other groups of the Nenets population, living as settled in cities and villages in the Murmansk region, Archangel region, Krasnoyarskiy Krai, Republic of Komi, and several of the Russian state’s “autonomous” administrative areas, from the west to the east: Nenets, Yamal-Nenets and Khanty-Mansi (Figure 3).

This tundra system, with its natural borders such as rivers and mountains, was never “insurmountable obstacles” for different groups of Nenets. Despite these geographic



Figure 4. Yamal Peninsula from helicopter window.

boundaries, Nenets herders, as they moved back and forth from east to west, they did not see these natural boundaries as “dividing”, but as “uniting” their physical and social environment (Figure 4). Due to their exceptional visual memory, Nenets herders can memorize the landscape after moving through it only once. A typical answer to the question ‘how do you know the direction?’ is “I do not need a map, my map is in my head”, or now they jokingly say, “my GPS is here”, by pointing to their head. Despite the changes in use of GPS- navigators, described by some of the researchers (Golovnev et al., 2015), I have not observed the use of these GPS-navigators, even once (fieldwork, YP, 2015). There are several written works about orientation and navigation across the tundra (see for instance Dwyer & Istomin, 2008).

In the religious beliefs of the Nenets people, there are three vertical worlds: the upper, the lower and the middle. The upper world consists of seven layers or heavens, as does the lower world. Therefore, the total number of heavenly strata is 14. These heavens are inhabited. Above the earth there are people – *Num Khasava*. *Human beings* inhabit the second level and *Sikhirtya* and other supernatural beings inhabit the lower world. There are many problems on the second level: war, illness, poverty, epidemics and diseases. These can be avoided or reduced, by giving sacrifice to the earth-beings (de la Cadena, 2015) that can take care of these problems.

All three worlds are tightly connected. Human beings move from one to another world in stages, such as birth and death or serious illness, and in the process, transform into beings from one world to another. To achieve a smooth transformation, other members of the human community must perform and complete special rituals.

The interfamilial space is based on the system of *Yerkar* (“clan” in English⁸), which is a group of relatives connected by blood. This means that a man cannot marry someone from his own Yerkar. For instance, girls from the Yaptiks can marry a man from the Khudi yerkar and the opposite. This system of kinship was established historically (Khomich, 1950, p. 78). Oral stories are filled with descriptions of the travels of a hero who treks across the tundra to find a wife. This Yerkar is larger than a *Tenz* (extended family). A nomadic Nenets woman moves from her own Yerkar to the Yerkar of a husband, after being married. This creates interfamilial and clan connections, in addition to territorial



Figure 5. Svetlana on move to new place. The Nenets move approximately every second day in summers.



Figure 6. The Nomadic Camp at the End of the Earth.

growth. One family, by uniting with another, gets to know and use other territories or pastures (Figure 5).

In general, the Nenets nomads have a distinct relationship to structural concepts of time and space compared to settled people. Their way of life is principally governed by the need to construct a mobile and adapted living space in the form of a traditional Nenets dwelling – Mya.

The nomadic shelter of Mya – a house on the road of life

The Nenets people use the Mya – tent the entire year while they are herding their reindeer, thereby creating a shelter for their family and animals. The tent has an easily recognized conical form and is made to stay up in an open, dry and windy place (Figure 6). The cone shape of the tent was considered sacred, a symbol of the power and special dignity of a human (Terebikhin, 2004, p. 229). There is one pole called *Sym sy*, which is protecting the inhabitants of the Mya. This pole has a special sacred function and it is placed behind the fire place.

The circumference of a tent is usually from 6 to 8 m. in diameter, depending on the type of tent and well-being of the owners. The tent usually consists of 30–60 poles, made from a tree.⁹ Nenets herders use birch, larch and spruce. A tent pole is usually 5–6 m long and has a natural form as

found in the original tree itself. The length of the pole by Nenets measurement is about 3–4 *Tibya*. The *Tibya* is the distance between the fingertips of one hand down the arm and along the other arm to the fingertips of the other hand.

The poles should be gathered during a winter season, because this is the only time when the Nenets are with their herds in the forest or tundra-forest areas. The choice of a good tree is essential. It must be of the right form (the straighter, the more stable the whole construction will be), not very thick and has no defects such as a lot of knots, crinkles, irregularities and roughness. Shaving the bark off the poles is important and a complicated process. The larger knots must be removed with an axe, and then the reindeer herders can use a sharp knife to remove the remaining bark.

Ropes keep the covers in place. They need to be strong and light; today, these ropes are made of synthetic materials, previously the Nenets made ropes from the roots of willow trees (*Salicaceae*). The ropes are sewed on to the top of each corner of the cover of the Mya. On each higher corner of the cover, there is a pocket/ flap called a *Khalak*. A *Khalak* is made specially to erect the covers up to the top of the Mya with the help of a separate pole called a *Yesenabz*.

For the winter Mya, the number of reindeer skins used varies according to the size of a tent. It could be from 20 to 70 skins. According to respondents on the Yamal Peninsula, a medium sized Mya has the following: 62 reindeer skins, 36 poles (in the summer time), and one extra skin to go on the top, for additional protection and being adjustable for changes in the wind. A medium sized reindeer skin weighs about 1.5 or up to 2 kg with the fur. Usually long fur is shortened, to reduce some of the weight. So, the total weight of covers of both sides is about 100–120 kg.

In summer, when people move quite often and when it is not necessary to use heavy, winter covers, hand-made from reindeer skin (*Yeya*), the tent usually has a smaller number of poles and is covered with new materials such as *noy* (wool), *bresent* (tarpaulin/canvas) and other. The second layer is oilcloth or buckram, a fabric treated on one side to make it waterproof. The covers in general are called *Nyuk* in the Nenets language. The top of the tents is called the *Makodasi* which is the fire's chimney is located at the opening where the poles meet at the top.

The Nenets Mya is a lightweight construction, easy to build and carry long distances. During Soviet times, the authorities made several attempts to find other types of housing for Nenets nomadic families with little success. An exception are groups living on the Kanin peninsula, who live in so-called *Palatka*. The Nenets adopted the Russian word “palatka” for this kind of tent, which is a rectangular tent with mostly a half round roof. (Interview, 19, 20, 2017).

A Nenets Mya is also quite stable; it is difficult to blow away in a gust of wind. To bring extra stability, Nenets use to put one or two sledges on the side of the Mya. Nenets women do an excellent job in giving the internal space a homey atmosphere. Nomadic Nenets women agreeing with the poem of the famous indigenous writer Yuvan Shestalov, who criticized the official policy of sedentarization of the northern nomads, “*They say that we lived in tents that are darker than mouse burrows*” (Shestalov, 1971), see more on



Figure 7. Savely and hare “Brave heart”.



Figure 9. Pedavane (A good woman) is playing with the Mya.



Figure 8. The Summer Mya (pitching).

the policy (Habeck, 2014). The Nenets women from different areas said that the Mya is clean, cozy and that there is a lot of space inside of a Nenets tent (Interview, 17-19, 2016). Sometimes, especially in summer, when all the school children are back, the number of people living inside can reach up to 20 persons or more in just one Mya-tent (Figure 7).¹⁰

The construction of a Mya is a symbiotic piece of work carried out by both genders: men and women equally participating to create and turn raw materials into a shelter during different types of processing. For instance, the poles are chosen, cut and prepared by men, while women prepare the reindeer skin by drying it, scraping the skin with the skin-scrapper and sewing the covers together. They erect their Mya together, with the help of their children and/or other members of the camp (Figures 8 and 9).

The Mya is also often a feature in folklore and in conversations (Figures 16 and 17). Natural weather phenomena are compared with a tent. Clouds, for instance, are called a “mosquitoes’ tent”. *Khabevko’mya* (“The ptarmigan tent”) is the temporary shelter for a person who suddenly gets caught in a snow blizzard or runs into a fog. During a long journey, a herder or a family would sleep in such a “ptarmigan tent”. The ptarmigan bird is known for this attribute, as it gets hidden under the snow during blizzards or storms. Clothes are also deemed to be a small, individual tent, because they also consist of two layers. Sometimes, in the distance, one can see that the silhouette of a person is like a Mya.

Types of a Nenets tent Mya

During their lifetime, from their birth to their death, a nomadic Nenets person will occupy several different types of tents, according to three main conditions or situations in their lifespan: their birth, life and death, and their seasonal migration or functions. There are two main categories of Mya, the “permanent” and “temporary”. The first one includes two main Mya: the summer tent and the winter tent. The second category are “temporary”, these Mya are used from time to time, on special occasions, such as the birth of a child. There are also special Mya, as in the forest areas, Nenets people build a special small Mya – tent for their dogs, to protect them from mosquitoes.

Syrey Mya – the Winter Tent. The traditional shelter or Mya is named differently, according to two seasons: the Winter Mya and Summer Mya. The winter tent or *Syrey Mya* is built for a longer period of use, from two to four weeks. In winter, reindeer move slowly, and there is almost no other food for them than lichen. People move shorter distances and stay longer in one place. Winter Mya is covered with reindeer skin sewn together as two large pieces. They are quite heavy and difficult to pack, but at the same time nothing better has been developed for use in the long, cold winters on the tundra (Figure 11).

Tany Mya – the Summer Tent. The summer tent or *Tany Mya* has the same construction as the winter shelter (Figure 12). Birch bark used to be used for summer tents, but not anymore. The summer Mya is easier to build and is not as heavy as the winter tent. The main difference from the winter Mya is that the stove is not in use during the summer. On Yamal, people usually make their fires in the middle of a tent. On the west side of the Ural Mountains, Nenets travel with a stove with them at all the times. Some of the nomads use a large piece of metal under the fire, called a *Tymyu* as the solid fireproof base on which the fire is built and ignited.

The birch bark cover for a tent is excellent, as my respondents from the southern areas of the Nenets territories told me. It is never hot inside of this tent, even if the



Figure 10. Katerina is waiting for the Mya to be ready.



Figure 12. The Summer Mya (construction).



Figure 11. Winter Mya.

summer temperature reaches 30-35°C, usually in July. “It smells very good inside. One feels protected, sitting inside of such a tent and at the same time feeling like being outside, in the woods” (Interview, 19, 2016)

The process of creating a birch bark tent demands a lot of experience. Therefore, these kinds of tents have almost disappeared. The process of preparing the bark is as follows. The first task is choosing the right tree, collecting the bark, and then slowly cooking it on the fire for several hours. Usually, the women did this job. In the middle of the summer, at the end of June and July, is the time for collecting the bark. With a sharp knife, a woman cuts the tree down the middle with one movement from the top to the bottom, a length of about 60–100 cm. Then, the bark will peel off the tree by itself. If not, the women will carefully strip the bark away from the tree. The family’s children would then run behind their mothers to pick up these strips of bark. Cooking was a long process. Nenets used to have so-called *Yed* (*Nyarava yed*), deep utensils purchased for this purpose. The bark segments were then tightly twisted into tubes and placed into these *Yed* in boiling water and cooked for several hours. Afterwards, these tubes were dried out in the sun for several days. Women used to sew these bark covers together, by overlapping layers on top of each other. These birch bark covers were quite expensive, but reindeer people from the northern areas used to buy these or ordered them to be made by others, because their superior quality was so valued (Interview, 18, 2016).

I have not seen any Myas totally covered with birch bark. Only in the forest tundra areas at the Bear Mountain in the Yamal Nenets autonomous areas did I see a door made from birch bark (PMA, 1999). In 2016, these can no longer be found and I understand they are not in use anymore (Interview, 17-19, 2016).

Syamey Mya – the Birth Tent. The first sight that a newborn nomad ever sees after the face of his mother is the *Makoda* of the Sya’mey Mya. This will be the first ever-constructed tent for a new human being. It is temporary, very simple, with a few poles in the tent. The Nenets pitch this tent only once for birth, and it is never used for anything else. Before giving birth, an expectant woman is placed in this special tent. During the whole period of her labor, which could last for many hours, a woman remains in this tent. The floor of the tent is covered with fir branches. After the birth, mother and child are moved to an ordinary tent and the birth tent is destroyed. Usually, the poles were burned or used later for firewood. According to my informants, sometimes there is no one available to build the birth tent. This could be because no other older women (who could be compared to a *Syu nebya*, *syu khada* – midwife) were available, or for other reasons.

If this happens, a husband may give the expectant woman a reindeer skin or sledge in which she can give birth to her baby in an “ordinary” Mya. Respondents are also answered, that “it was long time ago, and in this case the herder had several wives”. Polygamy was also a quite common form of marriage, even during Soviet times, even though it was officially prohibited (Interview, 9, 2017). After a child is born, the husband should burn down these sledges and one reindeer should be slaughtered.¹¹ If the newborn child was a girl, then her father should find one female reindeer, catch it with a lasso and slaughter it for the gods (Figure 10). If it was a boy, then a young male reindeer was sacrificed. The meat will then be shared between all the inhabitants of camp.

Today almost every woman is transported to the nearest hospital in a helicopter.

In the years 1998-1999, from 59 respondents, 8 were born on the tundra. In one case, the helicopter was too late, and a woman gave birth in a Mya. She gave birth in an ordinary summer tent. (Interview, 10, 2015). However, most Nenets women give birth in so called “ordinary” conditions at a hospital in a permanent settlement.

Suyu Mya – the Calving Tent. This is another type of Mya, which is made for new life. *Suyu* is a calf, so the name of this tent came from the need of reindeer herders to herd and to move with the females and calves. Herders use this *Suyu Mya* or calving tent only during the calving season. The female reindeer and their calves were separated from the rest of the herds, which continued to move. This tent is built for the herders that were left with calves and mothers. The *Suyu Mya* is like the *Nyapoy Mya*. They have the same construction, with very few poles.

Nyapoy Mya – the Mobile Tent. Men use this tent when they are travelling longer distances to graze animals in productive pastures, without the rest of the camp. The name “*Nyapoy*”, from the Nenets language, can directly be translated into English as, “with a tent”. This type of tent is still in use in all Nenets areas.

Hengg – the Wind Tent. A *hengg* is not a tent but more accurately described as half of a tent. It is the oldest known shelter used by Nenets herders (Mukhachev et al., 2010). During the night, a herder builds a small wind break.¹² It is simply three poles, connected on top and covered with one reindeer skin, which a herder uses on his sledges. This wind barrier can be constructed within a few minutes, and in summer it is covered with a boat. Boats are today mostly made of rubber materials, herders used to have such boats in their sledges, in case of necessity for use on lakes or rivers.

Hal’mer Mya or Myaro Mya – the Tent of the Dead. The last tent that a Nenets nomad uses is a *Hal’mer Mya* or the Tent of a Dead Person. This tent too, is considered sacred, as is the birth tent. After the death of a person, the ordinary tent for continual use by the living is moved to a new place. The place that remains after the tent for the living is moved is called a *Myadyrma* (the discolored circular area on the ground left after the tent is taken down and moved). On this *Myadyrma*, people then construct a small tent, or model tent, which is left to collapse by itself. The doors of this tent face west, in the direction of the dead. The *Mya* of a deceased person *Myaro*, according to Nenets mythology, is a tent where a person that was transformed into a different stage after his earthly life now lives.

The construction and erecting (Padalz’) the Mya

According to different sources, in “earlier times”, only the Nenets women selected the campsite, erected the *Mya* and arranged the space inside (Kostikov, 1930). In the cosmological¹³ myths of the Nenets people, a woman was also the ancestress of the world. Therefore, it was a woman who had the role of being the creator/builder of the *Mya*. Today this role does not belong to a woman. Due to social, economic, and historical changes, the structure and spiritual culture of nomadic existence has changed. In the tundra, we can observe that the shelter or *Mya* is erected by all members of nomadic Nenets families, by women and men: a woman still has a leading role concerning the arrangements in a tent, and only a woman can set up the stove, as well as bring and connect a *Sym šy*, the sacred pole.



Figure 13. The Sunset.

The two or three main poles, connected with a rope on top, are the first to be put in the ground. Other poles are then placed in a circle at half a meter from each other. The covers – *Nyuk*, are placed on top of the poles with the help of ropes and fixed to large poles that were then pushed into specially sewed pockets at the corners of the canvas. Two people need to work together simultaneously with the poles in these pockets to erect the covers. Other people, usually children, also help with the tightening and fixing of the covers. After that the ropes that are connected to the pockets are moved around the pole frame and tightened up to the bottom of some of the poles, as close to the ground as possible. They can then be fixed to the ground. Nenets can build a shelter in 25 to 30 minutes: in winter, it takes a longer time, but never more than 1 hour, including the cleaning of the site of snow and ice. Why do women carry out this procedure? The erecting of a *Mya* is re-producing the cosmological myth and the belief that with all the main elements of nature such as fire, trees and reindeer’s skin, people are symbolically re-enacting the process of the re-creation of the world¹⁴ (Terebikhin, 2004). The idea is that the construction and then dismantling of a movable shelter is modeled on the dynamic aspects of life, but that the construction’s interior remains static (ibid. p. 229).

At the same time, these mostly natural materials from which the *Mya* is constructed are changed, modified and produced by a Nenets people. The tree is no longer a tree but is now a tent pole, the reindeer’s skins are sewed together to form two large pieces of cover; the fire has its place on a piece of manufactured iron. All these transformations could therefore give a signal to the space outside of the *Mya*, that here is the world of humans: well-ordered and organized, opposite to the world of wild nature (Figure 13).

Results and attempt to analysis

Back to the question of why the *Mya* and the traditions associated with it remain so resilient and vital in current Nenets culture. The *Mya* has not changed: neither in construction nor in the variety of its forms. The main reason for this is the worldview of the Nenets, and the worldview is also the reason why they remain as nomadic reindeer herders. There are changes, due to the adoption and utilisation of new materials, but these changes are so insignificant, that we cannot talk about these on a large systematic level.



Figure 14. Young reindeer herders Sergey and Nevak are learning a lot from Otto (in the middle).



Figure 15. Gennady is thinking about the next path during the move.

For the Nenets people, the Mya is the only dwelling, both for practical reasons but also on a much deeper, philosophical level for the following reasons:

It is impossible to herd reindeer without being physically present on the tundra: therefore, the attempts to reform nomadic Nenets life into a seminomadic life or by employment in paid shift work and living in settlements, as attempted in the western part of the Nenets area, has been unsuccessful. This failure of social reformist policy is one of the reasons that there is still reindeer husbandry on Yamal, that is, so-called family-based reindeer husbandry or as reindeer herders refer it the “way of life” (Figure 14).

Second, experiments with the relocation of women into settlements were also unsuccessful in Yamal, since the women were willing and still are, to work and live in the tundra without payment, that is, they do not see the work on the tundra as “wage employment” but more as “the” way of life. Third, such an easy “construction” as a Nenets chum, is difficult to replace with something else, despite several attempts. Since the Nenets must move between two types of life: the nomadic and settled, they have created and adopted some of their own innovations too (Figure 15).

As to the question of the displacement of women and whether and how it is affecting the space and sacred symbolism of the Mya, the answer is “yes”. One can see it



Figure 16. Reconstruction of the Mya at boarding school in Yar-Sale: 2D-model.



Figure 17. Reconstruction of the Mya at boarding school in Yar-Sale: 3D- model.

clearly in the use of the *Sym'sy* – the sacred pole. On the Yamal, where women are on the tundra, the *Sym'sy* is present, while in western Nenets territories, where sedentarization was longer and more efficient, it is not in use anymore. Why do Nenets women play such an important role, in the philosophical perspective, in keeping safeguarding and transmitting this sacred traditional knowledge? In my view, the nomadic way of life keeps a woman proud, strong and healthy, and significantly, gives her a central role and status in nomadic Nenets life. Traditional lifestyles and cultural values, attitudes and behavior are protecting and shielding Nenets women and children from abuse and exploitation by men. In contemporary Russian society, this contradicts the usual orthodox Eurocentric perception of “primitive” or “underdeveloped” societies and cultures, which has always implied that modernization; urbanization and technologically industrialized communities are better for women and improve their social equality and rights.

Conclusion: moving between different worlds

Summarizing we can say that a Mya today continues to maintain its value. Local changes caused by the influence of other cultures, as well as urbanization processes, have not radically changed the foundations of these traditions

and culture. One can get an impression that the Mya is only a practical shelter, a protection against the wind and weather. However, the Mya is also the symbol of reindeer husbandry as a form of traditional livelihood and it will remain in use as long as Nenets reindeer husbandry on the Arctic tundra continues to exist.

Reindeer husbandry is “the” way of life, according to the Nenets themselves. Reindeer provide people with shelter, food; it’s used for transportation and the carrying of goods. If we look at traditional Nenets livelihood today, there are not significant changes as such, especially on a deeper, philosophic level. The Mya or Nenets home can be seen as the protection of significant status, role and influence of women in that culture.

The objective and factual evidence produced by this research demonstrates how the everyday reality of Nenets life is inspired by traditional spiritual beliefs and customs, both inside and outside a Nenets home on the tundra. This traditional Nenets culture persists to the present day, despite hundreds of years of systematic and institutionalised pressure to assimilate it into urbanised society. This researched anthropological characteristic of Nenets culture must be understood and accepted, as difficult as this may be for a western observer to conceptualize, if we are to further develop our knowledge of Nenets people and their surviving culture.

Acknowledgements

I would like to express my gratitude and deep thanks to professor Maria Yakovlevna Barmich, Institute of the People of the North, Herzen State Pedagogical University, St. Petersburg, Russia, for the adapting of dialect words to the Big Land Tundra dialect (officially accepted written language). In addition, special thanks to Spencer Pelton, University of Wyoming, USA, and Stephan Dudeck, European University at St. Petersburg, Russia, for all their help and friendly advice.

Anonymity concerns

All personal data, including names, surnames and personal reindeer ear – marks.

Declaration of conflicting interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Ethical rules and indigenous research ethics

General rules as according to “The Guidelines for Research Ethics in the social sciences, law and the humanities”, 2006, published by The National Committee for Research Ethics in the Social Sciences and the Humanities (NESH), Norway and Indigenous research ethics as according to §3 of “The Guidelines for Research Ethics in the social sciences, law and the humanities”, 2006, p.22. A written consent form was signed by all interviewed and featured subjects of the research who were over 16 years of age in 2015.

Funding

Project “Social-Ecological Transformations: Human-Animal Relations Under Climate Change in Northern Eurasia (HUMANOR)” (n:70766).

Notes to transliteration

The transcription of Russian words (written in Cyrillic) to English (written in Latin) is done according to the Transcription table of the Library of Congress; the transcription of Nenets words is done according to so-called “English system”, where iotated vowels are written with Y, not J. A punctuation mark or apostrophes are not used for the word “Mya”. The original words are given in the body of text written with upper case letters. The translation to English and re-writing of all the specific determinations, words, terms, geographical and personal names from Cyrillic to Latin script is made by the author, if it is done by another researcher, it is specified in brackets.

Notes

1. The current PhD-project’s base is at NIKU-Norwegian Institute of Cultural Heritage Research, UiT – Northern Arctic University of Tromsø, under umbrella of an international project HUMANOR, more on webpage: <http://www.arctic-centre.org/EN/research/Projects-and-Research-Networks/Pages/HUMANOR>. Our team consisted of three members: archaeologist Stine Barlinthaug, PhD, the Norwegian leader of the project; Per Eivind Ravna, at that time three years old; and Zoia Vylka Ravna, PhD candidate.
2. “Brigade” was created during the establishing of collectives in USSR, nowadays the term is used both in collective farms and SPK (Agricultural Production Cooperative) or MOP (Municipal Enterprise of Reindeer Herders). The “brigade” is used to identify one working unit, consisting of several nuclear families, which are not necessarily connected by kin.
3. MOP is an abbreviation for municipal enterprise of reindeer herders, for Yamalsky rayon. Structure of the fifth brigade in 2015: the 5th brigade is one of the 16 brigades of MOP Yar-Salinsky, there were four tents totally in the camp of the fifth brigade in the summer of 2015.
4. Traditional dwelling of Nenets nomads, known in western literature as Chum, which was originally adapted either from Komi language *č’šom*, which means “tent, storehouse” or Udmurt language *tšum*, which means the same. <http://www.classes.ru/all-russian/russian-dictionary-Ushakov-term-83870.htm>. There are many different types and words for this kind of dwelling, which are used all over the world.
5. Similar case was reported in Norway, on Hardangervidda, in the summer of 2016. Norwegian Institute for Nature Research has published about the deaths of 323 wild reindeer, see on the site: <http://www.nina.no/Aktuelt/Nyhetsartikkel/ArticleId/4129/Lynnedslag-drepte-323-villrein>. In Norwegian only. Last visited on January 24, 2017.
6. Traditional used here in opposition to modern. The tradition and modernity and their reproduction in Eurocentric epistemologies and political formations are uses by such authors as Anderson, Benjamin, Butler, Chakravarty, Clifford, Foucault, Shuman and many others, published between the sixteenth century and the present—along with the philosophical texts with which they are in dialogue—in terms of how they are imbricated within and help produce what are deemed to be “traditional” and “modern” subjects, objects, texts, and practices. See more: <http://anthropology.berkeley.edu/courses/theories-traditionality-and-modernity-1>. There is no word “traditional” as such in the vocabulary of Nenets people; they use the word *Nevkhy* “old time” when they are talking about the past. Nenets researchers are using the word in their scientific works constantly; see, for instance, the works of Kharyuchi (2001, 2012a, 2012b) and Serpivo (2014).

7. The notion “family-based” is used here as opposed to the “shift-based” reindeer husbandry. The shift-based work in herds was introduced in the western areas of the Nenets tundra already at the beginning of collectivization (approx. 1930s), but without special success. The production unit “brigade” was established to follow the directives from ministry of agriculture. The main aim was to remove/displace women and children from the tundra to the settlements. Main working place for earlier nomadic women has become the so-called “mekhposhiv”, small-scale unit for production of fur clothes, shoes and covers for the Mya tents. This state policy, however, failed in the eastern areas, the family-based reindeer husbandry and private possession of reindeer never disappeared in Yamal.
8. According to the Dictionary of anthropology, the word “clan” is stratified internally based on the person’s degree of closeness to the original ancestor, which establishes the access to clan benefits. The term genealogical is sometimes used for complex clan (Winick, 1977, p. 118).
9. Nenets found out about the quality by visual assessment first, the tree should be right shaped. Some herders rattled the tree with the blunt end of an axe and by the sound found out if the tree was of right quality. They used a similar method to find out about the quality of the metal: by click of the index finger they could recognized the quality of the metal the axe was made of (oral statement, NAO – YaNAO, Sergey Ledkov, 2015)
10. In the summer of 2015, at the most, when the family of private herder Yaptik joined the camp of the fifth brigade, the total population increased to 42, divided into four tents.
11. Also confirmed in the article of Chebotareva, N.A.
12. I have observed these *henggs* being used in most of the areas of the different Nenets groups.
13. Myth (from Greek *mystes* – legend, tale), here is the myth about the origin of the world. The humanization of nature and all phenomena in myths are also known as general personification (Kravchenko, 2001, p. 355).
14. In the book of Terebihin, N.M. “*Metafisika Severa*” is given as an explanation for the arrangements of the space on the tundra, with use of oral and written narrations, fairytales, and with careful and detailed descriptions of the customs of tundra Nenets from their point of view, on the creation of the world (Terebihin, 2004).

Glossary

Huner - mats made of thin birch trunks, used under reindeer skins
 Lata – along, about 4 m. and wide up to 50 cm board, placed on the ground; usually painted a brown color. Ne'lata – lata placed in the frontal area, near to the entrance
 Makoda – two main poles, connected by a rope through the hole at the top of the tent
 Makodasi – the opening at the top of the tent
 Mang – ropes
 Mya (also known in Russian as Chum) – is a nomadic shelter built from poles, covered with birchbark, wool and or reindeer skin.
 Myud Han – women’s cargo sledges
 Myuyko - winter cover, sewed from reindeer skins
 Nyuk – a common type of cover generally used to make the Mya
 Damberz – chair
 Desi - door
 Du – pole
 Dum – the base under the beds
 Dumcha – willow or birch wicker mat
 Pa – kettle hook

Pad nyu – the kettle hook hangs on it
 Syaha – pockets on the top corners of covers, used to erect the covers on top of the poles.
 Sidersi - window
 Si or Si'msy – is a thin long pole, a sacred pole, used in construction of Mya, placed behind the fireplace, almost in the center of the shelter.
 Sinekuy - a sacred place behind the fire, people called it sacred because here they are taking care of and placing their wooden figures of sacred beings.
 Tu – fireplace, in winter is a metal stove, in summertime an open place with the metal or iron sheet
 Tusibe – ash or the place where Tu was located
 Tyser- a reindeer skin for covering a Makodasi
 Va'av – bed
 Va'av nyany – the half of the Mya, where people are sleeping (in opposition to Peley nyany – the empty half)
 Vy – tundra
 Ya – land, territory, area
 Yangor – “the earth reindeer” or mammoth
 Yesenabz – a pole specially made for erecting the Nyuk
 Yeser – a small tent of cotton, used for the covering of Makosi (the opening on the top) at night or in bad weather, with sewed ropes on the corners to fix to the poles of a tent
 Yeya - winter cover, made from a reindeer skin with the hair/ fur on the outside

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Paper Two: “Nomadic Nenets Women’s Sewing Skills”

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“Nomadic Nenets Women’s Sewing Skills.

**The ethno-pedagogical process of transfer of traditional skills and knowledge by
Nenets women through the generations”.**

Published in:

Arctic Anthropology

Vol. 55, No. 2, pp. 95–114, 2018.

ISSN 0066-6939

Paper Three: "Catching a Child"

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"Catching a Child":

giving birth under nomadic conditions.

The methods of pre- and postnatal care of the Nenets mothers and babies.

Published in:

International Journal of Circumpolar Health

Volume 78, Issue 1, 2019.

DOI:10.1080/22423982.2019.1586275

“Catching a Child”: giving birth under nomadic conditions. The methods of pre- and postnatal care of the Nenets mothers and babies

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ABSTRACT

Objectives: The term “Catching a Child” is used by the Tundra Nenets people for the process of giving birth. The author is providing a description of the preparations for giving birth on the tundra in the Nenets nomadic culture, and practice of pre- and postnatal care of mothers and babies. According to the requirements of the child-care system in Russia, the authorities consider the conditions for giving birth in nomadic dwellings in the tundra as unhealthy and unsuitable because they are not considered to meet the acceptable hygienic and safety standards found in a modern well-equipped hospital. Therefore, the official policy is to get as many indigenous Nenets women as possible to give birth in their nearest hospitals and to transport them there by helicopter.

Methods: Anthropological research (four field work stages), in-depth interviews, participant observation and questionnaires.

Results and conclusions: The Tundra Nenets women are in possession of unique knowledge of pre and postnatal care. This is a system that can be categorised as IKS – indigenous knowledge system. This research area shows the efficiency of the IKS, especially in conditions of climatic changes, which are affecting the infrastructure, transportation and general health-care system in the Arctic.

ARTICLE HISTORY

Received 12 September 2018
Revised 6 December 2018
Accepted 9 February 2019

KEYWORDS

motherhood; Tundra Nenets; indigenous knowledge system; new-born; postnatal care; utero-placental system; healing substances; culture and reproduction

Introduction: main concepts, geographical and statistical data

As indicated by official statistics [1], the Nenets are not an endangered ethnic group, or in other words, the Nenets population is not at a demographic risk of decreasing.¹ The data produced from the last two Census surveys (2002 and 2010) show that there were 41,302 and 44,640 individuals identified and listed as ‘Nenets’, published in [1]. They thus represent the largest and increasing indigenous nomadic population in the Russian Federation [2]. However, this statement refers only to the Nenets population of Yamal (The Yamal-Nenets Autonomous Area), which is the major region in terms of the number of reindeer and people actively involved in this unique nomadic culture and way of life. There are a number of reasons for this. According to the Russian state officials, the Nenets are increasing because of the effective and progressive policies of the authorities in their region [3]. These state policies are, among others, providing medical

care services, the transportation of pregnant women to their nearest hospitals for giving birth, the development of the health care system and an increasing number of available medical doctors [4, p.196–197].

However, there are other, much more significant reasons for the current stability of the Nenets population. First, the enhanced social status of being ‘married’ in a nomadic Nenets community. Second, large families with many children are more common for the nomadic Nenets communities, compared to settled Nenets families [5,p.23]. Third, the continuous existence of extended families with grandparents who are moving/living together with their nuclear families and immediate relatives. These traditional family and social structures help to maintain traditional customs and values in nomadic Nenets communities.

Administratively, in the Russian Federation, the Nenets are designated as living in three main regions: The Nenets Autonomous Area (NAO), The Yamal-Nenets Autonomous

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Notes to transliteration

The Transcription of Nenets (The Big Land Tundra dialect) and Russian words (both written in Cyrillic) to English (written in Latin) is done according to the «The scholarly transliteration». The common geographical names and places, family names and first names are written according to ISO 9-system (except for well-known names like Yamal and Yenisei). The original words are given in the body of text written with upper case letters. The translation to English and re-writing of all the specific determinations, words, terms, geographical and personal names from Cyrillic to Latin script is made by the author. When done by another researcher, it is specified in brackets.

¹According to the law of the Russian Federation, the Nenets classified as “Small-numbered indigenous peoples of the North, Siberia and Far East” along with other 40 different ethnic groups.

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No.	Name in Nenets language	Name in Russian (ISO transliteration)	Name in English	Translation of original place name segment
Nenets Autonomous Area [Neneckij avtonomnyj okrug]				
1	Jabta-Sale Ja	Kaninskij poluostrov	Kanin Peninsula	long, narrow cape
2	Timenskoj Ja / Tim Vy' / Timečkoy	Timanskaja tundra	Timan Tundra	From timbja (split) referring to rocks split along shistosity; word origin from legendary Sihirtâ people
3	Ňudi Ja / Nudi Ja	Malozemel'skaja tundra	Little Land Tundra	little land
4	Ňarka Ja	Bol'sezemel'skaja tundra	Big Land Tundra	big land
5	Jugor	Jugorskij poluostrov	Yugor Peninsula	ambiguous origin Yugra: historical name of land and people between Pechora River and Urals
6	Holgov ņo	Ostrov Kolguev	Kolguev Island	corner, hill island
7	Vajhac'	Ostrov Vajgač	Vaygach Island	death island
Yamal-Nenets Autonomous Area [Jamalo-Neneckij avtonomnyj okrug]				
8	Ňorvoš rajon	Šuryškarskij rajon	Shuryshkarsky District	(from Khanty lang.)
9	Pe"hevvyh rajon	Priural'skij rajon	Priuralsky District	by the Urals
10	Ňjadei Ja	Nadymskij rajon	Nadymsky District	lichen land
11	Pur'rajon	Purovskij rajon	Purovsky District	mighty river
12	Ňjaryj mačy rajon	Krasnoselkupskij rajon	Krasnoselkupsky District	(from Selkup lang.)
13	Ja'mal	Jamalskij poluostrov	Yamal Peninsula	end of the Earth
14	Sèr ņo	Ostrov Belyj	Bely Island	white island
15	Tasu'Java"	Tazovskij rajon	Tazovsky District	flooded river
Taymyr Dolgan-Nenets District [Tajmyrskij Dolgano-Neneckij rajon]				
16	Tajmyr Ja	Tajmyrskij Poluostrov	Taymyr Peninsula	ambiguous origin

Legend:

 Regional boundary

 Boundary between region and associated autonomous area

 District boundary

Summer pastures



Summer pastures



Summer pastures

Winter pastures



Winter pastures

Compiled by Zoia Vylka Ravna (Norwegian Inst. for Cultural Heritage Research, NIKU) and Winfried K. Dallmann (University of Tromsø)

Figure 1. Map.



Figure 2. The Birch fibres used as a diaper inside of a traditional Nenets baby's cradle.

Area (YaNAO) and in Tajmyr Dolgan-Nenets District (Figure 1). In the studied regions, in Jamalkij Rajon, 12,387 Nenets live on the tundra within a nomadic culture and community [6,p.7], in the YaNAO in total 14,600 thousand people, or about 40% of the population are indigenous people leading a nomadic lifestyle [7]. In the NAO, according to the local Government, 840 Nenets reindeer people are living in the Tundra [8], but, according to the data provided by the Union of Reindeer Herders of the NAO (unpublished), the number is actually much higher – according to their calculations, up to 2500 Nenets are involved in reindeer husbandry on a daily basis. These Tundra reindeer herders are constantly moving between 500 and 1800 km per year: during the wintertime they are in forest areas and in the summertime they are on the coast of the Polar Ocean. The reindeer herds are migrating over mighty rivers such as the Ob in the YaNAO and the Pechora in the NAO twice a year, when the rivers are covered with ice during the early spring and late autumn (see map).

Medical treatment is often not immediately available for protracted periods of time or in case of emergencies. In these remote and extreme climatic environments, women are sometimes required to use their own traditional methods for the prevention and treatment of illnesses, injuries and diseases, and significantly, in caring for mothers and children. These traditional methods and knowledge developed and generated by women in some of the most isolated nomadic communities are now at risk of disappearing. However, in an era of digital technologies, ultrasound screenings and painkillers, some of these methods are still of importance today, especially under nomadic conditions, where it is not always possible to receive medical help in time. In this article, the aim is to present

previously unknown data on childbearing practices and methods of pre- and postnatal care of mothers and babies derived from field work and research.

The theoretical basis for the article

In anthropology, the process of becoming a mother or the transition into motherhood is not only a physiological but also a cultural process, which is called *Matrescence* and is studied by social and cultural anthropologists since the establishing of these scientific disciplines [9,10]. In the Nenets language, the combination of words *nevtabt-s'neva* (motherhood) is used for defining the process of being and becoming a mother (*sojabta(s')*; to give birth) and (*nja'ma'(s')*; to catch). In English, this term can thus be translated as 'to catch a child'.

Descriptions of traditional/indigenous medical knowledge of the Nenets people about diseases, treatment, edible plants, medicinal herbs, preparations for childbirth, supporting a birth-giving woman, maternity and obstetrics can be included in the complexity of traditional/indigenous medicine knowledge systems (hereinafter MT/IK).² According to Nenets researchers, the analysed information about the MT/IK of indigenous peoples which has been collected to date cannot be considered as satisfactory [11, p.46]. In general, the Nenets researchers describe birth as a complex, multistage process in which rational and sacred practices are combined. There is a lack of analytical works on the MT/IK in the scientific literature, especially on some of the methods that are attempted to be described in this article as a part of the holistic concept of MT/IK.

The previous research shows that in the past, before the establishment of the Soviet Union and the implementation of medical care services, a Nenets woman gave birth under nomadic conditions only and usually became a parent before she reached the age of 20 years [12]. She gave birth to many children, but due to the high level of infant mortality, the number of children in the Nenets families was considered as low.

Literature review

In historical literature, there are research publications about birth practices among nomadic Nenets, published mostly by male researchers, because at that time, only men could travel and do research [13,14]. One work is remarkable since it offered a very detailed sketch of many traditional Nenets rites related to women [15]. After the Russian Revolution in 1917, the Soviet government, before starting social transformations in the North, sent

²The simple search on "MT/IK", or "IKS" (indigenous knowledge system) in English gives about 22 million results and in the Russian language about 6 million. The search on the "Nenets IKS" gives about 35 thousand. www.google.com (visited 7.8.2018).

ethnographers to study, among other issues, family relationships and systems of pre- and postnatal childcare of the indigenous population. At that time, the first works by female researchers were published [16,17]. With the appearance of Nenets schools and, most importantly, the written Nenets language (1930s), the works of indigenous writers about pregnancy, birth and the period after birth and care of the new-born became available [11,12,18,19].

Statistical data on the Nenets fertility levels, birth and child mortality in the 20th Century are analysed by Volžanina [20,21], and more recent data on these developments in general in the Russian Federation by Baranov et al. [22]. Today the indications are clear: there is an increasing age of Nenets women at first birth and decreasing numbers of children being born [23]. The level of infant and child mortality is one of the main indicators of the health and well-being of the population [22,p.31]. Infant and child mortality rates are significantly reduced among the nomadic population due to the modernised health-care system according to Volžanina [23,p.123].

Furthermore, the control of the demographic processes is an essential role of the state [24,p.9]. Also, the mortality rates of Nenets children and mothers born in the tundra can be used to get precise statistical data and thus develop a more accurate picture of the pre- and postnatal care of indigenous Nenets women and children. However, these statistics are still somewhat problematic. The statistics produced on births and infant mortality rates among nomadic Nenets in the tundra are not as precise as those generated by the official hospital systems. The main reason for these statistical inconsistencies is that for women giving birth on the tundra, the actual birth and details of the baby's status are only officially documented at a later date, when the mother and child are transported to a hospital for postnatal care and immunisation procedures. If this does not happen, then the registration of a birth is only completed later when the mother and child eventually arrive at a settlement. If a child is stillborn or dies before being officially registered, then the details may never be recorded and registered, unless and if, the parents voluntarily decide to inform the authorities later.

Therefore, the data on the birth and infant mortality rates in hospitals are much more accurate compared to the statistics on birth rates and infant mortality rates in the tundra. Even though most Nenets women give birth in hospitals, quite a significant number of the Nenets

children are to this day born in the tundra with the help of a female helper known as the 'mother of the umbilical cord'.

Methodology: Anthropological field study

In the study there are three different groups: first group is a nomadic community; second group are women from different Tundra regions (see map); and the third group are adolescents (students from boarding schools in NAO and YaNAO).

Group one

The anthropological study was conducted among members of a nomadic camp named 'Brigade No. 5'.³ In 2015, the '5th Brigade' was one of the 16 brigades within the 'Jar-Salinskij MOP' region. The Brigade No. 5 itself comprised a total of four tents accommodating 43 people. There were approximately 10 people to a tent.

Group two

Women from different tundra regions answered on the set of questions (anthropological in-depth interviews), based on a defined and standardised criterion: they should have been raised in a Tundra Nenets nomadic community. The number of 'in-depth-interviews' with female informants from different regions was 16: they were geographically from the Kanin Peninsula, Little Land Tundra, Big Land Tundra, Nadymiskij District, Purovskij District and the Yamal Tundra. The interviews were recorded during four field work periods in 2015, 2016 and 2017. The transcription and translation were done in 2018. The oldest informant was Sata Ne (The Strong Woman), also known by the name 'Big Mother' (born approx. in 1941). She gave permission to use her name in this article. Other women were born between the 1940s and 1970s.

Group three

The data on births in the tundra were collected through a questionnaire (64 respondents) from adolescents from the various reindeer herding communities of the YaNAO and NAO (born in 1998–2000). I found the questionnaire an effective research tool and a method to get data from many

³This is one of the basic units within a system of Nenets nomadic reindeer husbandry and collective enterprises. A typical brigade consists of several nuclear families who are not necessarily closely related. The "brigade" system of work units was created during the implementation of Soviet policy on establishing work collectives in USSR. Nowadays the term is used both for collective farms and the "SPKs" (Agricultural Production Cooperatives) or MOPs (Municipal Enterprise of Reindeer Herders).

informants during a relatively short period of time. Data from my field work material show that, of my 64 respondents, born between the years 1998 and 2000, eight respondents were born in the tundra. After the year 2000, fewer babies were born in nomadic conditions (Field work, 2015). There are different reasons for this. The main cause, according to my informants, is that the availability of helicopter transportation in the 1990s was far less than now. Today, with few exceptions, almost everyone gives birth in the hospitals' maternity units. In the Brigade No. 5, in one case, the granddaughter of Sata Ne gave birth to twins in 2010. Then T. and M. (her daughters-in-law) took the responsibility for the preparation, birth and postpartum care of these twins and their mother.

The statements made by previous researchers about the decreasing number of children and the increasing age of women giving birth for the first time is also confirmed by my field studies. The four interviewed women in the Brigade No. 5 (three of them were daughters-in-law of Sata Ne) having become a parent at the ages of 18, 24, 27 and 29–30. This last woman's first male child died in the hospital and she did not specify exactly when he was born. She was reluctant to talk about the death of this child.

Ethical rules and indigenous research ethics

The research was conducted according to the general principles found in *The Guidelines for Research Ethics in the social sciences, law and the humanities* (2006, new revised edition in 2016) published by The National Committee for Research Ethics in the Social Sciences and the Humanities (NESH), Norway. I also adhered to Indigenous Research Ethics, as detailed in §3 of [25, p.22]. A written consent form was signed by all respondents and the featured subjects of the research who were over 16 years of age in 2015. Anonymity was provided, concerning both the names, surnames and ear-marks of the individual reindeer herders and, in some cases, the names of private herding enterprises.

Before 'Catching a Child'

After her marriage, a Nenets woman usually moves from her own home to live with the family of her husband. This change happens immediately after the wedding. Her new married status now requires her to focus and prepare exclusively on her role as a mother-to-be. When she becomes pregnant, then people may comment: Naceky'jad"ma tanja" (there are traces of a child here). Before and after she becomes pregnant, she must follow the many taboos Hëvy/Kivy (prohibition) which were created by women themselves, according to informants, basically

to protect themselves from the bad beings (Interview 12). There is no place to get into a discussion on these existing taboos in this article, but these are observed in all the Nenets tundra communities and are also described as a system of the rules, particularly for education of girls, described by Susoj [26,p.40].

Briefly summarised, there is not much modern medical assistance available to a woman, neither during the preparations for giving birth, or during the process of giving birth, except one woman-helper. As one Nenets woman, educated as a professional and qualified nurse, told me:

'... In the traditional delivery there is not much help for her. She is only helped when a child is born'. (Interview 13).

At the same time, despite the little help that she does get, the assistance she receives is valuable and practical.

Preparations for birth are part of the traditional/indigenous medicine knowledge systems (MT/IK) of the Nenets. As suggested previously, the customs and beliefs of Nenets women who assist in prenatal, child birth and postnatal care on the tundra, can be observed and defined as practising two distinct types of help, the 'rational' and 'visible' and the 'sacred' and 'invisible' [27]. At this stage the help of the visible helpers is invaluable. The expectant mother's immediate and/or extended family works in co-operation to help prepare the expectant mother for birth and to 'catch a child'. During pregnancy, three main helpers are active: the future father, the children from the wider community/brigade, especially the girls and elder women. They help by making the necessary requirements, such as a cradle, clothing, collecting and drying the moss (Latin: *Sphagnum*; Nenets: *Njarco*) that is used as diapers for the expected baby, collecting and drying of medicinal herbs/plants and different objects for spiritual cleansing. Since the aim of this article is to show the childbearing practices and methods of birth, I omit the preparations, such as creation of the cradle and sewing of clothing.

Moss (Lat. *Sphagnum*)

The first custom, that is common for all groups of nomadic Nenets, is collecting and drying the moss that is used for making diapers, in addition to being used for other practical purposes.

The *Sphagnum hyaline* or cells of the moss can hold 16–25 times their dry weight of water [28], which indicates that *Sphagnum* mosses have a very high adsorption ability [29] and as such can be used as a good sustainable and organic alternative to the use of manufactured, synthetic diapers. In addition, 10–30% of *Sphagnum* dry mass

comprises uronic acids which are known to possess anti-oxidative properties [30]. Flavonoids (plant compounds that are found in almost all fruits and vegetables) in *Sphagnum* have also been shown to have antibacterial effects against bacteria like *Enterobacter cloacae*, *E. aerogenes* and *Pseudomonas aeruginosa* [31]. Sámi mothers in Scandinavia have used *Sphagnum* moss as ‘diapers’ for their children, as reported first by Linné [32].

As part of the traditional Nenets cultural belief systems, a pregnant woman should not make any preparations for the child before birth; an older relative, more often a grandmother, should do this. The work and preparations should not be seen by others in the camp, especially not by the men, because these types of preparations for birth are only suitable and appropriate for women’s knowledge and thus Hèvy/Kivy (prohibition) for men. Therefore, the women and girls collect as much as possible of the *Sphagnum* moss (Njarco) themselves and then it is dried in the sun some distance away from the camp. Another explanation, more practical, is that the area, where the moss is drying, will not be disturbed by children and reindeer, who are often moving around in the immediate vicinity of the camp. One of the respondents explained the process of preparation of the *Sphagnum* moss:

We [older kids] picked up and dried this moss. My mother showed us how to dry it. It can be found in different types and colors, this Sphagnum. The one with long ‘hair’ is called a ‘crow moss’. And there is another one, slightly shorter, which usually grows in a not very marshy place. Our mom looked at the form [of the moss] at first and then showed [us] in what areas to collect it. It is collected simply by hand; it is very easy to get it out of that environment. Then the moss should be turned upside down. The root system must dry out on the hummocks. We usually collected it during the dry period, while there is no rain, and the sun is shining. We collected a lot of it. This material was used not only in the cradle; it was also used for many other purposes. (Interview 5).

The Nenets women used to dry the moss for about three days. Then all of it was collected in big bags. Since the season for collecting the moss is short, only a few weeks during the summer, all the children and women in the camp were working together to gather it. However, only the women and mothers were involved in packing the moss. The same informant explained this practise as follows:

We took big bags, put all the dried moss into them and brought it into the tent. And then there was the work for a woman. Such laborious work! My mother did it always herself, she tamped and packed it into these sewed bags. To get this hard, like sports mats, she stuffed it. We need large amounts of this material. In addition, it lasts longer if it’s tamped in bags. Usually, it did not turn out to be

very weighty. It’s just become a gigantic size, but the mass in total is only about 8 to 10 kg. (Interview 5).

In general, one family usually needed about two or three such bags because it was also used for other purposes and all year round. In addition to the previously mentioned uses, the moss was also used for drying the household utensils; the dishes were wiped with moss after they were cleaned. The moss is also used as an antiseptic and for general hygienic purposes. Since the nomadic Nenets are on the move all the time, one of the collected bags was left behind, and stored in one of the sledges that are reserved for the next season. Because the nomadic Nenets family will return along the same route before the following year’s summer, they will be able to use the previously stored moss. At the beginning of the summer, there will be no fresh *Sphagnum* available; therefore, the Nenets have developed a logistical solution to this problem.

Some of the *Sphagnum* is also ground into a powder. This powdered moss becomes a necessity, as in this form it is used as a talcum powder. In addition to the *Sphagnum*, the Nenets also used dry birch wood (Figure 2). It should be a special type, from an older birch tree, and only inside compounds are used. By using a sharp knife woman cut some thin and soft pieces from a dried tree. Then the mothers will put reindeer hair that grows under the neck of the reindeer over these wood chips.

Medicinal herbs/plants and healing substances

The healing substances can be divided into three types: plants and herbs, including berries, lichens and mosses and different organs of animals and birds. According to Susoj, the Nenets women use different types of plants for medicinal purposes [26, p.19]. Some of these are also used during the pre- and postnatal stages: Birch (*Bétula*), larch (*Lárix*), *Rhododendron tomentosum* (*Ledum palustre* L.) and juniper (*Juniperus sibirica*) among others [26,33]. Most of the plants were and are used as disinfectants, as tea and as an addition to tea for medicinal purposes, some of them are used against insects and some for the treatment of rheumatism.

However, the main plant used as a medicine is a mushroom, known as *tjunjac’* (n) or *chaga* [čaga] (Latin: *Inonotus obliquus*). It is a medical mushroom that indigenous peoples in the Arctic often use for different purposes. The useful properties and qualities of *chaga* are mostly described in medical literature, for instance, in [34]. However, the usage of the *chaga* mushroom by the Nenets as a historically traditional

medicine has not been described in detailed, analytical anthropological works to date.

The following description is based on the concept of the Nenets MT/IK. The Nenets women explained the qualities of this traditional medicine, based on their own experience. The chaga was only picked during the winter and early spring in forest areas because there is a specific place where the mushroom grows and can be found. Women and children of preschool age, usually with the help of an axe or sometimes a big knife, cut the chaga from the tree and collect it in big sacks. Then it was packed in sledges and used for the rest of the year. One of the informants told me about the gathering of the chaga and how she gathered it during the winter season:

[I] was four or five. I took a big bag, my little hatchet and went to a forest nearby. If I could not get it [the chaga] myself, because it was too high, I pestered my uncles to do it for me. To avoid that I went too far, other adults or parents said to me that a bear with cubs was seen, they might be dangerous. I did not see a single bear then. Apparently, they invented it. At a time, when my little skis were packed away, I took my father's skis... A chaga was then used for tea. When someone was sick, I remember, they brewed a strong tea from chaga and let the sick [person] drink it. (Interview 4).

Chaga is also used by Nenets men in the production of different handicraft items, as well as for healing from whooping cough [35,p.806]. The way to prepare the chaga depends on the usage: to make a drink it is mixed with clean boiling water; to use it for the cleansing or washing body, the chaga is mixed with some pieces of the embers and cooled down to the comfort temperature.

The process of giving birth: practices of the Tundra Nenets

In the scientific literature and in the notes of travellers it is often noted that the Nenets isolated a future mother in a special tent before the birth of a baby [15]. According to the recollections of the respondents, it was a long time ago, and this would only be the case if the husband had several wives living in different tents (Field work, 2015). Polygamy is still practised in adherence to traditional norms [36,p.229]. However, polygamy in Nenets culture is not the subject of this article and as a research subject could only be adequately addressed in a specific article based on detailed research on the issue. Nevertheless, my research did confirm that the practise of polygamy continues in nomadic Nenets culture, according to my Nenets informants (Interview 21).

Nomadic Nenets may also give birth on ordinary transport sledges, which would then be destroyed because of traditional beliefs. There are special rituals that follow the labour and birth of a baby on sledges: a man/a father should, on the first day of his wife's labour, make a sacrifice of a reindeer and later, after the birth is finished and the sledges are burned, the skull and insides of the sacrificed reindeer should be placed at the specific location where the woman gave birth to her child [19]. For more details about the sacred beings and the gods of the Nenets, see the comprehensive work of researcher Leonid Lar [37].

However, most of the births take place in an ordinary nomadic dwelling, the mya tent.

Usually, at the first sign of the labour pains, Sojavgavamba pja (the birth begins), all the people are expelled from the tent, leaving only the expectant mother and an older woman Sju'nebja (Mother of the Umbilical Cord). This is usually a woman of status njaromy (a spiritually pure woman who can no longer have children), and she cares for the pregnant woman during childbirth (Field work, 2015). As a conclusion of my own research, I have to disagree that a woman of the status of a njaromy is someone who is seen as being somewhere between a male and female as proposed by [38,p.750]. In my opinion, wisdom and worldly experience, as well as the sacred knowledge of an older woman, inaccessible to the young, gave her the right to be a midwife or 'umbilical cord mother' and that this social status and role within traditional Nenets culture is uniquely female.

The future mother will try as far as she is able to be self-reliant, but she knows that help is available, when and if she really needs it. There will always be helpers present and available, some of them are visible, human helpers and some are the invisible, sacred beings. There are several sacred female helpers present: Ja nebja (the mother of earth) and Tu hada (an old woman, the protector of fire). Then, the two visible beings are the little doll Måd Puhuča (owner of the tent). And there is a real person, usually an elderly woman, the midwife. All together, we can talk about four 'females' that are taking care of the woman and the new human being. This suggests that not just mortal men, but male sacred beings/spirits are specifically excluded from the process of giving birth/experience/responsibility and activities.

In other cultures, female helpers have different names, but they also should have the same unique qualities and life experience. For instance, the Sami name for a midwife is 'çalbmeeadni' (the eye mother) [39,p.8]. One explanation of this notion is that she (the eye mother) is the one who sees most of all [39]. Based on my research that this implies that she has the power to see the things, objects and processes that are invisible to 'ordinary' people.

The process of giving birth may sometimes last for many hours or days. In such extreme conditions on the tundra, where only the thin tent walls made from reindeer skins are protecting a pregnant woman in labour from, the Nenets people have developed a set of rules for behaving during the process of giving birth.

Nenets women do not have a habit of complaining about pain, they cannot allow themselves to ask for help, shout, scream or demand any assistance. They usually give birth on their knees, facing the walls of the tent during the labour. When the child is coming, then she should turn, so she and the child see the fire, which symbolises the life itself. She is sitting up on her knees with her back straight, facing the fire, and the child is then turned to face the fire.

Hopefully, with the help of the visible and invisible helpers, the birth will go well. At the same time, the future mother is also preparing herself, as much as possible, both physically, but also emotionally, before going into labour and giving birth. As one of the informants, a Nenets professional formally trained and qualified as a midwife, told me:

Once, one of the women began to give birth unexpectedly quickly. I worked as a medical assistant then. She started to give birth in the tundra, where nothing [was prepared], no firewood, nothing. She says: Let me give birth in the traditional way. I replied: I didn't learn how to assist in the traditional way. I have never seen it, you know. Let's try to give birth as they give birth at the hospitals. It turns out to be that she had already tied a rope to the poles [inside of the tent]. Well, I did not carefully consider the rope, maybe it was a special one, made from reindeer sinews. Well, it's short, tied to only two poles. She holds it with both hands, and squats. Her body is covered with an everyday Åguška (a women's winter coat made from reindeer skins). She has also prepared a bowl with boiled water and a bowl with chaga. The reindeer sinews for tying the umbilical cord was also there. The navel will be treated also with the same chaga water. (Interview 13).

This birth went well. Right after she gave birth to her child, she sat on her knees and under her she put the same type of *Sphagnum* moss as she had picked and dried for the cradle. According to Linné, the Sámi women also used the *Sphagnum* moss as pads [32].

Traditional practices in postnatal care

There are a few practices that are developed by the Tundra Nenets that I was told about during the in-depth interviews. The first one can be described as

a special position after the birth and the second I called as the *postnatal walking tradition*. As one of the informants explained to me about the first practise:

...And she sits, tucking her legs up into her belly, not stretching, and squeezing. This way the uterus shrinks more quickly. Well, they do not say that themselves, because they do not know, but that was what was happening. But somehow, they had tried. And by a method of trial and error, they have found out that this is the way to do it and not otherwise. (Interview 13).

This special position was also described in another interview:

And you know, they [old women] told me to sit as you are now sitting. Everything is flowing there [after the birth]. It was also prohibited to eat at the common table. The food was served on the board used for the work with reindeer hides. (Interview 8).

Usually, after childbirth, especially if the process was long and painful, the body needs rest. Some of the women are so weakened that they cannot even rise. Still, they must raise themselves and walk. Interestingly, this tradition has never been described before.

The postnatal walking tradition:

... immediately after childbirth, I received from the Sju'nebja (Mother of the Umbilical Cord/midwife) a stick for support and an order to walk. The Sju'nebja said: just a few, tiny steps, but you need to walk. (Interview 8).

The Nenets custom of making mothers walk after giving birth has an explanation in western scientific medicine.

According to professor Ellen Blix (personal correspondence),⁴ in Norway, before the war (WW II) it was common practise to prescribe bed rest for all women who gave birth, regardless of the severity/ease of delivery. Ellen Blix's own grandmother gave birth in the 1920s and 1930s, in a small village near Alta fjord (Northern Norway). As everybody did at that time, during the first week and up to ten days after childbirth, according to the doctor's and nurse's rules, she was obliged to spend it lying in a bed. [40, p.207].

As a mother of several children and as a busy wife, she could not afford to spend weeks in a bed. She found a solution to avoid the problem. She asked her eldest son to see if the midwife was on a daily inspection. When he, seeing the midwife, shouted to his mother, that the midwife was on the way, she immediately went back to bed. This common practise being ordered to stay in bed continued in Norway up to the end of World War II.

⁴Professor Ellen Blix is specializing in Health Sciences, the subjects of research are among others Epidemiology, Normal Birth, Fetal Monitoring and Place of Birth.

Studies have now shown that for a woman who has just given birth, lying in horizontal position increases the risk of a thrombosis. When walking, the uterus begins to contract and thus, the risk of 'blood clotting' in the small pelvis decreases, as well as the risk of postpartum inflammation – endometriosis. This inflammation of the uterus often after childbirth and abortion occurs if the process of contraction of the uterus is delayed. In modern maternity hospitals, a mother with a child, if there are no complications, will be released home after a few hours and encouraged to be as physically active as possible. I have concluded from my research, that traditional nomadic Nenets postnatal practise pre-dates western scientific medical postnatal practise by at least hundreds of years.

However, not all the births documented in my research were easy, as described in the case studies. Significantly, my Nenets informants explained difficult and protracted births, in addition to other, physical problems in giving birth, as being caused by broken taboos and adultery. In such situations, a *sju'nebj*a or mother-in-law carried out of a tent a belt or ties for men's shoes, on which the husband tied knots, corresponding to the number of his infidelities. After that ritual was completed, the same belt was given to the woman in childbirth, so that she confessed infidelity too, tying the nodules. This tradition is also described in historical literature, for instance by [41]. Particularly experienced *sju'nebj*a can change the position of the baby inside in the womb. They also use the technique of acupuncture [15,p.23]. This is also confirmed by [11].

After 'Catching a Child'

When a baby is born, the Nenets say: *Syurbäda njätsekem' nja'mäva* '(We managed to catch the running child). Generally, the methods of helping the mother postnatally can be divided into three categories: physical, psychological and spiritual. For successful delivery, as well as postnatal development of the child, among the methods is the ritual of cleansing. According to Nenets tradition, at this postnatal stage, the child and mother do not belong to the 'this' world until they have passed the 'nibtarava/niptarava' (The purification of the nomadic woman). Nibtarava is a process, where the Nenets women are using smouldering embers, the fat of a wild reindeer, twisted and rolled up with a little bit of fur to purify the pregnant woman (Field work, 2015, Interview 5). They can also use the fur of an otter, polar fox and beaver.

The 'nibtarava' is also the 'ball' of fur and fat which is then laid on the burning fire by the older woman. And over the trickle of smoke which then rises, the cleansed person must perform special words for purification. While she breathes over this fire, she says: 'Kyv-kyv'. These are not

spelling, but the words of cleansing. Then the female helper will completely fumigate the pregnant woman's body, legs and face. After this procedure is completed, she will make a special mix of chaga (Field work, 2015). The informant explained this process as follows:

We mix the chaga with boiling water, then this liquid is cooled to approx. 36 degrees. Then we washed this mix all over her face, hands and body. The remaining chaga mix we splash on the hot coals of the fire three times. It turns into our steam bath or sauna, for the Nenets. This is one of the serious rituals. After this ritual, we dress everything clean, naturally. (Interview 5).

After this, the elder woman performs the same ritual again: she fumigates the baby, the cradle, all the objects that the woman used, her sledges and all the people in her tent, who return after the birth is finished.

Only after that, can the new mother get food. There is no special food prepared, except the boiled reindeer meat and the stock that was given immediately to her to drink; to learn more about the nutrition of reindeer meat read [42]. In the case of Sata Ne, she was not sure if there was any special food prepared. She was given a lot of tea; this was for lactation, then bread with butter and boiled meat. It was in 1965, when Sata Ne gave birth to her first child, a healthy boy (Field work, 2015).

Such individual physical characteristics as weight, height and size of the head circumference of the new-born, were not recorded after a baby is born on the tundra. Only upon the arrival of the mother with the child in the village, a child was measured and registered. The child may already be several months old by this time.

The food for the child was the mother's own milk. The mother usually gave the breast right after the 'nibtarava' cleansing. For the start of the lactation, the Nenets women let the child suckle an empty breast, because the milk is usually produced on the third day after the birth. Then they breast-feed the infant for a long time, according to some sources, up to when a child becomes 5 years old. Sometimes an older and younger child are being breast-fed at the same time by the same mother. After the child was cleaned and fed, it was placed in the cradle. According to Sata Ne, she was sometimes needed to express her own breast milk, because it was too much. She raised the question herself during that interview, whether it was prohibited to do it. I could not answer that question, but I told her that in western countries the mother's milk is considered very healthy and beneficial and in some countries breast milk is collected in a special milk-bank to be used for sick babies.

After the birth of her first child, a Nenets woman will get a new name, and she will also, in return, give a new name to the different things inside the family's mya-

tent. For instance, the pole, that is now used for the cradle is called a 'pynkèj ngu' (the pole for the cradle). And the rope for the cradle gets the name 'pynkèj ine' (the rope for the cradle) (Interview 5).

The birth of a boy in the family is especially significant. In a nearby tent, a mother with scarcely hidden pride, said to me once, that she had five sons and no girls. Women, giving birth only to girls, were not as respected as those women who gave birth to boys. If a woman could not give birth at all, then her husband could take a second wife. Childlessness was considered a disgrace to the Nenets and was a punishment for one's sins or the sins of their ancestors [15]. Regarding the birth ritual on the Tundra or in the hospital, women still honour certain rituals, even though most births are nowadays taking place in medical institutions. In addition to the enhanced status of marriage, children and the role of extended families in nomadic Nenets culture; motherhood is so important for the nomadic Nenets woman, that she, from the moment she becomes a mother, will be given a new name. She will, from that moment, be named after her children. For instance, she will be called the Mother of the girl with the name Pèdavane, or the Mother of the boy with the name Khasava. The same will happen with a man, when he becomes a father (Field work, 2015).

The name for a child was never given before the birth, but he/she could already have a song dedicated to them. The child was given a temporary name, until one year old (Field work, 2015).

Mom, when laid down her child as probably any mother on the earth, was singing a song... His mother lulled him. In this song, all her love for this baby, she is singing with tender words. Maternal love was manifested in this song. She sang in her own language. (Interview 5).

Sometimes, when the child is crying too much, the Mother can decide to change the name.

Her little son (at that time he already got name ...) was crying constantly, and then Lavosoma Nebja said that he needed to be given an ancient name .. And when this name was given to him, he stopped crying. So, he got the right name that he was looking for. (Interview 8).

The status of a woman would change again, after several subsequent births. For instance, Sata Ne, after giving birth to five children, was renamed as Njuta panoxona mèna ne (By children mature woman) or by children rich woman in the Forest Nenets traditions [43, p.232]. Another woman, M., gave life to nine children. At the age of 43, her youngest was 6 years old, while the eldest was 23 years old. M. also had two grandchildren, who were two and three years old. At her age, M. is still considered capable of becoming

pregnant and successfully giving birth. But in reply to my question as to whether she would want it, she said that is not up to her to decide.

The honoured parental status of a Nenets woman continues to develop as she progresses to becoming a grandparent 'hada'. As with M., sometimes a Nenets woman may continue to have young children and be, or become, a grandmother at the same time. According to my interviews in Yamal, the luckiest number of children for parents to have is from ten to twelve children. There is no specific or detailed evidence available of relative rates of female and male infertility among nomadic Nenets communities. In addition, there are no indicators of whether nomadic Nenets people recognise, accept or understand that men, as well as women, can be infertile.

Celebrating the Catching a Child: discussion

The birth of the child in nomadic communities is celebrated twice. Immediately after the birth of his child, and being informed of its gender, the father of the new-born will go to his reindeer herd. Then he slaughters a young female reindeer if it is a girl and young ox if a boy is born. When the new-born child's part of the umbilical cord falls away, another reindeer will be sacrificed. These rituals are carried out in the belief that this will ensure that the child will grow up healthy, strong and for the speedy recovery of the mother. She is usually returned to her ordinary work approximately after one month.

My research, based on my interviews, indicates that the role of the Russian state concerning the birth, pre- and postnatal care of a nomadic Nenets population is primarily focused on providing helicopter transportation to hospitals for expectant Nenets mothers. Even though a smaller number of women are giving birth at home, in their nomadic dwellings, some Nenets children are still being born on the tundra under nomadic conditions and extreme weather and climates. In such risky nomadic environments, the importance, value and usefulness of traditional Nenets customs and beliefs, together with a historically well developed and proven system of indigenous knowledge, medicine and practise, should not be underestimated. This applies to all the pre- and postnatal stages, from the preparation customs, the birth and immediately after the birth of an infant.

The complex of traditional/indigenous medicine knowledge systems of the Nenets nomads, including their knowledge about birth practices in nomadic and extreme weather conditions should not be perceived as inferior or redundant in a modern age. But on the contrary, as something unique and valuable, because it was

created based on the experience of many generations of nomads, and thus has passed the test of time.

The unique custom of “walking after birth”, when the mother’s requirement to raise herself and walk after giving birth undoubtedly minimises the risk of blood clots and may on occasion save lives. Concerning the special position after the birth used by Nenets women, according to the observations of the midwives, demonstrates that in an upright squatting position, pushing down on the foetus with the assistance of gravity and using the weight of the foetus to ease the woman’s effort in giving birth. It is especially important, if a woman could not stand on her own during birth, that she was tied for additional support with a strap for her armpits to the poles of the tent.

Conclusion

The practise of treatment, using the medicinal plants, described in this article, should be studied in more detail and included in educational literature. During the immediate period after the birth, when there is an increased risk of infection the usage of such materials, like *Sphagnum* moss, which has a very high absorbent ability, antioxidative properties and its antibacterial effects which have been proved by many researchers, should be studied and adapted for usage generally.

Such customs, like long-term breast feeding, of sometimes up to 5 years, contribute to the creation of a close connection between a mother and a child, as well as the development of tactile feelings and senses by the baby. Such vital tactile sensory development and associated emotions will be less probable if a baby spends most of its infancy in a cradle.

Furthermore, in connection with the long transportation times often required under nomadic conditions, it will not always be possible to get qualified and technological medical care to a woman giving birth on the tundra in time. In such eventualities, traditional knowledge and experience, accumulated over the centuries, becomes irreplaceable and may be a critical factor in avoiding illness, injury or even death. MT/IK and methods of child-birth developed by Nenets women over many generations sometimes save lives and thus should become an object of future, more detailed research.

Acknowledgments

I would thank my informants, the nomadic Nenets women for trusting me and sharing their knowledge with me. For editing and professional advice, I would like to thank Toril Hanson, Midwife, Mph, and former Assistant Professor in Midwifery, Faculty of Health Sciences, The Arctic University of Norway, Ellen Blix,

Professor in Midwifery at the Oslo Metropolitan University and Senior Research Scientist Hans Anders Tømmervik at The Norwegian Institute for Nature Research (Norway).

Disclosure statement

No potential conflict of interest was reported by the author.

Funding

The Research Council of Norway: HUMANOR (Social-Ecological Transformations: HUMAN-ANIMAL Relations Under Climate Change in NORthern Eurasia (n:70766)). The Fram Centre research programme: the project LUMANOR (Land Use Change Among Indigenous Pastoralists. Mapping historic land use in Northern landscapes (Fram Centre project:1020845)).

Special words and connotation in the text

Āguška;16
 hada;22
 Hèvy/Kivy;10
 Ja nebja;15
 Mâd Puhuča;15
 Naceky’ jad”ma tanja”;9
 Nevtabs”ŋeva;4
 Nja”ma’(s’);4
 Njarco;9
 Njaromy;14
 Njuta panoxona mēna ne;22
 Sju’nebja;14; 17
 Sojabta(s’);4
 Sojantavamba pja;14
 Tjunjac’ (n);12
 Tu hada;15

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Paper Four: “Skills come with experience”

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“Skills come with experience”:

A pedagogical study of different forms of communication in Nenets nomadic communities in Northern Russia.

Re-submitted to

“Learning and Instruction”

The Journal of the European Association for Research on Learning and Instruction

(EARLI)

“Skills come with experience”

A pedagogical study of different forms of communication in Nenets nomadic communities in Northern Russia.

Abstract

This article raises the issue of child rearing techniques used by Nenets mothers in the nomadic conditions of the Arctic Tundra. The focus of the article is a description and analysis of different types of inter-generational communication in the process of the training of basic skills and abilities that children of tundra nomads need to possess in order to become Tenevana (knowledgeable). The theoretical framing of this study is the theory of indigenous teachers “labor education within the family”. The analytical approach of this study is structured within an interdisciplinary methodology and is based on methods of in-depth-interviews, questionnaires and fieldwork. Based on an analysis of the rich array of the data produced, the author has concluded that the most important forms of communications are also the most vulnerable: such as folklore and storytelling.

Keywords: upbringing, indigenous knowledge, Tundra Nenets, communication, singing, storytelling, forms of communication, ethnic pedagogy.

1. Introduction: main concepts and background information

The Nenets nomadic reindeer herders¹ are considered to be the most successful in terms of people engaged in their specific nomadic way of life and in terms of the number of their reindeer, both historically (Golovnev and Osherenko 1999) and currently (Ůžakov 2004, 2017). However, the data collated for this research project² indicates, that very few adolescents are currently choosing, or will choose, this specific way of life in the future. This will, in the long run, effect the recruitment of future generations of nomadic Nenets reindeer herders and will thus threaten the very existence of their unique culture.

Nomadic Nenets children's upbringing radically differs from the education process they receive in state-run boarding schools. This means that if the child is to become a reindeer herder, s/he will already be required to possess all the necessary knowledge and critically, experience, needed in order to survive in the Arctic Tundra, before leaving school. The children will also need to possess, and be recognized by their own community, as possessing an adequate level of traditional nomadic Nenets knowledge and skills in order to become "Tenevana" (knowledgeable). Tenevana, at a philosophical level means that a person "has a great mind based on experience" (Barmič 2015). Thus, learning to survive as a nomadic reindeer herder on the Arctic Tundra is a life-long process and one in which they can continue to learn new knowledge and acquire new skills during their entire life on the Tundra. Children should learn and be raised according to the principles of Vadabava/Vadameta (upbringing and raising) and Tokholada (education).

This knowledge is often described as "Indigenous" (hereinafter referred to as IK), "Traditional" (hereinafter referred to as TK) or "Local" (hereinafter referred to as LK), depending on who is in possession of it (Nordin 2010). The main difference between these types of knowledge is that the first one belongs to a so-called "culture bearer" (ibid). "Traditional" is often used in opposition to "modern".

¹ I give my special thanks to indigenous teachers in various boarding schools in the NAO and YaNAO. Special thanks to my female respondents in different Tundra, mothers and grandmothers. I am also very thankful to all other contributors to this project.

² "Social-Ecological Transformations: Human-Animal Relations Under Climate Change in Northern Eurasia (HUMANOR)" (n:70766). Fieldwork was supported by The Fram Centre research program: the project LUMANOR (Land Use Change Among Indigenous Pastoralists. Mapping historic land use in Northern landscapes (n:1020845).

LK can only be applied and used within a certain environment. The LK does not necessarily belong only to indigenous peoples. It can also be found and demonstrated by examples of the knowledge and skills used by local, non-indigenous fishermen. They also possess unique, often very detailed knowledge of the coastal waters, fishing gear and types of fish.

In this paper, the process of inter-generational transfer of IK in nomadic Nenets reindeer herding culture is examined. The research question is thus to find out, with the help of theoretical pedagogical concepts of upbringing and the education of their children for life in the Arctic, and which forms of communications are used, specifically by mothers, to transfer this IK to their children. To show the methods used in teaching their children in the learning of IK, I will use the pedagogical model of “environmental and labor education within the family” by Njaruj and Šerpivo (2005).

1.1. General information on the studied groups

The Nenets have previously been known as Samoyeds (Belâvskij 1833; Schrenk 1855). The Nenets people themselves use the term “Nenèj nenec” in the singular and “Nenèj nenec” in the plural form to refer to their own individual and collective identities (English: real human)³. They live in a territory of about 1 million square kms. in Northern Russia. The northern border is marked by the coast of the Polar ocean to the north and the Tundra forests to the south. Administratively their territory is divided into “autonomous okrugs” (areas) and by the Nenets themselves into different “Tundra”.

Figure 1: Map

The main employment of these nomadic people is reindeer husbandry, fishing, hunting and gathering, i.e. primary industries. The Nenets are recognized and categorized by the Russian authorities as KMNS (from Russian: *Korennyje malochislennye norody Severa, Sibiri i Dal'nego Vostoka* -Literally translated from the Russian as “Few numbered indigenous peoples of the North, Siberia and Far East”). According to the last official census in 2010 there were 46,640 individuals registered as Nenets (Bogojavlenskij

³ Transliteration and translation: I refer to *Darka â* (Big Tundra Land) dialect; the transcription of Nenets words (written in Cyrillic) to English (written in Latin) is done according to ISO-9-system. This system is used for transliteration of common geographical, family and clans' names (mostly of different Nenets dialects); except a few well-established words (Yamal, Yar-sale). The word *Tundra* is written with upper case letter, refereeing to the Nenets word “Vy” (the space of living).

2012). Of these, approximately 13,000 people were listed as actively involved in reindeer husbandry at the time of my fieldwork study in 2017.

The first written language for Tundra Nenets (initially based on Latin) was created in 1932 (Terešenko 1966:376). Later, the Nenets linguist Sajarati Pyrerka or a.k.a. Anton Pavlovich Pyrerka (1905–1941), created a written language, based on the Cyrillic alphabet (Vorobjeva 2014). The Russian Orthodox church initiated the first attempts at teaching the Nenets to read and write (Sjugnej 2008:42-43). Despite several attempts, the work to educate nomadic peoples before the 1930s was usually non-systematic and characterized by the general lack of priority given to the education of nomadic communities living in the remote arctic regions by the Soviet authorities. As a consequence, general literacy amongst the Nenets was not seen until the establishment and implementation of a boarding school system of education between 1920-1930.

Before that, Nenets children received all their education and knowledge on the Tundra, within their families and through non-written forms of communication. Nenets mothers and fathers have historically developed several forms of oral communication and methods of bringing up their children on the Tundra. In ethnic studies of pedagogy as defined in western pedagogical science (Sleeter 2011), researchers emphasize the role of oral forms of communication, including storytelling, in the upbringing of nomadic children (Turutina 2007). “Ethnic pedagogy” as defined by Volkov, could be generally presented as the history and theory of natural, informal, traditional education (1999:3). As a science, it has examined the experience of ethnic groups in raising and educating children, of their moral, ethical and aesthetic views on the primordial values of a family, clan, tribe, nationality and nation (ibid:3).

Many of these values are transferred through stories. These stories are founded on the beliefs and worldview of nomads. According to scientists in religious studies, the Nenets were predominately animists (from anime- spirits or more precisely *hèhè* (Lar 1998, 2001). *Hèhè* can be translated as earth-water-tundra beings; the term “earth beings” introduced by de la Cadena (2015). The Nenets are polytheists, which means they believe in many gods, among them are the goddess *Á-Minâ*, *Á-Nebâ* (Mother of the Earth) and Num (Main male god) (Golovnev 2004; Lar 1998). Nowadays, many Nenets are baptized and attend Christian orthodox churches.

The need to recognize and support IK as a foundation for maintaining the continuation of nomadic Nenets culture has begun to be realized by local authorities. Local politicians and researchers are beginning to introduce the concept of education and training in IK as part of the state's formal education system for Nenets pupils, as a means to protect the culture of nomadic reindeer herding from disappearing altogether. This can be seen by the attempts to implement new "outreach" educational services and facilities such as "nomadic schools" or "nomadic kindergartens" (Doklad, YaNAO, 2017). However, these developments are still limited. Except for a few local initiatives, up to today, this type of educational unit is not yet defined or protected at a Federal State level.

1.2. Theories on the role of communication in the nomadic Nenets system of education.

The upbringing of Nenets children on the Tundra is time-limited, restricted to approximately three summer months and a few short vacations during a school year, due to the requirements of the modern educational boarding-school system in the Russian Federation. Despite the attitudes of the Russian authorities' policies on the education of the Nenets, that do not make any provisions for Nenets children to have any form of systematic training for nomadic life on the Arctic Tundra, as analyzed by Lârskaa (2004); the Nenets have in fact developed their own traditional well-formulated concepts of child rearing and education of their children for nomadic life on the Arctic Tundra. This system can be called "raising of children in Tundra" (my proposal to this process) within theoretical concept of "labor education in the family". Probably the only theoretical work on the concept of the "transfer of knowledge" among the Nenets is described by Njaruj and Serpivo, who are both educators and researchers. According to them, primary educational principles can be categorized as an environmental and labor education within the family (Njaruj and Serpivo 2005:42).

Children of school age usually stay in boarding schools, situated in settlements, for about 9 months a year, from 8 to 11 years⁴. At the age of 15-18 years, adolescents in the state boarding schools must, in

⁴ In the Federal Law "On Education in the Russian Federation", several provisions are used for defining conditions and organizing processes in the education of nomadic children. According to this law and due to greater travelling distances in the Russian North, Nenets children are transported by helicopters from and to

addition to choosing a future profession, decide either to stay in settlements, or to leave the settlements, and start a nomadic life on the Tundra.

The contemporary state educational system directly determines an adolescent's identity and ability to exercise his/her own self-determination. A theoretical analysis by Lezina and Bostandzhiyeva revealed that Nenets teenagers experience a longer period of confused identity, in comparison to rates of identity development and maturation found in other adolescents from other ethnic groups (2017:265). Their development of personal self-determination takes place in conditions of relative socio-cultural exclusion and deprivation, which does not allow them to fully formulate plans for their future. This also suggests that there is a lack of vocational educational options available to the Nenets pupil, which would allow for the expansion of their boundaries of self-determination and equal opportunities (ibid:265).

There are not many theoretical approaches to describe different types of communication in the transfer of skills to younger generations developed by Indigenous northern peoples. A specific fascination and focus of anthropological and ethnographic research has been on the Nenets ability to navigate across the Arctic Tundra without the use of written communication or technological tools (Adaev 2015). Significantly, despite a long history of systematic scientific research into these phenomena, there is a gap in the understanding of how these unique skills were initially acquired and are transferred to younger generations.

There are almost no written sources on the cultural identity and related questions about the vocational career choices made by young Nenets living in cities and settlements; most of the works describe the Tundra Nenets nomadic population. Therefore, there is a specific knowledge gap in the understanding of a Nenets identity outside the Tundra. The ethnic history of the Nenets is described by many researchers (Dolgih 1970; Golovnev 1995, 2004; Golovnev and Osherenko 1999; Golovnev et al. 2015; Homič 1995, 2003; Rezvan 2017).

Nomadic Nenets children may already possess many different types of skills at school, but these skills are often of a different character and are also learnt differently than those learnt by non-nomadic

school, which are situated in settlements. This is stipulated by §40 (part 2) of the Law ("On Education in the Russian Federation" 2012).

children in settled or urban environments. Both are difficult to measure, either statistically (due to the small size of the communities) or by using pedagogical tests (these skills are not recognized as advanced techniques and there are no tests for measuring, for instance, their non-technological navigating techniques).

Both carriers and recipients learn indigenous knowledge and can work/co-operate in groups and individually. Co-operation in ethnic pedagogy is defined as “omnipotence of united people” (Volkov 1999:7); whilst an individual approach in the rearing of each child is explained by the Nenets teacher by the example of the Nenets saying “One child, many children - all equally loved” (Okotetto 2013:15).

The objective and eventual outcome of a process of IK transfer is usually a material product or skills: clothes from reindeer hides or skill in throwing a lasso to catch a reindeer or to find a medicinal plant or herbs. Some of these skills are described in ethnographic and anthropological literature (Golovnev et al. 2016; Harûči 2012; Ravna 2019; Susoj 1994). Training in these skills starts when the child (of both genders) can hold a knife, and by repeating the use of the knife every now and again, until the using of a knife in the child’s hand becomes as easy as putting on a glove. The same will be done with other tools and skills up to a certain age when such supervised instruction and practice is no longer deemed necessary.

The raising of Nenets children and the teaching of IK skills to children in nomadic Nenets culture has historically never been a focus of pedagogical theory and research. Why is that so? Firstly, due to the generally held misconception that children in the Tundra are growing up without the benefit of any systematic, disciplined and planned activities and that the whole process of child rearing, education and socialisation in a nomadic Nenets community is spontaneous and improvised (Aromštam 2002). Secondly, that, if there is any form of systematic education in nomadic Nenets families/communities, the process of education on the Tundra is not recognised by outside observers, as it is individually based and informal (Susoj 1994; Turutina 2007). And thirdly, that the upbringing of a child on the Tundra is child-oriented, which means, that both, by gender and age (the latter rather conventionally), children are the focus of the carrier of that knowledge, i.e. the mother. The recipient is a child. This mother-child transfer of indigenous knowledge in the remote Tundra within a nomadic culture has not been recognised or identified to date by “scientific” researchers as a specific, defined area of research.

1.3. Different forms of communication

In nomadic Nenets communities, where both parents and children communicate in one language, I found basically three basic forms of communication or joint construction of meaning by human beings. Nenets mothers transfer their IK -skills to children verbally in direct, which includes singing, storytelling and other types of narrative folklore; non-verbally indirect and written forms. Silence as form of communication is also listed here, but it is not a part of this study.

Verbally direct form. A verbally delivered word or name may not be conceptually understood if the child is receiving that communication outside of their usual physical and cultural environment. Such communication is only effective in a given context. That recognition, conceptualization and comprehension of received language is affected by the previous cultural/physical experience or lack of experience and understanding of the “receiver” of the direct communication. E.g. you cannot begin to imagine or understand that which you do not know or have not already experienced or have not had explained or depicted to you in some way (Wittgenstein 2005).

Communication by singing. Among the Tundra Nenets, songs are considered as a form of communication. These songs can be categorized by genre, age of the singer and by a person’s situation (the singers), or position and by the level of the song’s sacredness (Kupriánova 1965). In general, a Nenets song is termed Së (song) and then there is a song-cry Jarabc; the songs of other peoples (non-Nenets) are called Jangèbc (Barmič 2015:501). The “Hynabc” (lyrical songs) and “Njukubc” (adults and children's personal songs) can also be used for the understanding of Nenets traditions of storytelling (Dobžanskaja 2018; Nenjang 2006). Then, there are other types of song as a form of communication. One of them, which is much more studied, is the Nenets shaman songs (Dickson 2017; Lar 1998; Lehtisalo 1998). The main purpose of these songs is to communicate with the invisible beings that are living in different worlds. The Nenets writer and artist Galina Tajbarej has also suggested that the role of these songs is also as an enlightening and informative message, even though they were allegorically built (2014).

Narratives in folklore and storytelling. The main source for understanding the issues of education and the raising of children in a nomadic Nenets culture is Nenets mythology. The peculiarity

of mythology is that it reflects all aspects of people's lives. Their mythology is structured into a system which first places an individual human into a collective community. The collective community is then positioned into a supernatural world, and then lastly, into a cosmos or universe (Kravchenko 2001:358).

The mythology and folklore (both studies include all types of folk art and storytelling) became the source of inspiration and information about different aspects of the life of nomads for both scientists and pedagogists. To date, there is no single classification of Nenets' folklore creations, according to the researchers-folklorists, see more in (Puškareva 2001).

Family stories. Other important sources in the transfer of knowledge, are family stories, usually told in oral form. People telling these stories to each other as part of their Tundra teachings or upbringing, sharing information or for entertainment. Some of these stories are told to alert others or as edification to children and younger generations. Some of the legends are a mix of real events and fiction: they tell about both actual historical events and fictional stories. In this type of transfer of knowledge, the legends are used by mothers to provide important factual and practical information with some addition of fictional elements.

Non-verbally indirect form. According to Deborah Tannen, who stated that “indirectness is a fundamental element in human communication” (1994:79)...we all use indirect communication strategies at times and in certain circumstances – we mean more than we say, and we gather meaning from others beyond the words they use (ibid:89). The indirect communication in the transfer of IK in Nenets communities can be of three types: the first one, is communication between mothers and children of all ages. Then, the second, within one family only and the third is communication between different families in one camp. Then, there is also another type of communication found in nomadic Nenets culture, that between humans and animals, in this case, communication between a reindeer and a human, which is both verbal and non-verbal (and not part of this study).

Written form. The last one, the written language, was established less than one hundred ago (Terešenko 1966:376), and according to my informants, the Nenets mothers have started to use it only quite recently (Fieldwork, 2015). Therefore, I omit the written forms of communications in this article.

Silence as form of communication. The “silence” as a form of communication in indigenous societies, is analyzed for instance, by Novikova. According to her, the word and silence in the world of

indigenous peoples perform a communicative function, and in many important situations, priority is given to silence (Novikova 2015:1). Silence as a form of communication is found amongst all indigenous peoples. Due to its methodological difficulty in identifying and objectively defining its contexts and meanings, this topic should be a subject for another dedicated research project.

2. Methodology

The transfer of knowledge is investigated through case studies: a group of reindeer herders and their families on the Tundra within its real-life context⁵. My methodology is based on field work, with the recording of video film, individual and group interviews, as well as written notes and observations. In addition, I have also prepared a qualitative survey. I have gathered data during four fieldwork periods: from 2015 to 2018. Case studies are based on an in-depth investigation of a group in two different regions. Interviews are based on the methodological approaches in visual anthropology. I have in total 22 interviews, which I transcribed in written form (172 pages). Survey (completed forms on paper) in total 64 questionnaire form.

Figure 2 and 3: Methodology: with explanation

Period	Area/place	Respondent/ group	Method
June–July, 2015	Jamal peninsula (the nomadic Tundra Nenets)	Reindeer workers, focusing on women	Participatory observation interview
December, 2015	The town Jar-Sale /Boarding school (nomadic Tundra Nenets)	Children and adolescents, teachers and school staff	Questionnaires/survey Interview
August, 2016	The town Tarko-Sale/ Obtjsina «Kanevskaja» (the forest Nenets and the sedentary population)	Teachers, Nenets women, in the reindeer industry and in leading positions in other professions	Participatory observation interview
September, 2017	The town Narjan-Mar, Krasnoje village, boarding school (nomadic Tundra Nenets,	Teachers, Nenets women, in the reindeer industry and in leading	Participatory observation interview

⁵ Anonymity. All personal data, including names, surnames and personal “Pidte’ma” (tags on reindeer hides) and “Ha’ matyr” (reindeer ear – marks), it is applied both to collective and private households and enterprises. A formal written informed consent form was signed by all adults (over 16 years old in 2015).

	the sedentary population)	positions in other professions	
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Figure 3: Main concepts

Concept in Nenets	Translation to English	Example of using	Translation to English
Vadabava	upbringing and raising	<i>Natseky Vadabava</i>	to raise a child
Vadameta	knowing the word	<i>Vadameta natseky</i>	referring to a child who can use words/ is able to speak
Tokhodanva, Tokholambava	education	<i>Nisjada Njumda hanën tokholada</i>	the father taught his son to trade
Tokholada	educated	<i>Tokholada</i>	a person is finally educated to do fishing, hunting or other trade.
Tenevana	knowledgeable	Along with synonyms <i>ibeta, ingudota, serota, va"lej.</i>	to have a great mind based on experience, knowledge

3. Results: Different forms of communication in Tundra

Transfer of knowledge is based on communication and it can be done in different ways: verbally and non-verbally. Communication (from the Latin *communicatio* to connect): 1) the act of transferring information from one place to another and 2) from one person to another person (Kravchenko 2001:249). Within theories of communication, verbal communication takes such forms as monologue (one speaking), dialogue (two actively participating in their speech) and polylogue (conversation in a group) (Vikulova and Šarunov 2008:93).

In a nomadic existence, people are often working together in a group, but do not manage to communicate directly or verbally to each other individually or collectively, due to distance, for instance during the “*Jerkulava*” (the process of gathering reindeer in a corral). Then the main form of communication is non-verbal, by body language, through eye -contact, hand gestures and movements, pointing, for instance, in which direction to move. People also use different types of whistling.

3.1. Indirect non-verbal communication

As an example of indirect communication, parents can give children information without the need for words, as during the sewing of patterns, where an artisan is showing a child by example how to sew and cut. The children are also communicated information without spoken language when, for instance, they

are “reading” the landscape the same way as their parents, by moving exactly along the same “route”. That’s how it seems that the children learn the landscape, because the *Mjud* (caravan) is moving along the same route every year. The camp is also built in the same places every year.

Another important way to transfer information is to place material things on the ground as signs to indicate in which direction the caravan went, how many days ago and so on. We can read about these signs in historical sources, for instance in (Borisov 1907; Kušelevskij 1868; Schrenk 1855). The detailed description of some of these signs can be found in an article written by Adaev (2015). Based on my interviews, I was informed that people from other Nenets families can understand signs that a person had died at their current position or at another place, by seeing the signal provided by a small model of a tent (if the death has not happened that long ago) left on the ground of a *Mâdyrma* (campsite). This model is usually placed on the ground, where the deceased person was lying (Ravna 2017).

3.2. Direct communication

An example of direct communication which I observed on the Tundra in one situation was a caution and prohibition, not to do something. The caravan of sledges was travelling to another camp site. After some time, they stopped. After all the reindeer were released from the sledges, people started to build the tent, organize things inside the tent, gather firewood and so on, and the children went to play nearby. They played all the time, while their parents and older siblings were working. After returning to the campsite, their mother told them to go back and continue to play and prohibited them from helping the adults work by participating in ordinary activities, such as making a fire. The reaction of the children was surprisingly strong, all of them started to cry, as if it was something bad that had happened.

This case is a clear example of direct communication: “go and play” and it was used by the mother in a way, that the reaction and response from her children was immediate. This sentence and how it was expressed was thus identified by the children as a prohibition, even though the actual words used were encouraging them to play and not work.

Prohibitions are an important tool in the education and training of children in a nomadic community on the Tundra. However, a distinction needs to be made between taboos and prohibitions. The taboo is connected with a philosophical or spiritual worldview, whilst the prohibition is not necessarily

associated with any sacred knowledge or belief. The word “forbidden” is used by respondents in both the context of, “sacred” and “non-sacred” meanings. The prohibition and what are termed “forbidden” are direct forms of communication with children. At the same time, as my informants explained, due to the influence of other languages⁶ and educational systems, the word “forbidden” has lost its initial power. As one of the respondents explained to me, how the linguistic and institutional environments of boarding schools and settlements is playing an important role on the influence of the prohibition.

Perhaps you can say that the “forbidden” as a word has lost its [initial] power. The forbidden word, said in a certain situation, will remain. But, look now, in a classroom, not everyone will understand it. And not everyone will. Because they are sitting in a bright, clean, warm classroom (Interview 6, female informant, b. 1949).

The “forbidden” as a word can sometimes relate to the oldest taboos: e.g. do not step over, do not cut more than necessary. These types of taboos are a part of the nomadic Nenets’ “*hèvy*” (taboo) system.

3.3. Narratives in folklore and storytelling

The cognitive value of the Nenets fairy tales is an important tool for the education and training of the children of nomads. Nenets folklore is now used by many Nenets theater groups both professional and semi-professional. In addition, the songs, fairy tales and legends are often performed by musical collectives and individual performers (Car'kova 2013). On the western, European Tundra, where the Nenets language among children has almost disappeared due to assimilationist policies, some of the Nenets women, now retired, established their own Nenets national theatre and are now recording their plays on video cameras:

...why do we do it? Because our language is disappearing. As Nikulin [Yuri Nikulin was a well-known Soviet and Russian actor] once said: Well, we put on the play, perform it once or twice and that's it! But [we] need to record it. Then it will remain, firstly, as an artwork. Secondly, the language will be recorded. Thirdly, these unique people [also will be remembered] (Interview 3, female informant, b. 1955).

The western concept of a “theatre” as such did not exist in the traditional culture of the Nenets nomads. Nenets children were usually introduced to the theatre whilst living in the settlements, during different celebrations, for instance of New Year’s Eve:

⁶ Other languages are the Russian, Khanty, Selkups and Komi (neighbouring people to the Nenets).

When in my first new year's eve, I saw Santa Claus, I was so scared. Well, I was not the only one. All the girls and boys who came from the Tundra, the so-called "nulevichki" (the first grade). We feared him. Only when they told us that he would give us gifts and sweets, we say, well, probably he already went to the store. He will give us candy, it's good! We did not understand the script at all. We also watch carefully the Christmas tree... We live in the arctic Tundra! We, besides dwarf birch, have no vegetation! And we have never seen a tree, especially such a beautiful one! Decorated with beads! Everything is shining and glowing! Then we sang "A little fir tree is cold in winter". We sang it all together, although I did not quite understand it (Interview 5, female informant, b. 1958).

Nenets folklore is mostly presented in the form of an individual performance, especially songs, which were popular in previous times. Therefore, many musical and theatrical groups now sing and perform these traditional old songs.

At the same time, fairy tales and riddles are still very popular amongst the children. I wrote some of the riddles down during my first fieldwork trip and read them to children in another tent. One of them was as follows: "three old women hold each other by their hair" (answer is the three first poles of the Mâ-Tent). All the children came to me and started to answer the riddles.

Many rules are explained through educational sayings, for instance: "Id nedakanas" (Water is not a toy!). Its message is that it is dangerous for children to play near lakes and rivers. Then there are prohibitions: "Id mojta vèva" (Do not throw any objects in the water!) and prohibitions with explanations: "Pèvsùmâ sâ nedapisi parnamanda" (As evening comes, you cannot laugh, otherwise Parne (the witch) will come).

However, it must be emphasised that folklore and storytelling as type of indigenous knowledge is fast disappearing, due to different factors. According to my Nenets informants, a symptom of a culture that has been systematically destroyed by an educational system – is the disappearance of the native language along with its oral story -telling traditions. The teachers in boarding schools are also concerned about the loss of language and the oral traditions of storytelling, especially in the western Nenets regions.

3.4. Communication by singing

Another form of communication, that I found in the Tundra is singing. According to one of my female informants, the Nenets express themselves by singing.

According to my interviews of female informants, songs about the raising of children in the Tundra are of special importance. For instance, the first song dedicated to a child (individual song), also known as *Njukubc* (short songs of children's folklore) (Nenjang 2006:9). This first song that the mother sings to her newborn child is sacred. In terms of the musical or textual quality, this is not so important, but it is created by a mother to keep the newborn infant safe and protected from the evil powers of this world. Usually, the parents or elder siblings compose the songs. The role of the first song is so important, that the child could already have been given a song, even before s/he has been given their name. In these songs there are usually descriptions of the desired characteristics and qualities of a child (beautiful, strong, quick) and wishes for a great future. The transfer of knowledge starts from the very beginning of the child's life, since this first, short song, also describes what kind of qualities parents / relatives expect to see from this child in the future.

Then there are the songs which transfer general aspects of IK, or just express emotions. Such as that which one of my informants described to me:

It was sometime in the 60s... I was living in the Tundra when there was no shift system yet. Oh, what a paradise! There were never any arguments [between camp inhabitants] and there never was any gossip. However, I once observed two women arguing. They did not argue, but they sang! They sing like that: you remember, you did that and that. Another replied: Yes, I remember it very well! Because I was there, I observed it. And then my grandmother came and squeezed my shoulders, and silently pulled me away (Interview 3, female informant, b. 1955).

The tradition of Nenets singing throughout their lives is as a historical and culturally stylized means of self-expression. At the end of their lives, they sing too. As one of the informants told me about an elderly woman's health condition:

She was probably ill, because she could not sleep, she was singing and talking in her bed (Fieldwork, Yamal, 2015).

Tyko Vylka, the famous Nenets artist and "President of Novaja Zemlja", when he was dying and was on the way to the other world, was singing a lot «ancient Nenets songs» (Suhanovskij 2009:246).

Another important feature of these songs, are expression of feelings and emotion in song:

...we have widespread singing. We must throw out all [impressions and experiences] we had accumulated. The persons fantasy plays out and the pictures are presented [through singing]. Well, they are as writers [working]. It is a pity that they did not write it down. Each reindeer herder is like that. My brother said, I sing very loud in the Tundra. Because no one hears me singing. I sing for myself and for the soul... (Interview 6, female informant, b. 1949).

After the analysis of collected interviews. I have concluded that these songs have a special place in nomadic Nenets life, such as in helping in the reconciliation to loss, tragedy, death or some other specific functions which have now been long forgotten. Especially as it relates to the shaman's songs, which due to the official policies of the Soviet era, were prohibited. Many shamans were arrested and died in prisons and camps, erasing the traditional knowledge which they had possessed and had transferred down through countless generations of nomadic Nenets. The future of "personal" songs as a part of a non-materialistic, non-consumerist nomadic culture, is also under threat. However, at the same time, due to the revitalization of Nenets oral traditions, the songs are often to be heard as part of new, innovative performances in theaters.

4. Discussion: Learning through different types of communication

In the following section, the main results from the study are presented, based on both, analysis of questionnaires and interviews with informants on the Tundra.

On the Tundra, the process of transfer of different components of IK is gender-based, and the learning and training of different skills for girls is based on an individual approach. It can be explained in these following examples.

Every skill is transferred at the household level. For instance, I am cooking food, along the way I am explaining to the child - this is not allowed, this is possible, this is how you do it. When I am sewing malitsa [winter clothes from reindeer hides], I am explaining to my daughter [individually]. Since most of the time they are in a boarding school, they have lost some of this knowledge. (Interview 1, female informant, b.1967).

The girls get more detailed instruction on food, water and firewood provision, berry picking and finding the moss used for infant's cradles. Girls can be trained to learn complicated methods of sewing from an early age. They do not have to reach a specific chronological age in order to be able to practice all the sewing techniques they are expected to know. Mothers will know when they can trust a child, with giving them a knife, axe or needle.

The training of boys takes place every day through joint activities. This process is incorporated into tasks such as the relocation/ moving of herds, labelling of calves, and selection of animals for transport sledges. Men are training boys. Thus, the boys gain knowledge of different aspects of moving with their

families, equipment and reindeer across the Tundra, than that which is learned by the girls. The boys also receive more training on the general strategic and logistical requirements of nomadic travel on the Tundra.

According to the research respondents on the Tundra, it is only within the context of life within nomadic Nenets families, that the transfer of IK to children occurs. During interviews, the Nenets mothers did not specifically define the aims of IK transfer to their children, but often described the process in the following terms (with an explanation of the theory of communication in brackets as explained in “1.3.Theories on different forms of communication”):

- we talk to children, just talk without any specific aims (direct form)
- the subject of the talk can be anything, developing of the range of vision (direct form)
- in the case when we cannot talk, we use other forms of communication (non-verbal)
- we show them how to do things by our own example (non-verbal)
- we usually do not reward and punish (direct form)
- we sometimes use verbal chastisement for correcting bad behavior (direct form)
- we also give instructions (direct form)
- we never physically punish

Before starting formal school education, the children mostly have not used other forms of communication other than that used by their family members and amongst their own nomadic community. The complexity of the transfer of IK for preschool age children can be described in the following way:

The time during which Nenets mothers can transfer their IK to their pre-school age children is unlimited throughout the year. Children are learning and responding to their mother’s teaching immediately, demonstrating in practice if they do understand, or do not understand, what has just been taught. However, due to the subsequent boarding school education process, the transfer of IK is then interrupted and then it can be described in this way: Mothers (IK – bearers) — School – Mothers - Children.

Figure 4: IK -transfer in Tundra

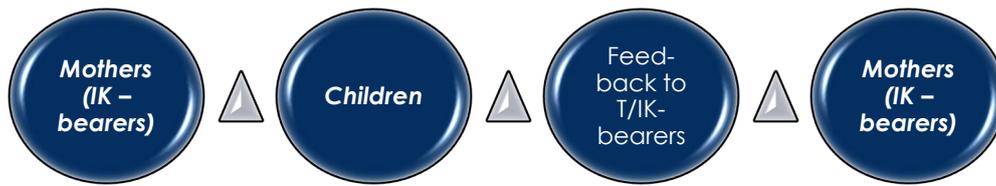


Figure 5: IK – transfer during the schoolyear



The process of upbringing: The time for transfer of IK is thus limited to only 3 to 4 months a year.

Based on this last figure, we can see that the process is interrupted. The knowledge of landscape, which is crucial for reindeer herders is not learnt in a continuous sequence of learning during the seasons, due to the removal of school aged children from the Tundra as part of the state’s boarding school educational system. The knowledge of summer pastures, according to the adolescent respondents, is better than their knowledge of winter pastures: 10% answered that they know it very well (yes) as against 2% on their knowledge of winter pastures (32% answered that they do not know against 13% on summer pastures). The knowledge of calving pastures is even worse, 42 % do not know where they are situated.

At the same time, the self-reported knowledge of sacred places is much better, than the knowledge of winter pastures: 29 answered “good” and 18 “very good” on knowing where their family or clan’s sacred/sacrificial places are situated. In practice, it means that, boys and girls, have to be with their fathers to visit these places Because the women are prohibited from going to these sacred places and participate in sacrificial rituals. These places are of special importance for communities, as I can conclude from these results.

Hence, many of the different components of IK are not transferred, because one has to be physically present in order to learn the landscape, its different characteristics and in order to recognize dangerous and difficult places and ways in which to move. As a consequence, the Nenets reindeer herders need to adapt their methods of transferring IK-skills, techniques and ways to transfer their skills.

This paper's aim was to set out to analyze the diversity and complexity of forms of communication on the arctic Tundra where nomadic Nenets people live, are raised and work. In the Tundra, by using a simplified system of analytical categories of IK and TK, two basic indicators for evaluating the process of IK transfer can be identified. On one side of the IK transfer process is the "bearer/carrier", and on the other side, the "recipient of IK". "Mothers" as the "bearers of IK" should possess that body of specific and detailed traditional knowledge, necessary that they can in turn, be able to transfer it to their children. The children or "recipient of IK" should be able to learn through different ways, including the informal, passive or active and other, indigenous ways of educational transfer. The main principle of forming the behavior of a child of preschool age, i.e. when the child is usually only living in the environment of the Tundra with their families, is to educate him, or her, to live and work in the team/ group/ community of individuals. The main motivation for the transfer of IK is not just practical, but to promote and support a sense of the continuity of life and nomadic culture and community in an extreme Tundra environment.

This model can be described in the following way: in early childhood the mothers are responsible for educating and training both the boys and girls. Later, when a child can walk, gender-oriented education and training can begin. At the same time, many different tasks should be done in co-operation. By co-operation I mean a process, when an individual herder or a group of herders can teach a group of children, for instance during the herding of reindeer, moving from one place to another.

Figure 7: Photo image 1 and 2.

As we have seen, inherited family stories are connected with the custom of telling oral stories which pass on from older to younger generations and from parents to children. It is therefore possible to use collated materials from the past, to draw parallels and connections with IK and skills which are still existing today.

5. Conclusion

As I started this long journey through the entire project, I got to know many aspects of this unique culture. It has been impossible for me to analyze all the different forms of communication that exist in nomadic Nenets culture in just this one article. I have therefore omitted written forms of communication

and the phenomena of silence in the upbringing of children and the wider culture of silence of indigenous people.

During the calendar year, a young boy and a girl should learn and be raised according to the principles of *Vadabava/Vadameta* (upbringing and raising) and *Tokholada* (education). In order to become Tenevana, they should learn from their father how to fish, to hunt, to provide the best places for the reindeer herd, and from their mother to keep purchased food, meat, fish and berries fresh, the clothes and shoes dry and warm, and the Mâ-tent cozy and harmonious. Children should learn, within these concepts, to see the beauty and danger of the objects in their surrounding environment, to distinguish different types of birds, animals, vegetation and to learn how to use them. Children are supposed to learn all these components of traditional knowledge and skills on an individual level according to their elders, as stated by both my male and female respondents. According to them, gaps in some of these skills can sometimes be critical, a matter of survival, of even life and death.

Ethnic pedagogy, as a branch of the pedagogical sciences has not yet recognized these traditional nomadic Nenets methods of inter-generational knowledge transfer and education and different forms of communications as any systematic and effective means of raising children in the Tundra. Based on my research, it can be argued that such abilities and qualities as independence of thinking, speed in decision making and originality of approaches to solving problems should be included in a formal, conventional educational curriculum aimed at Nenets pupil's different needs. Not just in preparation for maintaining their own individual options in life, but to also preserve a unique indigenous culture which is a significant aspect of human diversity. The Indigenous knowledge of the Nenets based on the theories discussed in this paper should also be subject to further research. Many forms of communications, especially oral stories and traditions of storytelling are rapidly disappearing. These should be studied now, in order to preserve them for future generations, especially in terms of an intellectual heritage perspective.

In this article I have attempted to demonstrate, at an analytical level, these issues and nomadic cultural concepts and the, so far, unrecognized and undervalued knowledge, skills, experience and wisdom, of the collective and individual Nenets people.

Critically, my research indicates that unless a child or young person, is able to be present with their nomadic reindeer herding families on the Tundra at different times throughout the year; they will not be able to learn, and pass on to succeeding generations, the necessary traditional and indigenous skills and knowledge needed to support the continuation of a nomadic Nenets culture into the 21st century.

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**Сравнительный системно-антропологический анализ
традиционных знаний на примере западных (европейских) и
восточных (сибирских) ненцев.**

[A comparative anthropological analysis of traditional knowledge
based on the example of Western (European) and Eastern (Siberian) Nenets].

Published in:

The reality of the ethnos.

*The role of education in the preservation and development of languages and cultures of
indigenous minorities of the North, Siberia and the Far East of the Russian Federation:*

Compilation of papers presented at XVIII International Scientific and Practical Conference

dedicated to the 220th anniversary of Herzen University,

St. Petersburg, 2018.

pp. 485-490.

ISBN 978-5-80-64-2538-7.

(Published in Russian).

¹¹ Translation provided in Appendix.

Министерство образования и науки Российской Федерации
Российский государственный
педагогический университет им. А. И. Герцена



РЕАЛЬНОСТЬ ЭТНОСА

РОЛЬ ОБРАЗОВАНИЯ В СОХРАНЕНИИ И РАЗВИТИИ ЯЗЫКОВ И КУЛЬТУР КОРЕННЫХ МАЛОЧИСЛЕННЫХ НАРОДОВ СЕВЕРА, СИБИРИ И ДАЛЬНЕГО ВОСТОКА РОССИЙСКОЙ ФЕДЕРАЦИИ

*Сборник статей
по материалам XVIII Международной
научно-практической конференции,
посвящённой 220-летию Герценовского университета
Санкт-Петербург, 22–23 ноября 2017 г.*

Санкт-Петербург
Издательство РГПУ им. А. И. Герцена
2018

ББК 70я43
Р31

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Р31 Реальность этноса. Роль образования в сохранении и развитии языков и культур коренных малочисленных народов Севера, Сибири и Дальнего Востока Российской Федерации: сборник статей по материалам XVIII Международной научно-практической конференции, посвящённой 220-летию Герценовского университета. Санкт-Петербург, 22–23 ноября 2017 г. / под науч. редакцией И. Л. Набока. — СПб.: Изд-во РГПУ им. А. И. Герцена, 2018. — 539 с.

ISBN 978-5-8064-2538-7

Сборник содержит статьи, написанные по материалам докладов и научных сообщений участников XVIII Международной научно-практической конференции «Реальность этноса», проходившей в РГПУ им. А. И. Герцена 22–23 ноября 2017 г. и посвящённой теме «Роль образования в сохранении и развитии языков и культур коренных малочисленных народов Севера, Сибири и Дальнего Востока Российской Федерации». Целью конференции была междисциплинарная научная экспертиза роли образования в сохранении и развитии языков и культур коренных малочисленных народов Севера, Сибири и Дальнего Востока РФ. Материалы сборника отражают результаты теоретических и прикладных исследований, а также педагогической деятельности учёных, педагогов, представляющих учреждения высшего и среднего профессионального образования, школы, научно-исследовательские центры, музеи, культурно-просветительские учреждения Санкт-Петербурга, Москвы, Перми, Сыктывкара, Якутска, Салехарда, Нарьян-Мара, Абакана, Элисты, различных районов Якутии, Эвенкии, Камчатского края, Томской области, Мурманской области, Хабаровского края, а также зарубежных стран — Норвегии, Финляндии, Эстонской республики, Республики Молдова.

Книга рассчитана на специалистов в области образования и культуры, учащихся средних и высших учебных заведений, а также широкий круг читателей, интересующихся проблемами развития регионов Арктики, Севера, Сибири и Дальнего Востока Российской Федерации.

ББК 70я43

ISBN 978-5-8064-2538-7

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По мансийским традициям чай не заваривают, а варят в котле или кипятят в чайнике. Чай готов, когда закипит ключом. Манси высоко ценили тонизирующие свойства хорошего чая. Считалось, что придёт человеку силы, поэтому пили чай перед охотой и длительными пешими переходами. Манси заваривали чай из разных растений— смородиновые, малиновые листья, сушёные ягоды черёмухи, рябины, смородины.

Чай из таволги. Свежие листья таволги предварительно высушивали, подвесив пучки стеблей с листьями и цветками в полутени. Пригоршню сухих листьев кипятили, затем пили. Это растение и напиток манси называют «манси щай». *Напиток из чаги.* С куска чаги в чайник ножом соскребают кусочки чаги, заливают крутым кипятком и настаивают 20 мин. По мнению манси, чага размягчает печень, поэтому пить её стоит более двух недель подряд.

3. Вылка-Равна (Тромсё, Норвегия)

СРАВНИТЕЛЬНЫЙ СИСТЕМНО-АНТРОПОЛОГИЧЕСКИЙ АНАЛИЗ ТРАДИЦИОННЫХ ЗНАНИЙ НА ПРИМЕРЕ ЗАПАДНЫХ (ЕВРОПЕЙСКИХ) И ВОСТОЧНЫХ (СИБИРСКИХ) НЕНЦЕВ³³²

Традиционные знания (далее ТЗ) известны в науке под разными названиями. В статье термин «ТЗ» используется для обозначения того комплекса знаний, который в антропологии часто называется как ТЭЗ (трад. экологические знания) или АЗ (автохтонные знания). Само название ТЗ является спорным из-за этимологии слов «традиционный» и этимологии слова «коренной». В рамках статьи для развернутой дискуссии нет места, поэтому используется определение, принятое в ООН. Генеральный директор ООН по вопросам образования, науки и культуры (Mauro, 1994) так определяет традиционные знания: «Коренные народы мира, живя в природных условиях, обладают глубочайшими знаниями об окружающей среде, которые были ими накоплены в течение многих веков.

Живя в ладу с природой и обеспечивая себя из богатства и разнообразия сложных экосистем, они научились распознавать свойства растений и животных, как функционируют эти экосистемы и разработали методы для их использования и управления, на особом уровне, до мельчайших деталей...»³³³.

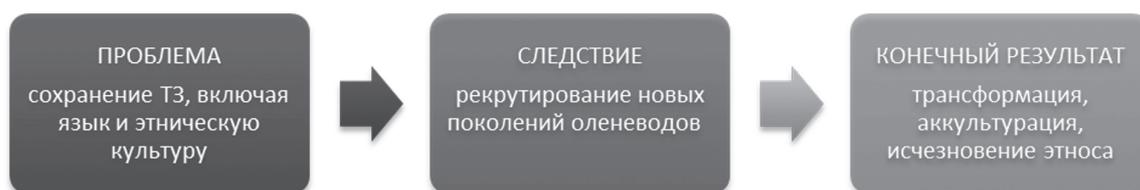
³³² Финансирование — проект HUMANOR (2015-2018), Social-Ecological Transformations: Human-Animal Relations Under Climate Change in Northern Eurasia (HUMANOR) и FRAM — High North Research Centre for Climate and the Environment.

³³³ Адаптированный перевод, источник: http://www.nativescience.org/html/traditional_knowledge.html.

Вопрос тысячелетия заключается в сохранении биоразнообразия, включая и этнические культуры, которые под влиянием глобализации, промышленного и индустриального развития и изменения климата вынуждены адаптироваться и выработать собственные стратегии выживания. Не всегда адаптация способствует сохранению этнических культур, иногда они исчезают, благодаря ассимиляции и системе образования, при которой родные языки и культура этих народов считается устаревшей, не актуальной, не отвечающей современным требованиям.

В науке, в связи с вышеизложенным, поднимается вопрос о смене парадигм, при которой ТЗ кочевников нужно рассматривать как сложную, гибкую, с высоким уровнем адаптации и мобильности, систему. Эти знания аккумулированы в оленеводстве многими поколениями кочевников, они передаются из поколения в поколение, в основном вербально, либо в практической деятельности, путем наблюдения и повторения. Семья и семейные ценности, включая наличие детей, играют важную роль в становлении личности, в выборе жизненного пути (оседлый или кочевой), и в передаче ТЗ у ненцев. Актуальным тогда становится выяснение вопроса, как при современных требованиях к образованию, сохраняются ТЗ? И какие компоненты наиболее уязвимы?

Согласно требованиям системы школьного образования, дети кочевников покидают их среду для получения образования, проживая в школах-интернатах до девяти месяцев в году. Проблемой становится сохранение традиционных знаний, включая родной язык и этническую культуру, и как следствие — рекрутирование новых поколений оленеводов, и в конечном результате — сохранение культуры, а часто и этноса, потому что оленеводство является этноберегающей отраслью.



Исходя из этого, как в Ненецком автономном округе (далее НАО), так и в Ямало-Ненецком автономном округе (далее ЯНАО), поднимается вопрос о переводе на постоянную основу и закреплённую на законодательном уровне системы «кочевых школ». Систематизированного, научно обоснованного данного типа образовательных учреждений, на всероссийском уровне, пока нет. Есть отдельные, региональные разра-

ботки, которые законодательно закреплены на местном уровне, например, Закон о кочевых школах Республики Саха (Якутия)³³⁴, принятый в 2008 г.

Научной деятельности по выяснению составных элементов такого «кочевого образования», а так же методики его преподавания, пока не ведется. Так как априори принято, что ненецкая культура и язык не стоят перед проблемой исчезновения, как у других КМНС, то обучать кочевых ненцев ТЗ не надо, а важно прививать детям те ценности и научные знания, которые им пригодятся в жизни в оседлом социуме. При таком подходе совершенно исчезает рамка интереса ученых другая составляющая — изучение системы ТЗ, владение которой необходимо для любого кочевника.

Вот уже несколько поколений кочевников — ненцев, получивших азы школьного образования на основе пребывания в интернатах, «каслают» (ЯНАО) или «ямдают» (НАО), от ненецкого Я (земля), т. е. ведут кочевой образ жизни. Эти кочевники сегодня являются одними из самых успешных оленеводов мира, как по числу выпасаемых ими оленей, так и по количеству занятых и трудоустроенных в этом виде хозяйственной деятельности (Головнев; Dallmann et al.). В связи с этим можно предположить, что обучение на школьно-интернатской основе пребывания, в отрыве от семей, на трансформацию / аккультурацию ненецкого этноса не повлияло. Для выяснения данной гипотезы, был разработан опросник и проведен ряд интервью как старшего поколения, так и молодежи. Целью для написания статьи стало выявление того спектра знаний, который не предоставляет современная система образования, т. е. именно тот блок этнообразующих и этносохраняющих видов знаний, которое аккумулировало в себе современное этническое оленеводство³³⁵. Задачей же статьи является выявление и структурирование этих знаний, а также определение рисков и утрат некоторых составляющих компонентов.

Традиционные знания ненцев (некоторые компоненты). Таблица разработана с учетом особенностей ненецкого языка, для упрощения не приведены все названия, например, разных видов и возрастов оленя как животного. Всем видам ТЗ можно найти эквивалент в научном знании, например, знание пастбищ включает в себя ботанику, растениеводство, знание оленей — анатомию, физиологию, ритуалов родовспоможения — основы гигиены, а воспитательные и обучающие нормы и запреты — основы педагогики и психологии.

³³⁴ См. Подробнее на сайте <http://iltumen.ru/node/13507> (посещение 30.10.17). А также Zhirkova, Sargylana «School on the “move”. A case study: Nomadic schooling of the indigenous Evenk children in the Republic of Sakha Yakutia (Russian Far East)», онлайн <https://munin.uit.no/handle/10037/158>.

³³⁵ См. подробнее: Южаков А. А., Мухачов А. Д. Этнические особенности оленеводства ненцев. Санкт-Петербургский Фонд «Бесконфликтный Север». СПб.: БиК, 2000. С. 7.

Индивидуальное знание (уровень знания и компетенции отдельного оленевода)	Коллективное знание (совместный уровень)
Природные признаки оленя как животного, строение, питание, основы функционирования организма	Болезни и особенности их протекания, присущие разным видам и полу, отдельные экстремальные случаи эпизоотий, профилактика потерь
Приобретенные признаки, от человека (ушные клейма), индивидуальных хозяев и всех соседних стад	В идеале, знания и умения определить оленей всех хозяйств в округе, основы оленеводства как хозяйственной деятельности
Пастбища (Вы — тундры, я — земля) разных видов и типов, кормовая база и планирование кратковременного выпаса, с учетом возможных потерь на трудных участках, например, во время отела, или в связи со сложными погодными условиями	Планирование долговременного выпаса, как по сезонам, так и по участкам, использование земель по разным категориям пастбищ, знание определенных участков риска и учет при планировании по времени. Ценные и особо ценные корма, учет по использованию пастбищ
Знание маршрута кочевания, с источниками питания для людей, таких как рыбных озер и рек, мест охоты на птицу, сбора ягод	Знание вторичных, запасных источников питания, находящихся в отдалении от маршрута собственной бригады или общины
Знание истории рода (еркар), фольклор, загадки, воспитательные и обучающие нормы и запреты, табу (хэвы), передавались в устной форме, в виде песен, загадок, пословиц и поговорок, ДПИ	История народа и его происхождение, фольклор, табу, этимологии (происхождения слов), основы оленеводства как образа жизни, материнство и отцовство у ненцев, основы воспитания
Семейно-родовые связи, связи между отдельными родами (еркар), мужские и женские запреты своего рода, запреты отдельной семьи и обычаи	Знания ритуалов родовспоможения, переходных периодов, процессов, религиозных верований и обрядности, например, похоронных обрядов, философских основ бытия

Для выявления степени ТЗ современными детьми из кочевых семей, была проведена кампания опроса молодежи выпускных классов. Возраст реципиентов варьируется, т. е. в 9-х классах есть 17-летние, а в некоторых 11-х — юноши и девушки 16 лет. По данной методике удалось выяснить семейный состав, владение ненецким языком и традиционными знаниями, а также навыками выживания в кочевых условиях. Благодаря опросникам, было также выявлено и наличие планов на будущее, включая выбор образа жизни (кочевой или переход на оседлость), профессии, кто и как научил или передал традиционные знания конкретному молодому ненцу. Кратко суммируя, можно утверждать, что несмотря на влияние современных технологий, учебный процесс, разбивающий год,

и влияние поселка, современные дети оленеводов овладевают запасом необходимых знаний для того, чтобы продолжать дело предков. Однако есть существенная разница между владением ТЗ у девушек и юношей Ненецкого автономного округа и Ямало-Ненецкого автономного округа.

Молодежь ЯНАО полностью владеет практически всем набором знаний, включая такие сложные компоненты, как, например, выделка шкур и камусов, знание священных (сакральных) мест. Знание родного (ненецкого) языка подтвердило 81,3 %. В НАО на 2017 год, в школу-интернат (переименован в ГБОУ НАО³³⁶ «Ненецкая средняя школа имени А. П. Пырерки») не поступило ни одного носителя языка. По округу, по материалам письменного опроса, из 7 человек 4 указали, что владеют родным языком, 2 — понимают, но не говорят, а 1 — не понимает, и не говорит. По материалам интервью с преподавателями родного языка, ситуация сложная. Цитата: «...Если взять первые годы, у меня тогда все говорили. Я начала работать в 1990-м году, я когда взяла 5, 9 классы, тогда можно было и в Красном встретить говорящих, которые сюда приехали, и Колгуев тогда почти весь говорил. И были ребятки из Индиги. Вот Канино-Тиманье, приезжали. И были, которые говорили и на коми и на ненецком языке». (ПМА, 2017)

То есть за 27 лет, с 1990 по 2017, практически полностью исчезли носители языка, кроме единичных случаев, например дети из общины «Ябм-то». Ситуация с сохранением ТЗ может охарактеризоваться как внушающая опасение, довольно остро здесь стоит вопрос и с рекрутированием в оленеводство. На Ямале же, как отвечают оленеводы, степень сохранности ТЗ на 10 баллов, из 10. Цитата: *Мы кочевали 2000 лет и еще тысячу будем*³³⁷ (ПМА, 2015).

Гендерные различия. Существует также большое различие во владении ТЗ девушками и юношами. Т. к. последние обязаны знать и обучаться знаниям ландшафта и окружающей среды «на месте», то такое длительное пребывание в поселке раздробляет это знание, оно не получается целостным. Девушки, в силу разделения труда, получают весь комплекс знаний независимо от времени года, т. е. за те короткие три летних месяца, она успевает получить тот запас знаний, который необходим для жизни в тундре.

Итак, возвращаясь к ТЗ, вопрос уже не стоит в том, может ли система обучения влиять на мышление ребенка, а в том, в какой степени она

³³⁶ Государственное бюджетное общеобразовательное учреждение Ненецкого автономного округа «Ненецкая средняя школа имени А. П. Пырерки». См.: <http://neshki.ru/about/index.php>.

³³⁷ Опрос не проводился в школах лесных ненцев — нещанг, так как целью данной работы является изучение именно тундровых ненцев разных регионов.

влияет, и как. Однозначного ответа нет. Одновременно с осознанием важности передачи ТЗ следующим поколениям, опытные оленеводы отмечают важность грамотности и роль формального образования. В отличие от роли школы, которая хоть как-то справляется с задачей, а именно дать необходимый набор знаний для функционирования в оседлости, роль семьи сильно варьируется. Хотя именно в семье закладывается, например, билингвизм (ПМА, 2017), как по мнению оленеводов, таки оседлых ненцев. *Цитата:* «Дети должны быть моложе трех лет, чтобы стать билингвами. Система за два года полностью лишает идентитета, языка и культуры. (ПМА, 2017)

Роль семьи в передаче ТЗ, подчеркивает большинство опрошенных взрослых женщин (средний возраст 60 лет). Так как в рамках статьи нет места для подробного описания ответов молодежи, основной вывод, сделанный на анализе анкет получился такой. Молодежь Янао, ответила, что без пребывания в тундре нельзя получить ни навыков, ни конкретных знаний ведения оленеводческого хозяйства. (ПМА, 2015). А так как именно этот сегмент владеет полностью всем тем набором знаний, на индивидуальном уровне, рассмотренном выше, то опасения опытных оленеводов старшего поколения в этом отношении напрасны, кроме нематериальных компонентов ТЗ, таких как основы мировоззрения и знания фольклора.

Предварительные результаты исследования и заключение. Кратко суммируя, отметим, что в ЯНАО, несмотря на высокую степень владения ТЗ, всего 3 % выпускников планируют связать свою жизнь с оленеводством. В НАО, только 1 человек ответил положительно на выбор жизни в тундре. Получается, что несмотря на большую разницу в степени владения ТЗ, опрос показал небольшие колебания в выборе образа жизни молодыми поколениями ненцев НАО и ЯНАО. Пора принять тот факт, что современная система образования направлена на подготовку ненцев-молодежи к условиям жизни и труда именно в оседлости. Будущее оленеводства зависит частично от того, какие меры будут предприниматься для включения в образовательную программу компонентов ТЗ. Рекрутирование в оленеводство напрямую не зависит от степени овладения ТЗ, но от комбинации ТЗ и научного знания. Так как именно в семье закладываются основы воспитания и приверженность традиционным ценностям культуры, которые питают потом человека всю сознательную жизнь, необходимо оказывать поддержку семьям оленеводов. Надо продвигать проекты по созданию кочевых учебных учреждений и программ, потому что в школе можно научить правильно использовать карандаши, читать и писать, но держать иголку, плести тынзей или распознавать путь по застругам на снегу без практики не возможно.

Ravna, Zoia Vylka

**Ved verdens ende:
om urfolkskunnskap i et internatbasert utdanningssystem**

[At the end of the world:
about indigenous knowledge in a boarding school-based educational system].

Published in:

Kulturen som pasient (uvanlige møter for vanlige folk).

J.-I. Nergård & P. Vitebsky (Eds.).

Oslo: Universitetsforlaget, 2019.

ISBN 9788215029023.

(Published in Norwegian).

¹² Translation provided in Appendix.

VED VERDENS ENDE: URFOLKS- KUNNSKAP I ET INTERNATBASERT UTDANNINGSSYSTEM¹

Zoia Vylka Ravna

Nenetsiske reindriftsutøvere er på flytting med sine reinflokker hele året. Det er en levemåte som bare læres gjennom et liv på tundraen. Kunnskap om reindrift overføres fra de eldre til barn og unge. Kunnskapsformidling og kulturoverføring skjer gjennom praktisk læring, muntlig fortellertradisjon og deltakelse i driften sammen med familien og reinflokken. Innlæringen av den tradisjonelle kunnskapen må barna kombinere med et liv på internatskoler. Etter gjeldende russisk lovverk² har barna både rett og plikt til skolegang. For å oppfylle dette kravet må barna bo hjemmefra fordi russiske myndigheter ikke gir andre skoletilbud enn internatskole til barn fra nomadekulturen.

I denne artikkelen vil jeg sammenligne de to kunnskapstypene: tradisjonell nenetsisk kunnskap i reinnomadismen og den kunnskap barna tilegner seg i det russiske skolesystemet. Jeg vil også drøfte konsekvenser av møtet mellom disse to kunnskapstypene for den nenetsiske nomadekulturen. Undersøkelsen baserer seg på etnografisk materiale fra verdens største reindriftsområde, både i antall reinsdyr og antall reindriftsfamilier. I Russland kalles området Det jamal-nenetsiske autonome området, og feltarbeidet foregikk på Jamalhalvøya (se kart).

Utgangspunktet for feltarbeidet var å følge barna og deres familier i en lengre periode på tundraen. Jeg samlet data som særlig kunne belyse tradisjonell kunnskap i reindrifta. Siden ungene bare bor på tundraen sammen med sine

1 Ungdom som svarte på spørreskjema er sitert, men pga. anonymiseringskrav er de ikke nummerert. De er heller ikke skrevet sine opprinnelige navn. Ethiske regler: The Guidelines for Research Ethics in the Social Sciences, Law and the Humanities. (Kalleberg 2006).

2 Den føderale loven «Om utdanning i Russland» ble oppdatert 29.12.2012, N 273-FZ. Hele teksten finnes her: http://www.consultant.ru/document/cons_doc_LAW_140174/ (besøkt 15.12.2016).

familier fra mai til september mens de flytter fra sør til nord på Jamalhalvøya, valgte jeg å flytte sammen med disse familiene sommeren 2015. Jeg fulgte reindriftsutøvere som jobber i «brigade» nr. 5. En slik brigade er reindriftsutøverne/reindriftsfamiliene, med flokk med rein og en leder, kalt «brigader». Brigade nr. 5 er én av 13 brigader ved MOP «Jar-Salinskoje». MOP er forkortelse for *Det kommunale reindriftskooperativ*. Alle ungdommene fra denne brigaden deltok også i en senere spørreundersøkelse, i desember 2015, da jeg besøkte internatskolen i Jar-Sale. Et spørreskjema³ ble utarbeidet for å se i hvilken grad urfolkskunnskap beherskes av målgruppen – barna og ungdommen fra Det Jamal-nenetsiske autonome området og for sammenligning har jeg også besøkt Det nenetsiske autonome området.

KORT BESKRIVELSE AV FELTARBEID, STED OG METODE

Periode	Område/sted	Respondent/ gruppe	Metode
Juni–juli, 2015	Jamal-halvøya (nomadiske tundra nenetserne)	Reindriftsutøvere, med fokus på kvinner	Deltakende observasjon Intervju
Desember, 2015	Byen Jar-Sale /Skole-internat (nomadiske tundra nenetserne)	Barn og ungdom, lærere og skole-personalet	Spørreundersøkelse Intervju
August, 2016	Byen Tarko-Sale/ Obtjsina «Kanevskaja» (skogsnenetserne og fastbosatte)	Lærere, nenetsiske kvinner, i reindriften og i ledende posisjon i andre yrker	Deltakende observasjon Intervju
September, 2017	Byen Narjan-Mar, Krasnoje landsby, skole-internat (nomadiske tundra nenetserne, fastbosatte)	Lærere, nenetsiske kvinner fra reindriften og i ledende posisjon i andre yrker	Spørreundersøkelse Intervju

3 Jeg takker spesielt antropolog Dr. Olga Murashko, Dr. Phil. i historiske fag og etnografi som hjulpet meg å utarbeide spørreskjema. Hun er forsker på det hele russiske nord, fra Det nenetsiske autonome området vest til Kamtsjatka, Tsjukotka og Sakhalin til øst. Hun er sjefredaktør for magasinet «The World of Indigenous Peoples».

TEORETISK BAKGRUNN: HVORFOR TA UNGENE BORT FRA FAMILIEN?

Mange av verdens urfolk blir utdannet og utdannes gjennom system som er basert på internat-prinsippet, hvor barna lever atskilt fra foreldre gjennom skoleåret. Det skjedde i USA, Canada, Australia og Norge. Det er flere fellestrekk mellom disse utdanningssystemene. Ett trekk som går igjen i de aktuelle landene, er av politisk karakter: politikken er i de aller fleste tilfeller i utgangspunktet paternalistisk, dvs. at majoriteten bestemmer over minoritetenes livsvilkår og utdanning. Utdanningen blir brukt som et redskap til å utvikle et samfunn hvor det ikke skal være forskjell mellom folk, eller motsatt – å skolere barna til de lavest plasserte jobbene i samfunnet. Slik var det i sin tid i Sovjet, hvor målet var å utvikle et samfunn uten klasseskille. Det samsvarte i stor grad med måten urfolksbarn ble utdannet på i USA, Canada og Norge. Systemet innebar tvangspåføring av majoritetsfolkets språk og kultur for urfolk, og målet var assimilering. I Norge ble denne politikken kalt «fornorsking», i Russland «russifisering» – *obrusenije* (Åkobij 1900) eller *russifikatsija*. I Canada og USA ble politikken på 1900-tallet omtalt som «amerikanisering» – *americanization* (Huerta 2009). Politikken innebar aggressiv assimilering og diskriminering. Ofte ble politikken gjennomført i utdanningssystemet med sterkt støtte fra kirken og misjonen. Nenetsernes første skolebøker ble skrevet av russiske misjonærer i tsartiden (Bazanov and Kazanskij 1939). Misjonsarbeid førte til etablering av internatskoler som ble opprettet for å påvirke nomadenes barn fra tidligst mulig (Bartenev 1896).

Barna i Norge, Russland, USA og Canada måtte lære språk og verdier som tilhørte den norske, russiske, canadiske og amerikanske majoriteten. Det å overføre disse verdiene på urfolksbarn ble av nasjonalstatene den gang oppfattet som en velgjerning og ofte begrunnet med at de ulike urfolkene ikke hadde en egen sivilisert kultur. De ulike urfolksgruppene ble ofte omtalt som «primitive» i nedsettende betydning (Minde 2003, 2008).⁴ I USA ble barn fra de ulike urfolksgruppene ansett å mangle «mentale evner» på nivå med de hvite europeiske nybyggerne. De ble av den grunn oppfattet å ha behov for å bli assimilert (Huerta 2009:20). I Norge fikk deler av den samiske befolkningen utdanning basert på internatopphold gjennom nesten hele 1900-tallet.⁵ Tusener av samiske barn mistet sitt morsmål og sin identitet fordi utdanningssystemet var selve drivkraften i

4 Se også siden <http://skuvla.info/skolehist/minde-n.htm>, siste besøkt 1.3.2017.

5 <http://skuvla.info/skolehist/trygve-n.htm>. Besøkt 1.3.2017.

«fornorskingspolitikken». I USA ble internatskoler til utdanning og assimilering av urfolksbarn brukt av myndigheter fra 1860 til 1978.⁶ I en rapport publisert av det amerikanske senatet i 1969, «Indian Education: National Tragedy – A National Challenge», ble de negative effektene av assimilering og tap av land fremhevet (Huerta 2009:21) og som en følge av loven «Indian Child Welfare Act» (1978)⁷ ble internater stengt. Begrunnelsen var at: «hundrevis av Native Americans ikke har overlevd internatskolene ... grunnet sykdom» (Child 1998:66).⁸ Konsekvensene av denne utdanningspolitikken har vært at mange generasjoner urfolk måtte lide og lider fortsatt av resultatene av de ødeleggelsene den skapte. Det merkes av det store komplekset av følelser som tidligere internatbarn viser. I Canada ble det gjennomført en rekke arrangement i regi av «*Truth and Reconciliation Commission of Canada*», bl.a. i Saskatchewan i 2012.⁹ «Overlevende» eller barn som måtte gå gjennom internatsystemet, gikk på scenen og fortalte om sine opplevelser. Mange gråt og brøt sammen under disse «høringene» (Personlig arkiv, 2012, June 21–24, Saskatoon, Prairieland Park).

NENETSERNE: DET STØRSTE AV DE SMÅ URFOLKENE I DET RUSSISKE NORD

Per 2010 var det 44 640 nenetsere (Rosstat 2018). De er dermed det største urfolket blant de 40 såkalte «Fåtallige urfolk i Det russiske Nord, Sibir og fjerne Øst» (Štyrov 2012), regnet ut fra kriterier laget av Den russiske føderasjonen.¹⁰ Av hele den nenetsiske befolkningen bor 35 095 i rurale områder. Bare hver fjerde nenetser bor med andre ord i byer. Folketellingen i 2010 har også data vedrørende språksituasjonen: 21 926 svarer at de snakker nenetsisk som førstespråk. Det utgjør ca. 50 % av befolkningen. De aller fleste nenetsere er nomader og lever hele året på tundraen. Der flytter de med sine reinflokker nordover i løpet

6 Året 1978 er begynnelsen for nedleggelse av alle internatene som institusjon; dette er en lang prosess, hvorvidt det er slutt på assimilering som en del av utdanningsprosess er også ikke plass å diskutere i denne artikkelen.

7 Les mere om loven «Indian Child Welfare Act», på siden til organisasjonen «National Indian Child Welfare Association», http://www.nicwa.org/Indian_Child_Welfare_Act/ (besøkt 12.5.2017).

8 Alle oversettelsene fra og til russisk, norsk og engelsk er mine.

9 Informasjon om arbeid av kommisjonen og rapporter er her: <http://nctr.ca/reports.php>

10 Det er en offisiell tittel på alle urfolk under 50 000 individer, basert på følgende dokument: Felles liste over urfolk i Russland (Godkjent av Den russiske føderasjonsregjeringen 24 mars 2000 N 255; siste endringer den 25. august 2015).



No.	Name in Nenets language	Name in Russian (ISO transliteration)	Name in English	Translation of original place name segment
Nenets Autonomous Area [Neneckij avtonomnyj okrug]				
1	Jabta-Sale Ja	Kaninskij poluostrov	Kanin Peninsula	long, narrow cape
2	Timenskoj Ja / Tim Vy' / Timečkoj	Timanskaja tundra	Timan Tundra	From timbja (split) referring to rocks split along schistosity; word origin from legendary Sihirtâ people
3	Njudi Ja	Malozemel'skaja tundra	Little Land Tundra	little land
4	Njarka Ja	Bol'shezemel'skaja tundra	Big Land Tundra	big land
5	Jugor	Jugorskij poluostrov	Yugor Peninsula	ambiguous origin Yugra: historical name of land and people between Pechora River and Urals
6	Holngov ŋo	Ostrov Kolguyev	Kolguyev Island	corner, hill island
7	Vajhabc'	Ostrov Vajgač	Vaygach Island	death island
Yamal-Nenets Autonomous Area [Jamalo-Neneckij avtonomnyj okrug]				
8	Ňorvoš rajon	Šuryškarskij rajon	Shuryshkarsky District	(from Khanty lang.)
9	Pe"hevhyh rajon	Priural'skij rajon	Priuralsky District	by the Urals
10	Njadei Ja	Nadym'skij rajon	Nadym'sky District	lichen land
11	Pur'rajon	Purov'skij rajon	Purov'sky District	mighty river
12	Njaryj mačy rajon	Krasnoselkupskij rajon	Krasnoselkupsky District	(from Selkup lang.)
13	Ja'mal	Jamalskij poluostrov	Yamal Peninsula	end of the Earth
14	Sèr ŋo	Ostrov Belyj	Bely Island	white island
15	Tasu'Java"	Tazovskij rajon	Tazov'sky District	flooded river
Taymyr Dolgan-Nenets District [Tajmyr'skij Dolgano-Neneckij rajon]				
16	Tajmyr Ja	Tajmyr'skij Poluostrov	Taymyr Peninsula	ambiguous origin

Legend:

Regional boundary

Boundary between region and associated autonomous area

District boundary

Summer pastures



Winter pastures



Compiled by Zoia Vylka Ravna (Norwegian Inst. for Cultural Heritage Research, NIKU) and Winfried K. Dallmann (University of Tromsø)

av våren og sommeren, og tilbake om høsten og vinteren. De er på flyttefot hele året, bortsett fra når de gjør korte stopp for å skaffe forsyninger av mat og utstyr. Den kontinuerlige flyttingen er selve fundamentet i livsformen. Den viktigste grunnen til flyttingen er reinsdyrenes søk etter beiter til ulike årstider. Menneskene har med andre ord utviklet denne nomadiske livsformen for å tilpasse livet sitt til dyrenes behov.

De 46 640 nenetserne bor i et område på ca. 1 million km². De fastlandsnenetsiske områdene grenser mot Polhavet og strekker seg fra Barentshavet i vest til Laptevhavet i øst. Dette området deles geografisk i «tundraer» eller «land» (hhv. *Vy* og *Ja* på nenetsisk), territorier som oftest ligger mellom to elver eller bukter (også kjent på russisk som *guba*).

TUNDRALIVET: DET NENETSISKE REINDRIFTSÅRET

Et reindriftsår for jamal-nenetsiske barn kan deles i to. Første delen er den korteste som varer gjennom sommeren. Da flytter barna sammen med familiene sine på Jamalhalvøya. Selv kaller de seg på nenetsisk *Ty nju* – barn av rein. Familiene flytter sammen med reinsdyrene, hus (telt), forsyninger og utstyr mellom 1 000 og 1 400 kilometer hvert år. Den andre delen er barnas skoleår. Vinterbeitene ligger på sørsiden av den mektige elva Ob, hvor det er rikt med reinlav for dyrene og god tilgang på ved til oppvarming av teltet. Dette er den lengste delen av året. Da er tundra barna på internatskolene og treffer bare sporadisk sine familier når foreldrene stopper ikke langt unna byen Jar-Sale (Nenets. *Sand Nessel*) på vei til og fra vinterbeitelandet.

Åressyklusen for Brigade 5 er ikke forskjellig fra andre brigader. Om sommeren flytter brigaden nesten hver dag. Flyttingen har sitt endepunkt på nordvestsiden av Jamalhalvøya ved Karahavet. Ute på Jamalhalvøya får reinsdyrene fred for mygg og insekter og kan beite fredelig. Ved kysten har dyrene tilgang til godt og frodig beite med grønt gress, blader og sopp på slutten av sommeren. Hele halvøya er rik på fisk både i elver og i sine utallige innsjøer. Fisken utgjør den største og viktigste delen i hverdagsmenyen om sommeren. Den spises kokt, rå eller stekt på bål. Reindriftsutøverne bruker fiskegarn som de setter ut ved enden av store innsjøer som ligger langs flyttveien. En eller to erfarne menn drar sammen med ungdommene for å fiske, vanligvis rett etter at brigaden stopper opp for å slå leir.



Ferskvannsfisk.

Mens kvinnene og de eldste barna setter opp lavvo – telt «Mja»¹¹ (sommerteltet heter *Tany Mja*), samler ved og henter drikkevann, rekker ofte mennene å komme tilbake med fersk fisk. Fisken blir som regel delt likt mellom alle som bor i brigaden. Det er kvinner som sløyer, renser og forbereder fiskemåltidet som kan bestå av ulike typer fisk. Reinkjøtt er sjelden kost på denne tiden av året. Kun ved spesielle anledninger slakter man rein til mat i løpet av sommeren.

Teltet er en konusformet lavvo, ca. 6 til 8 meter i diameter og konstruert med 50 til 60 stenger. Teltstengene er ofte ca. 5–6 meter lange og av bjørketre. Sommerteltet ble tidligere dekt av bjørkebark, men nå brukes det ull til innerste lag og vanntette materialer til det ytterste. Vinterteltene har ikke forandret seg. Det brukes fremdeles kun reinskinn, ca. 60–62, til et vintertelt som er satt sammen av to deler, venstre og høyre del som kalles *Jeja*.

Sommeren er også tid for sanking av egg, jakt på gås, ender og andre typer

11 Tsjum (fra udmurt- eller komi-språket tsjom) er et telt av konisk form, som etter hvert ble tatt i bruk i det russiske språket for å definere denne type telt. Nenetserne kaller alle typer med et felles ord «Mja», og de har flere typer Mja, som for eksempel sommertelt, som heter «Tanu Mja», og vintertelt, som heter «Syrey Mja, og de dødes telt, som er «Mjaro Mja».

fugl. Seint på sommeren modnes moltebær, krekling, blåbær, og helt på slutten av august er tyttebærene klare for å plukkes. August *Pilju irij* (måned av reinbrems *Hypoderma tarandi*) er også måneden for slakting av årets kalver som gir skinn til å sy nye klær og sko. Mennene plukker ut kalver, slakter dem og ordner med kjøtt, mens kvinnene tørker skinn og forbereder dem til videre behandling. På denne tiden lærer jenter det grunnleggende om bearbeiding av reinskinn, samt *Pena* – reinføtter som brukes til å sy sko og vesker av. De hjelper med å tørke skinnene og å sy dem grovt sammen for deretter å henge dem ut til tork i vinden og etterpå inne i teltet. Gutter lærer å reparere fiske- og jaktredskaper, å kaste Tynzja (lasso), de lærer om slakting og fordeling av kjøtt, om reinsdyr, om fiskeplasser. Men viktigst av alt: De lærer om sommerbeitene, om farger og utseende på dyrene, beitenes beliggenhet og beskaffenhet og nærings sammensetningen av planter i



Sommertelt.

beitene. De får ikke minst den kunnskap de trenger som gjeterne om hvor lenge en flokk kan beite på ulike typer av beiter.

Opplæringen foregår hver dag, gjennom felles aktiviteter, og er innarbeidet i oppgavene som flytting, merking av kalver, utvelging av dyr til transport for lette passasjer eller tunge lastesleder. Guttene blir trent av erfarne menn og gjeterne og får på den måten kunnskap om fysiologi, biologi, geografi, næring, fysikk og matematikk på tundraen. De viktigste navnene på flyttveier blir formidlet av eldre menn og kvinner. Guttene får kunnskap på mer overordnet nivå når det gjelder selve driften, mens jenter får sin opplæring om mat, matlaging, bearbeiding av skinn og syng. De lærer hvordan man sørger for mat og brigadens velferd. Jentene henter ved, plukker bær, finner lav til barnevuggen osv. I tillegg bruker eldre generelt mye tid på å fortelle ungdommen om tradisjoner, spesielle tegn for å bli grundig kjent med disse områdene samt historier tilknyttet til enkelte spesielle steder. For kvinner går mange kvelder med til å sortere, ordne, pakke, lage og sy nye materialer, bearbeide skinn for flytting videre til vinterbeiter. Mennene ordner med vinterutstyr som nye lassoser, reparerer sleder, eller fikser på seletøy til reinene de bruker som transport- og trekkdyr.

I september, *Veba'ha amva irij* (bladmåned) også kalt *Selbjja irij* (måned for ossifisering av reinhorn), og utover høsten flytter brigade 5 sørover mot vinterbeitene, som ligger i skogsområdene. Oktober, *Khor'irij* (reinoksens måned), og november *Njudja Pevdej* (måned for det lille mørket), er også tiden for slaktning av dyr til kjøtt for salg i store kvanta. De fleste ønsker å selge kjøtt på denne tiden av året fordi kvaliteten på kjøttet er på sitt aller beste, og reinen er på det feteste nå. Desember *Darka Pevdej* (måned for det store mørket), er tiden for å handle mat for vinteren og forberede til flytting til vinterbeitene.

Januar, *Limbja Irij* (ørnens måned), flytter brigaden til sørsiden av elva Ob. Vinterbeitene for brigaden ligger mellom elvene Jarudey og Eid 'Jaha, som er et område med skogstundra. Denne tiden brukes til å felle, samle, bearbeide og tørke trær som kan brukes til telstenger, sleder og andre formål. Februar er også kalt *Jara Irij* (månen for vintersolverv) og er en rolig tid for rein og for folk.

Første halvdel av mars har flere navn, det kalles *Måned for stille snø*, og er bra for å jakte, fordi den stille snøen ikke knirker under føttene, som blir til *Måned for rein himmel*, som kalles andre halvdel av mars. Nå er den hardeste vinteren over, ved utgangen av mars, som reindriftsnetseterne også kaller *Måned for nye reinhorn*, eller Måned for falsk kalving er det nødvendig å telle dyrene. I tillegg til å skaffe seg oversikt over antall dyr får gjeterne anledning til å vaksinere dyrene





Karavane.

mot brems og planlegge strukturen på flokken. I tråd med god tradisjon skal den ideelle flokken ha et visst antall transportdyr, okser, simler og kalver. Det finnes ikke spesielle undersøkelser på den ideelle formelen,¹² men basert på mine intervju på Jamal bør en ha følgende: En familie på ti må ha åtte eller flere sleder for å frakte telt, klær, utstyr og mat. Hver slede trekkes av to okser om vinteren og av og til tre om sommeren. Tre eller fem okser brukes til å trekke en lett slede med passasjerer, barna bruker som regel egne sleder fra 5–6-årsalderen. Når de større barna kommer tilbake fra internatet, må også de ha egne transportdyr. Til sammen bruker en familie på ti bare til transport ca. 80 dyr til å frakte lasten de

12 Bortsett fra tall fra reindrif som en gren av landbruksproduksjonen, basert på empirisk, mangeårige arbeid i nordområdene av profesjonelle, veterinærtekniker eller veterinærer, se mer (Mukhachev et al. 2010; Syrovatskij 2000).

bringer med seg. Noen mener at 100–120 dyr er nok, i tillegg trengs det cirka 20 okser for avlastning (Intervju, 1,2, Jamal). For reproduksjonen bør flokken ha 120 simler. En okse kan brukes på 16–20 av dem. Noen forskere mener at det må være 60 % simler, og 2 % okser for optimal reproduksjon, se mer (Syrovatskij 2000:64). Ut ifra intervju med reindriftsutøvere trengs det for rundt 120 simler dermed 10–12 okser. Totalt behøver da en familie på ti mellom 400–600 reinsdyr.

Arbeidet med flokkstrukturen er en lang og tidkrevende prosess. De fleste reindriftsutøvere vet nøyaktig hvor mye de trenger, men som regel er det vanskelig å planlegge «den ideelle» strukturen på grunn av usikkerhet om overbelastede beiter på Jamal (flokken må reduseres). Senere forskning viser at den stadig økende gass- og oljenæringen beslaglegger mye viktig beiteland som tidligere ble brukt av reindriften (Golovnev 2014; Golovnev et al. 2014). Data samlet på Jamal viser at det blir mindre og mindre beitemark tilgjengelig og at kapasiteten snart er sprengt.

Arbeidet med tellingen av dyrene i brigade 5 skjer vanligvis ved *Njaby Si'vy* (eng omgitt av skog). Umiddelbart etter tellingen begynner den intensive flyttingen mot nord. Noen ganger flytter brigaden inntil 70 kilometer hver dag. De kan ha hastverk på grunn av snøsmeltingen eller fordi isen på mange vann langs flytteruten smelter. Mai kalles for *Måneden for den ordinære kalvingsperioden* (i motsetning til april, som er *Måned for den falske kalving*) og/eller *Måned for syngende vann*, og er den mest hektiske måned for reindriftsutøverne. Kalver blir født hver dag, og det er nødvendig for gjeterne å følge nøye med hver og en av kalvene som kommer til verden. I juni (*Hekkemåned*), også kalt *Flommåned*, fødes årets siste kalver. Vårfisikinget begynner nå for fullt. Barna er også tilbake på tundraen, og de blir etter hvert på nytt urfolksbarn og ikke «internatbarn», som de blir kalt etter det lange oppholdet på internatet. Denne tiden er viktig for barna, for nå gleder de seg til å flytte sammen med sine kjære, samtidig som de skal lære mye om tradisjonen de tilhører, gjennom observasjon, fortelling og lek. Ingenting av det de lærer nå, lærer de på internatskolen. Der får de en helt annen type kunnskap godt hjulpet av datamaskiner og lærersentrert pedagogisk undervisning. Fra de eldre gjeterne får de unge innsikt i og kunnskap om blant annet store endringer i reindriften, som skjer på grunn av klimaendringene. Erfarne voksne forteller om at duggen har forsvunnet fra beitemarkene (Intervju 3, Jamal) og hva det betyr for reinlav som ikke har røtter og er avhengig av å ta all næring fra luften. Det betyr at det er blitt mindre lav og at reinsdyrene må finne annen næring. Denne type kunnskap får de unge gjennom fortellinger og ved selvsyn på tundraen gjennom sin fysiske tilstedeværelse.

Hva lærer så ungene i løpet av et tundra-år? Svaret er urfolkskunnskap og ferdigheter om reindriften og livet på tundraen (Intervju, 1-5, 2015). De lærer det som er viktig å kunne for å lykkes som reineiere:

- Kunnskap om landskap
- Kunnskap om reinens utseende, egne rein, men også naboens
- Kjennskap om reinens øremerker, egne rein, men også naboens
- Kunnskap om fiskeplasser, jaktområder, planter, bær etc.
- Muntlige fortellinger, mange forskjellige typer
- Kunnskap om ritualer, seremonier, tabuer etc.
- Kunnskap om skinntilbereding, lage klær, mattilbereding, organisere leiren/teftet

Barn og ungdom tilegner seg kunnskap i løpet av tundra-året gjennom flere ulike kanaler. De lærer å bruke sine sanser og etablerer en slags «database» med kunnskap som de kan aktivere når de trenger den igjen, for eksempel om ni måneder når det blir sommer igjen og nye uker på tundraen venter. Da er det igjen behov for kjennskap til reinmerker, å kunne navigere i landskapet, plukke spiselige planter og sette opp teftet.



Vanlig MI-8 blir kalt «skole-helikopter» når det skal frakte barn og ungdom.

SKOLE OG INTERNATLIV

Elevene på internatskolen der jeg gjennomførte min undersøkelse, er vanligvis barn av nomader.¹³ I henhold til føderal lov om utdanning i Russland¹⁴ § 2 heter det: «I Russland er retten til utdanning garantert og uavhengig av kjønn, rase, nasjonalitet, språk, opprinnelse, eiendom, sosial og offisiell status, bosted, bolig, holdning til religion, tro, medlemskap i offentlige foreninger eller andre forhold». I henhold til denne loven har barn fra nenetsiske nomadefamilier også rett til utdanning. I tillegg til denne loven er retten til språkopplæring bestemt bl.a. i den føderale loven om språkene og «Om garantier for urfolksrettigheter i Russland» (Sjugnej 2008:17-18). I intervju med skoleadministrasjonen på Jamal fikk jeg opplyst at alle barn i skolepliktig alder får utdanning. Prosessen for registrering av elever gjøres av lokale myndigheter og er basert på mange tiårs erfaring. Siden nesten alle kvinner fra tundraen i dag føder på de lokale sykehusene, blir barna registrert. Dermed har lokale myndigheter kontroll over alle skolepliktige barn som holder til på tundraen (Intervju, 21, Jar-Sale, 2016).

Barna blir ved skolestart i slutten av august hvert år hentet fra tundraen med helikopter, på folkemunne kalles de «skole-helikopter». Barna blir tatt imot av personalet på internatskolen ved ankomsten. Den første tiden passer en eller flere voksne dem hele tiden. Denne tiden er den vanskeligste for de aller minste. Mange barn gråter seg i søvn hver kveld den første tiden (Intervju, 14, Jamal, 2015). Vantrivselen på internatet påvirker ikke bare barnas holdninger, men også evnen til å lære. Noen lærer saktere eller ikke alt som kreves av dem (Intervju, 21, 22, Jamal, 2015). Pedagoger jeg har intervjuet, bekrefter at mange av ungene sliter med språket:

Barn som enda er ganske små og ikke kan beskrive med ord hva slags følelser de har, er det vanskelig å få informasjon fra. De aller fleste blir frustrerte når de blir alene og må mestre alt selv, fra å knyte skoene, bruke senger til å sove i, sitte lenge på stolen og ikke minst lære å snakke på et fremmed språk.

13 Det finnes mange forskjellige typer internater og utdanningsinstitusjoner i Russland, mer: <http://soc-work.ru/article/714> (besøkt 15.5.2017), og her er teksten «Brevet fra Kunnskapsdepartementet», fra 17.02.97 N 150 / 14-12 om «Statlige og kommunale utdanningsinstitusjoner. Typer og former for statlige og kommunale utdanningsinstitusjoner» <http://zakonbase.ru/content/part/130724> (besøkt 15.5.2017).

14 Den føderale loven «Om utdanning i Russland» ble oppdatert 29.12.2012, N 273-FZ. Hele teksten finnes her: http://www.consultant.ru/document/cons_doc_LAW_140174/ (besøkt 15.12.2016).

Mitt materiale fra Jamal (Feltarbeid, 2015, intervju, 2016) viser at nesten ingen barn under skolepliktig alder kunne snakke russisk. En gutt fra en nomadefamilie, jeg kaller han Leo, fikk opplæring i russisk språk i en såkalt «nomadisk barnehage».¹⁵ Dette var et eksperiment gjort av to russiske forskere som bodde med guttens familie i et år for å studere dem, samtidig som de prøvde å undervise deres barn. Målet var at Leo skulle unngå å «miste» et år ved å lære russisk tidlig og dermed kunne gå rett i første klasse. På mitt spørsmål om det var et suksessfullt eksperiment, sier en av lærerne:

... det ville vært bedre for han å gå i nulte (forberedende) klasse likevel sammen med andre barn, fordi barna som har levd på internatet også får andre ferdigheter og ny kunnskap og nye rutiner (Intervju, 20, Jar-Sale, 2015).

En annen lærer fortalte at de måtte bruke mange timer på å forberede gutten til skolen før de kunne undervise han. Han måtte lære så mye annet først (Intervju, 20, Jar-Sale, 2015).

«Skolehelikopteret» er også en «dør» som åpner seg til en helt annen verden: til landsbyen, skolen, datamaskiner og russiske leker.

Når ungene hører helikopterlyd i dag, glemmer de seg ikke mer, som de gjorde før. De jobber med å pakke sine små ryggsekker, jentene ordner håret sitt, pynter seg og kler seg i «russiske» klær. Guttene bryr seg ikke om å kle seg om [i fine klær]. (Intervju, 8, Tarko-Sale, 2015)

Familiene som blir redusert til mor og far når barna reiser, sitter igjen med følelsen av ensomhet. Spesielt vondt kan det være for mødrene, fordi de ikke har veldig stor (sosial) kontakt med omverdenen. Når ungene blir hentet av skolehelikopteret i august, er familien inne i den travleste måneden når det gjelder kvinnearbeid. August er tiden for bærhøsting, når tundraen skifter fra sin monotone grønne sommerfarge til hundrevis av røde, gule og oransje høstnyanser.

Mamma, husker jeg, stod i tsumåpninga, på et brett av tre, som benyttes som terskel og så på oss som gikk til helikopteret. Hun gråt ikke. Mye senere fortalte hun hva hun følte, da vår tsum plutselig føltes tom og stor. Ingen barnelek, eller stemmer, eller lyd fra springende raske føtter utenfor. Resten av august og september gikk sakte. Mamma

15 Les mer om «eksperimentet» på: <http://www.yamalexpedition.ru>

hadde ingen energi til å gjøre noe. Hun bare satt der, med nål og tråd i handa uten å gjøre et eneste sting. (Intervju, 11, Tarko-Sale, 2015)

For Leo, som for alle andre nenetsiske barn, var den aller første tiden på internatskolen ikke lett. Barna må endre sine daglige vaner og må for eksempel lære å følge klokka. De må tilpasse seg et uvant regime: stå opp og legge seg til faste tidspunkt på døgnet. Det er veldig forskjellig fra livet på tundraen der de sammen med familien av og til flyttet midt på natta på grunn av været.

Flytting er ikke bare en del av reindrifshverdagen; det er selveste livet (Intervju, 1-5, Jamal, 2015). Det innebærer også mange stunder hvor familien er samlet, enten for å gjøre sine daglige oppgaver eller lese ei bok. Og det innebærer at barn og ungdom faktisk er sammen hele tiden med sine foreldre, atskilt kun i korte stunder for å hente ved, vann eller fiske i nærmeste innsjø. «Skolehelikopteret» er derfor også den «døren» som lukker en kjent og kjær verden.

Mødre og fedre som blir uten den daglige kontakten med sine barn, må tilpasse seg en ny hverdag, de også, uten det kjæreste de har. Denne følelsen kan beskrives som stressende både for barn og voksne. Konsekvensen av denne vekslingen kan være at etter ti år på internatet klarer nomadebarna likevel ikke å tilpasse seg en fastboende virkelighet. I tillegg til tap av kunnskap om reidrift og livet på tundraen mister de også sin identitet:

Barn må være under tre år for å lære begge språkene. I løpet av to år i [utdannings] systemet fratras barna identitet, språk og kultur (Intervju, 1, Jamal, 2015).

Dette bekrefter også en av lærerne i de vestligste nenetsiske tundraområdene, hun underviser i morsmål («rodnoj jazyk»). Hun sier at på begynnelsen av 1990-tallet kunne mange barn snakke nenetsisk, mens det nå nesten er ingen som behersker språket (Intervju, 4, Narjan-Mar, 2017).

Barna ser sine foreldre første gang etter at de reiser hjemmefra når de kommer til landsbyen på vei mot vinterbeitene. Da bruker foreldrene som regel flere dager for å handle mat og utstyr til de neste månedene på tundraen. Barna kan da besøke sine foreldre, etter å ha fått særskilt tillatelse. Denne tiden er kort, men meget viktig for barna. Av og til er denne perioden nært opp til vinterferien i desember, og da kan familien feire nyttår sammen.

Jeg bruker å kjøpe gaver til alle barna når vi handler for vinteren i november–desember. Noen ganger er det klær, bukser eller ei fin skjorte til guttene og kjole til jentene. Når vi ikke har tid til å handle, kjøper jeg bare noe frukt, mandarin eller noe annet. Ungene er veldig glade i godteri også. Jeg kjøper karameller og sjokolade. (Intervju, 23, Jamal, 2015).

Slike korte stunder, med gaver og kos hos familien, gjør internatbarna til vanlige urfolksbarn igjen. Etter dette er det igjen lenge til neste møte med mamma og pappa. På slutten av mai eller i begynnelsen av juni kan endelig «skole-helikopteret» forene internatbarna med sine familier på tundraen. Da er de sammen hele sommeren til slutten av august.

TILPASNING TIL OG LÆRING AV KATEGORIENE

«TID OG STED»

På nettsiden til internatskolen står det at «Internatskoler er for urfolksbarn, og at den ble opprettet for å hjelpe familien i utdanning av barn av urfolk, dannelsen av deres ferdigheter til et videre uavhengig liv, sosial beskyttelse og full blomstring av elevens kreative evner».¹⁶



Skole.

¹⁶ Se mer på siden: <http://yamalskaya.moy.su/index/internat/0-42>



Skolebuss.

Men internatbarn må følge samme døgnrytme og regime. De må etterleve regler og daglige rutiner; de sover, spiser, studerer og trener, i større eller mindre grupper. Deres dagsplan er koplet til skole- og studieplaner. Alle intervju jeg gjorde, ble gjennomført på dagtid på skolen, mens spørreskjemaer ble utlevert til ungdommen på internatet i Jar-Sale slik at de kunne svare på undersøkelsen selv. Jeg fulgte to ungdommer fra «vår» brigade, en gutt på 16 år (jeg kaller han Khasava (mann på nenetsisk, et vanlig guttenavn på tundraen) og Maksim på 15 år. Dette året er Khasavas siste år på skolen. Han må bestemme seg for hva han skal gjøre med sitt liv etter dette siste året.

Khasava¹⁷ drar gjerne til landsbyen, noe han faktisk gjorde da et forbigående helikopter landet i brigaden midt på sommeren mens feltarbeidet mitt foregikk. Foreldrene og Khasava hadde kranglet nesten hver dag fordi han ville til landsbyen. Han ville ikke jobbe på tundraen hele sommeren. Han er vant til livet i en landsby etter mange år på internat. Men den aller viktigste grunnen til å dra var at han hadde forelsket seg i ei byjente som han ringer hver gang han har sjansen (og ikke minst telefonforbindelse). Faren til Khasava sier:

Før pleide folk å samles på kveldene og fortelle hverandre historier og synge. Nå er det slutt på det. Nå tar Khasava hodetelefoner på seg og hører på musikk. Sivilisasjonen

¹⁷ Alle navn er endret, i henhold til lov om anonymitet og beskyttelse av informanter.

overtar. Vi [eldre generasjon] vil overleve [fordi] vi kjenner det gamle og det nye. Men ungdommen har ikke [den gamle kunnskapen] i dag som vi har.

Den andre ungdommen, Maksim på 15, ble født med feil beinstilling og klarer derfor ikke å bevege seg skikkelig, men halter på venstre fot. Han fortalte om livet på internatet:

Jeg elsker sport, all slags sport, mest av alt å kaste lasso. Da vinner jeg som regel. Jeg deltar i andre grener også, men det er i nenetsiske idretter jeg er best. Vi har også store konkurranser mellom skoler, på internatet.

Maksim elsker livet på tundraen, spesielt å kjøre fort på sledene og konkurrere mot Valera, som er hans skolekamerat og venn. Disse to jobber mye med russisk



På tundraen.

språk fordi det kreves for å få sertifikat. Ingen av dem ønsker å jobbe på tundraen etter skolen. Samtidig glemmer Maksim og Valera skolen helt i sommermånedene. De lever og jobber daglig som jegere, fiskere og reindrifutøvere. De forteller at samarbeidet mellom familie, skole og internat foregår på en annen måte for de fastboende elevene. Foreldrene på tundraen har for eksempel ingen kontroll med deres karakterer. De får først vite om dem når elevene kommer hjem på slutten av skoleåret. Det samme gjelder problemer som oppstår i den vanlige skoledagen, i det sosiale livet eller i idrett. Foreldrene vet som regel ikke noe som helst. Dette skaper ofte en følelse av hjelpeløshet, spesielt hos de yngste barna som strever mest på skolen.

De voksne har selv opplevd dette tidligere, og de er på en måte forberedte. Noen ganger blir savnet av foreldrene for stort og tungt å bære. Flere informanter fortalte:

Tidligere stakk ungene av fra internatet. Rundt 1987 skjedde en stor tragedie for en hel landsby og tre nenetsiske familier. Det var tre gutter som hadde vanskelig for å tilpasse seg livet på skoleinternatet og etter en konflikt bestemte de seg for å gå fra landsbyen til tundraen til sine foreldres brigade. Midt på vinteren, dårlig kledd og skodd (ungene bruker som regel ikke tradisjonelle klær i landsbyen, men får utlevert vanlige «russiske» vinterklær på internatet). Rett etter at hovedinngangen til internatet ble stengt for kvelden, dro de i retning mot tundraen. Hele gruppen ble funnet ganske langt ut på våren, da snøen smeltet og ikke på riktig trase i forhold til den opprinnelig planlagte flytteruten til brigaden. Hva som hadde skjedd, er det ingen som vet. Direktøren (på internatskolen) mistet jobben etter denne tragedien. (Intervju, 23, Jamal, 2015).

Fra begynnelsen av etableringen av internatskolene i 1920 (i skoleåret 1929/30 – 140 barn studerte ved 5 internatskoler i de vestligste områdene) og 1930 i de østligste var tundrafolk skeptiske til internatskolene (Filipov 2001:39). Som system begynte internatene først å fungere på 1950-tallet. Da ble nesten alle tundra barn overlevert av foreldrene på mer eller mindre frivillig basis. Den første skepsisen endret seg gradvis, særlig etter at de første generasjonene av nenetsere hadde gått gjennom utdanningssystemet. Dette gjaldt i størst grad gutter. Mens eldre kvinner i 60- og 70-årsalderen forble analfabeter fordi de aldri gikk på skole, har dagens 40- og 50-åring vært på skoleinternatet i Jar-Sale (Intervju, 7,9, Jamal, 2015). Kvinnene svarte ganske likt med mennene om sitt liv på internatet, skoledagen, oppvekst og om gode og vonde opplevelser. Spesielt godt sitter minnene om straff og ydmykelse, for eksempel praksisen med å klippe håret av jenter. En tidligere nenetsisk lærer sier om sin første tid på internatet:

Den aller strengeste straffen var å bli klippet helt snau. Dette var det aller verste. Det er altfor mye [for et barn], fordi det er en ydmykelse av menneskeverdet (Intervju, 11, Tarko-Sale, 2017).

Dette er også bekreftet i annen litteratur, for eksempel i tekster av den nenetsiske forfatteren Nina Jadne og i en avhandling om de nordlige internatene hvor disse avstraffelsene sammenliknes med dem som ble brukt av kanadiske myndigheter overfor urfolk i Canada (Ådne 2008; Ljarskaja 2004). Straffemetodene var flere. Dette ble fortalt av en tidligere elev (Intervju, 11, Tarko-Sale, 2016):

Hadde man vært uheldig og gikk altfor seint på rommet for å legge seg og ble tatt, måtte man vaske fellesområdene som korridorer og toaletter dagen etter.

Lærerne huskes som strenge, noen ganger som altfor strenge. Samtidig sier flere at lærerne var veldig flinke i sitt fag, virkelig profesjonelle, og gjorde alt for å lære nomadebarna å lese og skrive. Noen så på lærerne som en del av familien:

Vi passet på deres barn som noen ganger lå og sov på pultene. Oksana (datter til læreren) sov på pulten. Vi gjorde alt for å få gode karakter, for da fikk vi lov å passe og leke med lille Oksana.

Denne uttalelsen viser også hvor viktig familien er for internatbarna. De savnet sine små søsken på tundraen. Lærerne ble av og til som en mor eller far:

Vi dro hjem til henne (læreren) for å rengjøre ovnen, la kull i og hentet vann fra elva. Vi brukte å fylle 200 liter i en tønne med rent vann. Vi (jenter) skrelte poteter, en gulrot og en løk. Når hun kom hjem på kvelden, hadde hun allerede grønnsaker klare for å koke en porsjon med suppe.

En annen kvinne sier at noen «gamle», til og med ikke-nenetsiske, lærere var så flinke at de lærte seg nenetsiske tradisjoner, språk og levemåte og snakket med respekt om reindriftsfolk.

Det var en fyr der (på en konferanse), og han fortalte alt riktig om oss (nenetserne). Ikke sånn tull, at barn ble kastet ut av teltene, eller at de ga sine koner til tilreisende. Han fortalte at han jobbet på et skoleinternat i Taz. Han pleide å samle barna fra tundraen,

fordi barna brukte å gjemme seg [før samling til skoleåret]. Da bodde han sammen med familiene til disse barna og flyttet sammen med dem. Slik lærte han vårt språk og vår kultur (Intervju, 9, Tarko-Sale, 2016).

Når det gjelder innhold av urfolkskunnskap i undervisningen, hadde ungdommene noen ganger jobb etter skoletid som inneholdt bruk av tradisjonskunnskap. Jentene sydde som regel sko av reinskinn. Dette hadde de lært hjemme, og i de siste skoleårene kunne de sy etter skoletimene.

På internatet jobbet vi for å tjene penger. Vi pleide å hente skinn fra 6–8 reinføtter [hos reineiere] for å sy sko, for eksempel i størrelse 36. Først gjorde vi skinnen klart til sying; bearbeidet det, og etterpå sydde vi ferdig skoene; hele jobben var vel verdt 56 rubler.¹⁸ Det var gode penger. Jeg lærte også å lage mønstre med perler på den tiden (Intervju, 11, Tarko-Sale, 2016).

Respondentene (voksne kvinner) er kritiske når de svarer på spørsmål om utdanningssystemet generelt i dag, fordi de mener at de ikke gir samme kvaliteten til unge som før. Samtidig understreker flere at utdanning er viktig. Med en slik tilnærming skapes det et større problem: rekruttering til reindrift, ikke bare jenter, men etter hvert også gutter (Intervju, V.A. Vyutsjejskij, Leder for Union for reindriftsutøvere i Det nenetsiske autonome området; 2017).



I skolekantina.

¹⁸ I Sovjettiden var vanlig lønn på ca. 120 rubler per måned.

Det finnes flere fellestrekk mellom tilpasning til kategorier «sted» og «tid». Barn og unge trives best på internat den første tiden dersom de møtes av personale med samme bakgrunn som dem selv og som behersker nenetsisk språk. Tilpasning til tid og sted skjer også mye lettere, særlig dersom foreldrene og skolen samarbeider. Spørreundersøkelsen min viser at det kun er noen få av elevene som ønsker å bo på tundraen etter at de har fullført skolen. Et slikt skolesystem er med andre ord velfungerende for å skape «vanlige» arbeidstakere i byer og landsbyer, men også effektive for å stoppe rekruttering til reindriften og livet på tundraen.

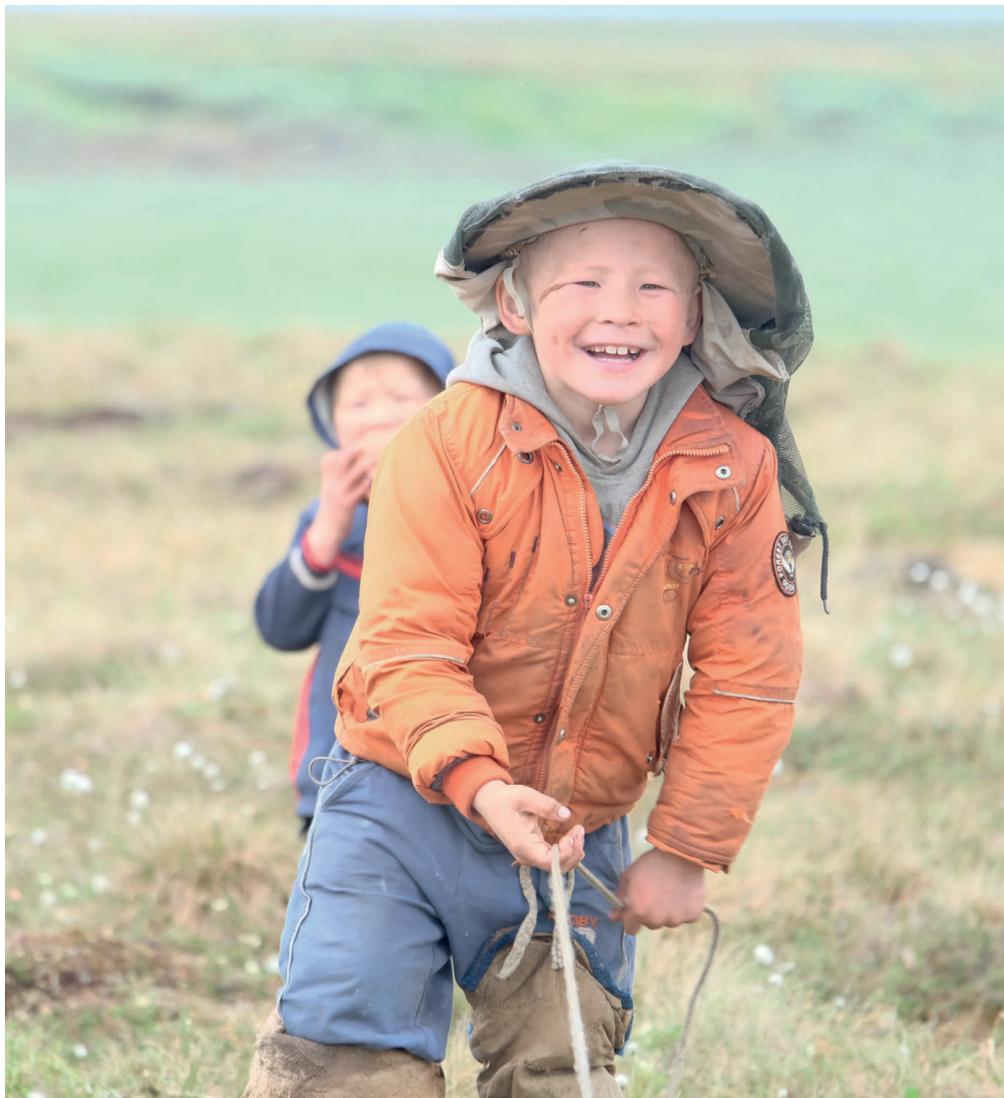
KONSEKVENSER AV INTERNATSYSTEMET FOR URFOLKSKUNNSKAP

Slik utdanningssystemet fungerer for barn fra tundraen i dag, må urfolksbarn lære å leve i to helt forskjellige sosiale virkeligheter, i tillegg til å lære to typer kunnskap; resultatet blir ofte at tradisjonell- eller urfolkskunnskap (T/UK) som regel må vike for kunnskapen som barna lærer på skolen. I vitenskapelig litteratur har T/UK mange navn. En betydning som er ganske nøyaktig og presis, finnes hos Hammersmith (2007:3): ... urfolkskunnskap er praktisk, sunn fornuft, basert på læring og erfaringer overlevert fra generasjon til generasjon. Den dekker kunnskap om miljøet – snø, is, vær, ressurser – og forholdet mellom ting. Den er helhetlig og den kan ikke skilles fra mennesker og livsformer. Den er også forankret i den åndelige kultur, i forståelsen av sykdom og helse og i språket. Det er en livsform eller en levemåte (forfatterens oversettelse). Tundrafolk sier at deres kunnskap er en lokalt basert kunnskap, dvs. at deres kunnskap er tilknyttet den levemåten de har i dag, reindriften. Det er også beskrevet i boka *Den levende erfaring* (Nergård 2006).

T/UK er for eksempel ferdigheter som å navigere i et landskap og kjenne til været, sammen med forståelsen av endringer i snø, is og andre forhold. Kunnskapen om å navigere i tundralandskap er også beskrevet av Dwyer & Istomin (2008). En av reineierne i brigade nr. 5 svarte følgende på mitt spørsmål om T/UK:

Videre må man kjenne beitene på tundraen og i skogen. Man må også kjenne andre naturressurser, som fiskevann og jaktområder, samt områdene der man finner bær, planter og drikkevann. Det viktigste er å ha en liten reinflokk, tsum, sleder, familie. Man må kunne metodikken, hvordan man passer sin rein, hvor og når man må være med sin flokk i forskjellige perioder av året (Intervju, 24, Jamal, 2015).

En forståelse av tradisjonell kunnskap og hvordan den skiller seg fra en annen type kunnskap er et viktig grunnlag for å definere *hvordan* den brukes. Flere fra reindriften er kritiske til systemet med utdanning i skoleinternater. Mange av dem har selv har bodd på internat. Samtidig som de er kritiske, vet de at det ikke er noe reelt alternativ. Den største bekymringen hos reindriftsfamiliene er at barna blir avsondret fra sitt hjemsted og sine foreldre. Ungdom kjenner dermed ikke sine foreldre og besteforeldre godt nok når de kommer hjem til tundraen. Tilhørigheten deres til kjernefamilie, til brigaden og til reindriftskulturen blir svekket av de lange månedene på internatet (Intervju, 24, Jamal, 2015).



Savelij på tundraen.

Samtidig viser spørreundersøkelsen at ungdommene selv mener de behersker T/UK på et høyt nivå. Unge voksne reindriftsutøvere svarer slik:

[Vi har beholdt kunnskapen] i sin opprinnelige form. Vi har flyttet i 2000 år og vil flytte enda et tusen [år] til. Kunnskapen vil vedvare. Selvsagt har vi mistet noe, men så lenge vi har reinsdyr, vil vi beholde [kunnskapen].

Noen unge reindriftsutøvere var helt sikker på at T/UK vil være i bruk i framtiden. Reindriftsutøvere har også understreket at «alle kan ikke leve på tundraen, noen må få utdanning og hjelpe de andre, som skaper verdier i reindrift, og jeg sender mine døtre for å studere, og dermed få bedre livsvilkår» (Intervju, 24, Jamal, 2015).

Når det gjelder urfolkskunnskap på Jamal (i det østligste området) og i hvilken grad de unge behersker T/UK og språk, er svarene ganske like når det gjelder språk. Alle tundraungdommer behersker nenetsisk, både muntlig og skriftlig, og svarer at det er deres førstespråk. Det samme gjelder kunnskap om reinsdyr og drift. Når det gjelder vestligste områdene, er svarene annerledes. I 2017 ved begynnelse av skoleåret var det ingen barn som kunne snakke nenetsisk språk. Basert på intervju med lærerne deres kan det med sikkerhet sies at skolesystemet



Savelij på skolen.

med dagens ordning med internater er velfungerende etter statens mål om at barna skal lære å leve i det moderne russiske samfunnet.

De vestligste områdene er også de områdene hvor internatsystemet begynte å fungere tidligere enn på Jamal. I tillegg til geografisk avstand er antall reindriftsutøvere høyere her, noe som gjør at assimileringspolitikken ikke fungerer like sterkt. Det er lettere å assimilere mindre grupper enn større. Politikken i forhold til å endre familie-basert til skift-basert reindrift, hvor kvinnene faktisk flytter til landsbyer for å være sammen med sine barn, var mer vellykket for de europeiske nenetserne. Denne utviklingen går videre, og basert på intervju på tundraen har foreldrene også uttrykt et inderlig ønske om at ungene deres velger å studere etter internatskolen. Noen nenetsiske kvinner på tundraen svarte at de ønsket at ungene deres fikk velge om de vil studere eller bo på tundraen.

Samtidig er det vanskelig å forutse hvor mange som vil lykkes i landsbyen, og hvor mange som vil lykkes i tradisjonelle yrker. Til tross for at kun 5 % vil velge det, basert på spørreundersøkelse, vil mange jobbe i reindrift fordi det er vanskelig for å finne jobb i små landsbyer i nord. Den aller viktigste konsekvensen av utdanningen på internatet er bruddet med livet og læringsprosessene på tundraen.

AVSLUTNING

Nenetsiske ungdommer har i dag i mye større grad muligheten enn før til å velge livsstil, enten de ønsker å leve som sine foreldre og flytte med reinflokkene eller å bli fastboende. De aller fleste svarte at de ønsker å bo og jobbe i faste bosetninger og ikke på tundraen. Dette kan forstås som en klar indikasjon på at myndighetenes mål om at internattilværelsen skal resultere i at nomadiske barn velger fast bosted og fast arbeid, vil lykkes. Skolesystemet er ikke velfungerende i forhold til nenetsisk reindrift som levemåte. Det tar ikke vare på den kulturen som er basis for hele den nenetsiske eksistens.

Situasjonen i dag er utfordrende når det gjelder urfolkskunnskap og urfolks eget forhold til den. Samtidig jobber en hel generasjon av høyt utdannende urfolkspedagoger med å hjelpe å tilpasse hverdagen på internatet for tundra barn slik at overgangen mellom hjemmet og internattilværelsen ikke skal bli for voldsom og dramatisk. Det jobbes også med å få plass til urfolkskunnskap og tradisjonelle urfolksverdier i skoleplanene. Utdanningssystemet må og kan endres. Globalisering og teknologi kan faktisk hjelpe til med etablering av små utdanningsenheter på tundraen. De aller minste barna kan få utdanning der uten å måtte forlate sine



Pedavane er enda ikke begynt på skolen.

familier, hjemmemiljø og dessuten skolekunnskap. Slik kan også de større barna få lengre opphold med sine familier og reinflokken. De kan i langt større grad enn i dag avlegge eksamener gjennom internettbaserte løsninger. Da vil de samtidig i større grad slippe å være borte i åtte–ni måneder om gangen fra sine foreldre, drifta og det læringsmiljøet de er helt avhengige av om de i framtiden skal leve av reindrift. Slik kunne de også unngå å bli fremmede på to steder: både på skolen og i hjemmemiljøet. Barnas møte med skolen er ikke bare et møte mellom to ulike virkeligheter. Det er også et møte mellom to livsformer og kunnskapstradisjoner som er på kollisjonskurs med hverandre.

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6. Conclusion

*We are aware of all the inevitable imperfections of that first step
in the new direction that we tried to do in the present work.
Lev Vygotsky, philosopher, educator and psychologist.*

In an extreme Arctic environment, Nenets mothers must transfer many different components and types of indigenous knowledge in order to educate their children in order to provide them with the understanding, knowledge and skills they will need to survive and live in a nomadic arctic environment. This research does demonstrate that this is a complex and sophisticated cultural knowledge resource and inter-generational transmission process. This study also shows that, in spite of the present state educational system, which provides boarding school teaching, children on the Siberian part of the Nenets territory are learning the essential components of the indigenous knowledge and skills they need when returning to a nomadic life on the Tundra.

However, the situation is different in the European territories, where recruitment and retention in reindeer husbandry is an urgent problem. Due to the displacement of women, there is no continuity in the transmission of IK and language. Thus, transmission of skills between the providers and recipients of care and knowledge cannot happen, if they do not share a language in which to communicate, and the place and the time in which to do it. Parents in the NAO understand that they should help their children to succeed, whether they want to stay on the Tundra or became settled. But in reality, the process has gone too far. There are no native language speakers among the children and adolescents in this region. Without language, most of the IK can neither be passed on to the next generation nor be learnt by the children.

Thus, some of the components of the indigenous knowledge of the Nenets mother are about to disappear completely. In some cases, it is happening due to the displacement of women from the Tundra. In other cases, it is a result of the State policy of education in boarding-schools. However, these two separate processes do have a cyclical relationship, the one re-enforcing the

other. Such features of the nomadic culture as flexibility, plasticity and adaptability can be seen in the concept of *Tenevana* (knowledgeable, in philosophical meaning, the one who has a great mind, based on experience). Despite many years of assimilation, and displacement of “ordinary” women to villages, the Nenets culture is still alive. Adolescents show high levels of IK possession. Their mothers use old, traditional approaches, based on life-experience and the experience of elders and traditional values. At the same time, they are trying to develop new methods and techniques that could help their children to learn necessary IK components and knowledge within the three-month period they have available in the summer.

The school system, however, is not functioning well for Nenets reindeer herding practitioners, who look at reindeer husbandry as a way of life. I have reached the following conclusions in my study:

- Youth, especially boys from small reindeer herding, fishing or hunting communities struggle to adapt to changes in large settled communities. Especially, in terms of adapting to concepts such as place and time (from nomadic open tents to houses, to precisely planned school and working days and plans, as well as regular routines).
- Due to the school (about 8-9 month and up to 11 years) young Nenets have "forgotten" a lot of IK by the time they graduate.
- There are many dropouts, because of difficulties in fulfilling mandatory requirements for exams, delivery in time and special rules presented in a language they do not master at the same level as other peers. They are then disadvantaged and lose the competition for jobs.
- The transition to boarding school is a heavy psychological burden for a young child in itself, because of the relocation and separation from their parents and family. This has consequences later in life in the form of different syndromes, substance dependency and related physical diseases. It also results in relatively high mortality rates due to suicides.

- Girls often have better results in school or in comparison to the boys. Girls also often have better opportunities for completing higher education. Then they can move to permanent housing. They more often choose an active working life in settlements.

This study has arrived at the following results concerning parents and the transmission of IK:

Parents in the Tundra want their children to take higher education. The Nenets women on the Tundra said that they want their children to choose whether they want to study or live on the Tundra (nobody says "I want to work in reindeer husbandry").

It is difficult to predict who will succeed in the village and who will make it successfully in traditional occupations. Many people work in reindeer husbandry even if they want to get an education. This is due to the fact that they have to cover the cost of higher education themselves. It is simply too expensive for indigenous families. Therefore, without the support of the national state or the regional government, they do not succeed. As a result, they end up in low-paid, part time, casual and unskilled employment where there is already much competition for work.

Paying for tuition fees and other expenses may be difficult. After completing the education at the boarding school, it is usually possible to get a scholarship. However, there is much competition here too. Parents, as a rule, do not have the opportunity to help their children by paying for further education. Wealthier families are happy to help their children and send them to study in different educational institutions. Therefore, the "Wonderful tent" has now begun to resemble the historic "Red tent" of Soviet times. There is no freedom of choice. In a way, the situation is very much like it was when the boarding school system was first established. Financial support has become the main criterion for success. It determines who gets a choice and who doesn't. The transfer of indigenous knowledge by Nenets mothers in the Tundra continues, however. But time constraints on this process are still significant.

This subject need further study. We need to understand the time constraints on the learning process and find out more about the shortage of women on the Tundra. We should have in mind the implementation of IK in “nomadic schools” and other local and state initiatives. In the past, the Nenets have not valued or recognized their strengths, their unique knowledge of the Tundra and the environment. This dissertation will hopefully be a source for understanding of some of the challenges that the Nenets face in today’s Russia.

Thus, as I have pointed out in the introduction, there are at present, two conflicting interests, that of the state and that of the nomadic populations. A young Nenets person should ideally be educated to function well within the two options and be able to make a fair choice of which, or both, options they wish to pursue in life. However, at present they are faced with two incompatible options. The first is to graduate from school, usually by staying away from the Tundra and their parents and thus lose a substantial part of their IK education. The second is to drop out from their school and learn indigenous knowledge, essential in terms of survival in a nomadic arctic environment and become successful on the Tundra.

The school in which Nenets children are educated still can and should become the bridge that connects these contradictions and mitigates their negative consequences. But today the real situation is usually to the contrary. The institutionalised state boarding school system has negatively influenced the way that the Nenets conceptualize their own culture and society and critically undermined, if not, irreversibly harmed the inter-generational transmission of nomadic Nenets indigenous knowledge.

Appendix

Paper Five: An anthropological analysis of TK (Translation)

Translation of the Paper Four (From Russian to English)

A comparative anthropological analysis of traditional knowledge based on the example of Western (European) and Eastern (Siberian) Nenets¹³.

Traditional indigenous knowledge (hereinafter referred to as “T/IK”) is known in science under various names. In this article the term T/IK is used for designations of the complexity of knowledge, which in anthropology is often called TEK (Traditional ecological knowledge) or AK (autochthonous knowledge). The title T/IK is controversial due to the etymology of the words "traditional" and "indigenous". Within the framework of this article there is no place for discussions of this particular subject, therefore the UN-definition is used. General director of the Educational, Scientific and Cultural Organization of the United Nations, Mr. Federico Mayor, defines traditional knowledge as follows: “Human societies across the globe have developed rich sets of experiences and explanations relating to the environments they live in. These ‘other knowledge systems’ are today often referred to as traditional ecological knowledge or indigenous or local knowledge. They encompass the sophisticated arrays of information, understandings and interpretations that guide human societies around the globe in their innumerable interactions with the natural milieu: in agriculture and animal husbandry; hunting, fishing and gathering; struggles against disease and injury; naming and explanation of natural phenomena; and strategies to cope with fluctuating environments.” (Nakashima et al. 2000:12)¹⁴.

The priority of this new millennium is to preserve biodiversity, including indigenous ethnic cultures, which under the influence of globalization, industrial development and climate changes must adapt and develop their own coping strategies. Adaptation is not always conducive to the preservation of ethnic cultures, sometimes they disappear due to assimilation. The educational systems on which native languages and the cultures of indigenous people rely are usually considered outdated, irrelevant, and do not meet modern requirements.

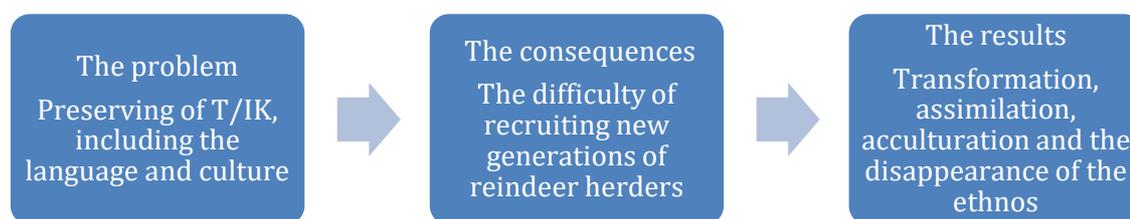
In science the question of a paradigm shift sometimes arises. The T/IK of the nomads then needs to be recognized and considered as complex, flexible, with a high level of adaptation and mobility within its systems. This knowledge is accumulated in reindeer herding by many generations of nomads, it is passed on from generation to generation, mostly verbally or in

¹³ (332 in original) Funding - HUMANOR project (2015-2018), Social-Ecological Transformations: Human-Animal Relations Under Climate Change in Northern Eurasia. Fram: Research Centre for Climate and the Environment.

¹⁴ (333 in original): Adapted translation, source: http://www.nativescience.org/html/traditional_knowledge.html

practice, through observation and repetition. Family and family values, including children's play, are an important factor in the formation of personality, in choosing a way of life (nomadic or sedentary), and in the intergenerational transmission of T/IK among the Nenets. The question then arises, within the context of the current educational systems provided for the Nenets; how will their T/IK manage to survive and continue? And which elements of Nenets T/IK are at most risk of extinction?

According to the compulsory requirements of the state's systems of school education, the children of Nenets nomadic reindeer herding families are forced to leave their families and Nomadic environment, to live in boarding schools for up to nine months a year. The problem is thus preserving traditional knowledge, including the native language and ethnic culture. The issue affects the recruitment of new generations of reindeer herders, and ultimately the preservation of their indigenous, nomadic, Nenets culture. As reindeer husbandry is the core component of nomadic Nenets culture, maintaining it, is critical to preserving a Nenets "ethnos".



Based on this problem, local indigenous representatives both in the Nenets autonomous area (NAO) as well as the Yamal-Nenets autonomous area (YaNAO) raise questions about the systematic changes and introduction on a legislative level of the concept of a "nomadic schools' system". So far, on the Russian Federal state level, there are no systematized, scientifically based educational institutions of this type. However, there are separate, regionally developed projects, for instance, based on the "Law about nomadic schools in the Republic of Sakha (Yakutia)", accepted in 2008¹⁵.

Currently, there is no systematic research on the elements of "Nomadic Education" as a concept, neither are there updated methodological works on how to teach it. It is accepted that the Nenets are not at risk in terms of the preservation of language and culture, unlike some other indigenous peoples. Therefore, it is not seen as a necessary priority to educate nomadic Nenets children T/IK. On the contrary, the policy priorities are to indoctrinate the cultural and scientific values and knowledge which will be important to them in a westernized, urban, non-nomadic society. Within such a "modern" and "scientific" educational policy, the essential Nenets T/IK, necessary for their nomadic existence, will not be supported and will eventually disappear completely from what little may remain of Nenets culture.

Already several generations of nomads have received the basics of school education, living in state boarding schools. However, the nomadic Nenets way of life continues. Today, these nomadic reindeer herders are considered by researchers as the most successful in the

¹⁵ (334 in original) Read more on the site: <http://iltumen.com/node/13507> (visited 10/30/17). Also, in (Zhirkova 2006).

world, in terms of the number of reindeer managed and the number of people employed in this unique economy of nomadic reindeer husbandry (Dallmann et al. 2012; Golovnev 2009).”) Therefore, in this context, it is easy to conclude that state policies for providing boarding school education based on a “modern” curriculum for nomadic Nenets children is not affecting or undermining an indigenous Nenets ethnos. To examine if this assumption was based in reality, I drafted a questionnaire for Nenets pupils in a state boarding school and conducted a number of in-depth interviews with Nenets adults. The main aim of this article is to reveal the T/IK, which is excluded from the system of education. For instance, there are ethno-preserving components of knowledge which have been accumulated by generations within the reindeer husbandry. The task of the article is to identify and structure this knowledge, as well as to determine risks and losses of some of the components.

The traditional knowledge of the Nenets (some components).

The table below describes the specific features of the Nenets language. For the sake of simplicity, I have not mentioned every named reindeer (the reindeer are much more than an animal for the Nenets (my clarification, for the English version of the article). It is possible to find an equivalent in scientific knowledge for each of the components of the T/IK. For instance, the knowledge of pastures includes the knowledge of the flora and reproduction of plants, knowledge of reindeer includes the data collected and analysed by researchers within the modern sciences of anatomy and physiology. The knowledge of pre, natal and postpartum development of children includes basics of hygiene, the educational and upbringing norms and prohibitions are based on the essentials of basics of pedagogy and psychology.

Individual knowledge (level of knowledge and competence of an individual reindeer herder)	Collective knowledge (joint level)
Natural characteristics of reindeer as an animal, structure, nutrition, based on the functioning of the body	Diseases and characteristics of their occurrence inherent in different types and sex, some extreme cases of epizootic, prevention of loss
Acquired traits from man (ear marks), individual owners and all neighbouring herds	Ideally, the knowledge and skills to identify the reindeer belonging to one person from all other herds in the district, the basics of reindeer husbandry as economic activity.
Pastures (<i>Vy</i> - the tundra, <i>Ja</i> - the land) of different types and types, food supply and planning for short-term grazing, considering possible losses in difficult areas, for example, during calving, or due to difficult weather conditions	Planning of long-term grazing, both by seasons and by plots, use of land by different categories of pastures, knowledge of certain areas of risk and consideration for time planning. Valuable and especially valuable fodder, pasture use
Knowledge of the route of movements, with food sources for people, such as fish lakes and rivers, bird hunting sites, berry picking slopes	Knowledge of secondary, spare power sources, which are distant from the route of their own community

Knowledge of the history of the clan (Yerkar), folklore, riddles, educational and training norms and prohibitions, taboos, transmitted orally, in the form of songs, riddles, proverbs and sayings, traditional handicraft	The history of a people and its origin, folklore, taboos, etymology of words, the basis of reindeer herding and husbandry as a way of life, motherhood and fatherhood concepts of the Nenets, the basis of education
Family and clan relations, relations between individual clans (Yerkar), male and female prohibitions, prohibitions of an individual family and customs	Knowledge of the rituals of childbirth, transitional periods, processes, religious beliefs and rituals, for example, funeral rites, philosophical foundations of being

In order to identify the degrees of T/IK possession by the adolescence from nomadic families, I completed a questionnaire-based survey among the 9th and 11th classes. The age of the respondents varied, i.e. at 9th grades there are 17-year old, at the same time in 11's some are only sixteen years old. The methodology behind the questionnaire was designed to reveal the family composition, possession of the native language and traditional knowledge and survival skills in nomadic conditions. The questionnaire also addressed different issues, including the choice of a way of life (nomadic or transition on sedentary). Also, the choice of a future profession; who taught or transferred T/IK to young Nenets, if at all.

Briefly summing up, one can argue that despite the influence of the state's educational process, which disrupts the child's year, and the significant influence of life in a settlement, the children of reindeer herders are in possession of the necessary knowledge of T/IK. However, there is a significant difference between the possession of T/IK by gender: the girls and boys of the NAO (Nenets autonomous area) and the YaNAO (Yamal-Nenets autonomous area). Youth of the YaNAO possess all the components of T/IK, including such complex components as, for example, the tanning of hides, knowledge of sacred places. 81.3 % confirmed that they are fluent in their native (the Nenets) language. However, in NAO in 2017, not even one native speaker was registered at the largest boarding school (renamed in 2012 to "Neneckâ srednâ škola imeni A.P. Pyrerki" [State Educational Institution "Nenets Secondary boarding school named after A.P. Pyrerka"]). In the whole NAO, materials of the written survey show that out of 7 persons, four indicated that they are fluent in the native language; 2 – that they understand but not speak it. One person stated that s/he neither spoke nor understood the language. According to in-depth-interviews with teachers of the native language, the situation is rather difficult and the use of the Nenets language by pupils is in decline. Quote: "... If we remember the first years, at that time every child I met, spoke the Nenets language. When I started working in 1990, then in 5th and 9th degrees every kid from Krasnoje spoke Nenets. The children from Kolguev island almost all spoke it. As well as all children from Indiga and the Kanin and Timan. Then there were pupils, who spoke both Komi and Nenets" (Interview 9).

Thus, for 27 years, from 1990 to 2017, native speakers almost completely disappeared, except for a few children, from isolated communities, as "Jamb-to". The situation has changed drastically in the last 20 years and can be described as critical, the question of recruitment and retention in Nenets reindeer husbandry in the western areas is now urgent. The situation on

Yamal, according to reindeer herders, is different. The T/IK possession is on ten points of ten. Quote: *we have wandered here for 2000 years and we will be here for another thousand*¹⁶ (Fieldwork materials, 2015).

Gender Differences.

There is also a big difference in possession of T/IK between girls and boys. Because the latter are required to know and learn the knowledge of the landscape and environmental protection "on the spot" such a long stay in a village boarding school fragments this knowledge. Girls, because of the division of labour, manage to obtain the whole complex of knowledge, regardless of the season, i.e. they manage to obtain the reserve of knowledge necessary for life in the Tundra, during short three summer months.

To shortly summarize my conclusions. There is no doubt that the current state education system, based on boarding schools, does undermine and obstruct the acquisition of T/IK by succeeding generations of nomadic Nenets. The question remains, how and to what degree does this affect indigenous, nomadic, Nenets life and culture? At present, there is no definitive answer to that question. However, the situation would appear critical. Experienced reindeer herders are aware of the importance of transferring T/IK to future generations, but they also say that literacy and formal education are crucial for preserving traditional Nenets nomadic lifestyles and culture. The family, like the schools, play different roles in the lives of their students. The school provides the knowledge necessary for functioning at a settlement. In contrast, most of the T/IK components are impossible to acquire without family support in a nomadic environment. For example, bilingualism is only possible within the family (Fieldwork 2017), both according to the opinion of reindeer herders and the settled Nenets (Interview 6). Quote: "Children should be younger than three years old to become bilingual", according to the Nenets reindeer herders (Fieldwork, 2015). Quote: The [educational] system manages completely deprives identity, language and culture during only two years (Interview 25).

The family's role in the transfer of T/IK, is emphasized by most of the surveyed adult women (average age 60 years old). Since there is no space to provide a detailed description of the answers of all the adolescents, the main conclusion is based on the analytical review of the questionnaire results. The youth of YaNAO, replied that without staying in the Tundra, one cannot receive neither the skills nor specific knowledge of reindeer herding. So far, this segment still possesses fully the knowledge that was at the individual level discussed above. Therefore, the fears of experienced reindeer herders of the older generation in this regard are in vain, except for intangible components of T/IK, such as the basics of a worldview and knowledge of folklore.

Preliminary results of the study and conclusion.

Summarizing, we note that among the adolescents of YaNAO, despite a high degree of possession of T/IK, only 3 % of boarding school graduates are planning to pursue a life of employment in reindeer herding. In NAO, only one person answered positively on planning for

¹⁶ (337 in original) The survey was not conducted in the schools of the Forest Nenets, since the purpose of this work is to study the Tundra Nenets in different regions.

a life in the Tundra. It turns out that despite the large difference in the degree of T/IK possession, the survey showed small fluctuations at choosing a way of life. This affects the younger generations of both areas, the NAO and the YaNAO. It's time to accept the fact that the system of education is built to teach Nenets youth to manage in the conditions of life and labour in a settlement, not in a life of nomadic reindeer husbandry. The future of reindeer husbandry as a way of life depends partly on what actions will be taken by the authorities in order to include T/IK components in an obligatory education program. Recruitment directly to reindeer husbandry is not dependent on the level of mastering and possessing T/IK, but on a combination of T/IK and scientific/formal knowledge. Recognizing the critical role of the traditional nomadic Nenets family in this is crucial. Since only within the family the foundations of cultural values can be learnt. These values then will nourish the whole person through their life, and it is therefore important to support the families of reindeer herders. There is a need for projects aimed at establishing and developing nomadic educational institutions and programs within the tertiary education system. At school you can teach and learn how to use pencils, read and write, but not how to handle a lasso, learn the skills of orientation on the snow, and without practice, it is never going to be possible.

References

Translation of the Paper Five (from Norwegian to English)¹⁷

**Chapter 10: "At the end of the world:
indigenous knowledge in a boarding school system"¹⁸**

by Zoia Vylka Ravna

The Nenets reindeer herders constantly migrate with their animals throughout the year. This is a way of life that can only be taught by living on the Tundra. Knowledge about reindeer husbandry is transferred from the elder generation to the young. Knowledge is transferred through practical teaching, storytelling traditions and by participating in the running of the family business and the management of the herds. The children need to combine the learning of traditional knowledge with a life at a boarding school. According to current Russian legislation¹⁹ the children have both a right and an obligation to attend school. To meet this requirement the children, need to live away from home because the state does not offer other educational opportunities than boarding schools for the nomad peoples.

In this article I will compare the two types of knowledge: traditional Nenets knowledge about life as a reindeer nomad and the knowledge they acquire through the Russian school system. I will also discuss the consequences of a meeting or a clash between these two types of knowledge, and how it affects the Nenets. The study is based on ethnographic material from what is the worlds largest reindeer industry, both in terms of the number of reindeer and in terms of the number of families that rely on husbandry. In Russia, this area is known as the Yamal-Nenets autonomous area, and the field work was conducted on the Yamal peninsula (see map).

The goal of the fieldwork was to follow the children and their families for a longer period on the Tundra. In particular, I collected data that could shed light on the use of traditional knowledge in reindeer husbandry. Since the children only live in the Tundra with their families from May to September while they are moving from the southern parts of the Yamal peninsula to the northern areas, I chose to join the families during the summer of 2015. I followed reindeer workers from Brigade No. 5. A brigade is collection of reindeer workers/ families, their herds and a leader. Brigade No. 5 is one of 13 brigades at MOP «Yar-Salinskoye». MOP is an acronym for *The Municipal Reindeer Cooperative*. All the youth from this brigade also participated in a later survey, in December 2015, when I visited the boarding school in Yar-Sale. A

¹⁷ The text is translated from Norwegian to English by Michael Henrik Wynn, Company "Michael Wynn Oversettelse".

¹⁸ (1 in original) Adolescents who responded to the questionnaires are quoted, but because of anonymity requirements they have not been numbered. They are not mentioned by their original names. Ethical guidelines: The Guidelines for Research Ethics in the Social Sciences, Law and the Humanities. (Kalleberg 2006)

¹⁹ (2 in original) The federal Law «On education in Russia» was updated 29.12.2012, N 273-FZ. You can find the whole text here: http://www.consultant.ru/document/cons_doc_LAW_140174/ (Visited 15.12.2016).

questionnaire²⁰ was developed to examine to what extent the target group possessed indigenous knowledge. The target groups were children and adolescents from the Yamal-Nenets autonomous area, and for comparison I also visited the Nenets autonomous area.

Brief descriptions of fieldwork, location and methodology

Period	Area/place	Respondent/ group	Method
June–July, 2015	Yamal peninsula (the nomadic Tundra Nenets)	Reindeer workers, focusing on women	Participatory observation interview
December, 2015	The town Yar-Sale /Boarding school (nomadic Tundra Nenets)	Children and adolescents, teachers and school staff	Questionnaires/survey Interview
August, 2016	The town Tarko-Sale/ Obtjsina «Kanevskaja» (the forest Nenets and the sedentary population)	Teachers, Nenets women, in the reindeer industry and in leading positions in other professions	Participatory observation interview
September, 2017	The town Nar'ân-Mar, Krasnoje village, boarding school (nomadic Tundra Nenets, the sedentary population)	Teachers, Nenets women, in the reindeer industry and in leading positions in other professions	Participatory observation interview

Theoretical background: why remove the children from their families?

Many of the worlds indigenous peoples are educated by means of a boarding school system in which the children are separated from their parents throughout the school year. This has been the case in the US, Canada, Australia and Norway. There are many similarities between the educational systems in these countries. One reoccurring political hallmark is the paternalistic nature of the system: the majority population decides over the living conditions and the education of the minorities. The educational system is used to create a society in which there are few differences between groups, or even the opposite, to educate the children to lower paid jobs. This was the case in the Soviet Union too, a country which tried to create a classless society. Their educational system operated in much the same way as similar systems in the US, Canada and Norway. The state tried to forcibly introduce the language and the culture of the majority population to the indigenous population, the goal was assimilation. In Norway, the

²⁰ (3 in original) I would especially like to thank anthropologist Dr. Olga Murashko, Dr. Phil. in history and ethnography who has helped me formulate my questionnaire. She studies the whole of the Russian arctic, from the Nenets autonomous area in the west to Kamtsjatka, Tsjukotka and Sakhalin in the east. She is the chief editor of the magazine «The World of Indigenous Peoples».

process was known as "Norwegianization", in Russia "Russification" – *obrusenije* (Âkobij 1900) or *russifikatsija*. In Canada and the US, the policies were in the 19th century known as "Americanization" (Huerta 2009). The policies involved aggressive assimilation and discrimination. The policies were conducted through the educational system with strong support from the church and the missionary societies. The first Nenets schoolbooks were written by Russian missionaries in the days of Tzar rule (Bazanov and Kazanskij 1939). Missionary work then resulted in the establishment of boarding schools. The goal was to indoctrinate the nomad children as early as possible (Bartenev 1896).

Children in Norway, Russia, the United States and Canada had to learn the language and the values of the majority populations. At the time, this transference of values was seen as an act of charity and often the argument was that the indigenous populations lacked a civilized culture. The different indigenous populations were often referred to as "primitive" in a derogatory sense (Minde 2003, 2008).²¹ In the US children from various indigenous cultures were seen to lack the mental faculties of the white European settlers. They therefore needed to be assimilated (Huerta 2009:20). In Norway parts of the Sami population were educated through the boarding school system for much of the 1900s.²² Thousands of Sami children lost their mother tongues and their identity because of the way the educational system promoted a process of "Norwegianization". In the United States boarding schools educated and assimilated indigenous children from 1860 to 1978.²³ A 1969 US Senate Report, «Indian Education: National Tragedy – A National Challenge», highlighted the negative consequences of assimilation and land loss (Huerta 2009:21), and as a result of the «Indian Child Welfare Act» (1978)²⁴, the boarding schools were closed. The argument was that "hundreds of native Americans have not survived the boarding schools due to illness" (Child 1998:66).²⁵ Many generations of indigenous people have suffered and still suffer as a result of these educational policies. This is reflected in the complexity of emotion displayed by many former boarding school children. In Canada there were a series of events organized by «Truth and Reconciliation Commission of Canada», for instance in Saskatchewan in 2012.²⁶ Survivors of the boarding school system took to the stage and recounted their experiences. Many cried and broke down during these "hearings" (Pers. files, 2012, June 21–24, Saskatoon, Prairieland Park).

The Nenets: the largest of the indigenous populations of arctic Russia

As of 2010, there were 44 640 Nenets (Rosstat 2018). They are the largest indigenous group of the 40 so-called "Small population indigenous groups of arctic Russia, Siberia and the far East"

²¹ (4 in original) See also the website <http://skuvla.info/skolehist/minde-n.htm>, last retrieved 1.3.2017.

²² (5 in original) <http://skuvla.info/skolehist/trygve-n.htm>. Retrieved 1.3.2017.

²³ (6 in original) The year 1978 was the beginning of the dismantling of the boarding school system in the United States. This is a long process. Whether it also marks the end of assimilation as a policy as well, is beyond the scope of the present article.

²⁴ (7 in original) Read more about the law «Indian Child Welfare Act», at the website of the organization «National Indian Child Welfare Association», http://www.nicwa.org/Indian_Child_Welfare_Act/ (retrieved 12.5.2017).

²⁵ (8 in original) All translations to and from Russian, Norwegian and English are mine.

²⁶ (9 in original) More information about the commission's work, including reports, can be found here: <http://nctr.ca/reports.php>

(Štyrov 2012), according to criteria developed by the Russian federation.²⁷ Of the total population, 35 095 Nenets live in rural areas. Only every fourth Nenets live in a city or town. The 2010 census also provides data on language proficiency. 21 926 individuals said they had the Nenets language as their mother tongue. This is approximately 50% of the population. Most Nenets are nomads and live in the Tundra throughout the year. They migrate north with their herds of reindeer during the spring and summer, and back again in autumn and winter.

They are constantly on the move all year, except for brief stops in order to secure their supply of food and equipment. This constant movement is the very foundation of their way of life. The most important reason for moving is the reindeer and their search for new grazing areas in different seasons. In other words, humans have evolved this way of life in order to adapt to the needs of their animals.

Figure 1: Map.

The 46 640 Nenets live in an area of approximately 1 million square kilometres. The mainland of the Nenets areas borders the Arctic Ocean and stretch from the Barents Sea in the west to the Laptev Sea in the East. The area is geographically divided into Tundra or "land" (Vy and Ja in Nenets), territories often situated between two rivers or bays (also known as *guba* in Russian).

Life on the Tundra: the Nenets work year

A work year for the Yamal-Nenets reindeer families can be divided into two. The first part is shorter and lasts through summer. Then the children move in with their families on the Yamal Peninsula. The Nenets call themselves *Ty nju*, or the children of the reindeer in Nenets. The families migrate between 1000 and 1400 km each year, along with their herds, dwellings (tents), supplies and equipment. The second part of the Nenets work year is the childrens school year. The winter pastures are situated on the south side of the mighty river Ob, where there is plenty of lichen for the animals and ample supply of firewood for heating the tents. This is the longest period of the year. During this period the Tundra children are at boarding schools and only occasionally see their families when their parents make a stop not far from the town of Yar-Sale (Nenets: Sandy Cape) on their way to and from the winter pastures.

The cycle of the year is not much different for Brigade No. 5 than it is for other brigades. In summer the brigade moves almost every day, until they reach the North west side of the Yamal peninsula and the Kara sea. The reindeer get relief from mosquitoes and insects on the Yamal peninsula and may graze in peace. They have access to lush pastures with green grass, leaves and mushrooms at the end of summer. The whole peninsula has a rich supply of fish, both in the rivers and in the numerous lakes. Fish is the most important source of food during the summer. It is eaten cooked, raw or fried over an open flame. The reindeer families use fishing nets which they place at the end of the large lakes along their migratory routes. One or two experienced men follow the adolescents to fish, usually just after the brigades make camp.

Picture: Freshwater fish

²⁷ (10 in original) This is an official designation for all indigenous peoples with a population below 50 000, based on the following document: Joint list of indigenous peoples in Russia (approved by the federal government March 24, 2000 N 255; last updated August 25. 2015).

While the women and the older children erect lavvos or tents «*Mja*»²⁸ (summer tents are known as *Tany Mja*), gather firewood and fetch water for drinking, the men will have returned with fresh fish. The fish are often shared equally among every member of the brigade. The women clean and cut the haul and prepare the meal, which may consist of many different types of fish. Reindeer meat is only very rarely consumed at this time of year. Only at special occasions does one slaughter reindeer for food during summer.

The tent is a cone shaped lavvo, approximately 6 to 8 meters in diameter and constructed round 50 to 60 polls. The tent polls are often approximately 5-6 meters long and made of birch. In the past, the summer tents were covered with bark from the birch trees, but these days they use wool for the inner layers and waterproof materials for the outer. The winter tents have not changed much, however. They still use only reindeer hides, approximately 60-62 for one winter tent consisting of two parts, left and right, known as *Jeja*.

Summer is also the time for collecting eggs, hunting geese, ducks and other types of birds. Late in the summer the cloudbberries, crowberries and blueberries ripen, and at the very end of August, the lingonberries are ready for picking. August, *Pilju irij* (the month for the reindeer botfly *Hypoderma tarandi*), is also the month for slaughtering this years calves to provide skin for new clothes and shoes. The men select calves, slaughter them and prepare the meat, while women dry the skins and ready them for further preparation. At this time, the girls will learn the fundamentals of reindeer skin preparation. They will also learn about *Pena* - reindeer feet which are used for sewing shoes and bags. The girls will help dry the hides, sew them roughly together and then hang them to dry in the wind outside, then inside the tent. The boys will learn how to fix fishing - and hunting tools, to cast *Tynzja* (lasso), they will learn about the slaughtering and sharing of meat, general information about the reindeer and about fishing sites. But most important of all: they will learn about the summer pastures, about the colours and appearance of the animals, about the location and condition of the grazing areas and the nutritional value of plants there. They will at least acquire the knowledge they need as herders about how long the reindeer can graze at the different types of pastures.

Training takes place every day, through common activities such as moving, earmarking the calves or selecting transport animals for light weight passengers or heavy freight carrying sledges. The boys are trained by experienced men and herders, and in this way, they acquire knowledge about physiology, biology, geography, nutrition, physics and mathematics on the Tundra. The most important migratory routes are taught by elder men and women. The boys learn the basics of managing the running of the camp, while the girls learn about cooking and preparing meals, skin preparation and sewing. They learn about food and ensuring the welfare of the brigade. The girls fetch wood, pick berries, find lichen for the childrens cradles etc. In addition, the elders normally spend a lot of time telling the youth about traditions, particular signs and omens in order to familiarize them with the landscape and stories related to particular places or sites. The women spend many a night sorting, organizing, packing, storing and sewing new materials, and preparing skins ahead of the move to winter pastures. The men see to the

²⁸ (11 in original) *Tsjum* (derived from *tsjom* in the udmurt- or komi-languages) is word for a cone-shaped tent, which gradually was included in Russian to signify all tents of a similar style. The Nenets have one common word for tents of this type, "Mja". A summer tent is called "Tanu Mja", a winter tent is called "Syrey Mja", and the tent of the dead "Mjaro Mja".

winter equipment, such as new lassos, repairing sledges, fixing the harness for the transport and draft animals.

In September, *Veba 'ha amva irij* (the Month of Leaves) also known as *Seljbjja irij* (the Month of Hardening Reindeer Antlers), Brigade No. 5 will migrate south towards the winter pastures, which is located in the forested areas. October, *Khor 'irij* (the Month of the Reindeer Oxen), and November or *Njudja Pevdej* (the Month of the Small Darkness), is the time for large scale slaughtering of animals for sale. Most Nenets want to sell meat at this time of year because this is when the quality peaks and the reindeer are fat. December, or *Darka Pevdej* (the Month of the Great Darkness), is the time to shop provisions for the winter and prepare the migrations to the winter pastures.

In January, *Limbja Irij* (the Month of the Eagle), the brigade will move to the southern side of the river Ob. The winter pastures are located between the rivers *Jarudey* and *Eid 'Jaha*, a forested area on the Tundra. Here time is spent cutting trees, collecting, preparing and drying wood that may be used as poles for the tents, sledges and other purposes. February is also known as *Jara Irij* (the Month of Winter Solstice) and is a rather relaxed period for both reindeer and nomads. The first half of March has many names. It is the Month of Silent Snow and is well suited for hunting because the soft snow is silent under your feet. This is followed by the Month of Clear Skies, or the second half of March. The worst of winter has now passed, and at the end of March which the reindeer families also call the Month of New Antlers (or the Month of False Calving) it is necessary to count the animals. In addition to taking stock, the herders also have the opportunity to vaccinate the animals against warble flies and plan the structure of the herd.

According to tradition, the ideal herd should have a specific number of transport animals, oxen, female reindeer and calves. There are no studies on the composition of an ideal herd. But, according to my interviews in Yamal²⁹, a herd should include the following: A family of ten should have eight or more sledges for freighting tents, clothes, equipment and food. Every sledge is pulled by two oxen in winter and sometimes three in summer. Three or five oxen are used to pull a lightweight sledge with passengers. The children often have their own sledges from the age of five or six. When the older children return from the boarding schools, they need transport animals of their own. In total, a family of ten will use approximately 80 animals to freight their supplies. Some believe that 100-120 animals are sufficient, in addition you need 20 oxen to relieve these. (Interview, 1,2, Yamal). The herd should include 120 female reindeer to allow for reproduction. One ox may serve 16-20 females. Some researchers believe that the herd should consist of 60% females, and 2% oxen for optimal reproduction, see further notes (Syrovatskij 2000:64). From my interviews with reindeer workers I have deduced that you need 10-12 oxen for 120 female reindeer. This means that a family of ten needs 400-600 reindeer in total.

Working on herd composition is a long and time-consuming process. Most reindeer workers know exactly what they need, but normally it is difficult to plan "an ideal" structure because of uncertainties concerning overgrazed pastures on the Yamal peninsula (the herd needs to be reduced in size). Recent research has shown that the ever-increasing oil - and gas industry has confiscated much many important pastures formerly used by the reindeer families (Golovnev

²⁹ (12 in original) Except for statistics from reindeer husbandry as a branch of agriculture, based on long term empirical work in the Arctic by professionals, veterinary technicians or veterinaries. For more, see (Mukhachev et al. 2010; Syrovatskij 2000).

2014; Golovnev et al. 2014). Data collected at Yamal show that fewer and fewer grazing areas are available and that capacity soon has reached its limits.

Brigade No. 5 usually take stock of their herds at a *Njaby Si'vy* (a meadow surrounded by forest). Immediately after the count they start the intensive migration northward. Sometimes the brigades will move as much as 70 kilometres a day. They may be in a hurry because of the melting snow or because the ice on the many lakes along the migratory route starts to thaw. May is known as the Month of Ordinary Calving (as opposed to April, the Month of False Calving) and/ or the Month of Singing Water. It is the most hectic month for the reindeer workers. Calves are born every day, and it is necessary for the herders to pay close attention to each and every one of the new-borns. In June (the Month of Nesting Birds), also known as the Month of Floods, the last calves of the year are born. Spring fishing will now begin in full. The children have now returned to the Tundra, and they will gradually become indigenous children again and not just "boarding school children", as they are known upon their return. This is an important time for the children because now they are looking forward to moving back with their loved ones, at the same time as they will learn much about their own traditions through observation, stories and play. They will not learn any of this in boarding schools. There they will acquire a completely different type of knowledge, assisted by computers and pedagogical teaching. The elder herders will give the young knowledge of and insight into the ways in which major climate changes affect the reindeer industry. Some elders say the dew has disappeared from the grazing areas (Interview, 3, Yamal) and will explain what it means for the growth of reindeer moss, which are rootless plants that get all their nutrition from the air. Now, there are less lichen and the animals need to find other food sources. This is the kind of knowledge that the young get through stories and by being on the Tundra and actually seeing for themselves what is going on.

So, what do the young learn during a year in the Tundra? The answer is indigenous knowledge and skills relating to reindeer work and life on the Tundra (Interview, 1-5, 2015). They learn what is important to succeed as reindeer owners:

- ✓ Knowledge about landscape.
- ✓ Knowledge about the appearance of not only their own animals, but that of their neighbours.
- ✓ Knowledge of reindeer earmarks not only for their own animals, but that of their neighbours.
- ✓ Knowledge of fishing grounds, hunting territory, plants berries etc.
- ✓ Oral stories of many different types.
- ✓ Knowledge about rituals, ceremonies, taboos etc.
- ✓ Knowledge about skin preparation, making cloths, preparation of meals, management of the camp/tent.

Children and adolescents acquire knowledge from many different channels throughout the Tundra year. They learn to use their senses and build a form of "database" of knowledge which they may use when needed, for instance nine months later, in summer, when new weeks on the Tundra await.

Then they will again need to recognize earmarks, navigate the landscape, pick edible plants and erect their tents.

Picture: A normal MI-8 is referred to as the school helicopter

Life at the boarding schools

The students at the boarding school where I conducted my study are usually children of nomads.³⁰ 14 § 2 in the Russian federal educational act³¹ states that "In Russia the right to education is guaranteed and independent of sex, race, nationality, language, descent, property, social and official status, place of residence, attitudes towards religion, faith, membership in organizations or other factors" [my translation]. According to this law, the children of Nenets nomad families also have the right to education. In addition to this law, the right to learn your own language is encoded in federal Russian legislation concerning languages and in "The guarantees for indigenous rights in Russia" (Sjugnej 2008:17-18). In my interview with the school management at Yamal they told me that all children of school age will receive an education. The process for registering students is managed by local authorities and is based on many decades of experience. Because almost all Tundra women today give birth in hospitals, the children are registered. In this way the local authorities are able to monitor all school age children on the Tundra (Interview, 21, Yar-Sale, 2016).

Every year at the end of August when schools start the children are brought in helicopters from the Tundra. Colloquially they are known as "school helicopters". The children are received by the boarding school staff when they arrive. Several adults watch the students carefully these first days. This is the hardest time for the youngest children. Many cry themselves to sleep every night the first weeks and months (Interview, 14, Yamal, 2015). The feeling of being out of place affects not only the attitude of the children, but also their ability to learn. Some learn more slowly, or perhaps not all that is required of them (Interview, 21,22, Yamal, 2015). Pedagogists that I have interviewed confirm that many of the children have language difficulties:

Younger children cannot describe their feelings in words, and they cannot provide the teachers with information. Most become frustrated when they are alone and have to master everything on their own. They struggle with everything, tying their shoelaces, sleeping in beds, sitting on chairs for extended periods of time and finally learning to communicate in a foreign language.

My data from Yamal (Fieldwork, 2015, interview, 2016) show that hardly any children below school age were able to speak Russian. One child, I will refer to him as "Leo", was taught Russian in a so-called nomad kindergarten.³² This was an experiment conducted by two Russian scientists who lived with the boys family for a year in order to study them, at the same time as

³⁰ (13 in original) There are many different types of boarding schools and educational institutions in Russia, more at: <http://soc-work.ru/article/714> (retrieved 15.5.2017), and here is the text «Letter from the Ministry of Education», from 17.02.97 N 150 / 14-12 about «State and municipal educational institutions. Types and forms of state and municipal educational institutions» <http://zakonbase.ru/content/part/130724> (retrieved 15.5.2017).

³¹ (14 in original) The Federal Act «On Education in Russia» was updated 29.12.2012, N 273-FZ. You can find the entire text here: http://www.consultant.ru/document/cons_doc_LAW_140174/ (visited 15.12.2016).

³² (15 in original) Read more about the "experiment" at: <http://www.yamalexpedition.ru>

they tutored the children. The goal was to make sure that Leo avoided losing a whole year to Russian education when he started school, and to make sure that he was able to be admitted directly into the first grade. When I asked if the experiment was successful, one of the teachers replied:

...it might still have been better for him to attend class zero (the preparatory class) with other children because the children at the boarding school learn other skills as well, new knowledge and new routines (Interview, 20, Yar-Sale, 2015).

Another teacher told me they had to spend many hours preparing the boy for school before they could start tutoring him. There was so much else that he had to learn first (Interview, 20, Yar-Sale, 2015).

"The school helicopter" is in many ways a door that opens into another world: the village, the school, computers and Russian toys.

The children no longer hide when they hear the helicopter arriving, the way they used to in the past. Instead, they pack their tiny sacks, the girls fix their hair, make themselves look good and dress up in Russian clothes. The boys don't pay much attention to clothes and don't dress up [in nice clothes]. (Interview 8, Tarko-Sale, 2015).

The families in which only a mother and father remain often feel lonely. It can be especially hard on the mothers because they don't have much social contact with the outside world. August, when the children are fetched by the school helicopter, is the busiest month for Nenets women. It is the time for picking berries, when the Tundra changes from a monotonous green summer colour to a hundred shades of red, yellow and orange.

I remember mum, standing in the door of the tsjum-tent, on a tray of wood that we use as a sill, watching us as we boarded the helicopter. She did not cry. Many years later, she told us what she felt when the tsjum suddenly became large and empty. No children playing, or voices, or sound of rapid feet outside. The rest of August and September passed slowly. Mother lacked the energy for action. She just sat there, needle and tray in hand, not doing a thing. (Interview, 11, Tarko-Sale, 2015).

The first time at the boarding school was difficult for Leo, as it was for all the Nenets children. The children have to change their daily routines. For instance, they have to follow scheduled time. They have to adapt to an unfamiliar set of rules: get up and go to bed at designated times. This is very different from life on the Tundra. There they sometimes moved on in the middle of the night because of unfavourable weather.

Migration is not only part of life for the reindeer herders; it is the rhythm of life itself (Interview, 1-5, Yamal, 2015). It also includes many cherished moments when the family was united, either to perform their chores or to read a book. The young are with their parents all the time, and they are only separated for brief moments when they go to fetch firewood, water or fish in a nearby lake. The school helicopter therefore also represents a door that closes on a familiar world.

The mothers and fathers who are left without contact with their children also need to adapt to a new schedule, one which does not involve their loved ones. So, this is a stressful time, both for children and for adults. Sometimes there are consequences decades later, when the nomad children still fail to adapt to a settled life. In addition to losing their knowledge of reindeer herding and Tundra life, they also lose their identity:

Children must be below the age of three in order to learn both languages. After two years in the school system, the children are robbed of their identity, their language and their culture (Interview, 1, 2015).

This is confirmed by one of the teachers in the Tundra region of the western Nenets. She is a Nenets language teacher («rodnoj jazyk»). She says that at the beginning of the 1990s many children spoke Nenets. Now, however, almost none of the children speak the language (Interview, 4, Nar'ân-Mar 2017).

The first time that the children will see their parents again after they leave home, is when the nomads pass by the village on their way to the winter pastures. The parents will then usually spend several days procuring food and equipment for the next months on the Tundra. The children may then visit their parents, after having been granted a special leave of absence from school. This is often a very short, but important period for the children. Sometimes their visits coincide with the winter holidays in December, and the family may then celebrate new year together.

I usually buy gifts for all the children when we go shopping for winter goods in November-December. Sometimes I buy clothes, a pair of trousers or a nice shirt for the boys and a dress for the girls. If there is no time for shopping, I just buy some fruit, mandarins or something else. The children to have a sweet tooth as well. I buy caramels and chocolate (Interview 23, Yamal, 2015).

Such brief periods, with gifts and cosy family visits, make the boarding school children feel like normal nomad children again. When the visit is over, they will not see their mother and father for a long time. At the end of May or at the beginning of June, the school helicopters may once again reunite the boarding school children with their families in the Tundra. They will then be together all summer until the end of August.

Learning and adapting to concepts of "time" and "place"

The boarding school website states that "Boarding schools are established for indigenous children," and that "the school was established to help the indigenous families educate their children, form skills for a further independent life, social protection and to stimulate the students creative abilities".³³

Picture: School

³³ (16 in original) See more at the website: <http://yamalskaya.moy.su/index/internat/0-42>

Picture: School bus

The boarding school children must abide by the same daily routines and rules; they sleep, eat, study and work out in large or small groups. Their daily schedule is derived from school programs and curriculums. All the interviews that I conducted were carried out in school hours during the day, while the questionnaires were handed out to the adolescents at the boarding house in Yar-Sale, where they could write their own replies. I followed two youth from "our" brigade, a boy of 16. I will refer to him as Khasava (it means man in the Nenets language, and it is a common boys name on the Tundra) and Maksim, who was 15. This was Khasavas last year at school. He needs to decide what to do with his life after he graduates.

Khasava³⁴ would love to go to the village. In fact, he did exactly this when a helicopter passed by his brigade in the summer while I was conducting my field work. Khasava argued with his parents almost every day because he wanted to go to the village. He did not want to work in the Tundra all summer. After many years in a boarding school he was used to village life. But the most important reason for leaving was the fact that he had fallen in love with a city girl. He would call her every chance he got (when there was phone coverage). Khasavas father says:

In the past people used to come together in the evenings and tell each other stories and sing. But no more. These days Khasava will put on his earphones and listen to music. Civilisation has arrived. We [the older generation] will survive [because] we know the old as well as the new. But the young do not have this [knowledge of the old] that we have.

The other adolescent, 15-year-old Maksim, suffered from congenital bone dislocation. As a result, he was unable to move properly, and has a limp on his left foot. He told me about life in the boarding school.

I love sports, all kinds of sports, most of all throwing lassos. Then I will usually win. I compete in other disciplines as well. But I really shine in Nenets sports. Our boarding school participates in major competitions against other schools.

Maksim loves life in the Tundra, especially racing on the sledges against his best school chum, Valera. They both spend a lot of time learning Russian because this is required for obtaining a drivers licence.

Picture: On the Tundra

Neither of them wants to work in the Tundra after they graduate. At the same time, they forget all about school during the summer months. They work as hunters, fishermen and as reindeer workers. They told me that the families and the boarding schools cooperate in a different way when it comes to children from settled families. The Tundra families have, for instance, no

³⁴ (17 in original) All names have been changed according to the regulations concerning anonymity and protection of informants.

control with their children's grades at school. They are only informed when the children return at the end of the year. The same goes for any problems that might arise at school, in their social life or in sports. The parents usually know nothing about this. This often results in a feeling of helplessness, especially in the younger children who struggle the most at school.

The adults have been through this themselves. In a way they are prepared. Sometimes the children miss their parents terribly. Several informants told me:

In the past children ran away from the boarding school. About 1987 there was an awful tragedy which affected an entire village and three Nenets families. Three boys who had problems adapting decided, after a disagreement at school, to walk from the village to the Tundra to their parents' brigade. It was in the middle of winter, they were poorly dressed and had bad shoes (the children do not usually wear traditional clothes in the village but are handed normal "Russian" winter clothes at the boarding school). Right after the main entrance to the school was locked for the night, they headed off in the direction of the Tundra. The three were found in late spring when the snows melted. They had deviated from the flight path of the school helicopter. Nobody knows what really happened. The school principal lost his job after the tragedy (Interview, 23, Yamal, 2015).

The people on the Tundra have always been sceptical of the boarding schools, ever since the first ones were established in the western regions in the 1920s (in the academic year 1929/30 140 children studied at five boarding schools here) and in the 1930s in the eastern parts (Filipov 2001:39). The boarding school system, as a universal form of education, only became active in the 1950s. At the time, the children were handed over on a more or less voluntary basis. The nomads only gradually became sceptical, especially after the first generations of Nenets children had passed through the system. At first, mostly boys were educated. Older women, now in their 60s and 70s, remained illiterate and never attended school. Those who now are in their 40s and 50s, however, have attended the boarding school in Yar-Sale (Interview, 7,9, Yamal, 2015).

The women responded quite similarly to the men concerning their life at the boarding school, their daily struggles, their upbringing and about good and bad experiences. They especially recollect the punishments and humiliations to which they were subjected. Such as the custom to cut off a girl's hair if she misbehaved. A former Nenets teacher talks about when he first started working at the boarding school:

The most severe punishment for girls involved cutting off all their hair. This was the very worst. It is simply too much [for a child] because it is dehumanizing (Interview, 11, Tarko-Sale, 2017).

This has also been confirmed by other literary sources, for instance in texts by the Nenets writer Nina Jadne and in a dissertation on the Arctic boarding schools. The dissertation found parallels in the punishments applied by Canadian authorities towards the indigenous population in that country (Âdne 2008; Ljarskaja 2004). There were various forms of punishment. This is what a former student said (Interview, 11, Tarko-Sale, 2016):

If you, through some unfortunate set of circumstances, went to bed after curfew and were caught, you were forced to clean the common rooms, the corridors and the toilets the following day.

The teachers were strict, sometimes too strict. At the same time, some say the teachers knew their subjects well and were true professionals. They did their very best trying to teach reading and writing to the nomad children. Some even regarded the teachers as family:

We took care of their children who sometimes fell asleep on their desks. Oksana (the teachers daughter) slept on her desk. We did everything we could to get good grades, because then we were allowed to watch and play with sweet little Oksana.

This statement also illustrates how important family is for the boarding school children. They missed their younger siblings in the Tundra. The teachers sometimes became like a mother or a father:

We went to her house (the teachers) to clean the oven, fetch coal and bring water from the river. We used to fill 200 litres of clean water in a barrel. We (the girls) peeled potatoes, a carrot and an onion. When she returned in the evening, she would already have vegetables ready for boiling some soup.

Another woman says that some elderly, even non-Nenets teachers were so accomplished that they even taught themselves Nenets traditions, language and way of life, and talked respectfully about the people in reindeer husbandry.

There was this guy there (at a conference), and he told the truth about us (Nenets). Not just nonsense like the story that we ban children from visiting our tents or that we share our wives with visitors. He told us that that he worked in a boarding school in Taz. He used to gather children from the Tundra, because the children used to hide [before the start of the school year]. Then he lived with the families of these children, moved in with them. This way, he learnt about our culture and taught himself our language (Interview, 9, Tarko-Sale, 2016).

As for Indigenous Knowledge, the adolescents sometimes took jobs after school in which they learnt traditional skills. The girls would sew shoes from reindeer hides. They had learnt this at home, and in the last years at school they were allowed to sew after classes.

We worked to make money at the boarding school. We used to collect the hides of 6-8 reindeer feet [from reindeer owners] in order to sew shoes, for instance in size 36. First, we would make the skin ready for sewing, prepare it, and then we would sew the shoes. We could earn as much as 56 roubles from the job.³⁵ That was good money. I also learnt how to make beaded sewing patterns at that time (Interview, 11, Tarko-sale, 2016).

³⁵ (18 in original) A normal salary in Soviet times was approximately 120 roubles a month.

My respondents (adult women) became critical when they answered general questions about our current educational system, because they don't believe that it provides the same standard of quality as before. Even so, many emphasize that education is important. This attitude creates an even bigger problem: recruitment for the reindeer husbandry, not just of girls, but eventually even boys (Interview, V.A. Vyutsjejskij, Leader of the Union for Reindeer Husbandry Worker in the Nenets autonomous area, 2017)

There are several similarities between adapting to notions of "time" and adapting to notions of "space". Children and the young will enjoy their first days at the boarding school more if they are met by staff with a similar background as themselves, and who speak Nenets. It also becomes much easier to adapt if the parents and the school cooperate. My survey shows that only a few of the students want to live in the Tundra after they graduate. The system works smoothly according to its intention, namely, to produce common labourers for the towns and settlements, but it also effectively limits recruitment for reindeer husbandry and Tundra life.

Consequences of the boarding school system for indigenous knowledge

The way the educational system works today, the children of indigenous populations must learn to live in two completely different social realities. In addition, they must learn two types of knowledge. The result is often that traditional or indigenous knowledge (T/IK) must give way to the knowledge that the children acquire at school. T/IK is known by many names in the scientific literature. One of the more precise definitions is found in Hammersmith (2007:3): "practical common sense based on the teachings and experiences passed on from generation to generation. Indigenous knowledge covers knowledge of the environment - snow, ice, weather, resources - and the relationships among things, holistic; it cannot be compartmentalized and cannot be separated from the people. It is rooted in the spiritual health, culture and language of the people. It is a way of life". The people of the Tundra say that their knowledge is locally founded, that is their knowledge is linked to their current way of life, reindeer husbandry etc. This has also been described in the book *Den levende erfaring* [The ongoing experience] (Nergård 2006).

T/IK includes skills like navigating through a landscape and knowing the weather, as well as familiarity with snow, ice and other conditions. The knowledge of navigating the Tundra landscape has also been described by Dwyer & Istomin (2008). One of the reindeer owners in Brigade No. 5 gave the following reply to my question about T/IK:

Furthermore, you need to know the pastures on the Tundra and in the forest. You need to know of other natural resources, such as lakes for fishing and hunting territories, as well as the areas where berries, plants and drinking water are found. The most important thing is to have a small herd of reindeer, a tsjum, sledges, family. You need to know the methods, how to take care of your reindeer, where and when you need to bring your herd during the different seasons (interview, 24, Yamal, 2015).

Understanding traditional knowledge and how it differs from other forms of knowledge is important if you are to define how it is to be used. Many reindeer workers are critical of the boarding school system. Many have passed through the system themselves. At the same time, they know that there are few options to the current system. The greatest worry for the families in the reindeer industry is that the children will become isolated from their homes and their

families. They will not know their parents and their grandparents well when they return to the Tundra. Their feeling of belonging to a nuclear family, to a brigade and to a reindeer culture will be weakened by the long months at the boarding school (Interview, 24, Yamal, 2015).

Picture: Savelij on the Tundra

The survey reveals, however, that the adolescents themselves feel that they have a good command of T/IK. Some young reindeer workers reply this way:

[We have maintained our knowledge] in its original form. We have been migrating across the Tundra for 2000 years and will continue to migrate for another thousand [years]. Our knowledge will endure. Of course, we have lost some things, but as long as there are reindeer around, it [the knowledge] will remain the same.

Some of the young reindeer workers were certain that there would be a need for T/IK in the future.

Those who work in reindeer husbandry also emphasize that "not everyone can live in the Tundra, some need to be educated and help the others who create value in the reindeer industry. I send my daughters to study, and I hope to improve our lot that way." (Interview, 24, Yamal, 2015).

Picture: Savelij at school

If we look at indigenous knowledge at Yamal (in the easternmost area) and to what extent the young possess T/IK and language, the answers concerning language, at least, are quite similar. All the young Nenets both speak and write Nenets and say that this is their first language. There is a similar certainty concerning reindeer husbandry. Everyone feels that they have a good knowledge of this subject. If we look at the western Nenets regions, however, we get quite different results. At the start of the school year in 2017 none of the Nenets children said they spoke the language.

Based on interviews with the teachers we can conclude with a high degree of certainty that the boarding school system is working according to its original intention: children are learning to assimilate into the modern Russian society. The boarding school system also started to function much earlier in the western region than in Yamal. In addition to being remote, there are more reindeer workers here, and this makes assimilation more difficult. It is easier to assimilate a smaller group than a large one. The policy of changing family-based reindeer husbandry to shift based work was more successful in the western parts. Women also move to the villages to be with their children. This is a continuing trend. My interviews on the Tundra revealed that the parents very much want their children to study after they graduate from boarding school. Some Nenets women said they wanted their children to have a choice between further education or living in the Tundra.

At the same time, it is hard to predict who will succeed in the village and who will make it in the traditional professions. In spite of the fact that only 5% say they want to work in reindeer husbandry, many will end up there even so, because there is a shortage of other jobs in the small northern villages. The most important consequence of the boarding school system is the disruption of the daily routine and the learning processes in the Tundra.

Conclusion

Nenets youth today have more lifestyle options, whether they prefer to live like their parents and migrate with the reindeer herd or become settled. Most Nenets said they wanted to live and work in the settlements and not migrate across the Tundra. This shows that the government goal of using the boarding school system to settle the nomads, will, in all probability, succeed. The school system is not favourable for the traditional Nenets way of life. It does not preserve the culture which lies at the heart of Nenets life.

The situation for indigenous knowledge and the Nenets own relationship to their own traditions, is challenging. At the same time, a whole generation of academic indigenous teachers and pedagogists are working to ease the transition from a home in the Tundra to boarding school life. They are also working to include indigenous knowledge and traditional values in the school curriculums. The educational system can and must change. Globalization and technology may in fact make possible several smaller educational units located in the Tundra.

Picture: Pedavane has not yet started school.

The smallest children may go to school there without having to leave their families, their environment. The older children may benefit also and remain with their families and their herds for longer periods. They may to a much greater extent than today have their exams online. Then they will not have to be absent from their homes for eight-nine months at the time. They will be able to remain in the learning environment on which they depend, if they are to become future reindeer nomads. They will also avoid becoming alienated in two places: both at home and at school. The child's first day at school is not just a clash between two realities. It is a clash between two ways of life and two traditions of knowledge.

References

Registry of special words (in Nenets language)

Âlâ	62	<i>Njadena</i>	12
<i>Âmbtanava/ Âmdanava</i>	71	<i>Nuto''</i>	243
Ânuj /Venuj	60	<i>Ŋarka â</i>	22
Enzedej/ End'ej	69	<i>Ŋèrè / Ŋèrèj</i>	62
Erkulava	27	<i>Pelej</i>	64; 244
Ha' matyr"	xi	<i>Pena</i>	69
Harè ngodâ	85	<i>Pi</i>	60
<i>Hasava han</i>	243	<i>Pidte'' mâ</i>	xi
<i>Hasava' mèta''</i>	244	<i>Pilû irij</i>	69
<i>Hèhè' han' si''</i>	244	<i>Po</i>	60
<i>Hehe' han</i>	243	<i>Po tolobava</i>	60
Hor Iry	63,246	<i>Pudana</i>	68
Irij, Iry	62	<i>Sâbu</i>	243
Lamtuj	69	<i>Sâbu' si''</i>	244
Mâ/Mya	89	<i>Sèra ne''</i>	27
Mâdyrma	13	<i>Sunduk' si'' /lar'' si''</i>	244
Marangga	69	<i>Synej</i>	78
<i>Mèta ty''</i>	244	<i>Synej nâda</i>	78
<i>Mûd han</i>	243	<i>Syra</i>	60,245
<i>Mûd' si''</i>	244	<i>Ta</i>	60,245
<i>Muzandana</i>	68	<i>Tenevana</i>	12
<i>N,ano' si''</i>	244	<i>Tetnedales'</i>	243
Nâby Si'vy	65	<i>Tokhodanva, Tokholambava</i>	12
<i>Nahârtèč</i>	244	<i>Tynzâ</i>	69
Nar'ân-Mar	4	<i>Ūhuna</i>	243
Nârèj	74	<i>Ūhuna' si''</i>	244
<i>Ne han</i>	243	<i>Vadabava</i>	12
<i>Ne' mèta''</i>	244	<i>Vadameta</i>	12
Nedarma	78	<i>Vandako' si''</i>	244
<i>Nenèj nenec'</i>	3	<i>Vandej=Vandako</i>	243
<i>Nerdena</i>	68	<i>Vy</i>	60
<i>Nevkhy</i>	36	<i>Ël'c'' (n)</i>	62
<i>Nezamindâ</i>	244		
<i>Ngutos' si''</i>	244		

List of informants

In text	Okrug	Settlement/ Tundra	Born³⁶
Interview 1	YaNAO	Harampur	1967
Interview 2	NAO	Hongurej	1943
Interview 3	NAO	Nel'min-Nos	1955
Interview 4	NAO	Krasnoe	1987
Interview 5	YaNAO	Gyda	1958
Interview 6	NAO	Horej-Ver	1949 (approx.)
Interview 7	NAO	Nel'min-Nos	1959
Interview 8	YaNAO	Yamal	1941(approx.)
Interview 9	NAO	Nel'min-Nos	1968
Interview 10	NAO	Černaâ (abandoned)	1950
Interview 11	NAO	Šojna	1960
Interview 12	YaNAO	Samburg	1959
Interview 13	YaNAO	Jagel'nyj, Nadym	1970
Interview 14	YaNAO	Nori, Nadymskij rajon	1962
Interview 15	NAO	Nar'ân-Mar, Nel'min-Nos	1964
Interview 16 (Group)	YaNAO	Nori, Samburg, Nyda	1958,1959, 1962
Interview 17 (Group)	YaNAO	Yamal	1976 and 1964
Interview 18	Tajmyr	Nosok	1979
Interview 19	NAO	Krasnoe	1936
Interview 20	NAO	Nar'ân-Mar	1974

³⁶ (Approx.), approximately, because some respondents born in Tundra and sometimes their date of birth is difficult to find out, then I use the year as it is stated by respondent.

Written informed consent

Your ref:
Our ref:
Place:
30. 04. 2015
НИКУ
Тромсе, Норвегия



Разрешение на некоммерческую фото, видео и киносъёмку в бригадах Яр-Салинского совхоза

Фамилия, имя, отчество: _____ Бригада:

Дата рождения _____

Настоящим я выражаю согласие на участие в интервью, цитирование, фотографирование, кино- и видеосъёмку меня и членов моей семьи представителю Норвежского института исследований культурного наследия Зое Вылка Равна. Я также разрешаю редактировать, использовать и повторно использовать вышеуказанные фотографии, видеоплёнки и видеозаписи в некоммерческих целях, включая печатную продукцию, распространение в Интернете и всех других медиасредствах. Настоящим я отказываюсь от права предъявлять любые требования, иски и притязания и обещаю не преследовать судебным порядком.

Подпись _____ Дата: _____

Адрес: _____

Questionnaire form

Questions for girls and boys

Page 1.

Surname _____

Age: _____

Brigade or community: _____

Place of birth (if in the Tundra, then approximately where)

1. Questions 1 block "traditional knowledge"

1.1. Mother tongue

My native language

(speak fluently, think, write and consider as the first language I began to speak)

Nenets Russian Komi (underline)

My second language

(which I learned later, at school, or in communication with others)

Nenets Russian Komi (underline)

Where did you learn the second language?

At school / In the village

Communicating with friends and children of other nationalities (which)

In the Tundra, with parents or relatives

What language did you speak at home before school with relatives?

What languages did your relatives use in their home?

What language did you speak in childhood with other children?

Or have you spoken to your peers in several languages?

Mastering other languages (English or others)

Indicate if you speak other languages and skills.

Fluently, only speak, only understand, but not speak

Page 2. (Gender-based types of IK-skills)

1.2. Economic and industrial skills in reindeer herding

(For girls)

If yes - at what age? If not - why?

The name of a scraper, needle, thread, reindeer hides.

The ability to cut, "on a live thread", to sew simple things.

If yes - at what age? If not - why?

Ability to cut, make and sew patterns

If yes - from what age If not, why?

(For girls and boys)

Possession of a knife

(I can slaughter and cut a reindeer's carcass and cut fish into fillets) Yes No

Indicate at what age you got your knife

Where did you get your knife? Present/ Bought by myself/ Exchange/ Other

Knowledge of reindeer

I know all the reindeer in my herd Yes No

I know the neighbours' reindeer

(both private owners and neighbouring brigades) Yes No

I can determine the identity of the reindeer by ear tag Yes No

Write the name of the generic label in Nenets, and if possible,
with a translation into Russian

Do you have your own reindeer? Yes No

Do you have your own sewing bag? Yes No

What items are in your bag?

1.2. Economic and industrial skills in reindeer herding

(For boys)

Mastery in lassoing (both production and usage) Yes No

If so, at what age

If not, why

The name of the lasso in Nenets

Possession of a knife

(I can slaughter reindeer, I can cut out/ make figures from wood and plastic,
I can cut fish on a fillet) Yes No

Indicate how old you were when you got your knife

Where did you get your knife? Gift/ Bought by myself/ Exchanged/ Other

How do you usually recognize (by which method)?

your reindeer at close range (in the corral)

By appearance, by age, by speed, by affiliation with the household, other

Write how you recognize a herd of reindeer over a long distance,
for example, with the *yerkulava*

Do you know the names of different types of reindeer Yes No

Enter the names that you know (for example, by colour)

According to the age/ Type/ Sex (female reindeer and bulls)

Page 3.

1.3. Knowledge of nature (Good/Approximately/ I know/ I don't know)

What nature is for me (underline)

House Tundra Forest Dangerous Place Other (write)

What is nature for the Nenets in general, in your opinion (write)

I know fish lakes and rivers (whole year)

I know the place of calving (spring)

I know where we have summer pastures
(late spring, summer and beginning of autumn)
I know where we have summer sledges
I know winter pastures (late autumn, winter and early spring)
I know off-season pastures (spring and autumn)
I know where the sacrifice places are situated (whole year)

Page 4.

1.4. Knowledge of hunting and fishing gear
What items and tools are used in the Tundra?
For hunting /for fishing
Innovations (new materials and items in the Tundra)
What new items are used in the Tundra?
1.5. Who taught me traditional knowledge?
Parents Other relatives (write from whom and what you have learned)
1.6. How did I learn to master TK items?
How did I learn to own a knife, needle, scraper for making skins?
Describe in detail.
I learned myself
Learned by watching and repeating
I was told in detail and shown how to do
I learned everything in school, in needlework and labour lessons.
1.7. Knowledge of prohibitions and taboos
Do you know the traditional prohibitions? Well no
What taboos do you know?
Why these should be respected?
Do you know specific cases of violation of prohibitions? Yes No
And their consequences for the violator? Describe
How and from whom did you learn about the taboos?

Page 5.

2. Questions 2 of the block “my family and life in the Tundra”
My family, the composition (check the right)
I have a father and mother
I only have a father
I only have a mother
I do not have parents - died deprived of parental rights other (write).
My family consists of people (including me)
I have brothers
I have sisters
My father and his profession
(a reindeer herder in collective/ a private herder/ fisherman)
He (age) years
My mother and her profession

Private worker/ worker at the state farm/
Fishing and delivers fish/ Sew for sale/ Other
Her (age) years
I have brothers over 18 yes no
How many brothers are over 18?
How many brothers over 18 work in reindeer herding communities?
I have sisters over 18 yes no
How many sisters are over 18?
How many sisters over 18 work in reindeer herding communities?

Page 6.

3. Questions 3 block "I and my choice"

Myself in the future:

I will work in reindeer husbandry /

Or as reindeer herder/ Housekeeping/ Worker in a village or in a city/ Other

I want to live and work in the Tundra/

in the village/ in a big city in Russia/ anywhere abroad

I think I need to study after leaving school. Yes No

I have already made my choice of future profession. Yes No

What profession I chose? (write)

I have not yet decided on a profession,

but I am looking for a place to study after leaving school. Yes No

Where would I like to study? (write)

Where would I like to live after graduation?

I have already applied at the place of study. Yes No

If so, what is the level (secondary, higher or special education)

If someone has helped you or helps, advises or vice versa,
dissuades you in choosing a place of study, work and future?

Who? Parents Other relatives Friends Other (write)

Why do they do that in your opinion? (write)

Why do they do this in their opinion, as they themselves explain? (write)

Do you have misgivings about choosing your future?

Do you ask someone else for advice on choosing a future?

3. Health

How many children are you planning to have?

And why precisely this many?

What means of protection do you know?

Did you use alcohol, tobacco or drugs? Yes No

Where and how did you first try alcohol, tobacco or drugs?

Have you had sex? How old (at what age?) full years

I believe that at my age you can have a regular friend for sex. Yes No

How do you evaluate the benefits of physical education?

What sports do you do?

Use of skin care and makeup products Yes No

Page 7.

5. Happiness

What are the best memories you have from childhood in the Tundra?

The worst childhood memories?

What is home for you? What is boarding school for you?

What is nomadic dwelling/ tent for you? What is happiness for you?

Where is the best place for you to be?

Your criteria for success in reindeer breeding, underline and add

Reindeer Children Money and Wealth

(Having an apartment, car, snowmobile, etc).

Your criteria for success of a person in a settlement, sedentary specialist.

Additional information:

If you have additional information that you would like to share.

On the culture of the Nenets, their future, or about life in general, write here.

If you have a question for a researcher, write here.

The results of questionnaire from NAO and YaNAO

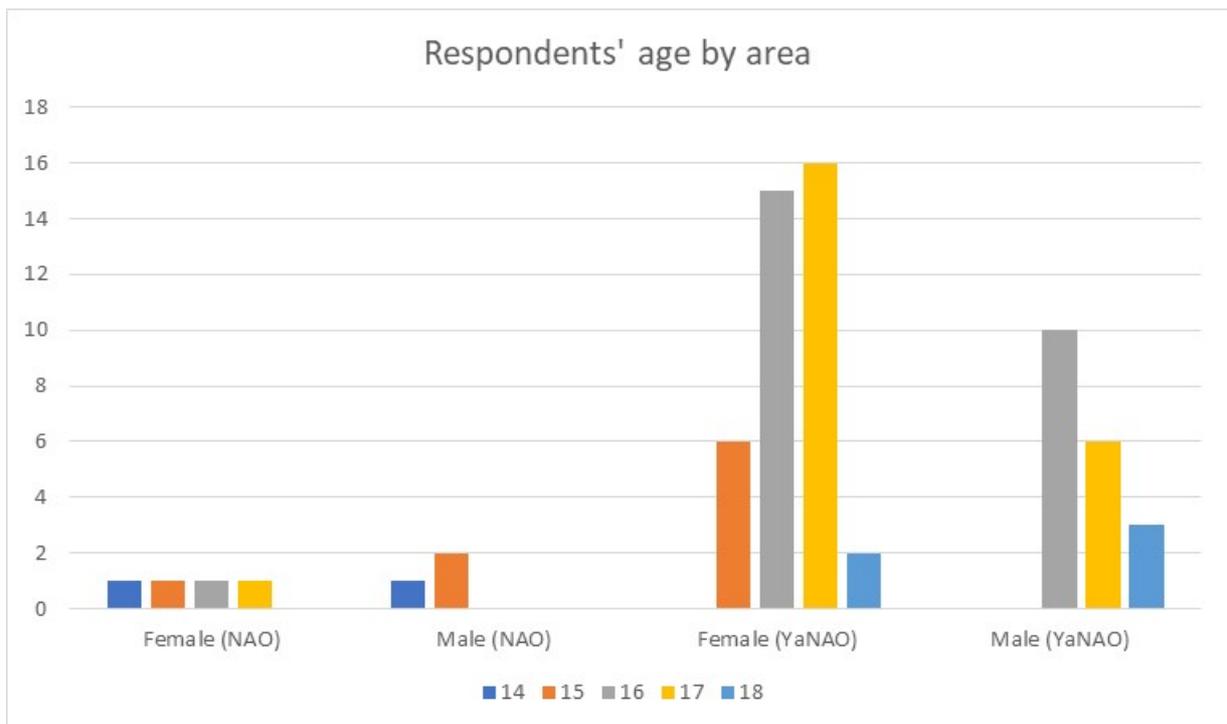
Total number of respondents: 65

By gender: 44 girls and 21 boys.

By regions: NAO: 2 boys and 4 girls; YaNAO: 39+1 girls and 19 boys (+1 refers to incomplete questionnaire).

By age: youngest are 14 (n:2) and oldest are 18 (n:5).

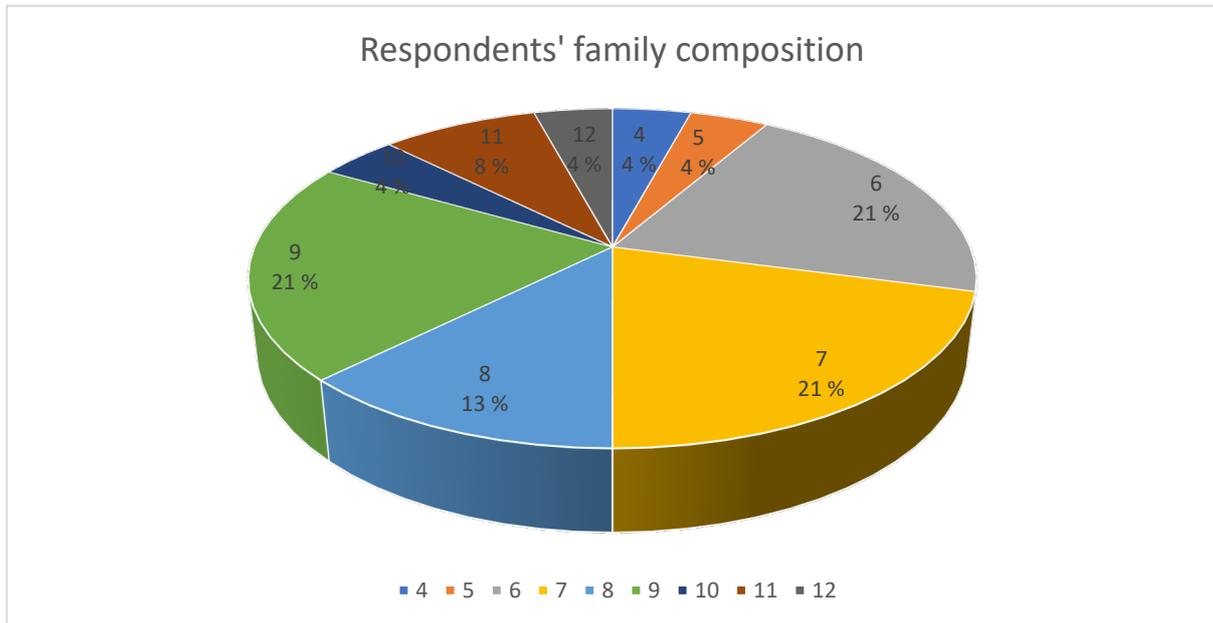
By size of nomadic communities: 12,387 Nenets live on the Tundra in Âmal'skij rajon, YaNAO (Karpov 2017) and 2,500 in the NAO (unpublished data from the Union of Reindeer Herders of the NAO).



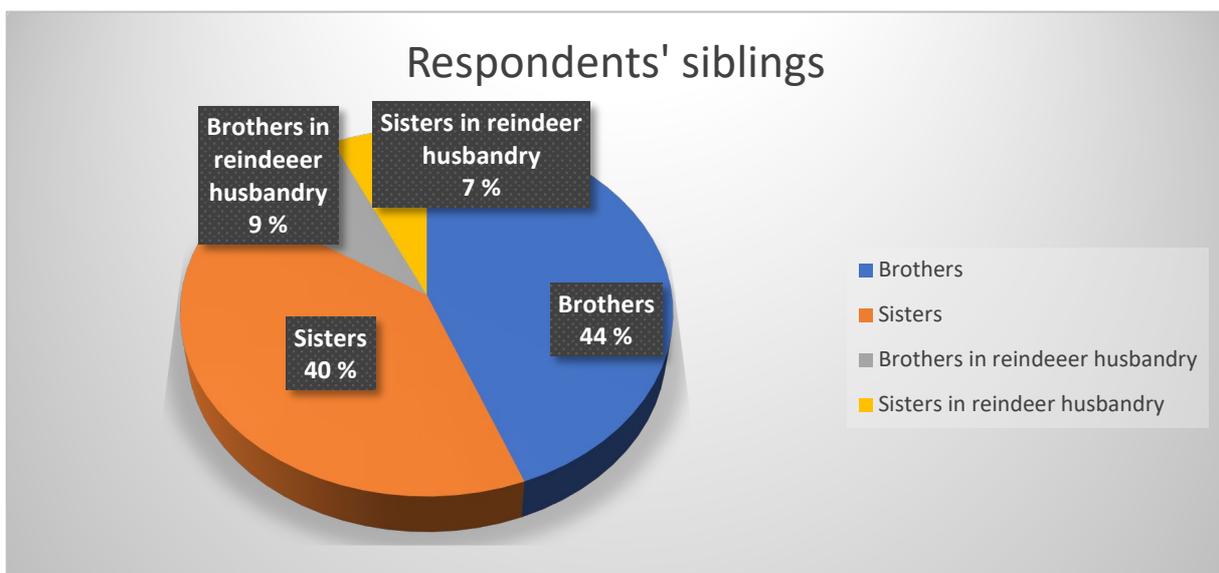
On set of questions: “family”

Most of the nuclear families (in anthropology, a nuclear family is the family into which an individual is born and in which s/he is reared) are Tundra Nenets reindeer herders, consisting of mother and father and several children. The number of members in one

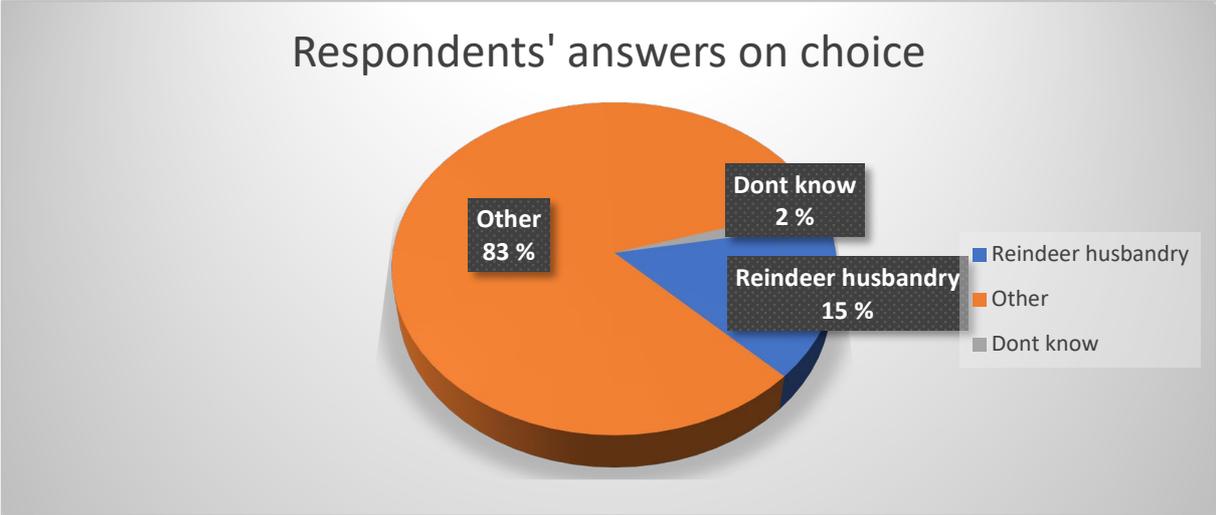
nuclear family are from 4 to 12. Eight of the respondents have more than 10 family members (two parents and children).



Several adolescents emphasized that the families having older brothers and sisters can influence on their choice of lifestyle. Out of 142 brothers and 129 sisters, 29 brothers and 22 sisters are working in nomadic reindeer herding communities. This is fact have an impact and influence on the choice on future profession (explained in: 4.1.2. *Abilities and skills of a future Nenets reindeer herder*).

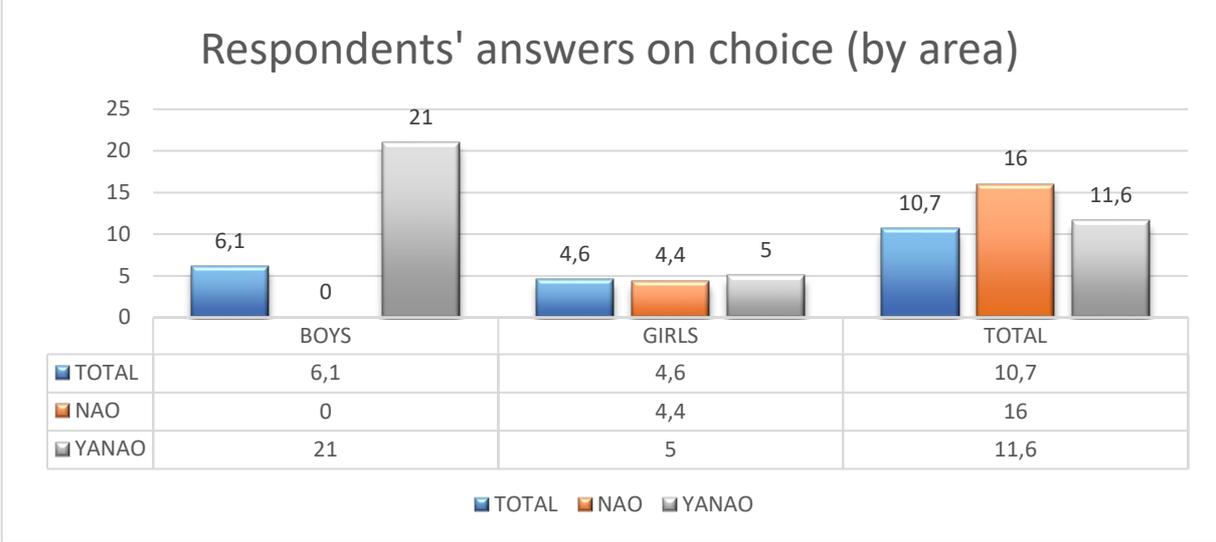


The main findings of the questionnaire are actually in the choice of the way of life that the Nenets adolescents have made according to their answers. In spite of the high level of possession of various skills and the knowledge of the mother tongue (hereafter referred to as the Nenets language), only a few adolescents want to live in the Tundra.



Choice of life: based on 64 answers.

The possession of different components of IK is analysed in Papers Four, Five and Six.



Language possession: in the YaNAO 81.3 % confirmed that they are fluent in their native (the Nenets) language. In NAO in 2017, not even one native speaker was registered at the largest boarding school.

Boys answers

The answers to questions about fishing spots: 17 answered that they could name and place all the spots. Only 7 replied positive to the knowledge of calving places (late April - May), it is possible to explain with their physical absence, since they are still at school. On the question about the summer pastures and where their family uses to store their summer sledges, 26 responded that they know it well and very well.

20 are positive, 7 and 13 respectively “good” and “very good” about the knowledge of winter pastures. These numbers are less about questions about spring and autumn pastures. Knowledge of sacrifice places is much better, 29 - almost everyone, answered “good” or “very well” (18 could “very well”) where their family or clan sacrifice places are situated. In practice, it means they have to be with their fathers to these places and participate in sacrifice rituals because these places are special.

The questions to boys were made in view of their growing up on the Tundra as reindeer husbandry, since everyone is over 14 years old and usually ready to do the same tasks as adults.

Girls answers

The difference in language possession between NAO and YaNAO is as follows: three girls in NAO answered that the Russian is their first / native language, whilst in YaNAO 7 girls answered the same. Only one girl answered “Komi” and one “Ukrainian” as the second language and 13 girls wrote that they can speak or understand “English” (one in NAO).

26 can process skin (very complicated work, consisting of several stages and a long and time-consuming process). 25 girls have answered that they can cut and sew large

simple pieces of hides together and connect them with Nenets stitching (see more in Paper Two).

26 replied that they could sew mono- or multi-coloured decorations. This is a unique knowledge that can be learned only by participating in the activity itself. Far fewer girls have difficulty sharing a whole reindeer (14), and the same number answered that they cut, clean and prepare fish.

Only 11 responded that they could recognize all the reindeer in their flock. Even less, only 5 girls could identify reindeer from neighbouring herds, 14 could not recognize any reindeer. 14 girls can recognize which reindeer belongs to them after earmark, which they replied as being called: Pidte” mâ, Padta” ma, Padte” mâ . So many variants show the diversity of dialects on Yamal, further linguistic research is required. 21 girls replied that they have their own reindeer (which has their own or father’s earmark). 21 replied that they own a traditional women’s bag “tutsja”, this bag is also a symbol of Nenets Tundra women.

In general, girls have answered more nuanced, detailed, and more precise about the IK. At the same time, very few girls answered positively to a question about the choice of life on the Tundra.

Reindeer husbandry

Nenets Sledges (to IK and various components)³⁷.

- *Hasava han* the winter men's sledges (Tetnedales') differs from the summer one in that it is lower, it has no back, and the loading area is less dense.
- *Ne han* female sledges by design retain the male sledge design, but it is more massive and more stable. She has more hoofs (5-7) and the cargo area is covered with planks on 3 sides so that it is convenient to position the cradle and to cover small children.
- *Mûd han* women's cargo sledge is made according to the type of passenger sledge. Only it has three diggers on each side, there is no back. This sledge is designed to transport clothing, hides, winter covers, household goods.
- *Nuto'' = Nguto* hardened, cargo, double-nosed, without sledge flooring for transportation of the poles.
- *Sâbu* ("unclean") - cargo, double, without flooring, desk for transportation of boards (lata), rods made of twigs, subfocal iron sheet, women's "unclean" shoes, firewood, etc.
- *Ûhuna* sledge for transportation of beds, fur clothes and men's shoes.
- *Vandej=Vandako* is a sledge in which winter (summer) things that are unnecessary now are stored and transported, namely: tanned hides, Pena (hides from legs), newly sewn things (clothes, bags, shoes), cloth and other things; female handicrafts.
- *Hehe' han* - a special sledge for transporting of wooden images of sacred beings (idols). (Previously used in all the areas).

³⁷ Based on (Ledkov 2008) and field-work materials (Yamal 2015).

Adult transport reindeer names

Name of reindeer	Translation to English
<i>Nezamindâ</i>	Leading reindeer
<i>Pelej</i>	Right
<i>Nahârtěč</i>	Central
<i>Mèta ty''</i>	For passenger sledges
<i>Hasava' mèta''</i>	For men's sledges
<i>Ne' mèta''</i>	For women's sledges
<i>Mûd' si''</i>	For transportation of cargo
<i>Sâbu' si''</i>	For the floor, women's handbags with shoes
<i>Vandako' si''</i>	For transportation of spare things
<i>Ûhuna' si''</i>	For transportation of bedding
<i>Sunduk' si'' /lar'' si''</i>	Groceries/ food/ small equipment (such as video player)
<i>N,ano' si''</i>	Boats and fishing gear
<i>Hèhè' han' si''</i>	Sacred sledge with objects
<i>Ngutos' si''</i>	Poles and utensils

The Nenets reindeer herders' calendar

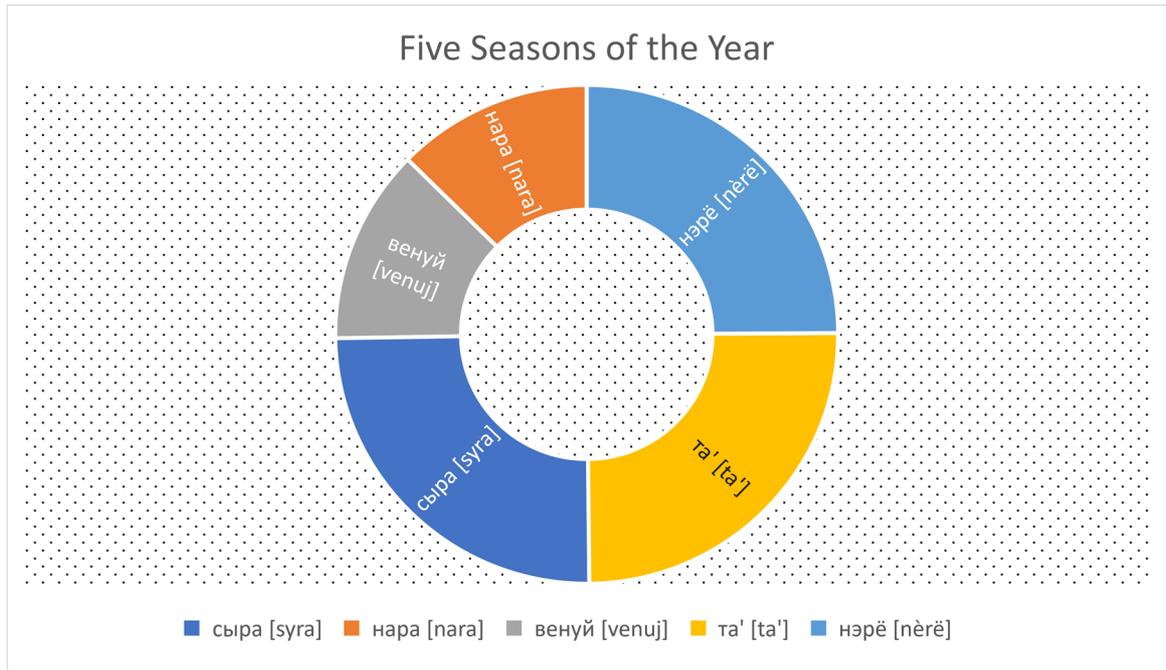
Winter: *сыра* [syra]

Spring: *нара* [nara] (early, before the ice breaking)

Spring: *венуй* [venuɯ] (late spring)

Summer: *та'* [ta']

Autumn: *нэрэ* [nèrè]



An example of the calendar of the Nenets of Yamal

	English	Nenets / Nenets transliterate	Translation to English
1.	November	<i>Nusindabč'</i>	The Polar Fox Hunting Month
2.	November	<i>Nûdâ pèvdej / nosindalva</i>	The Month of the Little Darkness/ The Polar Fox Hunting Month
3.	December	<i>Ďarka pèvdej</i>	The Month of the Big Darkness
4.	January	<i>Ďarka pèvdej / Limbâ iry</i>	The Month of the Big Darkness/ The Month of the Eagle
5.	February	<i>Limbâ iry</i>	The Month of the Eagle (Month when the Earth leans towards the Sun)
6.	March	<i>Âra iry / Ty sapolana iry</i>	The Month When the Patches of Land Thawed / The Month of False Calving
7.	April	<i>Sie nič' / varny / varnè iry</i>	The Month of False Calving / The Month of the Crow
8.	May	<i>Ty nič'</i>	The Month of Calving
9.	June	<i>Man, g ty iry / Savo iry</i>	The Month of Nesting / The Month of Water
10.	July	<i>Nenâng iry</i>	The Month of the Mosquito
11.	August	<i>Pilû iry / Hohorej iry</i>	The Month of the Botfly (<i>Hypoderma tarandi</i>) / The Month of Swan
12.	September	<i>Vèba iry / Âvngalâ iry</i>	The Month of falling leaves / The Month of Arctic cisco (<i>Coregonus autumnalis</i>)
13.	October	<i>Hor iry</i>	The Marriage Games Month (Reindeer rutting games)

An example of the calendar of the European Nenets³⁸

	English	Nenets / Nenets transliterate	Translation to English
1.	November/ first half	<i>Njudja pevdja irij</i>	The Month of the Little Darkness
2.	November/ second half	<i>Nosidalava irij</i>	The Polar Fox Hunting Month
3.	December	<i>Darka pèvdâ irij</i>	The Month of the Big Darkness
4.	January/ first half	<i>Haâr soema irij</i>	The Month of the Birth of the Sun
	January/ second half	<i>Limbja irij</i>	The Month of the Big White Eagle
5.	February	<i>Âra irij</i>	The Month of the Annual Male Antler Shedding
6.	March/ first half	<i>Henje talarava irij</i>	The Month of the Silent Snow
	March/ second half	<i>Num sar nju irij</i>	The Month of the Shinning and Clear Sky
7.	April/ first half	<i>Varne irij</i>	The Month of the Raven
	April/ second half	<i>Ty niz' irij</i>	The Month of False Calving (some reindeer give birth this month)
8.	May/ first half	<i>Ty niz' irij/ Lohorta id irij</i>	The Month of The Great Calving/ The Month of Singing Water

³⁸ Data provided by Irina Khanzerova (unpublished) and fieldwork materials.

	May/ second half	<i>Dyera irij</i>	The Month of the Rough-legged Buzzard (<i>Buteo lagopus</i>)
9.	June	<i>Mangty irij</i>	The Month of the Nesting Birds
10.	July	<i>Nenyang irij</i>	The Month of the Mosquitos
11.	August	<i>Pilju irij</i>	The Month of the Botfly (<i>Hypoderma tarandi</i>)
12.	September	<i>Vèba irij/ Javngalja irij</i>	The Month of Falling Leaves / The Month of Arctic cisco (<i>Coregonus autumnalis</i>)
13.	October	<i>Hor Iry irij</i>	Month of the Marriage Games (Reindeer rutting games)

Fieldwork one: The Tundra in the Yamal-Peninsula (with GPS-coordinates).

Date	Place (with translation to English)	Lat:	Lon:
June 3 rd	Ûribej (very fat river)	68.919006	70.205083
June 9 th		68.918523	70.203323
June 11 th	Pè''makoda âha (the river with stones, turn up). It is the right creek of Ûribej River.	68.954701	70.251625
June 15 th	Halètako sě (the river of the Seagal).	69.066603	70.198280
June 18 th	Soho'to (the lake with a hill on its bank)	69.181230	70.004110
June 21 st	Neru Âha (willow river) Sohom'pèbtybada âha (the river bending around a hill). Loholâng to and Nero Var'To (the lake with the willow bushes).	69.216206	69.948706
June 23 rd	Â âha (Earthy river) and Harivuoma (Winding river)	69 18.1527'	69 53.8528'
June 24	Soon-to (Sacred lake)	69.364736	70.020783
June 25		69 25.2276'	69 57.6914'
June 26		69 29.2176'	69 55.0552'
June 27	Jasavěj Âha (Pathfinder river)	69 32.1385'	69 50.3104'
June 30	Ûdly to sě (no translation)	69.583990	69.810176
June 30		69.639458	69.896091
Jul 4 th	Maretâ âha (the river with sandbanks)	69.694873	69.939866

³⁹ The map of the "Tundra" is provided in several Papers in this thesis. See Paper I, III and VI.

A historical overview of state formation

Time periods	State perspective	Nenets perspective
Approx. from 900	First contacts with the State, introducing the “unknown country” through Novgorodians	Paying of Jasak - tax, first trade, contacts unknown in time perspective Sporadic meetings
1499- end of 1800	Outposts in Tsar time; conquest of the northern areas, Siberia as a part of the State	War against tax collectors, burning of outposts. Deceases, like small-pox, alcohol and tobacco introduced by the travellers and tax collectors
1800-1900	Systematic development in Tsar time; reforms of Stolypin,	Large reindeer herds, social and economic inequality, insurrections
1917-1991	Collectivization, systematic destruction of religious believing through leaders (shaman); a merger/ amalgamation ⁴⁰ of collectives to large enterprises, forced resettlements, boarding schools	Soviet development in the North: Displacement of women, language loss, assimilation (russification) policy; language (written); secondary school and high school education; many local changes
1991-2000	Post-Soviet collapse, development of new forms of government, social, economic, political changes at all levels	Privatization of reindeer; opting out from collective and establishing of private enterprises; First political organizations of the Nenets peoples (“Jasavèj” (Guide, leader), “Yamal -potomkam” (Yamal-to descendants). Loss of identity, alcoholism
After 2000	Globalization, technologies, Subsidies and handouts of the state; 1.5% to 2% of the total financing of the agricultural industry of the Russian Federation is used to reimburse part of the costs: related to the maintenance of the livestock of reindeer and for breeding work.	Losing the meaning of life in reindeer husbandry, thus transition to a settled way of life The economic, social and axiological (value) prestige of the reindeer husbandry. There are no reindeer enterprises that are engaged in reindeer husbandry due to subsidies, because they are insignificant in the totality of incomes

⁴⁰ According to Belley, amalgamation is a term, often used interchangeably with merger, that describes the fusion of one or more municipal entities into a new organization (Belley 2012). The term agglomeration is used in other sources (Øverland and Berg-Nordlie 2012).

Language

Latin Alphabet for Tundra Nenets

A a	B b	Ḑ ḑ	C c	Ḑ ḑ	D d	Ḑ ḑ	E e	Ə ə	F f	G g
[a]	[b]	[bʲ]	[ts]	[tsʲ]	[d]	[dʲ]	[e]	[æ]	[f]	[g]
H h	Ḑ ḑ	I i	Ḑ ḑ	J j	K k	L l	Ḑ ḑ	M m	Ḑ ḑ	N n
[x]	[h]	[i]	[iʲ]	[j]	[k]	[l]	[lʲ]	[m]	[mʲ]	[n]
Ḑ ḑ	Ḑ ḑ	O o	P p	Ḑ ḑ	Q q	R r	Ḑ ḑ	S s	Ḑ ḑ	T t
[nʲ]	[ŋ]	[o]	[p]	[pʲ]	[ʔ/q]	[r]	[rʲ]	[s]	[sʲ]	[t]
Ḑ ḑ	U u	W w	Z z	Ḑ ḑ						
[tʰ]	[u]	[w]	[z]	[zʲ]						

Cyrillic Alphabet for Tundra Nenets (Ненэця' вадд)

А а	Б б	В в	Г г	Д д	Е е	Ё ё	Ж ж	З з
а	бэ	вэ	гэ	дэ	э	ё	жэ	зэ
[ɑ/ə]	[b/bʲ]	[w~β]	[g]	[d/dʲ]	[je:/ʲe: [jɔ:/ʲɔ:		[ʒ]	[z/zʲ]
					e:/ɤ:]	jo:]		
И и	Й й	К к	Л л	М м	Н н	Ḑ ḑ	О о	П п
и	й	ка	эл	эм	эн	эң	О о	пэ
[ji/ji:/i	[j]	[k]	[l/ɬ]	[m/mʲ]	[n/ŋ]	[ŋ]	[ɔ:/o:]	[p/pʲ]
i:/ʲi:/ʲi:]								
Р р	С с	Т т	У у	Ф ф	Х х	Ц ц	Ч ч	Ш ш
эр	эс	тэ	у	эф	ха	цэ	чэ	ша
[r/rʲ]	[s/sʲ]	[t/tʰ]	[u/u/ʉ]	[f]	[x]	[ts/tsʲ]	[tɕ]	[ʃ]
Щ щ	Ъ ъ	Ы ы	Ь ь	Э э	Ю ю	Я я	'	”
ща	твёрдый	Ы ы	мягкий	э	ю	я	звонкой	глухой
[ɕ:]	знак	[i]	знак	[e/æ~	[ʲu/ʲu:	[ja:/ʲa:	тасер”	тасер”
			[ʲ]	æ̃ẽ~æ:]	ʉ/ʉ]	jə]	[ʔ]	[ʔ~ʔ/q]

Source: Nenets (Ненэця' вада / Nenécja' vada) / (Ager 2018).

About languages (Hajdu 1995).

The language possession

By the villages and settlements of the NAO (Hanzerova 2016):

Nelmin-Nos: ten families. No children of school and pre-school age who speak their native language. 54 pupils study Nenets at school, 25 of them, according to the teachers, at the very least, but they understand the language of their ancestors.

Bugrino: more than 15 families, where both parents and representatives of the older generation can communicate within their families in their own language, including children. In the village there are no fluent Nenets children under the age of 10 years.

Nes: 48 people older than 40 years. Young people under 20 years old - less than 15 (only those who lived in the Tundra), the rest understand, but cannot speak. Only nine students can express themselves clearly in their native language. But everyone who is under eight years old does not speak the language at all.

Oma: today is known to no more than 15% of the total population. Children in families do not speak the language. In the Omsk school, Nenets language is studied by 20 people, pupils of the 2nd and 3rd classes, besides this, 15 people are optional in the 7th and 8th grades.

Karatajka: 21 pupils speak the Nenets language, all of them are children from the Yamb-to community, private reindeer herders of the Kara and Harûtinskaâ Tundra. About 100 people study in Ust-Kara, most of them are Nenets by nationality, but they do not speak the language. To date, two students from the families of the individual farmers Hudi are free to communicate in Nenets and Komi languages.

Indiga: 18 families. There are no children fluent in their native language in the village.

Nar'ân-Mar: (boarding school): In the secondary school named after A.P. Pyrerka, four students, brought from Jamb-to občina (all Ledkovs) and Vyacheslav Hudi, a pupil of the 10th grade from a family of individual reindeer herders, a former student of the Kara school, can boast of language skills.

Horej-Ver, Haruta, Nižnââ Peša, Šojna: the same situation is in. There is not a single student who speaks the Nenets language. Information is current as of December 11, 2018 (Hanzerova 2018).

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