



Alla Bolotova

CONQUERING NATURE AND
ENGAGING WITH THE ENVIRONMENT
IN THE RUSSIAN INDUSTRIALISED NORTH

ACADEMIC DISSERTATION

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ABSTRACT

This dissertation explores perceptions of the environment and practices of interaction with natural environments at the Northern periphery of the Soviet Union/Russia as well as concepts of nature characteristic for the official Soviet discourse. In order to extract the rich natural resources of the North, numerous new industrial towns were founded from the ground up in areas with no previous permanent human settlements and were populated by migrants from all over the Soviet Union. The Soviet authorities motivated people to go to the North by material benefits but also by an intense ideological campaign with a rhetoric of 'conquering nature' and 'mastering the North'. In this thesis, I argue that for an understanding of human-environment relations in the Russian industrialised Arctic, we need to combine two different analytical angles: the Soviet dominant discourse on nature and its transformation over time on one hand, and the lived experience of the implementers of Soviet industrialisation and their engagement with the natural world on the other hand. Therefore, I examine how people who were on the State's mission to 'master the North and nature' came to feel a strong emotional attachment to and love for the Northern environments. Based on empirical materials from three industrial towns in the Murmansk region, I analyse how new Northerners combined both their involvement in the extractive approach to natural resources and their lived experience of dwelling in Northern environments. In the existing scope of social science scholarship on non-indigenous residents of the Russian North, studies of people's engagement with the natural environment are usually separated from studies of the State's strategies and discourses of nature. This study focuses on the so far understudied relations of the urban population of the Russian Arctic to their environment. This thesis bridges these gaps by innovatively combining the concept of 'discourses of nature' (Macnaghten 1999) with the building and dwelling perspectives suggested by Tim Ingold (Ingold 2000), in analysing the dominant discourse on nature in the USSR and engagements with the natural environment of people working for extractive industries.

To my mom Tatiana and my daughter Marta

LIST OF ORIGINAL PUBLICATIONS

- Bolotova A. 2004. Colonisation of Nature in the Soviet Union: State Ideology, Public Discourse, and the Experience of Geologists. *Historical Social Research*, Vol. 29, 2004, No. 3, 104-123. 85
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- Bolotova A. 2012. Loving and Conquering Nature: Shifting Perceptions of the Environment in the Industrialised Russian North. *Europe-Asia Studies*, vol. 64 (4)..... 119
- Bolotova A. 2011. Engaging with the Environment in the Industrialized Russian North. *Suomen Antropologi: Journal of the Finnish Anthropological Society*, vol. 36 (2): 18-36..... 147

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1. INTRODUCTION

“I fell in love with the North and I see it as my homeland now.” So spoke Ludmila, one of my informants, who lives in a mining city in the Murmansk region. *“To live here and not to love nature...I do not know what keeps these people here then, to tell you the truth...”* said Nikolaj, who lives in another industrial town in this region. Statements about the love for the North and Northern nature are very common in the industrial communities of the Russian North. During the Soviet period, a large number of such new industrial towns were founded from the ground up in areas with no previous permanent human settlements with the single purpose to extract the rich natural resources of the region. An intense ideological campaign for “mastering the North” was developed in the Soviet press. Slogans similar to *“Bolsheviks conquer the tundra!”* (Большевики покоряют тундру!) were very common in Soviet newspapers, starting from the 1920s and continuing up to the late Soviet period. In the official rhetoric, nature was positioned as hostile to people, empty and meaningless before human activities bring sense and rationality to it. People sent to the North by the State were, in a way, on a mission to breathe new life into this sleeping and useless wild nature by developing industries and building cities there.

In this thesis, I deal with the paradox that appears from the people’s statements quoted in the beginning of this chapter and the Soviet dominant discourse on nature: how did people who were on the State’s mission to “master the North and nature” come to feel strong emotional attachment to and love for the Northern environments? How did they combine their involvement in the extractive approach to natural resources with their lived experience of dwelling in Northern environments?

To explore this paradox, I analyse both the dominant State discourse concerning nature and natural resources that was developed in the Soviet Union, and people’s living experience of interaction with the natural world.

Ideas of human dominance over nature reach back millennia, all the way back to the divine mission that Adam and Eve received from God to subdue wild nature in order to make a living after being thrown out of paradise (Old Testament, Genesis 1). The notion that humans need to invest hard work in order to produce food and shelter from the wild and hostile natural environment shows that already in the Bible it was inherent that nature was hostile and humans were made to subdue it to their own needs. Along this line, human dominance over nature was common for all modernist States, being especially

romanticised in large countries like the USSR and the USA². However, authoritarian regimes were especially keen on the idea of implementing projects to conquer nature due to the citizens' lack of resistance to these projects. In an authoritarian State like the USSR, the ideas of conquering nature were intensely developed and became an important part of the authoritative discourse. The Soviet State proclaimed human dominance over nature, calling the citizens to control, modify and regulate natural processes, coping with the chaotic and meaningless natural environment. This idea supplemented the overarching goal of a total reconstruction of the social order and individuals, as it was proclaimed by Maxim Gorky in his famous slogan, "Man, in changing nature, changes himself". In struggling with the hostile and powerful natural world, the Soviet people gained heroic qualities and strong characters. My thesis sheds new light on the mutual changes of both humans and nature in the Russian North, and, particularly in the second part, on how people changed themselves through their engagement with the environment.

Ideology and the official discourse on nature in the Soviet Union have been studied by scholars from various disciplines, mainly history, geography and sociology. Most studies are focused on how nature was publicly discussed in the Soviet Union, analysing representations and images of nature, landscape and non-humans in various sources of Soviet official propaganda and popular culture: newspapers and literature (Bruno 2004 and 2010, Bolotova 2004, Husband 2006, Borejko 1996, Shtil'mark & Reeder 1992), art (Bassin 2000, 2003) and cinema (Widdis 2003)³. For the modernist discourse on dominance over nature, the North was always a very important frontier territory where the natural environment is immensely alien and hostile to humans. Imagining the Arctic as a wilderness and frontier, a personal and collective challenge for human beings, stimulated its explorations by Western scholars and adventurers in the 19th century.

For the newly formed Soviet State, the Northern periphery of the vast country's territory also became an important area. During the 1920s and 1930s, when processes of nation-state building in the Soviet Union were especially active, the whole country became fascinated with Arctic explorations and the 'conquest of the Arctic'. The most intense attention was paid to the polar expeditions, the conquest of the North Pole, and to the development of Arctic aviation (Petroni 2000: 46-84; McCannon 1995, 1998, 2003). Reports from polar expeditions were among the main news in the press, and polar explorers and pilots were put up as national celebrities (Widdis 2003). In this respect, the Soviet Union was in line with the spirit of the time, when Western empires such as the UK or states such as Norway also used polar exploration as a matter of establishing national pride through exploits such as the race to Antarctica between Scott and Amund-

2. See studies on ideas about nature in Western cultures: Dickens 1996, Eder 1996, Williams 1972, Merchant 1980.

3. See also an interesting collection of articles on landscape and space for Russian/Soviet culture: "The Landscape of Stalinism: The Art and Ideology of Soviet Space" (Dobrenko and Naiman 2003). On pre-revolutionary imaginations of nature and space in Russia, see Ely 2002, Bassin 1999.

sen (Pringle 1991, Wylie 2002). The explorations of Northern natural resources and their industrial development were also among the main issues at this time.

In the media, the Northern frontiers were billed as extraordinary areas for personal growth and character formation that were paired with conquests of the natural world. The Arctic myth became a key element of Soviet propaganda and popular culture, representing the top level of the Soviet 'war against the environment': "If the "struggle with the elements" was an integral theme in Soviet culture during the 1930s, that struggle found its highest expression above the Arctic Circle" (McCannon 1998: 83, see also McCannon 1995). In my thesis, I explore how the perception of the Northern natural environment by settlers in the North changed over time from an alien and hostile area to a familiar, personal and favourite dwelling place. I demonstrate how the hostility of nature and the ideology of conquering nature can go together with human love for the natural world.

The discourse of 'conquering nature' and 'mastering the North' rose to become one of the leitmotifs of the Soviet ideology in the 1920-1930s, and later it continued to develop. By the 1960s, it had become normalised and standardised as a part of the whole Soviet ideological discourse. Alexei Yurchak has convincingly shown that during the late Soviet period, ideological representations became increasingly fixed and replicated and these representations "no longer had to be read literally, at least in most contexts, to work perfectly well as elements of hegemonic representations" (Yurchak 2006: 14). The authoritative discourse of the late Soviet period included the same ideas of man's struggle with nature, and the newspapers were still full of calls for action against nature and drastic alterations to the environment, but the representations became highly mythologised and epic, often turning into formal, predictable and ceremonial fairy-tale-style narratives.

The official propaganda was not the only means to stimulate people to work and live in the North. Despite the official statements and celebrations about the heroic conquest of the North by enthusiasts, until Stalin's death in 1953, the reality of 'mastering the North' was conducted mostly by exiled peasants and Gulag prisoners who had been forcibly resettled and who were the main workforce at all Northern construction sites.

In the mid-1950s, when the Gulag system was significantly reduced, the ideological campaign for mastering the North was refreshed, aiming to cope with the extreme lack of workforce. Authorities also developed a system of material benefits for Northern settlers, trying to make the North attractive for the younger generation of workers and specialists. Moreover, all young graduates who obtained secondary and higher education were distributed to enterprises all over the Soviet Union according to the needs of the workforce. Compared to the rest of the Soviet Union, in the regions officially defined as Far North, people could receive higher wages, better housing, an earlier age for retirement and increased pensions (Slavin 1982). This system of benefits supplemented the intense campaign in the media and popular culture that promoted the North as a 'mythical wilderness' waiting to be conquered by ambitious and enthusiastic youth.

In reality, Northern newcomers had various reasons for migrating: some were attracted by the material benefits, others were lured by the “romance of the North”, willing to go to faraway places “for the smell of the taiga”, as was expressed in one of the popular songs of that time. Specificity of the Northern environment plays an important role in romantic images of Northern life that many of newcomers shared before their arrival. For young people, the extreme and challenging character of Northern environments and exotic natural phenomena such as polar days, the midnight sun, polar nights and Northern lights were among the most important attractions. In the 1950s-1960s, such strong romanticism towards nature, a fascination with distant territories and other anti-materialist justification for migrating up North were prevalent in the society: the North was seen as a challenging and romantic territory for self-realisation, self-testing, adventure and sincere friendship⁴. This ‘spirit of the time’ was actively used in the official rhetoric as a stimulus for going up North.

For the majority of Northern settlers, this romantic image of the North that was typical for the outsiders was gradually replaced by a more finely-tuned and engaged perception of the Northern environments, as intimacy with Northern natures grew during the time they lived in the North. In social sciences, rather little is known about ordinary people’s relationship with the environment in the USSR and Russia. Scholars have mainly studied people who were personally involved in environmentalism and nature conservation, both during the Soviet period and during perestroika (Weiner 1988, 1999, Shtil’mark 2003, Yanitsky 1993, Pickvance 1998). A significant amount of literature has been written about environmental problems and environmental degradation in the USSR, emphasising the catastrophic consequences of the Soviet rule (e.g. Komarov 1980, Feshbach and Friendly 1992). The consequences of Soviet industrialisation and its effect on both the Northern environment and the people have been discussed by environmental historians (Josephson 2011, Bruno 2010, 2011, 2013; for a more general overview on environmental history of Russia see Josephson et al. 2013).

There are numerous anthropological studies of the Russian North that focus on rural/indigenous populations and their relationship with the land (Anderson 2002, King 2002, Habeck 2005, Stammer 2005, Vitebsky 2005). Urban Northern dwellers are rarely studied by anthropologists, who usually pay attention to urban sites only when passing them on the way to remote village places or when contrasting certain aspects of the lives of indigenous people. In these studies, urban residents are often seen as distant from the environment, and their settlements are disconnected from the surrounding environment, situated in places hostile to humans (e.g. Anderson 2002: 1-3, Gray 2005: 122, 130-131, King 2002: 74-77). However, there are several studies devoted to the non-indigenous residents of the Russian Far North that pay attention to the interac-

4. Vail and Genis 1998. See also one of the very popular novels of this time, written by Oleg Kuvaev “Territoriya” (Kuvaev 1978).

tion of the Northern urban population with the natural environment (Thompson 2009, Karjalainen 2006). Niobe Thompson conducted a thorough study of Chukotka's industrial settlers, who came there during the Soviet industrialisation campaign. Concerning settlers' interaction with the natural environment, Thompson suggests that newcomers develop the ability to 'feel' the environment after they stop working in the industrial domain because of their contact with indigenous people (Thompson 2009). What does not evolve from Thompson's material is an understanding of how settlers' engagement with nature would develop through their own experience without indigenous input – a situation that I analysed in my own research. Karjalainen wrote several articles and a PhD dissertation on environmental concern and ordinary people's perception of pollution in the Republic of Komi (Karjalainen 2001, 2004, 2006). Karjalainen's work is close to my interests, because he also explores people's engagement with the surrounding environment and uses Tim Ingold's theory. However, his major focus is not on interactions with the natural world but rather on environmental problems and changes as they are perceived and experienced in the life-world of the individual.

In general, the existing scope of social science scholarship on people's relationships with the natural world in the Soviet/Russian North has a significant gap: studies of people's perceptions and interactions with the natural environment are separated from studies of the State's strategies and discourses. My research bridges this gap, bringing together these two perspectives, because understanding the discourse is only complete if we understand its influence on the ground among people who were engaged in implementing the postulates of that discourse.

2. RESEARCH QUESTIONS

In this thesis, I touch upon several current debates in social sciences concerning the interaction of humans with the natural world, most notably studies of discourses and representations of nature and research on urban dwellers' perception of the natural environment. Analysis of the dominant discourse on nature alone does not reveal anything about how social actors relate to it in their everyday lives. In reality, Soviet citizens, who were the targets of the State's campaign for struggling with nature, sometimes shared, sometimes opposed and most often were indifferent to the dominant discourse on nature. Often, people simply did not pay much attention to the literal meanings of the ritualised acts and hegemonic representations that they received (Yurchak 2006). In this thesis, I combine a study of the dominant discourse on nature and the North in the USSR with a study on the perceptions and interactions with the natural environment characteristic of the people who personally participated in the Soviet *osvoenie severa* ("mastering the North"). Doing so allows for a clarification of how much of the dominant discourses trickled down into shaping the practitioners' everyday interaction with the environment.

This research perspective can be specified in two interrelated blocks of research questions – one block on the dominant discourse of nature, and the second on the perceptions and uses of the natural environment among those who developed the industrialised Russian North:

1. What are the specific characteristics of the dominant discourse of nature, and how was it developed in the Soviet Union?

- What kinds of representations of nature were produced on the level of the official rhetoric and culture in the USSR? How have the dominant conceptions and images of nature changed over time?
- How was the dominant discourse of nature implemented during Soviet industrialisation, and what were the means and strategies for its implementation?
- What were the major historical changes in the regimes of using natural resources during the Soviet period, e.g. in priorities of the ruling elite, in the decision-making style, and in the main workforce?

2. How did the dominant discourse of ‘conquering nature’ affect people’s perceptions and uses of the natural environments?

- How did the Soviet principles of organising human and physical landscapes echo in people’s interactions with man-made and natural environments? How did the functional zoning of socialist cities influence personal experiences of landscapes and uses of ‘nature’, and what was called and used as ‘nature’ in different zones?
- How did people who were personally involved in ‘conquering nature’ and ‘mastering the North’ approach, perceive and interact with the natural environment in their everyday lives? What practices in the natural environment are characteristic of settlers of Northern industrial communities?
- How did dwelling practices outside the man-made environments of cities shape people’s relationship to the locality and their sense of place?
- With these questions in mind, this thesis sets out to explore changes on the level of discourse and everyday life throughout the Soviet period, paying special attention to differences between two waves of industrialisation in the Murmansk region: in the 1930s and in the 1950s-1960s.

3. RESEARCH DESIGN AND METHODOLOGY

The research for this thesis was conducted in two stages: the early stage over the course of 2003-2005 and the major study during 2007-2010. The first stage of research started as an initiative research project called *Social Constructions of Nature: Soviet Geologists as Professional "Conquerors of Nature"*. My interest in this topic grew out of my personal encounters with field geologists and listening to their stories about work on geological expeditions⁵. In their stories, their passionate work towards the goals of scientific inquiries co-existed with the very emotional relationship with the natural environments, an admiration of natural beauty and love for an expeditionary lifestyle. I initiated a research project about field geologists in order to explore those distinct perceptions of the environment that coexisted in people's individual life-worlds. This focus was combined with a study of the official rhetoric in Soviet newspapers in relation to nature and geologists. It resulted in two articles (1 and 2), which are included in this thesis. In the course of this project, I conducted biographical and thematic interviews with field geologists and analysed both published and unpublished memoirs and diaries of field geologists, plus historical accounts, newspapers, and visual materials from personal and public archives.

The major part of this study and the final concept of the research are based on work done in the course of the BOREAS MOVE-INNOCOM project *Assessing senses of place, mobility and viability in industrial Northern communities*. The project proposed a comparative analysis of mobility and settlement in communities of industrial workers in Northwest Russia/Siberia. We analysed how incomers to new industrial towns developed a localised sense of place, investigating which factors let residents of Northern industrial towns develop intimate relationships to their Northern localities and the natural environment. The other two articles (3 and 4) included in this thesis are based on data taken from the MOVE-INNOCOM ethnographic fieldwork conducted during the period 2007-2009 on several field trips, totalling 7 months, in three industrial cities in the Murmansk region. My entrance to the fields for this project was made easier because I was born in the country and in the region where I did my fieldwork and had the same mother tongue. I also grew up in one of the new industrial cities, so I was usually considered by my interview partners as a "Northerner" and "ours" (*svoya*) and conducted a kind of "anthropology at

5. I received my first Master's Degree from the geological faculty at St. Petersburg State University (M.Sc. in Environmental Studies), and therefore I had many occasions to meet experienced geologists who went on numerous expeditions during the Soviet period.

home” (Jackson 1987). Difficulties connected with the position of an ‘inside’ researcher were mitigated by the fact that I was still not perceived completely as a local, since I have lived for the last fifteen years in St. Petersburg and abroad. This in-between position gave me an opportunity to use the advantages of both ‘insider’ and ‘outsider’ statuses.

The regional focus of this study also differs in different parts of this thesis. In articles 1 and 2, the research is located in the context of the broadly defined Soviet/Russian North⁶, while in the second two articles and partly in the introduction, I focus more particularly on the Murmansk region. This differentiation appeared mainly due to the distinct design of the two research projects. Most materials for the first project were collected and analysed in St. Petersburg (Soviet newspapers and personal accounts of field geologists such as biographical interviews, memoirs and diaries), though I also conducted some ethnographic fieldwork when I was employed for one month as a field worker on a geological expedition. This experience was important for the development of the idea of this project. The second project was mainly based on ethnographic work in the Murmansk region. The fieldwork was conducted in three industrial towns in the Murmansk region: Kirovsk, Apatity and Kovdor.



Figure 1. The research sites in Murmansk region

6. I follow here the definition of the North developed by the famous Soviet economist Slavin, who defined the Soviet North as an economic zone that can be divided into two sub-zones called the Far North and the Close North, according to their involvement in the country’s economy and opportunities for development (Slavin 1982: 12-13).

All three towns are connected to mining industries, and were founded at different stages of Soviet industrialisation. The Murmansk region was industrialised in two waves: the first began in the 1930s when the first large mining complexes of Kirovsk and Monchegorsk were built; the second wave happened in the 1950s-1960s, when numerous other new industrial settlements were established. The town of Kirovsk (initially named Khibinogorsk, renamed in 1934) was established in the early 1930s near Khibiny Mountains, close to a huge deposit of mineral apatite used for production of agricultural fertilisers. It had a population of 28 074 people in 2013. The city of Apatity, which had 58 600 inhabitants in 2013, started to grow in the early 1950s in a close proximity to Kirovsk, and was designed to be an applied research centre, a place for an apatite processing plant and a home base for industrial workers employed at the Kirovsk mines (the city of Kirovsk had used up all the available space for growth by that time). The third chosen city, Kovdor, with a current population of 17 900 people, is a typical example of a single-industry mining city founded at the end of the 1950s⁷. Open-pit mining for iron and apatite ore is practised in Kovdor, while in Kirovsk, apatite is extracted both in open mines and underground grooves. This particular selection of cities was made with a purpose to conduct research in different types of new industrial towns in the region. We included towns established in two waves of industrialisation (1930s and 1950s) and we also included the city of Apatity in order to represent a non-single-industry town that was connected not only with mining but also with scientific and educational institutions.

The scope of methods used in this study includes discourse analysis, biographical interview, participant observation, and analysis of various secondary sources. This particular selection of methods is defined by the complex goals of this study that combine analysis of the State's view on nature and also the people's interactions with the natural environment. I used Critical Discourse Analysis (CDA) as an analytical tool to reconstruct the authoritative dominant discourse on nature in the Soviet Union as was expressed in the official media, such as central Soviet newspapers. As it was stated by Schiffrin et al. (2001) definitions of 'discourse analysis' can be grouped into three general categories: 1) the study of language use; 2) the study of linguistic structure 'beyond the sentence'; and 3) the study of social practices and ideological assumptions that are associated with language and/or communication. The analysis of the dominant discourse of nature in the Soviet Union belongs in the third category and it is focused on assumptions, claims and rationales/arguments used in newspaper publications about field geologists and their contacts with natural environments. Discourse analysis had already been used by other authors in researching the nature/society border and in analysing the complicated constellation of ideas and practices on nature (e.g. Hajer 1995, Eder 1996, Dryzek 1997; Eckersley 1999, Macnaghten 2003, Rodgers 2008). I followed this trend and applied the discourse analysis in my deconstructive reading of several

7. Numbers of inhabitants for all cities were sourced here: Chislennost' naseleniya ... 2013.

Soviet newspapers with a purpose to survey the dominant view on nature as expressed in the official rhetoric, reconstructing assumptions, interpretations and explanations. In analysing these texts, I paid attention to the use of metaphors, choice of particular words, and making accents. Altogether, I analysed related publications in five central newspapers⁸ for the period between the 1930s to the 1960s, however the final publication (Bolotova 2004, Article 1 in this collection) presented an analysis of only the 1960s material, which I found most relevant for the focus of the article.

The method of biographical interview was used during both stages of the project, as I consider it to be one of the best ways to obtain personal testimonies on past activities and perceptions, and to approach personal experiences in particular circumstances, locations and processes (Flick et al. 2004, Chamberlayne et al. 2000). For the 'geologists project' I interviewed 15 geologists who had worked on field expeditions during the Soviet period. For the second stage of this research, where I analysed people's engagement with the natural environment in Northern industrial towns, I used the research materials of the MOVE-INNOCOM project that I collected in 2007-2010. The whole collection consists of about 170 unstructured biographical interviews, from which I chose narratives related to people's interaction with the natural environment over their entire life history. I found my interview partners for the MOVE-INNOCOM project by the snowball method, and the selection was checked in relation to the balance of different social and economic factors (Flick 2006). I found the snowball sampling technique to be the most appropriate for my research because it allowed me to establish more informal contacts with people. Approaching informants through their informal social networks helped me to gain their trust and confidence. In addition to the main collection of MOVE-INNOCOM interviews, I also conducted twelve thematic, in-depth interviews with passionate 'nature-lovers' who practise hunting, fishing, or gathering as their most important leisure activities. In a thesis focusing on people's engagement with the natural environment, this conscious thematic choice of additional interview partners is necessary in order to better understand the interactions with the natural world of people deeply engaged with the environment. For the sake of anonymity, all names of my interview partners have been changed. Most interviews were audio recorded, and some of them were documented by written notes in cases when the informant did not feel comfortable being recorded. Interviews were analysed as texts during the analytical phase of the project. I worked with materials using the following procedure: first, interviews were transcribed, and then I went through repeated readings of the transcripts and notes, looking for themes and patterns. Then, all qualitative data such as interviews, personal written accounts and ethnographic field notes were coded and analysed. As a result, I was able to mark data-driven patterns that correlated across different contexts and materials.

8. Izvestija, Komsomol'skaja Pravda, Leningradskaja Pravda, Pravda, Sovetskaja Rossija.

Another major source for my analysis was records of participant observation conducted at both stages of the research. During the first stage, I conducted participant observation on a geological expedition in Northern Karelia in August-September 2002. There I was part of the expedition: I worked together with other members of the team, lived with them in the village and in the tent camp, sharing everyday life routines with geologists. During the second stage of my research, I conducted participant observation in three industrial communities in the Murmansk region. I had several field seasons for this part of the study, and the length of my stays varied between one and three months. Sometimes I rented a room in family apartments, sometimes separate flats, but I always actively participated in the city life in addition to my attempts to become involved in people's daily practical activities, especially ones connected with being "in nature", as people express it. This approach helped me to understand the experience and life contexts of my informants. I accompanied some of my interview partners on various activities in natural environments both inside and outside the cities. I went with people on their favourite walks, joined them for fishing, and in certain seasons we gathered mushrooms and picked berries at their favourite places, I visited my informants' dachas and we visited nearby forests and lakes. While sharing these activities with people, I conducted informal discussions on various topics and observed and participated in their practices of interaction with natural environments. Participant observation and in-depth interviewing were important complements: after observing and sharing people's practices in natural environments, I was able to better understand what people were talking about and was able to ask more informed questions in interviews.

In addition to biographical interviews, during both stages of this study I collected various personal testimonies and memoirs, both published and unpublished. For the first stage of the project, I found thirteen autobiographies, diaries and memoirs of field geologists in the USSR. Those rich texts form a good supplement to biographical interviews with geologists, because most of them are based on personal, contemporaneous written notes and diaries, as distinct from the retrospective perspective of biographical interviews. In using this material, I tried to overcome the limits of other sources, such as the effect of nostalgia about young years that can be easily observed in many biographical interviews. I also collected similar kinds of autobiographies, diaries and memoirs during the second stage of the project in new industrial cities in the Murmansk region, especially in Kirovsk. Here the goal was to obtain personal accounts of people who witnessed the early phase of the Soviet industrialisation of the region in the 1930s. By conducting interviews, I gathered only childhood memories of several informants about this time, so by extensive use of these kinds of secondary sources, I aimed to broaden the time frame and the scope of this research. Reading various autobiographical accounts also significantly improved my understanding of the everyday life of settlers in Northern environments in different periods. All of the personal accounts that I collected were coded and analysed in parallel with the analysis of biographical interviews. Various kinds of

secondary sources were also used in this study, such as information provided by local museums, published interviews, newspapers, films and fiction, etc.

This study presents a data-driven analysis and I used elements of the 'grounded theory' approach when making comparisons of emergent themes and topics in parallel with an exploration of deviant cases (Emerson et al. 1995, Glaser & Strauss 1967). Due to the heterogeneous character of my material, I also needed to use other methods in my analysis of data, e.g., I used principles of discourse analysis to reconstruct the dominant discourse on nature. By using multiple methods and approaches to collect research material in this study, I intended to overcome the weaknesses and limits of particular methods and develop a more contextual approach. The heterogeneity of my sources can be considered as both a limitation and a strength of this study: on one hand, I cannot provide steady conclusions and definite answers on stated questions; on the other hand, I can present a more comprehensive coverage of the problem through analysing diverse materials. However, this study is also limited from the quantitative point of view: I exclusively used qualitative methods of research and cannot provide any statistical information concerning the subject of this research. Using quantitative and statistics would be appropriate for a different goal, namely to find out how many people feel attached in these cities to their nature. My goal was different: to find out *how* these people relate to their environment, what the quality of that attachment is, and the principles that underlie the evolvement of such attachments. To fulfil this goal I needed not statistics, but the best possible in depth information from a carefully selected limited group of people.

4. THE OUTLINE OF THE ARTICLES

The study consists of this introduction and four research articles. In the first article, entitled *Colonisation of Nature in the Soviet Union, State Ideology, Public Discourse, and the Experience of Geologists*, I combine the analysis of the dominant (hegemonic) discourse on nature in the Soviet Union with an empirical investigation on the interpretations of nature and the interactions with the environment of field geologists who worked on geological expeditions during the Soviet period. Based on the biographical materials, I consider the thoughts and behaviours in relation to the natural environment in the everyday lives of people who, in the official rhetoric of the Soviet times, were celebrated as courageous conquerors of nature.

The second article, *Managing Natural Resources at the North: Changing Styles of Industrialisation in the USSR*, continues to examine the State's approach to natural resources in the USSR, and discusses regimes of natural resource use in the USSR and their historical changes. It was co-authored by Dmitry Vorobyev, with me as the leading author. For this particular article, I wrote the major parts that dealt with the historical analysis and the theoretical discussion, and Dmitry contributed to the analysis of decision making in the USSR and provided empirical examples of water resource management. In the article, we trace the major changes in the style of the industrialisation of the North, showing how a gradual transformation of the decision making process regarding the use of natural resources entailed the emergence of critical discussion on the most dangerous engineering projects.

The third article, entitled *Engaging with the Environment in the Russian Industrialised North*, is thematically connected with Article 1, and continues to explore people's perceptions of the natural world. The third article focuses on how inhabitants of the new industrial cities in the Russian North interact with non-built, natural environments: the forest, the mountains, the flora and fauna, the lakes and rivers. The variety of practices of engaging with the natural environment is studied using the example of three case study cities in the Murmansk region that were founded during the Soviet period. In this article, I demonstrate how recent settlers adapt to new Northern environments during the first years after their arrival. I consider the process of the formation of vernacular ecological knowledge and various practices of interaction with the natural world, and analyse how the former migrants gradually develop the skills that are necessary for dwelling in Northern environments. I show that people's engagements with the natural

environment have a collective character: the knowledge, skills and practices are shared and distributed, shaping localised personal and group identities.

The fourth article, entitled *Loving and Conquering Nature: Shifting Perceptions of the Environment in the Industrialised Russian North*, considers how the newly built socialist towns were placed and integrated into the Northern environment, and analyses the process of the spatial formation of new urban territories. I consider the concepts and ideas of Soviet planners, as well as their implementation in three case study cities in the Murmansk region. The paper also moves beyond an analysis of city planning to consider the dwelling practices of people who populated the newly built cities. I analyse their interaction with both built and non-built environments, and how the strict functional zoning of socialist cities influences settlers' perceptions of the natural environment. In this article, I demonstrate how urban city-dwellers develop strong emotional attachments to Northern natural environments when they spend their leisure time outside the city while at the same time implementing the governmental 'conquest of nature' during their work in the extractive industry. Thus, the meanings that are attached to zones in and around the city are diverse and are shaped by individual dwelling practices. However, the functional zoning of space that was implemented in new socialist cities is mirrored in people's perception, with the main dividing principle being between the spheres of work and leisure in terms of both the physical space and the residents' ideas about the place. I demonstrate how the way people engage in various activities at work and in their leisure time defines their varying perception of the natural surroundings, and vice-versa – how their relationship with the environment influences their practices in nature.

5. CONCEPTUAL AND THEORETICAL FRAMEWORKS

Below, I review the theoretical approaches and conceptions that were relevant for my analysis of interactions with the natural environments in the Russian industrialised North. I overview the main concepts used in this study and formulate a theoretical framework that unites 1) the analysis of the Soviet dominant discourse on nature and the process of its implementation with 2) the examination of the perception of the environment and the environmental engagements of people involved in the State-driven process of ‘conquering Nature’.

In order to achieve this, I employ a combination of anthropological and sociological theories, namely the concepts of ‘discourses of nature’ and ‘multiple natures’ (Macnaghten and Urry, Macnaghten, Eder) and the dwelling and building perspective (Ingold) for integrating a study of the Soviet State discourse of nature with an investigation of environmental engagements of Northern settlers. I shall show how combining these concepts helps us to understand the crucial link between the dominant discourse of conquering and the lived experience on the ground.

5.1. Conceptualising Nature

Historically, the concept of ‘nature’ is one of the most ambiguous in social sciences and philosophy. The ideas and views on nature undergo constant and considerable transformation. The Soviet dominant conception of nature, as analysed in this thesis, has its historical roots in the modernist approach to the environment. It is based on the mechanistic view of nature that was developed in the 16th and 17th centuries in the disciplines of both philosophy and science. It assumes “that nature can be divided into parts and that the parts can be rearranged to create other species of being. Facts or information bits can be extracted from the environmental context and rearranged according to a set of rules based on logical and mathematical operations. The results can then be tested and verified by resubmitting them to nature, the ultimate judge of their validity” (Merchant 1980). Hegemonic domination of nature is based on the Enlightenment constructions of Nature as external and primordial, as a force to be mastered physically by the growth of urban environments, and ideologically through denying intentionality and agency of a natural world (Wilbert 2000, Johnston 2008). Such a view of nature

detaches human beings from the environment and sees nature as a set of passive objects to be used and worked on by people (Williams 1972).

During the last few decades, the modernist strict detachment of the world into 'natural' and 'social' orders has been heavily criticised in philosophy by both the social sciences and the by the environmental and feminist social movements. Literature on this topic is extensive in various disciplines. Feminist researchers connect the domination over women in Western societies to that of the environment and with the separation of humans from nature (e.g. Merchant 1980, Plumwood 1993). In sociology, the nature/culture division is criticised by the social constructivist approach in environmental sociology (e.g. Lash, Szerezynski and Wynne 1996, Eder 1996, Macnaghten and Urry 1998, Hannigan 2006). In turn, the idea of the social construction of nature is criticised by the actor-network theory and science and technology studies (STS) for ignoring interactions between humans and non-humans and the material world, which consists of a plenitude of organisms, entities, artefacts, and technologies participating in social relationships (e.g. Latour 1999, 2004, Callon 1995). In anthropology, the distinct consideration of people and their environment was also criticised by a number of authors (e.g. Croll & Parkin 1992, Gillison 1980, Hirsch & O'Hanlon 1995, Strathern 1980, Ingold 2000, 2011). In human and cultural geography, recent studies of the human–environment relationship develop so-called 'post-human' and 'more-than-human' perspectives, which refuse the ontological separations of culture and nature, humanity and animality (e.g. Whatmore 2002, Castree 2011, Massey 2005, Hinchliffe 2007).

Different disciplines developed alternative analytical approaches, trying to overcome the separation between culture and nature. For example, sociologists Macnaghten and Urry suggested an alternative to the concept of singular Nature: they see conceptual frames of humans' place in the natural world and relations of humans to nature as based on cultural norms, social ideologies, and philosophic ideas, developed in a concrete society, and they propose to analyse *multiple 'natures'* by examining how various 'natures' are being constantly socially produced by different social actors (Macnaghten & Urry 1998). Similarly, Bruno Latour calls for the replacement of the category of 'nature' by a variety of so-called 'socio-natures' that are constantly changing (Latour 2004: 22).

Nature taken in the plural form allows for an analysis of the varieties of interactions with natural environments, and in doing so, showing the flexibility and changing character of the perception of material landscapes, and this perception's dependence on context, personal and collective experiences and knowledge. Thus, 'natures' can be analysed as a result of the social production of space, considering meanings, emotions and practices elaborated in natural physical environments.

Analytically, the concept of 'multiple natures' is close to the concept of *discourses of nature* (Macnaghten 1999, Eder 1996), which I apply in this thesis in the reconstruction of the authoritative dominant discourse of nature in the Soviet Union. This concept is close to the notion of 'environmental discourse', widely applied in the analysis of environmental

issues in environmental policy research⁹. Hajer defined the general concept of discourse as “a specific ensemble of ideas, concepts and categorizations that is produced, reproduced and transformed in a particular set of practices and through which meaning is given to physical and social realities” (Hajer 1995: 264). Discourses of nature comprise generally accepted systems of ideas on nature, meanings of nature and practices of interaction with the environment. This approach explores what is said about ‘natures’ as an interrelated set of ‘storylines’, what is done, and what the mechanisms of production and reproduction of discourses are. Discourses of nature are interconnected, interdependent, and correlate with social and physical processes: power, social relations, institutions, beliefs, and material practices which are crystallised into material landscapes. Some of the discourses become hegemonic and dominant and, therewith, they define what should be considered as truth, knowledge and common sense (Foucault 1972, Fairclough 1995). I shall take this approach in the field in order to analyse the Soviet dominant discourse on nature as well as other views on nature and interactions with the natural world in the North of Russia.

The notion of discourse is connected with the concept of ideology. According to Stuart Hall, ideologies can be defined as “the mental frameworks – the language, concepts, categories, imagery of thought and system of representation – which different classes and social groups deploy in order to make sense of, define, figure out and render intelligible the way society works” (Hall 1996: 26). In this thesis, I use the term ‘ideology’ in a narrower sense, not focusing on ideologies of social groups but rather referring to the Soviet ideological system that was formed on the basis of socialist/communist ideologies and supported by the ideological institutions, rhetoric and rituals of the Soviet State, including ideas about humans’ relationship with the rest of the natural world. In the context of this research, I am interested in the discourse dimension of ideologies, and in looking at how these ideologies are expressed, construed or legitimised by discourse and how people understand them (Van Dijk 2011).

The discourse analysis of ‘natures’ offers an appropriate analytical instrument for reconstructing the dominant discourse on nature as well as its alternatives. However, it still shares social constructionists’ understanding of social interaction between humans and the natural environment, where intentionality and agency of the natural world is not seriously considered. This perspective is criticised for over-socialising nature and for continuing to use the dichotomy of thinking about a person – organism, society – nature and for focusing on symbolic meanings/representations while ignoring the dynamic process of human engagement with the environment (e.g., Whatmore 2002). Alternative approaches suggest that the natural world cannot be reduced to social relations alone. In this thesis, I apply the *‘dwelling perspective’* developed by Tim Ingold and aim to overcome the weaknesses of the discourse analysis of ‘natures’. This perspective focuses on the process of humans’ active interaction and engagement with their encom-

9. For analyses of environmental discourses, see Dryzek 1997, Litfin, 1994, Hajer 1995.

passing environment (Ingold 2000: 172-188). As Ingold writes: “[h]uman beings do not inscribe their life histories upon the surface of nature as do writers upon the page; rather, these histories are woven, along with the life-cycles of plants and animals, into the texture of the surface itself” (Ingold 2000: 198). Ingold introduces a distinction between the perspectives of ‘building’ and ‘dwelling’, following the phenomenological tradition of Heidegger, Merleau-Ponty and others. This *‘building perspective’* assumes that “the organisation of the space cognitively precedes its material expression; built environments are thought before they are built” (Ingold 2000: 181). The building perspective sees the world as something pre-given, ready-made – the perception that worlds are made before they are lived in, constructed before they are inhabited.

The central focus of my study is on the crossing of these two perspectives: how do people perceive, engage with and dwell in the natural environment if they work and live in a pre-made environment of Northern industrial towns and are involved in the extraction of natural resources? How is the dominant approach to nature incorporated and realised in the lives of individuals?

I apply the ‘dwelling perspective’ approach in order to understand people’s interactions and engagements with the environment in their daily life. The new industrial towns that I study were constructed on the basis of standardised projects developed by remote planners, and the urban space there was organised according to centrally planned ‘building perspective’ projects; however, the first generation of incomers personally participated in the building of their cities. People living in these towns do not dwell exclusively in the built environment but also develop strong connections to the local non-built natural environments.

I shall show how concepts such as socially constructed discourses of nature and phenomenological concepts of humans-in-the-environment such as the dwelling and building perspective can be used in combination to understand the complexity of human ideas, perception of and agency in the environment. As I show in Articles 3 and 4, even within those phenomenological approaches, the same agents can embody both the building and the dwelling perspectives in their everyday practice, which therefore shows that those perspectives form not a dichotomy but rather mutually complementary approaches to the environment that are activated depending on the situation and on which of the various ‘natures’ a human draws at a certain point in time and in a particular context. In the following, I use these theoretical bases to analyse the State discourse and then its implementation and perception on the ground as this influences various engagements with the environment in the Russian industrialised North.

5.2. The State and Nature under Authoritarian regimes

Building new towns from the ground up in new locations represents the essence of the characteristic administrative ordering of nature and society for the Soviet version of “high modernism” (Scott 1998). The modernist approach to nature was realised in most industrialised societies, but what was special in its implementation under authoritarian regimes? In such countries, the powerful dominant discourse on nature is produced by the State and is widely expressed in various forms of ideological representations. Scott defines ‘high modernist ideology’ as “a strong, one might even say muscle-bound, version of self-confidence about scientific and technical progress, the expansion of production, the growing satisfaction of human needs, the mastery of nature (including human nature), and above all, the rational design of social order commensurate with the scientific understanding of natural laws” (Scott 1998: 4). As Scott suggests, authoritarian States have special power and a will to implement the pathos of human power to control and rule the chaotic and meaningless environment, due to the limited space for critical discussions in the society. ‘High modernism’ gets even stronger in difficult times of wars, revolutions, and other crucial social changes.

The Soviet regime saw the natural environment principally from an economic perspective – as a source for natural resources to be extracted and produced. It was subject to control, regulation, and planning, with the fundamental goal of maximising profits gained from natural resources. This economic view has spread all over the circumpolar North, and found its most recent variation in the race for the remaining hydrocarbon and mineral resources by all Arctic States and an increasing number of non-Arctic actors (Anderson 2009). The Soviet dominant discourse on nature was expressed through the rhetoric of ‘conquering nature’ and ‘mastering the North’: the wild, voiceless, hostile environment had to be subdued and exploited, gaining meaning and significance only when used by humans. The rhetoric of depicting nature as wild and empty was needed in order to justify the radical transformations, similar to the concepts of wildness and backwardness used in relation to indigenous people to justify the necessity of modernisation projects and reforms (cf. Ssorin-Chaikov 2003). The social world is rooted in a natural, material environment and comprises a multiplicity of parallel developments of different interpretations of nature. However, it is the dominant discourse that has the power to shape the future and transform the material space.

There is a vast body of literature on governmentality in relation to the question of governing the natural environment. Researchers apply Foucault’s thoughts to analyse discursive regimes of the environment, paying attention to questions of spatiality, scale, territory and human/non-human relations¹⁰. From this perspective, the analysis of pro-

10. See e.g. Darier 1999, Deremitt 2001, Braun 2000. For a good overview of this perspective, see Rutherford 2007.

duction and circulation of discourses on nature is focused on how disciplinary regimes and truth claims are formed and how knowledge about the environment is produced and used for governing nature. From this approach, various experts involved in the production of knowledge/power (through activities such as gathering statistical data or making geological surveys and mapping), as well as workers and specialists working for industrial production are usually seen exclusively as carriers of the State's mission and the State's view on nature. However, social actors do not simply adopt the dominant discourse, but rather they incorporate it into a complex set of meanings and representations that include personal goals, life strategies, and everyday practices. How did the inhabitants of new Soviet towns combine their distinct views on the natural environments in their everyday lives? In the following, I overview the major concepts that I use in my analysis of the environmental engagements of people involved in the process of 'mastering the North' in the USSR.

5.3. Engaging with the environment in everyday life

Analysis of the dominant discourse on the environment does not help us to understand people's perception of the powerful discourse and their practical engagement with their lived-in environments. How did people read the authoritative discourses and ideologies that were produced by the dominant social order, and how did they operate with them? Some studies have recently shown how people living in the Soviet Union and working for the Soviet State interacted with ideological texts, rituals and slogans (e.g. Hellbeck 2006, Halfin 2000, Blum & Mespule 2008, Yurchak 2006: 77-125; Rozhanskij 2012a, 2012b). Authors explore the formation of 'Soviet subjects' by examining how individuals constructed the idea of 'self' in various Soviet periods. The 'Soviet subject' is seen as a product of power (Dobrenko 2007) and authors focus on the process of engaging with ideology, analysing the practices of identification with the State. In research devoted to the Stalinist period, authors analyse autobiographical materials, focusing on the process of 'self-transformation' and internalisation of Soviet norms, practices and the requirements of the system (Hellbeck 2006, Halfin 2000). In research that explores the post-Stalinist period, especially the late Soviet and post-Soviet times, authors apply a more performative approach to Soviet subjectivity, showing how individuals working for the Soviet State reproduced ideological frames as ritualised acts (Yurchak 2006, Ssorin-Chaikov 2003).

Most of these studies focus on the processes of identity formation and do not pay particular attention to the spatial and material aspects of the everyday contexts in which individuals operate. These aspects are important in the part of my research in which I examine how people who were involved in extractive production became engaged with the dominant discourse on nature: they work for the State and, to some extent, share the ideological pathos of conquering, and at the same time create other meanings and

perceptions of the environment. I apply Ingold's 'dwelling perspective' approach in my analysis of the diversity of engagements with the environment in the Russian industrialised North. Following Tim Ingold's example, I do not go along with the sharp division between human and non-human, world and environment. Ingold suggests looking at the world and its inhabitants who "conduct themselves skilfully in and through their surroundings, deploying capacities of attention and response that have been developmentally embodied through practice and experience" (Ingold 2011: 10-11). People interact with the material world physically, getting to know places through sensual experience and practical engagement with the environment. Taking part in establishing new cities from the ground up is a specific experience in which a person becomes involved in a 'Building project' – constructing a set of pre-made, pre-designed objects. I consider people's involvement in the 'building process' as an experience of dwelling, and I examine the skills that were developed among residents of new industrial towns through localised practice and training. The concept of "enskilment" (Ingold 2000: 36) is used to analyse how people learn through their everyday life experiences, through the teaching of others and from the environment itself. Combinations of learnt skills offer varying possibilities for actions, depending on the goal and capabilities of the person (Gibson 1979). As Ingold (2000: 192) asserts: "A place owes its character to the experiences it affords to those who spend time there – to the sights, sounds and indeed smells that constitute its specific ambience and these, in turn, depend on the kinds of activities in which its inhabitants engage. It is from this relational context of people's engagement with the world . . . that each place draws its unique significance".

Another important notion used in this study is the concept of "taskscape" (Ingold 1993, 2000), which I find particularly useful for analysing various types of space characteristics in the Northern industrial cities. Ingold defines a taskscape as a landscape with a characteristic array of related activities, a space of people's activity that has spatial borders and boundaries (Ingold 2000: 195). Ingold discusses this notion as that of a process rather than of a state. The predominant type of activity in a territory with expressed goals and objectives, in the sphere of which the environment is inhabited and used by people, strongly influences one's perception of the surrounding environment. This concept lends itself well to my study of the different functional zones in the socialist city, which I identify as distinct taskscapes that entail a certain set of activities as well as the perceptions of the humans inhabiting and enacting with them.

While in the discourse analysis of 'natures', the human agent is seen as a social constructor, nature has, in contrast, what Ingold (2000) has called "affordances" in extension of a concept by Gibson (1979). For example, the rocks in the Murmansk region afford iron and phosphate extraction, but only if a human agent sees this affordance in them. In a way, this was what the geologists found. After them, industrial workers would see this affordance of nature as a resource and engage with it through their extraction work, while they would also see the recreational affordance of nature when they spend

time in the vicinity of the mining waste tailings in the forest hunting, fishing or picking berries. I argue that the affordances approach to nature shows the combination of the human role in the construction of different environments through sensual perception, while also acknowledging that there is still a tangible dimension, a physical reality in nature that is based on a materially present resource, e.g., iron-ore content in a rock, or berries in the forest. In other words, the affordance of the forest as a place for picking berries can only be sensed by human agents if berries actually grow there.

5.4. Sense of place

The 'dwelling perspective' assumes that individuals develop strong connections with places through practical engagement with the environment; local people and their activities are part of the 'taskscape' of the place (Ingold 2000: 196-199). In addition to the dwelling approach, I also use the concept of 'sense of place' to explore how individuals attach meaning and develop personal connections to their new places of living in Northern industrial communities, and the role of their interactions with the natural environment in this process. 'Sense of place' is applied in different social sciences in explorations of how people perceive and experience the places in which they live and which they call home (e.g. psychology: Altman & Low 1992, geography: Relph 1997, Hay 1998, sociology: Hummon 1992). In social anthropology, the concepts of 'place' and 'sense of place' are developed in ethnographies focused on complex relationships between localities, identity and culture (e.g. Feld & Basso 1996). Keith Basso suggests considering close connections between 'selfhood' and 'placehood': "place roots individuals in the social and cultural soils from which they have sprung together, holding them there in the grip of a shared identity, a localized version of selfhood" (Basso 1996: 146).

According to Hummon, environmental context plays a very important role in forming one's 'sense of place': "By sense of place, I mean people's subjective perceptions of their environments and their more or less conscious feelings about those environments. Sense of place is inevitably dual in nature, involving both an interpretive perspective on the environment and an emotional reaction to the environment. ... Sense of place involves a personal orientation toward place, in which one's understanding of place and one's feelings about place become fused in the context of environmental meaning" (Hummon 1992: 164).

Some authors emphasise that place and place attachment should be conceptualised as process (e.g. Low 1992, Smaldone et al. 2005), and this approach is very relevant for a study focused on people who settled in newly built Northern towns. There are some specific features in the process of forming 'sense of place' in migrant communities, as was earlier shown in research on ways in which migrants relate to place, both places of origin and new places (e.g. Armstrong 2004, Rishbeth 2007). In my study, the majority of settlers in Northern industrial cities share the important common experience of

migration and settling in the North. After a while, they started to perceive their new places of living as home; however, most of them continue to keep their connections to their places of origin, developing a kind of place-polygamy¹¹ (Beck 2000, 2002). Gradually, newcomers get to know their new localities through dwelling in both built and non-built environments. The new living space is constructed through “social exchanges, memories, images and daily use of the material setting” (Low 2000: 128). Casey emphasises the importance of local knowledge in one’s sense of place: “To live is to live locally, and to know is first of all to know the places one is in” (Casey 1996). Over time, places that were initially unfamiliar start being identified as home and while getting to know a new place, people appropriate the locality and start to perceive it as their own, developing their sense of place and attachment to the place. In my analysis of ‘sense of place’ development in Northern industrial communities, I focus on how place perception is rooted in the environmental context. I analyse settlers’ experiences of dwelling in the local environment, examining how people attach meaning to and engage with their material surroundings, how this engagement turns those surroundings into places, and how those places in turn influence people’s identities.

5.5. Urban natures and embodied engagements

Interactions with the non-built environment and numerous non-human entities are very important for the emerging ‘sense of place’ in newly established urban communities. People living in cities do not dwell exclusively within the urban built environment; rather, they also interact with the environments in and around cities, encountering a variety of non-human components in their everyday life, as was conclusively shown in numerous recent studies of human–environment relationships in the field of cultural geography (e.g. Braun 2005, Degen et al. 2003, Jones & Cloke 2002, Hinchliffe 2003, Whatmore & Hinchliffe 2003). The nature–culture divide is heavily criticised and re-worked in new hybrid geographies with the emphasis on everyday knowledge and practice (Whatmore 2002).

Therefore, interactions with natural surroundings influence the development of specific human-place connections, which are an important part of the lived experience of a place. Particularly in communities of migrants, the way newcomers encounter, comprehend and inhabit the new landscapes significantly shapes their emerging ‘sense of place’. Interactions with natural environments in and around the city contribute to the formation of settlers’ new local identities. Emotional attachment to the environment de-

11. Beck mainly discusses transnational place-polygamy in relation to international migrants who identify with many places simultaneously, including their place of origin, their place of destination and various places where they lived: “They are married to many places in different worlds and cultures. Transnational place-polygamy, belonging in different worlds: this is the gateway to globality in one’s own life” (Beck 2002: 24).

velops through learning and practice (Milton 2002). People get to know their places and natural surroundings through walking, gardening, hunting and angling, foraging, canoeing, mountaineering and navigating, etc. Various engagements of people with the environment always have a sensuous and embodied character that has recently raised intense interest in anthropology and cultural geography (e.g. Franklin 2001, Lee & Ingold 2006, Lorimer & Lund 2003, Macnaghten & Urry 2001, Mullins 2009, Whatmore & Hinchliffe 2003). Authors in this field emphasise the high importance of sensory perception in interactions with the natural environment in the development of local spatial and biotic knowledge. Visual and tactile perceptions of the landscape that people get through sight, smell, touch and hearing provide a basis for sensual, intimate and emotional engagement with the non-built environment.

The main aim of this chapter was to introduce the major theoretical concepts and approaches used in my study of the environmental engagements of people involved in 'mastering the North' in the USSR and to show the relation of the dominant State-controlled discourses of nature in the Soviet Union to the lived experience of the industrial immigrants in the North who were hired to work in the extractive industries. My general approach to the topic is based on Tim Ingold's works on "perception of the environment" (Ingold 2000, 2011). I use his dwelling/building perspectives as well as his concepts of enskilment, affordances and taskscape in examining the specificity of people's engagements with the environment in the Russian industrialised North, including the spatial and material aspects. I maintain, however, that without an analysis of the influence of the dominant view on the natural world in the USSR, we cannot fully understand how industrial Russian Northerners engage with their environment. I therefore use the notion of 'discourses of nature', which is also used in the reconstruction of alternative interpretations of the natural environment characteristic for field geologists who were proclaimed by the Soviet State to be "conquerors of nature". In Article 3, Ingold's dwelling approach is enhanced by applying the 'sense of place' concept, actively used in studies of one's sense of belonging to places.

In this chapter and the articles of my thesis, I show how the Soviet discourse of conquering the North draws on a nature–culture divide, just like the Old Testament does. Therefore, it is not enough to simply dismiss concepts where nature and culture are divided, as Whatmore (2002) does. In fact, such a divide was and is used in real-life development projects, such as the industrialisation of the Russian Arctic. In contrast, I show that the very people who implement that dominant discourse of a culture that is divided from nature also overcome that divide themselves by engaging practically with various 'natures', having both a dwelling and a building approach. By showing how people engage with multiple understandings of nature depending on the situation, affordances and functional zones in a city environment, my own hybrid geography of Russian Northern industrial life also includes ideas of a nature that is divided from culture, although that very divide is overcome by the people who are supposed to enact it.

6. RESULTS: Conquering Nature and Engaging with the Environment in the Russian North

In this chapter, I summarise the major results of my research that are presented in more detail in the articles included in this collection. First, I overview the historical context of the study, analysing the goals and means of Northern expansion in the USSR, general trends in the use of natural resources in the Soviet North and their major changes over the different periods of Soviet socialism. Then I present my findings on the interrelation between the dominant discourse on nature and people's engagement with the environment. I analyse the State discourse on nature in the USSR based on my case study of Soviet geologists, considering representations of nature and the discursive construction of geologists as conquerors of nature in the Soviet newspapers of the 1960s. Then I turn to an analysis of the experiences and interpretations of the environment that field geologists expressed in their biographical accounts. In the following section, I examine how the urban space of new Northern industrial towns was formed and integrated into the environment and how recent settlers adapted and became engaged with the local environments around their towns. In the last part of this chapter, I consider what urban residents perceived as nature in different zones inside and outside these cities and how the strict functional zoning of socialist cities influenced settlers' perceptions of the local environment. Finally, I conclude with my contribution to the main question of how powerful discourses shape the human experience of engaging with various environments in the Russian North, and how these environmental engagements in turn shape people's sense of belonging to the North, among those who were once resettled from the distant South to industrialise the Soviet Union.

6.1. Background: the Soviet State and natural resources of the North

The expansion of the Russian State to the North started long before the revolution of 1917. In all times, it was driven by the political, economic and military advantages of power in this area. Northern natural resources were always among the main attractions for the State, entrepreneurs and merchants. The pre-Soviet colonisation of the Northern territories of Russia was more or less spontaneous, directed by diverse driving forces and actors (interested in fur trade, agricultural development of new lands or having military purposes), while the Soviet stage of colonisation was strictly directed from above,

centralised, oriented towards the State's goals, forcing and unifying local specificity¹². In general, in pre-Soviet times, the Northern periphery of Russia was rather poorly explored scientifically, inadequately mapped, and its mineral resources were largely unknown (or known only hypothetically). In his analysis of the characteristics of Russian foreign policy, Alfred Rieber emphasises four defining structural factors that are valid for both tsarist Russia and the Soviet Union through several centuries: 1) relative economic underdevelopment; 2) low border protection; 3) heterogeneity of the social structure of Russian society (diversity of ethnic groups); and 4) cultural marginality of Russia, seen in comparison to Western States that were viewed in Russia as the "benchmark" against which to measure domestic Russian development (Rieber 2001: 100). The influence of the first two factors can also be seen in the spatial politics of the Soviet State: the economic underdevelopment of the country leads to orientation towards explorations and the development of peripheral natural resources; weak borders force an undertaking of activities for populating and patrolling the country's outskirts.

Soon after the change of the political regime in 1917, the Arctic became a territory of paramount importance for the Soviet government due to the territory's strategic, military and economic significance. The first decrees about Arctic development were issued as early as 1918-1920, with the first scientific expeditions sent in the early 1920s, but the intense development started with the beginning of forced industrialisation, the direction to which was taken by the Bolshevik authorities after 1925. In order to establish political, military and administrative control over the vast Northern peripheries, management of distant territories was significantly transformed. Activities of various interest groups in the region became increasingly subjected to the centralised planned system, with the majority of decisions made in the centre, regardless of local interests. The model of industrialisation chosen by the government was largely oriented towards the development of heavy industries and machinery that required intense use of mineral resources. At that time, the production of minerals inside the country was rather underdeveloped and a large amount of raw material had to be imported from abroad.

Even before the revolution, scientists gave prognoses about rich deposits of mineral resources in the North and predicted the opening of large mineral reserves in the vast, scarcely populated territories of the Far East and Far North. Intense scientific field explorations were started simultaneously in many Northern regions. Early stage (1918-1926) expeditions had a rather complex character: they evaluated the general prospects of the region for the country's economy and included specialists in a variety of natural resources (minerals, plants, water, forest, animals). Therefore, these expeditions resulted in complex reports that combined geographical, geological, botanical, and hydrologi-

12. In tsarist times, there were also two flows of colonisation of the far North and Siberia - governmental and spontaneous colonisation (Milukov 1964) -but both of them were equally strong, and the State couldn't define the priorities of local development (Vakhtin et al. 2004).

cal evaluations of the region. This was still a time of heroic explorations, of travel and discoveries. In this sense, the early Soviet period was similar to the Western era of great discoveries in the 19th century (Rudwick 1985). Despite the generally collective nature of fieldwork on geological expeditions, the early Soviet period was also the time of last individual heroes and personal achievements. In some cases, fieldwork was organised only by the efforts of enthusiastic scientists in conditions of perpetual lack of resources, material and financial funds. In the 1920s and the 1930s, when funding for geology was not yet so generous, scientists who were deeply interested in organising fieldwork in particular areas often used personal networks and even personal funds to organise the expeditions (Urvancev 1978). Among the main regions where expeditions operated during this period were the Kola Peninsula, Karelia, Taimyr, Pechorskii, Ukhtinskii and Aldanskii regions (Belov 1959).

Later on in the period of the 1920s and 1930s, scientific explorations intensified even further, being directly linked with the forced industrialisation process, but the explorations' character changed: expeditions sent to the North became increasingly specialised and applied, and were oriented towards the immediate needs of the country. Due to the high need of domestic minerals for the country's economy, priority was given to the development of earth sciences (geography, geology, hydrology, etc.) since they produce scientific knowledge, thus opening the road to mineral deposits. Investigations were strictly controlled and focused mainly on searching for rich reserves of the most valuable 'strategic minerals' such as gold, tin, nickel, copper and iron, which would be available for fast development. The figures on budget growth for geological surveys demonstrate the increasing importance of applied scientific knowledge of the territory; for example, from 1923 to 1927, funding for field geological expeditions rose twelve-fold, from 900,000 to 10.5 billion roubles (Gubkin 1933).

The role of science in the country strengthened significantly, and the work of academic institutions was linked with military purposes and industrial development. However, such extreme mobilisation of science for purposes of industrialisation paralleled the intense development of repressive machinery in the Soviet Union. The new Soviet regime established strict State control over academic science through radical reorganising educational and research institutions towards a more practical orientation. The academic 'gentlemen science' of the pre-revolutionary time had to be transformed into massive, industry oriented, applied science (Bastrakova 1999, Kolchinskij 1999, Perchenok 1991). This reorganisation went along with tremendous repressions against scientists from the 'old school' who had received classic academic education before the revolution, aiming to give priority to a new generation of scientists more loyal to Bolsheviks.

Numerous large and small deposits of mineral resources were opened as a result of the intense scientific explorations of the 1920s and 1930s. All efforts were directed towards quick resource extraction at the lowest costs. Only a few large industrial production sites were constructed at the richest deposits, while in many cases, small mining enterprises

with minimal infrastructure were built alongside the deposits in order to produce raw materials that were then transported to an industrial production site situated in milder climatic conditions. One of the reasons for this was a very poor transport network in most of the Northern regions. So, during the early stages of industrialisation, Soviet authorities needed to focus mainly on the construction of roads, creating conditions for further development of natural resources. Most of the large industrial complexes that were built before WWII are situated in the European part of the Soviet North, where transportation networks were better developed.

Starting from the end of the 1920s, Gulag prisoners and so-called *spetsperecelentsy* (peasants, forcibly resettled from other regions of the USSR) became the main workforce at all of the Northern construction sites. Using forced labour was seen by the authorities as a solution to the problem of developing natural resources in scarcely populated Northern regions. In 1929, a decree of Sovnarkom USSR gave to OGPU/NKVD¹³ an order to broaden the network of Gulag camps in remote Northern territories with following reasoning: “For colonisation of these regions and exploitation of their natural richness by using labour of prisoners”¹⁴. Prisoners and resettled peasants continued to be the main workforce in the North during WWII and after, until the death of Stalin in 1953. The scientific surveys were also integrated into the camp system and also made use of prison labour to a high degree (Bazhenov et al. 1999, Piljasov 1993, Shirokov 1997, Stafeev 2000). Most industrial settlements in the Russian North started their development from Gulag camps.

Political changes in the country after Stalin’s death affected the way and style of Northern development, even though the main goals of the Northern expansion remained the same: extensive development of natural resources and control over the territory. The gradual dissolution of the Gulag system entailed difficulties with the workforce at the most Northern enterprises. The State’s labour politics regarding the North changed towards creating permanent settlements in all Northern peripheries. Agitation, various stimulations and material benefits were directed towards young generations in order to attract them to settle in the North – young people were more likely to decide to move into new regions. Moreover, this was the generation that had been born and socialised in the Soviet system and, thus, more loyal to the State ideology. One of the most important mechanisms to bring young people to the ‘new lands’ with potential for future industrial development was the centralised distribution of the graduates after they received diplomas (*raspredelenie*). Depending on the State’s need for qualified

13. Sovnarkom – *Sovet Narodnykh Komissarov (SNK)*, or the Council of People’s Commissars, NKVD – *Narodnyi komissariat vnutrennykh del*, or the People’s Commissariat of Internal Affairs, OGPU – *Ob"edinennoe gosudarstvennoe politicheskoe upravlenie*, or Unified State Political Administration or internal security police.

14. Postanovlenie SNK SSSR “Ob ispolzovanii truda ugolovno-zakluchennykh” (On the use of prison labour), issued on 11 July 1929. Cited as document 16 (paragraph 2), in Kokurin, Petrov 2002: 64-65.

personnel, a graduate of any institution could be sent to any part of the country for at least three years. This was a typical feature of the Soviet State that made for a complete transformation of the category of space in the USSR. Any citizen of the country could be directed to any place, and often was, making for a rapid rise in both geographic and social mobility. The State monopolised the power to transform the territory and to distribute specialists in accordance with its needs. In other words, the 'Mastering of the North' process entered a new stage: natural resources were to be developed by young people living in new industrial cities. In general, Northern settlers constituted a kind of elite in the Soviet system: they received higher salaries, better housing and food supply, and faster career growth (Thompson 2009).

Political changes in the country and the shift in the major workforce in the North also gradually resulted in the transformation of the decision-making style concerning the use of natural resources. The strictly centralised system in which most decisions were previously dictated by the central government and 'State interests' became more inclusive: after the weakening of the repressive regime, various interest groups were able to promote their views on the further development of the Northern localities and to contribute to the decision-making. Powerful elites, regional and local authorities and different economic ministries started to take part in discussions concerning the ways of Northern development, lobbying their interests at the centre and presenting contradictory perspectives about the development. Major conflicts about the use of natural resources usually arose between the centre and peripheral regions or between different economic ministries (e.g. the Ministry of Geology and the Ministry of Water Management). This change from the totalitarian regime of Stalin's time to a more inclusive style of decision-making was described as "institutional pluralism" (Hough & Fainsod 1980): a series of contradictions within and between different sectors of the State, including contradictions between political, regional, scientific, economic, and public interests. This phenomenon helps to explain why critical public discussions concerning environmentally dangerous projects such as the project to divert Siberian rivers could arise inside the Soviet system during the late period of Soviet socialism (see Article 2 in this collection and Vorobyev 2005).

The overview of general trends in the use of natural resources in the Soviet North shows us that the Soviet system was not homogeneous; rather, it was diverse, flexible, and in addition, dynamic. The major goals of Northern development stayed rather unchanged: very intense internal colonisation¹⁵ of the Northern peripheries was initiated mostly in order to gain access to the rich mineral resources that were necessary for industrialisation. However, the means and strategies used for Northern expansion

15. Internal or self-colonisation is the process of domesticating and colonising a country's own territory and people, treating them similarly to distant colonies. See more on the internal colonisation of Russia in Etkind 2011, Etkind et al. 2012.

changed during the Soviet period; above I traced some major changes in the exploration strategies and use of the workforce, and the gradual transformation of the decision-making process. Additionally, it is also necessary to understand how the State appealed to its citizens, trying to show the ultimate importance of its goals, the legitimacy of its means and strategies, and to convince people to participate in 'mastering of the North'. On the other side, how did people perceive the official rhetoric and how did they implement it in their lives?

6.2. Conquering Nature and the North: the dominant discourse on nature and everyday life

The specificity of the Soviet State is that ideology was underlying all processes going on in the country. Various ideological frames were used in the official rhetoric for mobilising Soviet citizens for participation in the processes of the internal colonisation of the Northern peripheries. From the early post-revolutionary years, the State sought to establish full control over the cultural production in the country: all forms of intellectual, scientific, and artistic practices were subordinated to goals of the promotion of the State's priorities. In the following section, I consider how nature, space and landscape were presented in the official rhetoric, focusing on changes between the 1930s and the 1960s, how intense development of natural resources and internal colonisation of the Soviet North were legitimated in the official discourse and what kinds of ideological claims and slogans supported the Northern expansion in various periods of Soviet socialism.

6.2.1. 1930s: the dominant discourse on nature, space and the North

As I have shown above, the central idea of relationships with nature was common for both the capitalistic and socialistic versions of the modernist approach towards the natural environment. There was a presupposition about the omnipotence of man, and about his capacity to reform wild, passive nature as he pleased. However, it is important to trace what was special and distinctive in the Soviet battle against the natural world. Calls for a struggle against Nature started to appear in various forms of ideological representation as early as the first post-revolutionary decades. The practical needs of the emerging Soviet society required intense explorations, mapping, and the creation of transportation networks over the country's territory, in order to open the way to natural resources. The task of cultural production was to provide full ideological support for these processes and to develop Soviet attitudes towards the territory.

The early post-revolutionary years, when the radical transformation of the society was active, are characterised by the development of experimental, innovative aesthetics in all forms of cultural production. Ideas of building the new society stimulated creativity and

experimentation in political, artistic, and scientific expression. The relationship between humans and the physical world also had to be radically transformed according to the pathos of the new epoch. Revolutionary rhetoric connected the creation of a new kind of society and people with the transformation of the natural environment. The directions for changes were given by the Soviet leaders: “Under socialism a man will become a Superhuman, changing courses of rivers, heights of mountains and nature according to his needs and, after all, changing his own nature”, proclaimed Lev Trotsky, an early Soviet leader, in one of his essays (Trotsky 1924).

Literature, cinema and newspapers were especially important in the development and distribution of the ideas of man’s superiority over nature. Most ideological representations were produced by ‘socialist realism’ authors, who worked to transform ideological frames of reference into works of art, though some avant-garde authors also participated in the cultural production of the ideas of conquering nature. Geography and the map were actively used for ideological representations of the Soviet space (Moran 2006). As was expressed by Soviet poet Zharov: “*When we alter history, We can’t give geography a miss!*”¹⁶ Mapping was seen as an instrument for turning the space of the country from the wild, hostile and unknown into the familiar and safe. The transformation of space (the unknown) into territory (the known and mapped) (Widdis 2003: 220) was seen as important ground for the future processes of building and construction.

Young people were represented as vanguards of mastering nature, as was proclaimed in a very popular song of the 1930s: “*We shall subjugate space and time, We – young masters of the earth*”¹⁷. The ideology started to prepare them for this mission as early as in childhood and adolescence, as William Husband showed in his analysis of writing on the natural environment for Soviet children (Husband 2006). The literature for adults was also full of calls for war with nature and struggle against the elements (Borejko 1996, Shtil’mark & Reeder 1992).

The conquest of the Arctic was a key element for the Soviet ideology of dominance over nature. The frontier land, initially extremely hostile to humans, had to be mastered by heroic Soviet people and converted into a territory useful for the new type of society. The Far North was represented as a key heroic space in the literature, newspapers and cinema of this period (McCannon 1995, 1998, Petrone 2000, Bruno 2004, Widdis 2003).

Based on a thorough study of the Soviet cinema, both documentary and fiction, Emma Widdis suggested a nuanced analysis of the Soviet ideology of conquest (Widdis 2000, 2003). She traced significant differences in the representations of space and landscape in the Soviet cinema during the 1920s and in the early 1930s, as well as in the following period. Widdis argues that during the early stage, the ideas of exploration (*izuchenie, razvedka*) were much more prominent in the public discourse and only lat-

16. Izvestija of September 12, 1931. Zharov A. “Volga vpadaet v Moskvu” (Volga meets Moscow).

17. From a famous Soviet song “The March of Happy Fellows” (1930s).

er, after the strengthening of the Stalinist regime, the concept of *osvoenie* (mastering) appeared as dominant. During the early stage, the vast space of the Soviet Union was represented in the cinema as a territory more for exploration, experience and a quest for information. The space of the country had to be explored and appropriated, and that action could be made through screening and experiencing the territory. During this period, the view on the space was rather 'de-centred', and in a way, the Soviet periphery achieved more significant resonance than the centre in the country's imaginary geography (Widdis 2003: 221). Later, exploration turned into *osvoenie*, when the aesthetics of conquest became more powerful, the space was pictured as a knowable and controllable territory, essentially static and hierarchically organised around a dominant centre (Moscow). During this period, the State established stricter control over the process of cultural production by regulating all cultural, intellectual, scientific, and artistic practices. The party began to supervise all forms of knowledge produced and circulated in Soviet society, and ideological representations of Nature became rather homogeneous.

6.2.2. Nature in the newspapers of the 1960s: the meaningless taiga

Between the 1930s and the 1960s, the dominant discourse on nature as described above was practically unchallenged, but in the 1960s it gained a second wind in having a practical purpose to bring people to new places. In general, by the 1960s, the whole Soviet ideological discourse had been normalised and standardised. The newspapers of this period were full of calls for mastering and reconstructing nature. In fact, even the style of writing about nature became very homogeneous: pathetic expressions and metaphors were replicated from one article to another, creating the impression that they were all written by the same author. The Soviet people were depicted as the ultimate winners in the battle against nature, and all trials and adventures that they experience in overcoming a hostile and powerful natural world demonstrated their incredible strength and heroic qualities. Some professions were especially important in this struggle against the elements: pilots and geologists were at the frontline of the war against nature, routinely entering inhospitable and wild spaces and coming out as vanquishers of nature. Below, I present the results of my study of the Soviet dominant discourse on nature and of the ideological construction of geologists as conquerors of nature, based on an analysis of 1960s newspaper articles about geologists. Some excerpts will illustrate three major interpretations of nature that constituted the dominant discourse of that time: *Senseless Emptiness*, a *Treasure-house*, and a *Warden of Treasures*.

Senseless Emptiness: Nature does not make sense by itself: it is devoid of any inherent rationality, let alone intrinsic value. It gains its meaning only through the activity of civilised man, who endows a sense for a certain locality through the construction of certain objects. In the newspapers, the natural world is described as dark and meaningless before people start using it: "A uniform and dark taiga was everywhere around; this was

a kingdom of impassable swamps and gnats. [...] How much time will it take for people to get here, to deepen riverbeds and dry the swamps, to clear the taiga, to build roads and cities”¹⁸. The geologists represent all Soviet people, coming to awaken the passive nature and bring it to life: “In the evening, sitting around the campfire with live coals, the discoverers were talking about the future, about the life that Soviet people will bring here, to the ‘land of eternal silence’”¹⁹.

Treasure-house: Even when being described as empty (of meaningful human-made objects), nature is still rich with natural resources that potentially can be used by humans. Diverse metaphors were used in the descriptions of natural resources in the Soviet newspapers: treasure, storage, riches, the plentiful bosom. The mission of geologists was to open up this lair of riches and to give meaning to a place: “*The road is there only on the map. But here, in the taiga, are only trails of beasts, only wild bushes and swamps, and a cloud of bugs. One must go through all this in order to find the treasure that nature has hidden behind seven bolts. And here they come through the taiga, the pioneers, that we call – geologists*”²⁰. The geologists acquire the treasures for the country, conquering them from the wild bushes, swamps and mosquitoes. And although he himself travels without roads – on the trails of beasts – after him come roads that symbolise human appearance in an area, and cities are built.

Warden of Treasures. Despite the fact that nature is often portrayed as lacking emotions – dumb, asleep, quiet – she is, nevertheless, an acting force. She is capable of hiding her treasures and of fighting against men. “*High and deep in the very heart of the mountains, nature has hidden one of her treasures – molybdenum. It is not easy to get to it, harder still to dig it out from its stony chambers. But there come the brave people, up to the mountains. They laid down roads through the cliffs, erected walls of workshops and houses, broke the locks of the chambers. Man turned out stronger than the hardest rock. And for his stubbornness, nature gave him her treasures. The rich ore flowed down like a majestic river*”²¹. Man (the Soviet man) is a much more active force than nature. She just guards, but he – being brave – penetrates, vanquishes and constructs.

The dominant discourse on nature in the Soviet ideology included the idea of nature as passive, pointless matter that had no creative incentives. The Soviet person was depicted as completely separate from nature. He strives to be free of any dependencies and has the capacity to bring order into the chaotic elements, which are, mostly, harmful. Na-

18. Pravda of April 2, 1967: “Novyh uspehov, pervoprohodcy! Nas zhdut otkrytija1” (We wish you successes, explorers! Discoveries are waiting for us).

19. Sovetskaja Rossija of June 16, 1961: “Druz’ja solnca i vetra” (Friends of sun and wind).

20. Izvestiya, 18 April 1961

21. Izvestiya. 17 September 1961.

ture, in this doctrine, is not just a mechanism that can be divided into parts, studied and then used as one pleases; rather, in the Soviet interpretation, nature is also an enemy that must be vanquished. In the battle against this enemy, man becomes a kind of *super-man*, a divinity that rules the earth.

6.2.3. Nature in the lives of field geologists

Ideological representations produced by the authoritative discourse do not provide us any picture on how people who were living and working within the system engaged with, interpreted and created their reality. The Soviet geologists, being called upon by the State to master distant regions, only slightly shared the conquering pathos of the Soviet ideology. They developed their own meanings and interpretations of nature, which were grown from dwelling and from their daily interactions with the natural environments on the field expeditions. In the following section, I give an ethnographic presentation of the geological profession in the late Soviet period, focusing on the interpretations of nature that were characteristic for this professional milieu.

Among the professional Soviet geologist's many other specific tasks were very long field seasons that could last up to eight months. This fieldwork required long-term living in the natural environment, with rather basic conditions of everyday life. Most professional geologists in the USSR regularly experienced lengthy stays in field settings within a small group of people, and that contributed to the formation of a powerful professional subculture. The character of a geologist's fieldwork was nicely summarised in one Soviet geologist's memoirs: *"It did happen to be difficult. It did happen that we starved and froze. We have been extremely tired. It was difficult not to know for months what was happening in the world, what was happening at home. But all this was compensated by interaction with nature, the wonderful sleep under the sound of the mountain river, the morning wash up in cold river water. And, most importantly – by interesting routes, discoveries and findings, which offered the fascinating scientific challenges and puzzles that resisted solution"* (Vojnovsky-Kruger 1987). This quotation demonstrates the main components of life on a geological field expedition: various difficulties and hardships, living in the natural environment, doing scientific work and being close with the other people in the group.

A variety of interpretations of nature appeared through the everyday interaction of field geologists with the natural world. The hegemonic discourse on nature was also present on this level, but it overlapped and mixed with other interpretations, perceptions and interactions. Analytically, the rich field experiences of Soviet geologists can be presented through four main (co-existing and overlapping) ways of perceiving the natural environment and engaging with it: Nature as a scientific mystery; Nature as a place of work and living; Nature as visual harmony; Nature as freedom.

Nature as a scientific mystery. During the fieldwork period, the geologist's main task was to conduct scientific research and to make observations that would become the ba-

sis of the later period of ‘city work’ in research institutes and laboratories. The aims and tasks could vary depending on the person’s specialisation, but the general target was to understand and reconstruct the geological processes and history of rock formations in a particular locality. Within the framework of a scientific view on the natural world, nature was divided into parts, analysed, and the ‘laws of nature’ were identified – the interconnections and objective laws between the separated observed facts. The scale of geologists’ thought is measured by millions of years; in using methods of scientific analysis, they strive to reconstruct and restore the picture of the geological processes that took place on Earth in the remote past. The daily scientific tasks of a geologist in the field could include collecting rock samples, carefully documenting their locations on a map, together with initial descriptions, drawing ‘rock outcroppings’ and geological structures, etc. The samples were to be analysed thoroughly later on under stationary conditions; this was a typical ‘city’ activity during Winters. Based on all these findings, geologists wrote their project reports and developed their theoretical models.

A strong field geologist also needed to develop a ‘geological imagination’ – the ability to assemble findings on the basis of an incomplete and somewhat ambiguous set of evidence. The following quotation from the memoirs of Mikhajlov provides a fitting demonstration of what “geological imagination” meant in field work: *“The local rocks had already been familiar to me. Certain interconnections between them started to come to light. I wondered why particular minerals appeared in the same combinations in a strictly determined order – in ‘mineral associations’ or ‘mineral paragenesis’. Moving on from trench to trench day by day, I tried to draw the general picture, to identify certain principles”* (Mikhajlov 2003).

Discovery was another important category related to viewing the environment as a set of objects for scientific investigations, and it was also connected with the dominant discourse on nature. Every field geologist in the USSR was eager to discover a rich deposit of valuable minerals, because making such a discovery was seen as the highest possible result of a geologist’s work. In this case, the scientific desire to understand nature coincided with the interests of the State to gain access to rich natural resources. Making a discovery also led to a higher status among fellow scientists, and also led to material rewards from the State. As a result, Soviet geology is rich with stories in which discoveries were concealed, arrogated by others, and the people involved were prosecuted or repressed.

Nature as a place of work and living. Another mode of geologists’ interaction with the natural environment was developed in the context of everyday life and daily activities, in which the environment turns into a lived space, the material setting for the geologists’ routine on field expeditions. Very often, geological expeditions went to very remote places that were distant from permanent settlements; therefore, developing practical environmental knowledge was a means of survival for geologists. Work was always the main content of life on expeditions, so the daily organisation of life proceeded from the

necessity to fulfil the expedition's tasks. The geologists' routine life in the field differed significantly from that in the city, and the mobile way of life also required special equipment and its own set of specific practices.

On field expeditions, geologists actively interacted with the local worlds, both social and natural, regularly meeting a number of actors. Some contacts took place during the preparation stage of an expedition, such as meetings with the local authorities whom the geologists were obliged to inform of the work they planned and their arrival at the expedition site. During field work, geologists routinely met with a wide spectrum of local actors, including local indigenous and non-indigenous residents, former prisoners, other geologists, various animals, tourists, etc. Interactions with the local residents were often of great importance to geological expeditions, because local inhabitants often possessed an intimate knowledge of the area, which was an invaluable resource for geologists. The most knowledgeable locals were sometimes hired as guides for expeditions and as transportation specialists for working with reindeer and dogs. For the local population, a geologist was usually a State representative who could draw on the State's resources, and locals were eager to tap into these resources in exchange for services or information.

Organising a mobile field camp required a great deal of effort both before and during the expedition period. The site of the camp often moved on a daily basis, requiring a mobile organisation of everyday life. Often, a base camp was organised, from which geologists departed for hikes that varied in length from several days to several weeks. Many geologists brought diversity to their rather limited food supply through fishing and hunting. Especially in the years after WWII, this was practically a necessity, as geological teams were very meagrely supplied during that time. Also, hunting and fishing supplied the geologists with food that they did not have to carry with them from place to place.

According to autobiographical accounts and interviews with Soviet geologists, their expeditionary life was full of hardships and difficulties. Most problems were connected with organising the transportation and supplies that were crucial for working on an expedition. These issues were often solved with the help of locals: the directors of kolkhozes, fishing co-operatives, the military and the GULAG authorities – the latter were especially powerful in the North and Siberia. At the beginning of the field season, geologists spent a significant amount of time in preparation, searching for appropriate means of transportation and staff in localities near the future fieldwork. Depending on local conditions, the former could be horses, reindeer, mules, boats, dogs, and sometimes camels. As was expressed in one interview: *“The horses were overloaded, they could not go, and they fell. We had to help them get back up. Mosquitoes, gnats were eating us, and them. We made a lot of stops. Oh God, what was a pain to them! And to us!”*²² Since the 1960s, the use of cars, helicopters, all-terrain vehicles and aeroplanes has become more common and has replaced animal transportation. Among the cruellest experiences

22. Female, aged 75, St. Petersburg.

of geologists in natural environments are stories about delayed home-transportation at the end of the field season. Many people experienced long waiting periods, inactivity, a growing shortage of food and uncertainty about rescue. Hunger is an omnipresent subject in interviews and memoirs; practically every geologist experienced hunger to a more or less serious extent. In these situations, geologists described nature as cruel and indifferent towards their own suffering.

Nature as visual harmony. Perceiving nature as visual harmony assumes that a person becomes an observer who is, to some extent, situated ‘outside’ the landscape and who admires the visual beauty of a certain place. In their narratives, geologists often talk about viewing a stunning landscape from the top of a hill or a mountain, alongside their tales of the long and difficult journey to that destination. In those stories, a panoramic view of the area and the beautiful landscape itself are presented as the reward for a difficult passage to the spot and for the geologists’ exhausting work. Interestingly, such admirations for the harmony of nature are often mixed with the geologists’ professional observations and presumptions about the area’s natural history, as in the following quotation: “*Emerald sea, green volcanoes, sea terraces at various levels in bays, a beautiful Trias conglomerate outcropping, sandstone with enclosed weathering produced unforgettable impressions The shore of a bay that extends for several kilometres is framed by beautiful outcroppings of white, two-mica granite. At the shore there is a gorgeous white beach and a beautiful lagoon lake. And the water in the bay is clear and of greenish–blue colour! Here there were only us and the seagulls. On the Western shore an escarpment lined out, which had risen from sea level as a result of the sea’s regression*” (Organova 1998).

As was already mentioned, the work of geologists in the USSR was very much romanticised, especially in the 1960s. During Soviet times, geological field expeditions often attracted painters, writers, poets, and artists (e.g. Patsia & Shabalina 2008). They were hired as working personnel in geological parties with various motives: to go to remote places and see beautiful natural areas, to escape the realities of the Soviet life, and to earn some money. In his 1965 song, “I am seeking a fog”, Urij Kuckin, a famous bard in Soviet times who had worked on geological expeditions for several seasons, described some reasons why people chose to join the expeditionary life. He portrayed himself as a free spirit who goes on an expedition for fog, mountains, firs, and the smell of taiga. “*Some people travel on business. Some people look for money, or an escape from boredom and debt, but I am going to search for the fog, just for the fog, for the fog and the smell of the taiga.*”

Nature as freedom. Many Soviet geologists described life on the field expeditions as very free and independent, connecting this feeling with being in the open and having deep contact with the natural environment. This interpretation of nature is also connected with people’s attempts to escape from the various social restrictions and regulations that were abundant in the Soviet Union. The State’s persistent attempts to establish all-em-

bracing control over the public space and private life of its citizens turned nature into a sphere of freedom and relaxation. Going out into nature offered the citizens a chance to escape the control of the system by physical distancing themselves from centres and institutions, if only for the duration of the expedition. In interviews and memoirs, geologists routinely point to the absence of snoopers in the field: at the fire place, nobody listened in, there were no spies, and everybody was honest. Even more, one of the hallmarks of geological expeditions was the absence of bosses: at the fire place, everyone was equal, and everyone ate out of the same pan. At least during field work, geologists were free to work almost entirely without authorities.

Figure 2. Soviet Geologists: An Overview of Discourses on Nature

<p>Soviet dominant discourse on nature</p> <p><i>Ideology of nature conquest.</i> Nature is considered as <i>natural resources</i>. Economic rationality. Activity: to master, to use, to modify.</p>
<p>Alternative interpretations of nature within the geologists' professional community</p> <ul style="list-style-type: none"> • <i>Nature as scientific mystery.</i> Scientific rationality. Activity: to discover, to research, to reveal the laws of nature. • <i>Nature as a place of work and living.</i> Rationalities of life. Activity: everyday practices, interaction with the social and natural worlds. Peculiarities of geologists' field life: temporality, periodic character of this way of life. • <i>Nature as visual harmony.</i> Observation of the visual harmony of a landscape. Action: passive contemplation. • <i>Nature as freedom.</i> Implicit protest against the authoritarian state system. Actions: escape from the State's control, geographic distancing from authorities.

Overall, the range of interpretations of and interactions with the natural environment that grew during Soviet geologists' daily fieldwork experiences is much more diverse than the idea of conquering nature, which is characteristic for the authoritative discourse. In the dominant discourse, nature was considered primarily from the economic point of view as natural resources, while human beings were supposed to struggle and master, to use and modify what was previously senseless nature. Geologists were called on by the State to be pioneers on the forefront of the struggle against nature. However, in their everyday interactions with the natural environment during long fieldwork seasons, they developed a variety of alternative interpretations of nature, ranging from nature as a scientific mystery to nature as a space of freedom. It is here where Macnaghten and Urry's (Macnaghten & Urry 1998) concept of 'multiple natures' becomes particularly useful to apply: various 'natures' require different types of rationalities and

activities, or, in other words, people's different ways of engaging in the activities create their perceptions of the surroundings.

6.3. Engaging with the environment in the new industrial cities

In the previous section, I first considered the ideology of conquering nature in the USSR and then considered field geologists' experiences of engaging with the environment – geologists who were the earliest newcomers at places of future new towns near mineral deposits. In the following section, I focus on the experiences of establishing such towns and of living in them (on the example of three towns in the Murmansk region). Geologists became emotionally attached to their local natural environments during their fieldwork seasons, while settlers were engaged with their new places of habitation. How could the conquering approach to nature co-exist with the emotional attachment to the natural environments in the new towns? This part is based on my findings, which are presented in more detail in Articles 3 and 4 from this collection.

First, in order to understand the peculiarities of the built and non-built environments in the Russian industrialised North, I analyse how the newly built industrial towns were placed and integrated into the Northern environment. I look at the process of spatial formation of new urban territories in the USSR and consider the main concepts and ideas of Soviet planners as well as the implementation of these concepts and ideas in three case study cities. Then, I move beyond an analysis of city planning to consider how people who populated new cities participated in the building process and dwelt in the new places that were established in two different waves of industrialisation during the 1930s and the 1950s-1960s. Main attention here is paid to the settlers' engagement with the local environment and the process of developing skills. In the last part of this section, I explore how the strict functional zoning of socialist cities influenced settlers' perceptions of the natural environment.

6.3.1. Shaping the space of new industrial towns in the North

The Soviet time was a period of radical transformation for the whole Northern periphery of Russia. Before the revolution of 1917, this was a huge, rural and very scarcely populated territory, while by the breakup of the Soviet Union, it had been transformed into a region with a predominantly urban population, the majority of whom lived in new urban settlements built during the Soviet period. In 1926, the total number of inhabitants in the Murmansk region was 32 100 people, who lived predominantly in rural settlements. Between 1926 and 1991, this number increased by 36 times, and at the end

of the Soviet epoch there were 1,159,000 people living in the region (Nuykina 2011: 19). Most new residents who arrived during this period settled in new towns²³.

Soviet architects, planners and officials started to prioritise the purposeful construction of new towns as early as the late 1920s while developing plans for rapid industrialisation and urbanisation in the Soviet Union. The idea of significant spatial reorganisation of the country and redistribution of industries and population was based on principles of so-called 'socialist resettlement'. According to this concept, the construction of new industrial complexes came to be the main reason for the establishment and existence of urban settlements (Meerovich 2008). Specialised complexes of industrial enterprises had to be connected to one another with the minimum of diversification. The territory of a typical socialist city (*sotsgorod*) had to be organised according to the principles of *sotsgorod*, containing a number of relatively segregated functional zones for working, living, recreation and transportation, with the primary role given to the industrial zone, while the other zones had to ensure the uninterrupted work of the various industries (Milutin 1930) [see Figure 2]. The main function of green areas was to buffer and protect the population from the pollution caused by the industries, with the objective to provide successful functioning of the labour force.

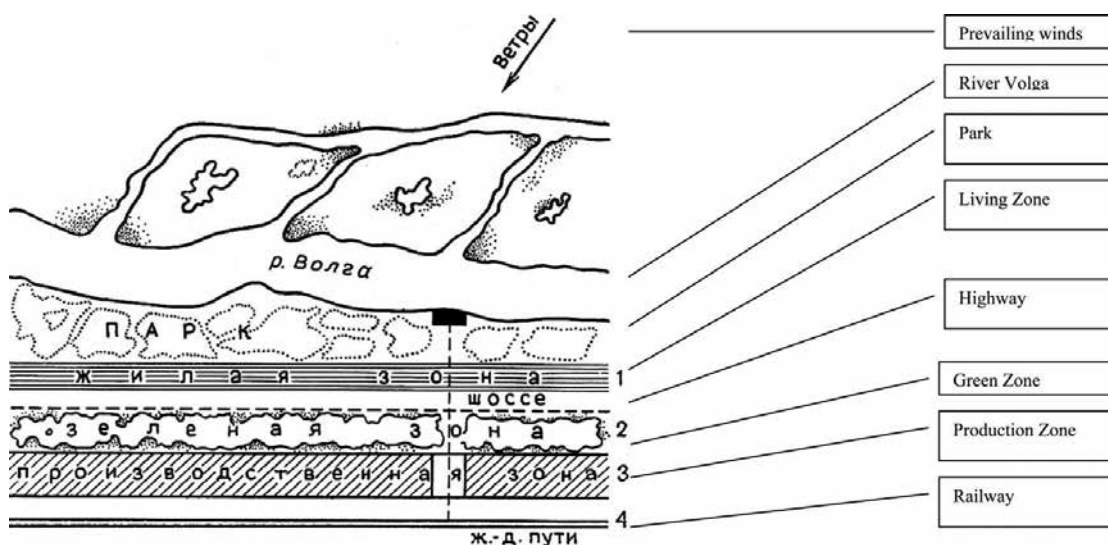


Figure 3. A theoretical model of zoning in a socialist linear city, developed by N. Milutin (1930).

23. This was a general tendency for Soviet urbanisation and modernisation. Altogether, in the USSR between 1926 and 1989, 1500 new cities and settlements of an urban type were built (Percik et al. 1998, cited after Engel 2006, p. 181). From 1917 to 1991, the urban population in the Russian Federation increased by a factor of seven from 15.5 million (17% of the population) to 109.8 million (74%) (Pivovarov 2001: 103)

This type of spatial organisation was implemented (at least to some extent) in all industrial towns that were built during the Soviet period. The functional zoning of new socialist cities, introduced by planners, was supposed to shape the interaction of the local population with both the built and not-built environments in which the dominant function of each zone defined the prevailing perception of the environment and what constituted appropriate activities. To a large extent, settlers who inhabited the strictly structured space of a socialist city did perceive it as it was pre-defined by planners; however, there were some unexpected twists in their perception of the local environment, which I consider below, based on my field materials. Moreover, boundaries of zones were often rather blurred, and then various fringe zones emerged, and these zones were also perceived in various ways (on fringe zones see Edensor 2005, Qviström 2007, 2008).

The concept of taskscape as developed by Ingold (discussed in more detail in Chapter 5) can be applied to the space of a socialist city: each functional zone possesses a certain taskscape that strongly influences people's perception of the environment. Or, in other words, the major kind of activities characteristic for the territory, the prevalent ways in which people dwell in the area and use it, to large extent set up people's engagement with a place.

In reality, implementing the concepts and ideas described above was rather different from the utopian visions of Soviet planners and architects²⁴. Below, I consider the experience of constructing new towns from the ground up in my case study cities in the Murmansk region, with a particular focus on the early period of the settlements' development.

The first example is the city of Kirovsk, a city that became the first large-scale Soviet industrial construction in the Arctic in the 1930s and was very proudly reported in the central and regional press. During the initial stage, there were enormous difficulties in founding a new settlement in the foothills of the Khibiny Mountains under extreme climatic, economic and social circumstances. The first mining settlement in the area of Kirovsk was founded near Kukisvumchorr Mountain in the immediate vicinity of the first apatite mine. This choice was made by the firstcomers and by distant planners who were not very familiar with local conditions, and soon all the shortcomings of this choice became obvious: houses and industrial facilities were built too close to the foot of the mountain and were repeatedly destroyed by avalanches. Several cases of mass deaths of firstcomers in avalanches happened during the first years after this settlement was founded. Planners without previous Northern experience did not choose appropriate places for construction because they were not aware how avalanches are caused and how dangerous they can be²⁵. Another problem was the cold winds, which were very

24. Lynne Viola sees disjunctures between planning and reality as an essential feature of 20th-century social engineering projects that were imposed from the outside on subject populations and lacked local knowledge (Viola 2003: 104).

25. See Bruno 2013 for a detailed analysis of Kirovsk's vulnerability to avalanches.

strong in the narrow gorge where the settlement was placed. After the first several years, it became clear that it would be impossible to build a larger industrial city in this area due to the extremely unfavourable natural conditions. The new location for the further development of the town was found 12km away from the first one – where Kirovsk is now situated.

However, the reality of constructing a new town was still quite different from the theoretical models. The new ground chosen for the further development of Kirovsk/Khibinogorsk was on the shore of beautiful Lake Vudiyavr. In the theoretical model of sotsgorod, N. Milutin proposed using the shores of water bodies for the recreation zone. When Kirovsk planners started to develop the settlement on the new ground, they used the shores of Lake Vudiyavr as a location for an apatite enrichment plant that needed a lot of water. Also, a railway station and several other supplementary industrial facilities were situated there, while housing for workers was constructed closer to the mountain sides, so the living zone was completely cut off from the lake by the industrial zone and the railroad, and never was used for recreation purposes. During the early years of Soviet industrialisation, all resources were used for the rapid development of industries, while services and housing for the general population received much less attention. In the words of the former main city architect, “If Kirovsk were designed and developed nowadays, it would certainly be placed right on the shore of this marvellous mountain lake; and the ore-dressing and processing mill, power station and storages would be moved away to somewhere on the swampy plain” (Romm 2001).

These and numerous other problems were caused by an inadequate knowledge of Northern environments, which was common for many distant planners and visiting officials who established Khibinogorsk/Kirovsk in the 1930s. Most of them had either no experience or only limited experience of living in the locality and in the North, so they often made mistakes that were further aggravated by general chaos, spontaneity, extremely rapid population growth, and the disarrangement of decisions on different levels. The local authorities of the new industrial towns had to deal with the situation and cope with the difficulties of planning and construction in the North.



Figure 4. *Map of Kirovsk with main functional zones highlighted.* Source: modified by the author using a city map.

The other two case study towns, Apatity and Kovdor, were established in the 1950s, during the second wave of industrialisation in the Murmansk region. Both towns were planned as typical socialist cities: they were zoned into functional zones, contained standard housing and convenient infrastructure, and were compactly located on flat grounds. This was already a different stage of socialist urban planning, compared to that of the 1930s: the designing of new towns in conditions of rush, chaos, and the unrealistic plans of the early industrialisation period transformed into the routine work of adapting the standardised pre-fabricated plans for concrete locations. Such pre-made general projects were mainly developed in Moscow or Leningrad and followed the norms and rules of socialist planning. The implementation of *sotsgorod* principles into the spatial organisation in new industrial cities was more successful during this period: not only were the interests of the industry considered but also other factors and necessities were taken into account, such as social services, housing, recreation, etc.

Quite remarkably, during the first years after its establishment, the city of Apatity was called simply 'the New Town' (*Novyj Gorod*); it became a kind of model socialist city. The chosen ground for the new town was alongside the Khibiny Mountains, in a plain and flat area; it is easier to adapt standard general projects for a flat area of land than for a complex landscape, and little work is needed for readjusting the plans to match the specifics of the locality. Moreover, the chosen site was in close proximity to the existing railroad station. Also, due to the special microclimate, the weather in Apatity is often significantly better than in neighbouring Kirovsk. An enrichment plant was placed away

from the living zone, at some distance from the town, and the location was chosen taking into account the wind rose. An old forest at the centre of Apatity was not cut, but was transformed into a park zone and the location for the science centre. Every residential quarter received all social services and infrastructures, including kindergartens, playgrounds, schools, and shops. To outsiders, Apatity still looks like an ordinary, grey socialist town, while many local residents really like it and describe the town as very convenient for living.

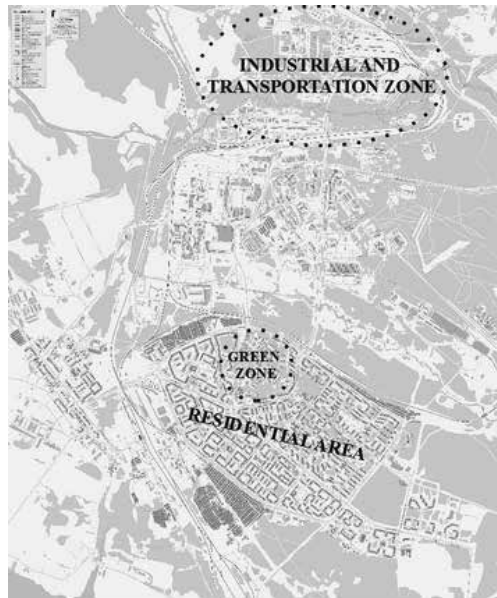


Figure 5. Map of Apatity with main functional zones highlighted. Source: modified by the author using a city map.

The story of planning and establishing Kovdor turned out to be similar, though less fortunate. Very soon after the first residential blocks of the new town were built, the local geological survey discovered that one of the richest veins of the iron ore deposit ran underneath the newly built quarters and the city centre. This mistake was made by the provisional geological survey that produced a wrong prognosis of how one of the deposit's major veins continued. By that stage, it was already impossible to move all of the construction activities from this site, due to the large investments in them, so the development of the town was continued in the same location on top of the ore vein. In other respects, Kovdor was also planned as a typical socialist city: the living zone was placed at a significant distance from the industrial zone, on the other side of a lake. A large recreational zone – a piece of natural forest that was not cut during the construction period – was placed on the city side of the lake's shores. The industrial area is quite extensive and consists of a huge open-pit mine – a quarry, processing and enrichment fa-

cilities and a transportation zone. The residential area consists of blocks of prefabricated houses, with all services nearby.

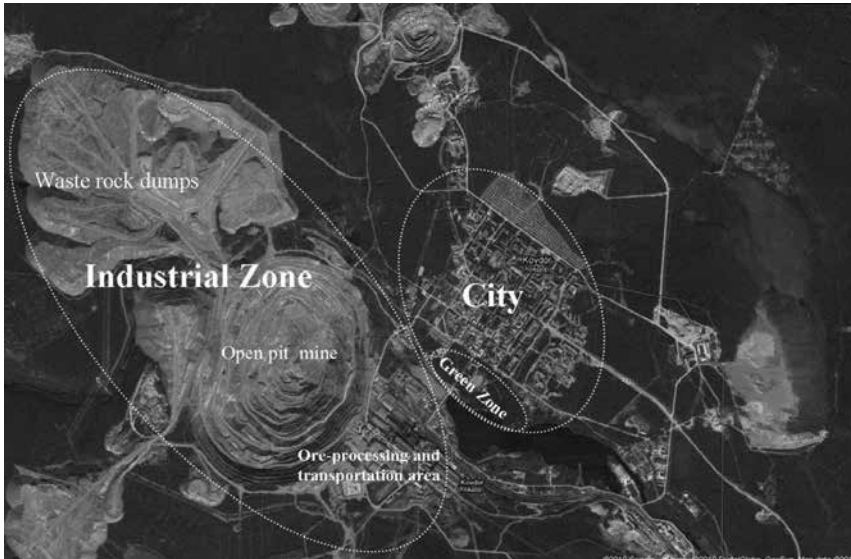


Figure 6. *A satellite view of Kovdor, with main functional zones highlighted. Source: compiled by the author using Google map.*

Above, I considered the ideas of Soviet planners and the local experiences of establishing new towns from the ground up at previously uninhabited locations. To summarise, the implementation of socialist planners' ideas differed significantly in the 1930s and 1950s. During the early stage of Soviet industrialisation, the foundation and planning of new mining towns was conducted either by people who had no previous dwelling experience in this area or by distant planners. These towns were built under conditions of extreme rush and pressure from the central authorities who urgently wanted to start the production of local mineral resources in the shortest possible period, and these factors caused numerous mistakes and blunders in regards to the specifics of the local natural environments. The development of industries and production was the only important factor in the decision-making process at that time, while social needs were largely ignored. In the 1950s, the situation changed significantly: the major principles of socialist urban planning were more successfully implemented in the planning and construction of the second generation of new Northern towns, and many more factors were considered when introducing new towns into the location. As a result, highly structured urban spaces were formed based on the ideas of functional zoning.

6.3.2. Dwelling in the local environment: lived experience of people

In my analysis of the establishment of new Soviet towns in the Murmansk region and their integration into the local environment in different time periods, I considered the implementation of the 'building perspective'. Now I will change my focus to the people who came to the North to build these cities and to work there. I apply Ingold's dwelling perspective as a lens for my analysis of the industrial workers' lives. How did people taking part in a pre-made building project engage with the local natural environment? How did the migrants who inhabited these towns learn to dwell in the new environments in different time periods, and what kinds of interactions did they have with the Northern environment?

The decision to establish Khibinogorsk/Kirovsk was made at the end of 1929, and as early as 1935, the population of the new town numbered 44 292 inhabitants, 21 325 of whom were exiled peasants – so-called 'special settlers', *spetspereselentsy*. They were victims of collectivisation and de-kulakisation, whose households in their homeplaces were confiscated prior to forced resettlement (Shashkov 2004: 12)²⁶. The extremely rapid growth of the settlement involved extreme suffering for the firstcomers, and enormous practical difficulties that had to be overcome by the builders on a very tight schedule. The population consisted of three major social groups: free specialists and contract workers, special settlers (the biggest group) and Gulag prisoners.

All groups experienced very hard times during the early period of city construction, though specialists had slightly better living conditions, while special settlers and Gulag prisoners suffered extraordinarily in harsh Northern conditions, living in large tents or poorly constructed barracks and in the absence of basic supplies²⁷. It took several years to establish at least minimal living conditions for those who survived the years of suffering: by the mid-1930s, most special settlers moved from tents and barracks to primitive wooden houses that many of them had constructed themselves outside of working hours.

Surviving in such harsh conditions and adapting to them was, to a large extent, based on the extensive use of all available local natural resources. In order to survive hungry times, settlers compensated for the lack of food by developing subsidiary agriculture. During the first years after their arrival, people gradually learned how to plant vegetables and keep cattle in the conditions of the Far North. Picking berries and mushrooms, fishing and occasional hunting were also actively practised by settlers for subsistence support. These activities, as well as subsidiary agriculture, helped settlers to survive and

26. On special settlers in the USSR see Viola 2007.

27. Special settlers were relatively free compared to prisoners – they were not guarded, lived as families and they had the right to work and receive a salary. Still, their rights were significantly limited in comparison to free workers – they had to re-register regularly with the local administration, their salary was reduced, and they did not have the right to leave the town. For more information on exiled peasants in the Murmansk region see Bodrova et al. 1997, Shashkov 2004.

overcome food shortages in the 1930s²⁸: “Just as we were used to working hard, we were also working a lot here. In order to subsist somehow we worked the land for garden plots, planted potatoes, cabbage, carrots, and turnips. We kept goats, later pigs. We went to the forest for mushrooms and berries and took a lot of them” (Zubkova 1997: 20).



Figure 7. Special settlers in Kirovsk. The end of the 1930s. Source: Timofeev 2002).

Such practices became very common among people whose past as peasants was very recent when they arrived first to Kirovsk: settlers (many of whom had southern roots from the Ukraine or Southern Russia) just needed to adapt their usual farming and foraging activities to the specific Northern conditions. There was also scientific support provided for the agricultural work of settlers: several academic and applied research institutions were established near Kirovsk to carry out investigations on plants’ survival in Northern conditions, such as the Polar Experimental Station of All-Union Institute of Crop (POSVIR, Polyarnaya Opytnaya Stantsiya Vsesoyusnogo Instituta Rasteniievodstva) and the Polar-Alpine Botanical Garden of the Russian Academy of Science. For the first settlers, the experience of POSVIR was especially important – they studied con-

28. For more details about the extreme suffering of the *spetspereselentsy* and their everyday struggle with the harsh Northern environment in Kirovsk see Bolotova & Stammer 2010, Bruno 2010.

ditions for agriculture in the circumpolar areas and also supplied the local population with regionalised seeds and plants that survived better in the Northern climate.

Settlers who arrived in the new town of Kirovsk in the 1930s mostly came as full families, with children and elders, and during the first years they all suffered extraordinarily in the rough Northern climate and harsh conditions of the socialist construction of the 1930s. Because of such extreme conditions, people had no other choice but to engage with the harsh environment very actively. Out of this engagement evolved localised dwelling practices, mixing the settlers' former experience of peasant life in their regions of origin and their new skills of dealing with the Northern surroundings. Over time, the environment, which in the beginning was experienced as alien, hostile and harsh, turned out to be a resource for subsistence support that gave additional means to survive food shortages.

Migrants who populated the new towns that were established in the 1950s and 1960s after the disintegration of the Gulag system were quite different from those of the 1930s: the majority of them were young people who were attracted by the romantic image of the Arctic, the State's agitation campaign and material 'Northern benefits' as well as the post-graduation distribution mechanism (*raspredelnie*) referred to above (section 6.1). Moreover, this was the generation that had been born and socialised in the Soviet country and, thus, was much more loyal to the State's ideology. Compared to the rest of the Soviet Union, in the regions officially defined as the 'Far North', people received higher wages, better housing and food supply, faster career growth, an earlier age for retirement, and increased pensions (Slavin 1982). Settlers coming to new Northern towns in the 1950s and 1960s were mostly singles in their 20s, many of whom had grown up in rural areas but already had some professional or higher education. They mainly came without families and created their own families in the North. In other words, the process of 'Mastering the North' entered a new stage: natural resources were to be developed by young people who voluntarily settled in new industrial towns.

After the arrival of settlers to their new cities, the romantic image of the North, typical for outsiders, was gradually replaced by a more finely-tuned and engaged perception of the Northern environments. In the beginning, most newcomers experienced hardships in adapting to the new conditions: they suffered from the harsh climate, mosquitoes, the remoteness and other difficulties of living in a new settlement. Over time, they gradually started to like the North: *"I came in January, and cried, and cried. I said [to my husband] 'Let me go home, I go home now'. 'Ok, wait, I get an advance [salary], and send you home? I say 'just for a day'. 'I get my salary – I send you home'. That's how we have been living [...]. Now I don't want to go home anymore. I started to like it here and don't want to go anywhere else. I wait for the Winter to pass and for Summer to come, in August, for mushrooms and berries... That's how it is. I quite like it"*²⁹.

29. Female, aged 62, Kovdor.

After the difficulties of the early period, the newcomers who stayed in the North gradually became used to the local conditions, and they developed skills of dwelling in the Northern environments: wearing the appropriate clothing, surviving the long Winters, enjoying the white nights, battling the mosquitoes, etc. As distinct from the 1930s, for settlers who arrived in the 1950s and 1960s, adaptation to the local natural surroundings was not a matter of survival anymore. For them, the natural environment gradually became the spatiality of leisure: during their working hours, settlers participated in the industrial processing of natural resources, while they spent their leisure time mainly out of the cities – in forests, in mountains or on lakes. They formed a kind of vernacular ecological knowledge and developed skills to deal with the local environment: “*We collect chanterelles in one place, aspen mushrooms in another, and ceps somewhere else. We have different routes when we go for berries or for mushrooms. And we also have our special, precious places, where we know we can get everything – mushrooms and berries*”³⁰.

The ability to recognise and distinguish local species, animals and plants appeared alongside the experience of dwelling, through gradual engagement with the local environment and the process of enskilment. Settlers often talk about the intuition and special feeling for various species that they developed over time. An informant told me how she searches for mushrooms, saying that mushrooms ‘lure’ her; she can feel them from a distance: “*I go and say: there should be an aspen mushroom, right here, in this place. And exactly, it is there! And I go like this around the area... So, here should grow chanterelles, let’s check under this pile of branches. Indeed, chanterelles!*”³¹. Evolving such an intuitive and intimate perception of the environment outside of the urban territory contributes to the formation of emotional attachment to the place, which settlers develop over time.

With the growth of new towns, the city space was formed, and the zoning that was typical for socialist cities became more and more evident. Step by step, the forest line was moved away from towns. The first settlers, who came when only the first temporary buildings existed, often tell stories of how they jumped from one tuft of grass to another on what is now the central street and how they picked mushrooms and berries at the place that is now the central square. However, extractive industries occupied a large territory and, over time, people needed to go farther and farther out of the city area to practise such leisure activities as gathering mushrooms and berries, fishing and hunting, hiking and skiing.

It is important to mention that during the hard period of economic crisis in Russia in the 1990s, the leisure practices of foraging in the forest changed their meaning and once again became activities for subsistence support, similarly to the special settlers who arrived in the 1930s during the first wave of industrialisation, and used all the available forest resources to feed themselves. In the 1990s, many Northern settlers again survived the food shortage by relying on dacha harvests and mushrooms and berries collected in the forests.

30. Female, aged 45, Apatity.

31. Female, aged 72, Kovdor.



Figure 8. Settlers in Apatity, 1950s. Source: From a private photo-archive of an interviewee, Apatity

In general, the process of adaptation was rather difficult for many newcomers, but over time, the landscape that was initially perceived by many as hostile transformed into a living space and an 'own place'. People developed a sensualised, intimate and emotional engagement with the local environments. The interactions with the natural surroundings differed significantly depending on the person's interests, level of expertise and physical co-ordination; still, many urban dwellers in new towns highly enjoyed the natural surroundings through sight, smell, touch and hearing. Their interactions with the local natural environment also contributed to the formation of people's ties and attachment to their places. Strangers who arrived to the North from various regions gradually grew into locals, developing their knowledge about the place through practical experience and the process of *enskilment* (Ingold 2000). This process of settling shows how a 'location' becomes a 'place' (Agnew 1987), where 'structure of feeling' and one's sense of place go beyond the city borders. The interaction with the local natural environment plays an important role in this process, in particular shaping the human-place connection.

6.3.3. Zoned perception of the environment

In paragraph 6.3.1., I overviewed the ideas of socialist planners and the implementation of these ideas in the spatial organisation of new Northern towns. In the following part, I show how the specific spatial organisation of socialist cities, such as functional zoning, influenced settlers' perception of the environment. I argue that people's perception of 'nature' and 'natural' varied in the different functional zones of socialist new towns. I demonstrate various 'natures', through an analysis of interactions with the non-human environment in three important functional zones of socialist cities: the industrial zone, the city, and 'Nature' as non-city.

The industrial zone (Promzona)

The industrial zone, in which the technological complex of multiphase rock processing is situated, dominates new industrial towns: it is the reason and sense for establishing a city from the ground up. The taskscape of this zone can be defined as the process of industrial production of local mineral resources: everything there is subjected to the producing and maintaining of the uninterrupted work of the enterprise. *Promzona* also dominates visually, as various pipes and tubes are visible almost everywhere in such towns. Visitors often find these industrial landscapes to be ugly and unattractive, while locals see the working pipes as signs of a living city. The necessity of resource extraction is usually not questioned by these people, and they incorporate the 'resource view' of the natural environment, which is rooted in the space of the industrial zone and its associated activities.

Industrial constructions, open-pit or underground mines, waste-rock hills, and tailing dumps altogether occupy a large territory, which is often bigger than the living zone of the city. In general, the industrial zone is a territory where 'Nature' that was described as wild and useless by the official rhetoric transforms into a useful 'natural resource'. People working for industries also follow this modernist approach: the mountains and rocks that belong to an industrial zone are, in a way, mentally excluded from the 'nature' realm, and perceived as a natural/mineral resource by most industrial workers. But what is perceived as 'nature' in this zone then? Usually, everything in such areas is related to industrial activities, so all foreign things not related to the production process invoke surprise, curiosity, interest and pride. For example, at a meeting in the industrial zone, people pointed out to me several green spots with trees and flower-beds with the words: "*this was planted by our chief Boris Ivanovich; he loved nature very much!*" Another time, I was also shown a photo of a fox cub on a mobile phone, with a comment that he comes here from time to time and he is not afraid at all!

Evidence from my fieldwork demonstrates how differently similar objects can be perceived, especially in the fringe area on the border between zones. Once, I went for a long walk with Maria, a pensioner woman who came to Kovdor at the end of the 1950s in the group of very first settlers and lived in a geological settlement for pioneers. She spent her entire working life at the main local enterprise – Kovdorskij GOK. We walked out of the city area along a small forest road that was rarely used for transport. We were talking and enjoying the forest around us when we suddenly arrived at a place where piles of waste rocks had been deposited aside the road nearby a small-scale open mine, without any fence or hedge.



Figure 9. A view of the piles of waste rocks in Kovdorsluda. Photo taken by the author.

Maria became angry when she saw it and told me that these ugly piles of waste rock belonged to a small local enterprise called Kovdorsluda. In her opinion, this enterprise never kept its territory in good order, preferring to put waste chaotically into heaps of stones near the forest. We continued our walk, and after a few hundred metres, we saw a very tall, artificial hill in the distance.

Maria explained to me proudly: “and this is OUR waste rocks pile”, meaning that it belonged to the enterprise where she had worked – Kovdorskij GOK. In her eyes, this way of maintaining waste rocks was much more appropriate: formatted by mining surveyors, accurate, planned, with steps. In reply to my remark that those waste-rock hills occupy a much larger territory, she said that at least they were well ordered.



Figure 10. A view of the artificial hills of waste rocks of Kovdorsky GOK. Photo taken by the author.

This example shows the different perceptions of the environment in a contested area of a fringe zone. This person identified herself with the enterprise and valued positively ordered and well maintained waste rock hills, since they are situated in the industrial zone and constitute a necessary part of the processing of mineral resources. The other waste rocks storage area was too chaotic and untended for her eyes, and it invaded the zone of out-of-town nature. The key differentiation here that allows fast transition from the perception of nature as a resource to nature as a leisure space that is vulnerable to industrial pollution is the taskscape of the zone as it is perceived by the person. The divide between work and leisure is very central here – outside the industrial zone and work, the main function of the natural environment is recreation.

The city

The residential area of the Northern industrial cities is usually situated at some distance from the industrial zone. This territory is rather diverse by taskscape – it is a living space where most services are situated, where people meet and spend their free time. The functional organisation of this zone is based on the principles of *sotsgorod*, as described in section 6.3.1. The territory is divided into residential quarters, each of which includes shops, schools, polyclinics, and kindergartens. Zoning was formed as the city grew – urban space was divided from the industrial area, and a general development plan was created and implemented step by step. The importance of green zones within the city increased with the development of the urban space: green areas were developed as buffer

zones that aimed to protect the living quarters from industrial pollution. For the settlers of Northern industrial towns, the urban green zones became important spaces for recreational activities within the city territories, as in most cities. However, there were two important distinctive features of the 'urban greening' process in Northern industrial towns: first, the enormous efforts that were needed for this process in Northern climatic conditions, second, the massive involvement of citizens in 'greening works' in their cities, which was very common during the whole Soviet period.

During the first wave of urbanisation in the Murmansk region, all trees in the territory of a future new town were usually cut down in order to clear an area of land for construction, so the greening process had to be started from scratch at a later stage of development. New seedlings from the forest often took root poorly, so several institutions (POSVIR and Polar-Alpine Botanical Garden) working in Northern cities conducted numerous scientific studies on plants' survival in Northern conditions. Later, during the second wave of industrialisation, planners started to practise partial saving of natural forest when creating a new city from the ground up.

City residents' involvement in urban greening (or 'green construction' - *zelenoe stroitel'stvo* - as it was called in the official Soviet rhetoric) was mainly mandatory, but still it was very important for the formation of residents' attachment to the place. In new Northern towns, urban greening was usually organised through the industrial enterprises – every section or department of the enterprise had its affiliated lot of urban space – a street, a square, a part of the park – and was obliged to mobilise workers for unpaid collective work in cleaning and greening the area during weekends. Despite the obligatory character of this activity, it played a very important role in the place-making process: people met outside the industrial zone, planted trees together and were physically involved in the process of city development. Many informants said that they often continued this work by themselves, bringing seedlings on their own initiative to green their courtyards. Through these practices, citizens develop a sense of place and become attached to their new locality. A representative case took place in Kovdor in the 1970s, when it was decided to build a new administration office in the territory of a park that had been planted earlier by the first-comers. It caused vehement protests; people wrote letters to the administration and higher authorities, and collected signatures against this decision. The citizens' opinions were ignored and the trees were cut down, the building constructed and protest leaders punished by admonitions and salary reduction. However, this story demonstrates the importance of city greening carried out by the citizens: people even participated in open protests against the administration, which was a rare event in Soviet times, in order to defend the results of their own work. Attachment to place increased through residents' active participation in activities to improve the urban space.

'Nature' as Non-city

The majority of inhabitants of Northern industrial communities make their living working for industries, so their work-time activities go within the industrial taskscape. However, their dwelling does not go exclusively within the built environments of the cities and the industrial zone, but also beyond the borders of the city, encountering a variety of non-human components. What are the peculiarities of engagement with the environment outside the new cities? For urban dwellers, the main taskscape of this zone is defined primarily as a territory for leisure and recreation; staying out of the city is usually connected with diverse activities varying according to the seasons, such as skiing during the Winter time, barbequing beginning in the Spring, hiking in the hills and mountains, visiting Summer houses (*dacha*) and gardening, picking mushrooms and berries, hunting and fishing. As distinct from Western countries, where people often just like to sit and enjoy the beauty of the landscape, or just hike, most recreational activities in the Russian North include practical engagement with the environment and are oriented towards obtaining a result, bringing something home from the forest: mushrooms, berries, fish or meat. However, in discussions and interviews, people express that it is not the result that makes them fond of these activities, but the process of being engaged with nature. Through those diverse activities, people gain experiences of staying in landscapes that are radically different from the regulated, standardised environment of the new industrial towns. Various 'natures' serve as alternatives to the control and functional zoning of the urban environment – they become spaces for emotional discharge and for aesthetic and spiritual satisfaction.

Depending on individual preferences, people become engaged with different environments perceived as 'nature', and these 'natures' differ by their characteristic activities as well as by their proximity to cities, the level of development, and human influence on them. They can vary from the 'refined nature' of *dacha* communities near cities to the 'wild' nature of remote, roadless areas. This range of different spaces is characterised by different ways of dwelling and each requires different skills that are learnt by individuals through their experience of living or staying in a particular space. The common characteristic for various spatial activities is the temporality of those experiences for Northern urban dwellers, which is different from the indigenous people. Urban residents go to the forest only from time to time, although frequency depends on an individual's preferences; in every city, there are several renowned 'forest experts' who spend a lot of time in forests and therefore possess special deep knowledge, skills and a feeling for the environment.

The process of enskilment of newcomers grows through practice, moving in ambience and everyday experiences on the land: recent migrants acquire skills and learn how to dwell within the local environment, they experience particular locales, and take part in various activities. As distinct from indigenous people who belong to the localities and environs where they were born and have grown up, migrants radically changed their place of residence. The foraging activities require specific knowledge and skills, which

people coming to the North from areas with radically different landscapes did not have before. Over time, settlers develop these skills: *“What is a bilberry? At the beginning it was a bit strange for me, because I had first seen another berry very similar to it which I had begun to pick. It turned out to be inedible and actually it looks rather different as I know now – different bushes and leaves. [laughing] Now it is sooo easy, I know everything, everything is svoe (mine) here”*³². These skills comprise several areas of competence, such as the ability to recognise species, orientation skills, and knowledge of foraging and processing harvests technologies. The process of enskilment and engagement with the natural world increases the connections and bonds of settlers with their new places of living.

Various practices require different transportation modes and vehicles, though with the development of industries and growth of industrial zones, ‘nature’ moved further away from the city borders as the nearest outskirts of the cities became overused by city dwellers and were polluted by industries. So, for most activities, people started to use private cars to reach ‘real nature’ different from the city environment: *“Before, one could run to the forest just before work and gather both lingonberries and mushrooms. Nowadays, we have engulfed all the outskirts with our industrial wastes, so if one doesn’t have a car, it’s impossible to get anything of it anywhere. In this respect, surely, all of this, all this industrialisation, it...[shaking her head in distress]”*³³. Now in Northern industrial cities almost every family has a car that is mainly used for leisure practices outdoors. Some passionate hunters and fishermen also create their own vehicles that are suitable for bad roads or roadless areas.



Figure 11. *A grandson of a hunter on the vehicle designed and constructed by his grandfather. Photo by the author, at a dacha in Kovdor district, July 2009.*

32. Female, aged 45, Apatity.

33. Female, aged 69, Kovdor.

Dacha places (Summer houses) figure among the most important sites of engaging with the natural environments in many narratives of Northern urban dwellers. In the North of Russia, dachas appeared later than in other parts of the country, only at the end of the 1980s and the beginning of the 1990s. This was time of a heavy economic crisis in the country, and authorities offered people plots of land for free, seeing private cultivation of vegetables as a measure to cope, at least partially, with food shortages. For many Northern settlers, their dacha became an important means of survival during this period, and even in difficult climatic conditions, people grew large amounts of vegetables. Previously, occupation of land in suburbs for gardening and subsistence agriculture had already happened during other difficult periods like the 1930s or WWII; however, only after the 1990s did these garden plots start to 'grow' into Summer houses, and their major function shifted from food production to recreation.

The assertion that the dacha is a kind of natural environment is questionable, but, as my fieldwork and other research in this region has shown (Nakhshina & Razumova 2009), for many settlers, their dachas definitely belong to 'nature' and are perceived as an alternative to the city. One settler described the purposes of visits to the dacha as follows: *"That's a kind of staying in nature, as it has become rather problematic to go to the South, you know. And that's a kind of leisure in nature"*³⁴. For a number of city dwellers, the dacha territory is a bit of a natural world: *"Sure, I like observing our mountains, I like seeing how snow appears there at the end of the season when we gather potatoes or how it melts bit by bit and the slopes become green during Spring. There's everything on our allotment of three hundred metres. We've got our mountain, our forest and our mushrooms. Well . . . And we observe how . . . well, here's our birch turning green and it's all pleasant. Interaction with nature is always pleasant"*³⁵.

All three zones described above do not represent isolated spaces; on the contrary, they are overlapping, the boundaries between these zones are porous, and their meanings can change in the eyes of the observer. For settlers in Northern industrial communities, the main function of their interactions with the natural environment outside of the industrial zone and work is recreation. In a way, the specific spatial organisation of these cities and their surroundings, based on functional zoning, is echoed in people's perception of the territory. Both engagements with the physical space and the residents' ideas about the locality are influenced by the main dividing principle between the spheres of work and of leisure.

34. Female, born in 1946, quoted in: Nakhshina & Razumova 2009: 436.

35. Male, born in 1926, quoted in: Nakhshina & Razumova 2009: 437.

7. CONCLUSIONS

This study investigated both the Soviet dominant discourse of conquering nature and the perception of the natural environment of people who personally participated in the Soviet *osvoenie severa* ('mastering the North'). Based on the results of in-depth fieldwork, I explored how people relate to the dominant discourse on nature and how they interact with the natural environment in their daily life. I also traced changes on the level of discourse and everyday life during two waves of industrialisation in the North.

I have shown that despite many common characteristics of the capitalistic and socialistic versions of the modernist approach towards the natural environment, there are also some distinct features of the Soviet dominant discourse to nature. Similar to other industrialised countries, the Soviet regime saw the natural environment primarily from the economic perspective as a source of natural resources to be extracted and produced. In addition, the idea of dominance over nature was connected with remaking humans and the creation of a 'new Soviet people', depicted as completely separate from nature, able to regulate and bring order to chaotic, passive nature. Revolutionary rhetoric was actively used in talking about the natural environment, and nature was presented as an enemy that Soviet people had to battle against. Later, in the 1960s, the Soviet dominant discourse on nature was normalised and standardised, and became rather homogeneous and pathetic: the Soviet people were depicted as successfully struggling against the hostile and powerful nature, and in the official rhetoric they were presented as the ultimate winners in this battle against the natural world, demonstrating their incredible strength and heroic qualities.

My research followed these proclaimed ultimate winners to their 'battlefield', where I investigated the implementation of the 'conquest of nature' ideology in the Northern part of the Soviet Union. Intense internal colonisation of the Northern peripheries took place during the entire Soviet period, with the main purpose being to gain access to the rich mineral resources that were needed for industrialisation. The means and strategies of the Northern expansion changed depending on the political and economic transformations in the country and the stage of development of the Soviet centralised planned system. In the course of the forced industrialisation in the 1930s, Gulag prisoners and forcibly resettled peasants were used as the main workforce at most Northern enterprises. Later, in the 1950s and 1960s, political changes in the country caused a shift in the workforce in the North: after the break of the Gulag system, mostly young people were stimulated to settle in new Northern towns, attracted by material benefits and an ideo-

logical campaign for the ‘mastering of the North’. Establishing permanent settlements from the ground up at previously uninhabited locations was a rather hard task, as the towns were planned and built by outsiders – distant planners, visiting officials and recent newcomers. Most of them had either no experience or only limited experience of living in the locality and in the North, so they were not very familiar with local conditions and the Northern environment and hence made numerous mistakes. The specific principles of organising both the human and physical landscapes in new industrial settlements that were developed in the Soviet Union resulted in the formation of the strictly structured territories of Northern socialist towns.

In this study, I demonstrated how in Russia/USSR, the North turned from a space (the unknown waiting to be explored) to a territory (the known and mapped) through the work of geologists during the explorative period in the North (Article 1 and 2). Then, migrants who settled in newly established socialist towns turned that territory into a place – constructed, inhabited, dwelled in. Settlers of new Northern towns arrived in the North as to an ‘empty place’ and participated in establishing a new settlement from the ground up. I explored the perceptions and uses of the Northern environment as were characteristic for people involved in the implementation of norms and practices of the authoritarian discourse, and demonstrated how they developed multifold new meanings, practices and lifestyles that were not directly provided by the dominant discourse, although they were not necessarily in opposition to it either (Articles 3 and 4).

By encountering the complexity of local environments and situations and developing their knowledge about the locality through practical experience, they gradually grew into locals and developed their own meanings of the place. In different time periods, people arrived in similar environments, but in a completely different historical context, e.g. in the 1930s and 1950s, people experienced their engagement with the local natural environment as varying from suffering and survival to leisure and recreation. In both periods, the unfamiliar, hostile Northern landscape was gradually turned into the settlers’ own space. Work for extractive industries and functional zoning of socialist towns significantly influenced people’s perception of the environment. In this study, I demonstrated that nature was perceived differently in the distinct functional zones of Northern industrial towns, depending on the taskscape of a zone. Moreover, material spaces of different types (with different taskscapes) structured the interactions between humans and non-humans. The main dividing principle is between the spheres of work and of leisure in both the physical space and in residents’ ideas about the place. Outside the industrial zone and work, the main function of the natural environment for local residents is recreation.

The perception of the place and the environment by locals and by outsiders varies significantly: visitors often find Northern industrial towns ugly and unattractive, while the perception of Northerners is more nuanced. Often, people express dislike for the standardised environment of socialist towns, but they still may be deeply attached to various Northern ‘natures’. Outsiders do not dwell in the locality; they just visit, so for them,

aesthetical criteria are more important, while the locals have their resident experience and perceive the place from the dwelling perspective.

People who were personally involved in the Soviet 'conquering nature' and 'mastering the North' approach developed diverse ways of engaging with the Northern natural environments in their everyday lives. Most settlers of new industrial towns had peasant roots, so they possessed memories and practical experience of peasants' interaction with the land. Many newcomers remembered and used peasant practices at their dacha places, where they produced agricultural harvests. They developed localised dwelling practices on the basis of their former experience of peasant life in their regions of origin and also developed new skills of engaging with the Northern surroundings. At the same time, the majority of settlers worked in factories and mines as their main economic activity, where they also engaged with the environment as industrial workers, perceiving the environment as a resource to be processed (sharing the dominant discourse). However, this perception is mostly limited to the industrial zone, while outside of this zone and the city, people see the natural environment as a leisure space that is vulnerable to nearby industrial production. Personal combination of uses, meanings and practices 'in nature' can vary from gardening at a dacha and picking mushrooms in nearby woods to mountaineering, hunting or fishing far away from the settlement, but in general, it is opposed to the spaces of work and city life. Various recreational dwelling practices in natural environments had a significant influence on people's relationship to the locality and their sense of place.

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ORIGINAL PUBLICATIONS

Colonization of Nature in the Soviet Union. State Ideology, Public Discourse, and the Experience of Geologists

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Abstract: This article combines two perspectives on the history of geology in the Soviet Union. Soviet policy not only transformed the geological profession from a marginal group of intellectuals into a booming field of applied science. State ideology also celebrated the geologists' colonization of nature, putting them on a par with cosmonauts and pilots. The hegemonic discourse defined nature as meaningless unless it was exploited for human needs. However, the geologists' everyday experiences looked remarkably different. During month-long stays in the natural environment, the official doctrine gave way to other perspectives: hardships and starvation, unexpected encounters with men and beasts, and the quest for discoveries in spite of all difficulties. Geologists also enjoyed nature as visual harmony, and even found a small corner of freedom in nature as the "taiga laws" of behavior, friendship, and hospitality made for an honest atmosphere around the campfire. For Soviet geologists, nature was not simply the "house of treasures" that official rhetoric cherished but also an archipelago of freedom.

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*All in a man, everything for a man! Only a human being exists.
All the rest is produced by his hands and brain.*

Maxim Gorky¹

In every society, nature is not only an irresistibly material environment but also a subject of interpretations and reinterpretations. In the Soviet Union, the notion of a conquest of nature was part of state ideology, and yet it is important to recognize the paradoxical consequences that this notion could produce in Soviet life: for example, people sent to “wild nature” with the idea of conquering it were also embarking on a venture that brought them beyond the sphere of state control. Therefore, an inquiry into interpretations of nature in politics and everyday life in the Soviet state is well advised to combine a study of official statements with an investigation of the ideas and practices of specific groups. This article intends to provide such an inquiry by focusing on geologists, a group that is especially well suited for a case study on the constructions of nature in Soviet society. Most importantly, it is the duality of the Soviet geologists’ public image that deserves attention in this respect: s/he is seen as both a vanquisher and a relative of nature. “Hold on, geologist, hold out, geologist, you are the brother of wind and sun” – these are the words of a popular Soviet song.² Voices of this kind ascribe a special kinship with basic symbols of nature, like wind and the sun, to the community of geologists while at the same time celebrating them as representatives of humankind who explore nature for building future industrial centers and belong to the world of scientific rationality in its professional identification. In fact, geologists became a cult figure in Soviet society in the 1960s, standing on a par with cosmonauts and pilots. Romanticizing exploration and exploitation of nature was a characteristic of the Soviet epoch.

Soviet newspapers, films, songs and books often described geologists as pioneers and path-breakers in the exploration of new territory. In representing their professional work, special attention was given to descriptions of struggle with nature, constant encounters with and success over difficulties. The field life of geologists appeared as an everyday adventure in taiga, tundra, mountain or river settings that ultimately had been created to serve human purposes. At the same time, reports depicted geologists as brothers to elements, wanderers, romantics: a group of people who were close to the world of nature. However, while this kind of report provides ample evidence for the Soviet hegemonic concept of nature, it is equally important to include the practical experiences of “Soviet geologists” in this discussion. Two different types of sources were used

¹ Maksim Gor’kij. Na dne (On the bottom). Quoted by: M.Gor’kij. Izbrannye sochinenija. M., Hudozhestvennaja literatura, 1986, pp. 890-951.

² Geologi (Geologists), 1959. Text by S. Grebennikov and N. Dobronravov, music by A. Pachmutova.

for this article: first, the hegemonic discourse on nature was reconstructed on the basis of newspaper and literature analyses³; second, autobiographies of professional geologists and fifteen interviews with geologists who had worked in expeditions during Soviet times provided information concerning the geologists' interpretations of nature.⁴ Taken together, this material allows an analysis of the different dimensions of interaction with the natural environment in the practical experience of "Soviet geologists" directed by the state to search for natural resources: What did conquest of nature mean in practice? Were there alternatives to, or at least deviations from, the hegemonic discourse about nature in the USSR? In which ways did the material environment influence social constructions of nature? As distinct from the state view on nature as a "senseless" storehouse full of resources, the geologists' views of nature were much more diversified, filled with events, meetings, values, and meanings; they comprised bears and Chukchee⁵, the military and the banished, landscapes, scientific discoveries, hunger, and the death of friends.

Compared with research on the United States and some Western European countries, the literature on the environmental history of Russia and the Soviet Union is still quite limited. Douglas Weiner carried out important research on the history of environmental movements in Soviet Russia.⁶ Also, publications by Paul Josephson, Bernd Stevens Richter, and David Turnock pay attention to some aspects of the Soviet Union's environmental history.⁷ However, given the size of the Soviet Empire and its importance for the world history in the twentieth century, it will readily be seen that these works, in spite of their merits, can only scratch the surface. Readers are invited to read this article as a contribution to the research field of Soviet environmental history.

³ The methodology of discourse analysis was used for the newspapers analysis. Five newspapers were analysed from the 1930s to the 1960s. This article presents an analysis of 1960s material only.

⁴ The interviews were conducted by the author in 2002 and 2003. Transcripts are in the author's possession.

⁵ An ethnicity, indigenous population living in the Magadan region of Russia.

⁶ Douglas Weiner, *Models of Nature. Ecology, Conservation and Cultural Revolution in Soviet Russia* (Bloomington: Indiana University Press, 1988); Douglas Weiner, *A Little Corner of Freedom. Russian Nature Protection from Stalin to Gorbachev* (Berkeley, 1999).

⁷ Paul Josephson, *Industrialized Nature. Brute Force Technology and the Transformation of the Natural World* (Washington, 2002); B. S. Richter, "Nature Mastered by Man. Ideology and Water in the Soviet Union," *Environment and History* 3 (1997), pp. 69-96; David Turnock (ed.), *East Central Europe and the Former Soviet Union. Environment and Society* (New York, 2001).

1. The State: Conquering Nature in the USSR

*He proudly steps on the pole,
And rivers directions changes,
And high peaks of mountains moves,
A Soviet everyman.*

From a Soviet song⁸

The slogans on the conquest and subjection of nature were among the most important ideological frames of the Soviet state. The idea of human dominance over nature, and the call for humans to subdue, modify and reconstruct a chaotic and meaningless nature in order to regulate natural processes supplemented the overarching goal of a total reconstruction of the social order, making for an intrinsic link between state policy and the ideology of conquering nature in the USSR. After a few remarks on the institutional development of geology in the Soviet Union, this article will present a discussion of the hegemonic and other discourses on nature and geologists between 1930 and 1980.

1.1 Soviet industrialization and its impact on geology

The exploration of unknown territory had long been a standing feature in the history of Tsarist Russia, as countless explorers readily show. However, explorations gained a new urgency with the declaration of a massive industrialization program in the 1920s, and state authorities set out to explore the distant territories of the country in order to get resources for industrial development.⁹ Weakened by the long civil war and the devastation it had brought, the strategic aim of the Soviet state was to dispose of the necessity to import mineral resources, assuming that resources of this kind could be found in abundance in the country's vast unexamined territory. Geologists were in the forefront of the "explorers" of the new lands. They were often the first to come to places where, depending on the results of their investigations, a new industrial complex could arise.

This situation, and especially the forced character of development, defined the numerous features of the science of geology in the USSR. In institutional terms, geology started in Tsarist Russia in 1882, when a decree of Alexander III.

⁸ Sovetskij prostoj chelovek (The Soviet everyman), 1936. Text by V. Lebedev-Kumach, music by L. Shtrejher.

⁹ I. Grigoriev (red.), Sovetskaya geologia za 30 let (Soviet geology for 30 years) (Moskva, 1947).

created a Geological Committee.¹⁰ Interestingly, this occurred only three years after the creation of the Geological Survey in the United States of America.¹¹ Before the revolution of 1917, there were also a number of geological associations in Russia, usually groups of predominantly male intellectuals who belonged to the scientific elite of Russian society. After the revolution, geology quickly turned into an applied science, with close connections to industry and the military. To be sure, the military-industrial complex had a great influence on the development of geology and other earth sciences in other countries as well, but the Soviet Union probably stood out in the speed of the transformation. Just before the revolution, the Geological Survey of Russia comprised a total of 72 persons, making for an urgent need for qualified geologists.¹² In order to boost education, many rabfacs (specialized courses for workers), technical schools and departments at the universities were organized by Soviet authorities. Special scholarships and high salaries served to increase the attractiveness of geology.

Distribution of the graduates was centralized, and depending on the state's need for qualified personnel, a graduate of any institution could be sent to any part of the country. It is noteworthy that this was a typical feature of the Soviet state that made for a complete transformation of the category of space in the USSR. Any citizen of the country could be directed to any place, and often was, making for a rapid rise in both geographic and social mobility. The state monopolized the power to transform the territory and to distribute specialists in accordance with its needs.

Different types of geological surveys were conducted systematically on the entire territory of the country beginning in the 1920s, resulting in a constant expansion of the institutional structure of geology. As a result, the geological branch comprised more than 10,000 specialists with higher education in 1947, a figure that does not include sub-professionals and technical workers.¹³ By the early 1950s, geologists of the Soviet Union accounted for about one half of the total number of geologists in the entire world.¹⁴ The state exercised a strict control in defining the types of mineral resources to be found, the regions where expeditions had to take place, and priorities of work. The geological surveys focused predominantly on the country's far north, Siberia, and the

¹⁰ O. Petrov, A. Zhamojda, *GEOLKOM - VSEGEI v razvitii Geologicheskoi sluzhby i usilenii mineral'no-syr'evoi bazy Rossii. 1882-2002* (GEOLKOM - VSEGEI in the development of Geological Survey and strengthening of a mineral base of Russia) (St. Petersburg, 2002).

¹¹ M. Rabbitt, *The United States Geological Survey: 1879-1989* (U.S. Geological Survey Circular 1050, Washington, 1989).

¹² I. Grigoriev (red.), *Sovetskaya geologia za 30 let* (Soviet Geology for 30 Years) (Moskva, 1947).

¹³ Grigoriev, *Sovetskaya geologia*.

¹⁴ L. Graham, *What Have We Learned About Science and Technology from the Russian Experience?* (Stanford, 1998).

Russian Far East. With the data obtained during field expeditions (where the majority of the Soviet geologists spent about 5-6 months every year), the “white spots” of the country’s geography continued to shrink, and countless deposits of mineral resources were stricken and tested. However, given the environmental conditions of Siberia, it becomes clear that there was a need for an enthusiastic corps of field workers. Therefore, agitation started in the 1920s for the “struggle with nature,” with newspapers and the literature alike seeking to incite people to be enthusiastic about being directed to distant backwoods regions to “master the land.”

1.2 Literature, revolution and nature

*When we alter the history,
We can't give geography a miss!*

Soviet poet A. Zharov (1904-1984)¹⁵

Literature played an important role in the ideological conquest of nature. It were literati – writers, political writer, and poets – who in the post-revolution decades defined the general terms of the rhetoric of the Soviet hegemonic discourse on nature, which newspapers later adopted and turned into an articulate mythology of conquering nature. At the same time, Soviet leaders were developing ideas of altering nature as well; perhaps the best known example is the “Stalin Plan for the Transformation of Nature.”¹⁶ The literary style commonly known as socialist realism became a major source of the evolution of the ideology of conquering nature. In essence, socialist realism set out to transform ideological frames of reference into works of art.

The Soviet hegemonic discourse on nature was a creation of revolutionary romanticism and pathos. Nature was a metaphor for the struggle with and the ultimate conquest of the old order and the construction of the new one. With that, nature was defined as wild and hostile. Interpretations of nature during the first years of the Soviet regime often carried allusions to revolutionary rhetoric and romanticism; they became tales of revolutionary struggle, of renovation and reconstruction. After the Second World War, notions of “war with nature” and “conquest of nature” became more prominent. One could argue that romanticizing the struggle with nature is a general characteristic of large industrial countries like the Soviet Union and the United States. Both countries favored a

¹⁵ Izvestija of September 12, 1931. Zharov A. “Volga vpadaet v Moskvu” (Volga meets Moscow).

¹⁶ This is a widely-used term in Soviet journalese for the governmental rule from October 24, 1948. The plan had to be implemented over a 30-year period, and envisioned a series of forest belts across a huge part of the south of the country whose purpose was to hold back and tame the harsh winds from the deserts of Central Asia.

way of understanding and exploring nature that one might call “colonization of nature,” as distinct from the “civilization of nature” that took place in Western Europe over the ages. While civilization of nature envisioned a domestication of “nature as my backyard,” colonization sought a conquest of “wild, alien land.”

The changes to the natural environment in accordance with the needs of Soviet society were closely connected with the idea of “forming a new (Soviet) man.” “Changing the nature, a man changes himself” – this was a slogan proclaimed by the Soviet writer Maxim Gorky in the 1930s.¹⁷ As Lev Trotsky, an early Soviet leader who was later murdered in exile, wrote in an essay of 1924, “Under socialism a man will become a Superhuman, changing courses of rivers, heights of mountains and nature according to his needs and, after all, changing his own nature.”¹⁸ This rhetoric depicted the Soviet struggle with nature as a continuation of class conflict and as supporting the struggle with the capitalist world. It is worth quoting Maxim Gorky again, since he promoted the idea of the conquest of nature in the first decades of Soviet power: “In the Soviet Union there is a struggle of a reasonably organized will of the working masses against the forces of nature, against the elemental natural constituent in people which is nothing but an instinctive anarchism of a personality brought up through the ages of pressure placed on it by the class state.”¹⁹ Gorky depicted people’s energy in the construction of different industrial objects as opposed to wildness and the spontaneous natural forces: “Our brave and mighty activities directing the physical energies of the people to the struggle with nature allow the people to feel their true purpose: to gain possession of the forces of nature and to tame its fury.”²⁰

Vladimir Mayakovsky became the first poet who enchanted the struggle with nature. He entirely accepted both the revolution and the ideology of conquering nature: “Build / at full working agility, / don’t regret when breaking for building! / If Kazbek²¹ balks, / disrupt it! / Never mind, since it’s not seen / in a fog!”²² The revolutionary rhetoric implies contempt of everything and a call to brave the elements. A mountain beyond the view of man is considered senseless, so man’s aim is to reorganize, to order, to supersede natural beauty with a new, iron-made beauty produced by humans. In another poem, Mayakovsky writes, “We, / the carriers of the new belief, / giving beauty the iron tone, / for

¹⁷ Quoted from Weiner, *Models of Nature*. Gorky’s words were used as an epigraph for the book entitled Belomor-Baltic channel, a collection of essays of Soviet writers – Gorky was among the editors – enchanting the famous forced labor project.

¹⁸ Lev Trotsky, *Literatura i revolutsiya* (Literature and revolution). (Moscow, 1924).

¹⁹ Gorky, A.M., *Sobranie sochinenij* (The Collection of Writings), vol. 26 (Moskva, 1953), p. 20.

²⁰ Gorky, *Sobranie sochinenij*, vol. 27, p. 43.

²¹ A mountain in the Big Caucasus region of Georgia.

²² V.V. Majakovskij, *Vladikavkaz-Tiflis*. // *Sobranie sochinenij* (The Collection of Writings), vol. 1. (Moscow 1950), p. 216.

not polluting squares with sickly natures / we put ferroconcrete to the sky.”²³
And further more: “Here explosions will cackle / dispersing bear bands / and
the huge ‘Giant’ factory / will break the ground with mines.”²⁴

In 1926, Vladimir Zazubrin delivered a lecture to the Congress of Siberian Writers which mirrored the mood of a lot of authors for whom it was not easy to accept the ideology of conquering nature. After all, this ideology called for a break with the long tradition for “love of nature” in the Russian literature, represented by the names of Pushkin, Chekhov, Tolstoy, and others. They ultimately followed suit on the new priorities, but not without some hesitation, as Zazubrin’s remarks make clear: “An idea of city, of city culture, of clangs of plants and factories, is heavy for us who are in ‘animal love’ with the taiga vastness of Siberia. However, so let it be, let a human being in us kill an animal, haul it. Let the green mellow breast of Siberia be cased in cement armor of cities, be armed by stone craters of factory chimney, be bound with iron railroads. Let taiga be burnt out and stripped of its timber, let steppes be trampled down. So mote it be, and it will be inevitable. It is only cement and iron that can become a fundament of iron-made fraternal union of all people, the iron-made fraternity of the whole humankind.”²⁵

The ideas of struggle with nature and reconstruction of nature gradually took root in that segment of the Soviet literature that survived the repressions of the 1930s. External censorship of literature decreased in importance as it was replaced by self-censorship: writers, as well as the editors of newspapers and magazines, had learned what they were expected to write, and how they could avoid getting arrested. Literature in the socialist realism style became the key proponent for the struggle with nature. As a matter of fact, the ideas of mastering and reconstructing nature dominated in the Soviet literature until the 1960s and 1970s, when the political “thaw” allowed critical voices to come forward.

1.3 Nature in Soviet newspapers: the meaningless taiga

Between the 1920s and the 1960s, the hegemonic discourse on nature was practically unchallenged; Soviet newspapers were full of calls for action against nature during these years. The ideas of man’s power over nature and the necessity of struggle with nature were implicit in the vast majority of articles, and newspapers routinely carried glowing descriptions of drastic alterations of

²³ Cited after V. Borejko, *Sovetskaja literatura kak glashataj bor’by s prirodoy* (The Soviet literature as the proclaimer of struggle against nature), in: V. Borejko. *Belye pjatna v istorii prirodohrany*. Sovetskij Sojuz, Rossija, Ukraina (White spots of history of nature protection. The USSR, Russia, Ukraine). Vypusk 1. (Kiev, 1996), pp. 108-132.

²⁴ V. V. Majakovskij, *Rasskaz Hrenova o Kuzneckstroje i o ljudjah Kuznecka* (The Story of Khrenov about Kuznetskstroj and about people of Kuznetsk), in: V. V. Majakovskij. *Stihotvorenija* (Moskva, 1980), pp. 239-241.

²⁵ Cited after Borejko, *Sovetskaja literatura*.

the environment in correspondence with humans' needs. In fact, the style of writing about nature became homogeneous to an extreme extent: going through the newspaper articles over the decades, one could gain the impression that they were all written by the same author. Articles on the issue routinely adopted a pathetic style, used a certain set of metaphors and standing phrases, and even employed similar grammatical constructions. The representation of nature in Soviet newspapers is remarkably close to Russian fairy-tales: Soviet people appear as symbolic inheritors to the Russian fairy-tale hero Ivan: they always win in struggles with insidious elements and life's rigors. This is particularly important in the articles on geologists, the Soviet heroes of the 1960s. Stories on the geologists' work are commonly narratives on the exploration of, struggle with, and conquest of nature. Most prominently, nature was interpreted as a Senseless Emptiness, a Treasure-house, and a Warden of Treasures. A few excerpts from newspaper articles will serve to illustrate these discursive lines.

1.3.1 Nature as Senseless Emptiness

According to the hegemonic discourse, nature does not make sense by itself: it is devoid of any inherent rationality, let alone intrinsic value. It gains its meaning only through the activity of civilized man, who grants a certain locality character and meaning through developing or using it. From this point of view, natives living in these places and non-human beings did not have their own rationality, or in fact any interests that the Soviets would have to take into account.

In accordance with this general idea, newspaper articles describe nature as undifferentiated, dark, and senseless. Here is a typical example: "A uniform and dark taiga was everywhere around; this was a kingdom of impassable swamps and gnats. [...] How much time will it take for people to get here, to deepen riverbeds and dry the swamps, to clear the taiga, to build roads and cities."²⁶ The Soviet man is a creator, the Lord of the land, he changes space to his convenience and therewith animates it, awakes sleeping, passive nature, creates variety, brings light. Another example is the following: "In the evening, sitting around the campfire with live coals, the discoverers were talking about the future, about the life that Soviet people will bring here, to the 'land of eternal silence'."²⁷

In order to awake nature from its sleep, a lot of energy was needed. Therefore, the discourse of conquering nature was directed most prominently to the youth capable of answering the call of the authorities to go to distant land to explore new territories. Articles juxtaposed the wild and desolate land with the

²⁶ Pravda of April 2, 1967: "Novyh uspehov, pervoprohodcy! Nas zhduť otkrytija!" (We wish you successes, explorers! Discoveries are waiting for us).

²⁷ Sovetskaja Rossija of June 16, 1961: "Druz'ja solnca i vetra" (Friends of sun and wind).

enthusiasm and energy of young people: “Young scientists in the search for new deposits of minerals needle their ways in the taiga, mark out places for future cities, establish production of the most valuable metals. Their labor transfigures the formerly unsettled, neglected land.”²⁸ The titles of many newspaper articles reflected the Soviet cult of everything New and First: “They come first,” “We wish you new successes, discoverers!”²⁹

1.3.2 Nature as a Treasure-House

The notion of nature as a house of treasures was closely linked with that of it as senseless emptiness. In a way, one could combine the two discourse lines in the oxymoron of “rich emptiness.” In other words, while many articles stressed the emptiness of nature and saw territory as meaningless until it showed traces of human activity, they also depicted nature as rich with natural resources that were waiting to be exploited.

“A way is traced on the map only. Here, in the taiga there are only animals’ paths, only wild thickets and swamps, and clouds of mosquitoes. It is necessary to go through all this to find a treasure-trove carefully hidden by nature. For the sake of this the discoverers go through the taiga, and they are called ‘geologists.’”³⁰ In Soviet journalese, “treasure,” “treasure-trove,” and “storehouse” were the common metaphors for describing natural resources. Geologists were finding treasures for the sake of the country, treasures which were very hard to come by since they often had to be recovered from natural forces. The geologist went without roads, but roads – the main symbol of the territorial exploration by humans – and cities were built just behind him.

A typical feature of the representation of nature in Soviet newspapers is its wildness. The absence of roads serves as illustration of this characteristic. Nature is often referred to as “untrod” and “impassable” in reports on geologists. The implicit logic was that where there were no roads, there was no life either. “They go in their life on untrod paths, through the intrepid taiga and impassable deserts. There where they pass, life starts; earth gives its treasures to people.”³¹ Geologists give meaning to a place, with life starting after their coming.

1.3.3 Nature as a Warden of Treasures

In spite of the fact that nature was usually portrayed as devoid of senses – i.e. deaf, sleeping, and silent – newspapers still depicted it as an actor. Appearing

²⁸ Komsomol’skaja pravda of January 19, 1962, p.1: “Kladovaja otkrytij” (Treasure-house of discoveries).

²⁹ Trud of April 6, 1969; Pravda of April 2, 1967.

³⁰ Izvestija of April 18, 1961.

³¹ Trud of April 6, 1969: “Oni prihodjat pervymi” (They come first).

as an active agent, nature was in a position to hide and guard its treasures, and to fend off human intrusions. “High and deep, in the very heart of the mountains nature hid one of its treasures, molybdenum. It was not easy to get to, and it was even more difficult to wrest it from the stone storehouse. But there came to the mountains the bearded people. They built roads in the mountains, constructed walls of shop floors and houses, snatched off locks from storehouses. Humans turned to be more durable than the most durable stone. And in reward for their insistence, nature gave to people its treasure; valuable ore started to flow in powerful streams.”³²

As a scientist, the geologist longs for discovery: he wants to know. Nature opposes him and keeps its silence: “The earth setting its teeth kept its secrets. He, tall and bearded, with his eyes bright and lustrous, he cried to the calm and stately river: ‘You, tell me, where the treasure is buried? Tell me!’ But the Ob’ river kept its silence.”³³ The beard serves as a symbol of the geologist, while the glitter in his eyes is characteristic of the scientist. He will surely find oil; he is a hero, trailblazer and explorer, he just can’t fail to win over the resistance of wild nature. After all, a man is a much more powerful actor than nature. Nature only hides or guards, while a Soviet man invades, conquers and builds. “The treasures of the Yakutia entrails were guarded by impassable mountain chains, taiga, frost, pergelisol, saults on rivers for centuries... Soviet people have conquered the nature.”³⁴

Based on this discussion, it is possible to draw some conclusions on the dominant interpretation of nature in the Soviet Union. The hegemonic discourse depicted nature as a passive, meaningless matter lacking a creative constituent. It saw the Soviet people as totally detached from the world of nature, aspiring to get free from dependence on natural processes; the Soviet people possessed the ability to turn the chaotic, elemental, and often alien environment into order. In this perspective, nature is not simply an entity in need of being researched, and then used in accordance with the needs of mankind; in the Soviet interpretation, nature is also an alien that needs to be fought and conquered. It is only in this fight that man can find his true self, and become a Superhuman, a Lord governing the natural world and himself/herself.

In evaluating this hegemonic discourse, it needs to be stressed that the ideology of conquering nature was far more than “just words.” It is a characteristic of authoritarian states that they meet few obstacles in the implementation of ideological concerns. Therefore, it is important to realize that the ideology of conquering nature was intimately connected with the massive transformation of the country’s landscape over the 74 years of Soviet power. As a result of the forced industrialization in the decades after the revolution of 1917, the country transformed from an agricultural economy to an industrial one. However, the

³² *Izvestija* of September 17, 1961.

³³ *Sovetskaja Rossija* of July 20, 1969: “Rozy v tajge” (Roses in taiga).

³⁴ *Leningradskaja pravda* of November 17, 1956.

precarious position of many industrial (often mono-industrial) cities is more evident in hindsight, as many of them have been basically hanging between life and death since the collapse of the Soviet Union. Cities dependant on one type of enterprise often thrived in Soviet times, while nowadays most of them are suffering from economic depression and poverty. Numerous territories in today's Russia are considered "environmental disaster areas" – another consequence of the hegemonic discourse of conquering nature. It is obvious that the social construction of nature in the Soviet Union entails perceptible and visual consequences.

2. Geologists: The Explorers' Everyday Life

Representations of nature produced by a hegemonic regime do not provide an exhaustive picture about how people interacted with nature in everyday life. Authoritarian governments always seek a monopoly of producing meaning, but fortunately, they have proven unable to control this process in its entirety. Social actors, who are active users and producers, do not simply adopt the hegemonic discourse but rather incorporate them into a complex set of meanings and representation that includes personal goals, life strategies and tactics, and everyday practices as well.³⁵ Soviet geologists, being called upon by the state to master distant regions, have only slightly shared the conquering pathos of the Soviet hegemonic discourse on nature. They have developed their own interpretations and meanings of nature. The following ethnographic analysis of the geologists' profession seeks to contribute to a better understanding of the interpretations of nature and interaction with the natural environment in the USSR.

2.1 Peculiarities of the geologists' labor in the USSR

A distinctive feature of geologists' labor in the Soviet Union was the combination of creative scientific work and the different kinds of physical work on geological expeditions. For the geologists' profession, the field season could take up to eight months, and expeditions often took the geologists into remote regions. Lengthy stays with a small number of people in a natural environment exercised a huge influence on the character of social relations in the professional community, contributing greatly to the formation of a powerful professional subculture. To be sure, expeditions were not entirely beyond the reach of

³⁵ Cf. M. de Certeau, *The Practice of Everyday Life* (Berkeley, 1984); S. Kotkin, *Magnetic Mountain: Stalinism as Civilization* (Berkeley, 1995); S. Fitzpatrick, *Everyday Stalinism: Soviet Russia in the 30s* (New York, 1999); K. Petrone, *Life Has Become More Joyous, Comrades. Celebrations in the Time of Stalin* (Bloomington, 2000).

civilization since geologists were interacting on a regular basis with a number of local actors during field expeditions: local authorities, local inhabitants (sometimes indigenous population), former and current prisoners, the military and border guards. However, expeditions had encounters with Chukchees and bears with about the same frequency, and it is interesting to note that such encounters were often registered in the field diary.

The published memoirs of Soviet geologist Vojnovsky-Kruger provide a typical description of the geologists' field work: "It did happen to be difficult. It did happen that we starved and froze. We have been extremely tired. It was difficult not to know for months what was happening in the world, what was happening at home. But all this was compensated by interaction with nature, the wonderful sleep under the sound of the mountain river, the morning wash up in cold river water. And, most importantly – by interesting routes, discoveries and findings, which offered the fascinating scientific challenges and puzzles that resisted solution."³⁶ In some respects, this quotation summarizes the essence of life on a geological field expedition. One can describe the main components of a geologists' life by four words: hardships – nature – science – people.

In the Soviet Union, a geologist's life typically fell into two different parts: "field life" and "city life," with the key feature of the former being the month-long stay in a natural environment. In general, it needs to be stressed that there was a wide array of ideas about nature and interaction with the natural world within the geologists' professional community. Of course, the hegemonic discourse on nature was also present on the micro-level, but it overlapped and mixed with other notions and interpretations. One can distinguish a number of different views of nature in the geologists' everyday life. Some of them were conflicting quite a bit, and yet it is important to realize that divergent interpretations of nature could get along easily in everyday life. From an analytical standpoint, one can distinguish four parallel discourses on nature in the geologists' daily life.

2.2 Nature as a Scientific Mystery

The most obvious part of the geologists' everyday life was the conduct of scientific research: the reconstruction of geological processes that had taken place in a given location over time. Geologists routinely kept diaries of observations in the field, where they described their findings in geological terms. Geologists made drafts and collected rock samples, carefully documenting their locations on a map, together with initial descriptions. The samples were to be analyzed thoroughly later on under stationary conditions; this was a typical "city" activ-

³⁶ K. Vojnovsky-Kruger, *Vospominanija* (Memoirs), in: Jakovenko A. A. (sostav.). 1987. *Iduschie vpered* (Going ahead). *Sbornik statej*. Syktyvkar: Komn knizhnoe izd-vo.

ity during winter. Based on all these findings, geologists wrote their project reports and developed their theoretical models.

Without the aid of laboratory tools, geologists often encountered difficulties in the field when attempting to interpret data. What was more, drilling a hole in order to take samples was rather difficult and expensive, resulting in a limited use of this option until the material and technological base of geological institutes was strengthened in the 1970s. Therefore, geologists often had to contend with what they called “rock outcroppings,” i.e. unmixed mountain rocks visible on the surface. In swamps and lowlands, where crust rock exposures were usually nonexistent, their situation was even more difficult. Therefore, many geologists said that simply collecting pieces of evidence did not suffice for successful field work: to become a good geologist, one needed a “geological imagination” as well, the ability to assemble findings on the basis of an incomplete and somewhat ambiguous set of evidence. The following quotation from the memoirs of Mihajlov provides a fitting demonstration of what “geological imagination” meant in field work: “The local rocks had already been familiar to me. Certain interconnections between them started to come to light. I wondered, why do particular minerals appear in the same combinations in a strictly determined order – in ‘mineral associations’ or ‘mineral paragenesis’. Moving on from trench to trench day by day, I tried to draw the general picture, to identify certain principles.”³⁷

An important category which was related to this discourse and connects it to the hegemonic discourse on nature was discovery. The notion of discovery combined the scientific desire to understand nature with the interests of the state in identifying deposits of valuable minerals and thus locating natural resources. Therefore, making a discovery led to a higher status among fellow scientists and material rewards at the same time, with the USSR being quite generous regarding the latter. As a result, there is a whole host of stories in Soviet geology that deal with false claims to discoveries, often implying the prosecution and repression of people involved.

2.3 Nature as Habitat and Place of Work

During a field expedition, nature is the material setting for the geologists’ everyday life. Work is the main content of life during this time, and all work is directed towards fulfilling the expedition’s task. Unlike indigenous people, geologists did not see tundra or taiga as a setting for their whole life. The geologists’ routine life in the field differed significantly from that in the city. Key characteristics were their mobility, the temporality of their life in the field, their special practices, and their everyday hardships. Perhaps it is best to discuss the

³⁷ D. Mihajlov, *Taezhnye memuary (Taiga memories)*. Opublikovano avtorom (published by the author), 2003.

routine on a geological expedition, and the way that human practices interacted with the natural world, under four general headlines: encounters, local knowledge, living conditions, and hardships.

Encounters. During an expedition, geologists regularly interacted with a number of actors. Some contacts took place during the preparation for an expedition, such as meetings with local authorities that the geologists had to inform about the work they planned and their arrival to the expedition site. That brought geologists into contact with regional secretaries of the Communist Party, the police, and the boarder patrol in some areas. Quite often, geologists were requesting the officials' cooperation during these meetings. In order to ensure food supply and transport, geologists were often dependent on the help of local authorities.

During field work, geologists routinely met with a wide spectrum of local actors:

- Local residents: mainly hunters and fishermen, who were often indigenous people. These meetings often occurred unexpectedly and at a great distance from civilization, as hunters and fishermen were often moving from one place to another during the summer in the pursuit of their prey.
- Inmates: geologists sometimes hired former inmates for physically demanding work, and sometimes worked with current inmates if there was a GULAG camp in the area, which was frequently the case in Siberia. As one geologist noted in his memoirs, "In geological parties, trenches were dug out by inmates so it was impossible to avoid communication with them."³⁸
- Employees of the NKVD (People's Commissariat on Internal Affairs, the Soviet Secret police): they sometimes helped geologists to solve transportation problems and sometimes were guarding inmates who were assisting the geologists. In an interview one geologist notes in retrospect, "In those days Siberia was packed with GULAG camps."
- Other geologists: by the 1950s, the Geological Service of the USSR had evolved into a highly developed structure, with departments and offices in every region of the country. As a result, geological teams often crossed each others' paths. Geologists exchanged information on these occasions and sometimes helped out with food. Of course, there was also some competition between teams on occasion.
- Animals: the most memorable were encounters with bears, about which a number of unbelievable stories and jokes circulated among geologists. Bears were feared and respected, and geologists saw them as the lords of the taiga. If geologists were hunting a bear, they did so only with great caution and after careful preparation. In case of success, they took

³⁸ Mihajlov, Taezhnye memuary.

a photo of the trophy which became an object of special pride for the group. However, geologists also met elk, deer, hawks, moose, foxes, partridges and other animals during expeditions. Whether these animals became an object of hunting or visual observation depended on the group, individual personalities, and the situation of the food supply.

- Tourists: depending on the region, geological expeditions could encounter backpacking tourists. They sometimes helped them with food, matches, transportation, and maps.
- Tramps, a category of people that is easily overlooked: they lived in the woods and occasionally showed up at the geologists' camps. Out of necessity, tramps were also hunters or fishermen, but they were usually not native people; among the tramps were often escaped inmates of the GULAG. Geologists were generally afraid of this group.

Local knowledge. Interactions with the locals were of great importance to geological expeditions. Local inhabitants often possessed an intimate knowledge of the area, an invaluable resource for geologists. Therefore, geologists often hired locals as guides for expeditions and as transportation specialists since locals could often work with reindeer and dogs. For the local population, a geologist was usually a representative of the state who could draw on the state's resources, and locals were eager to tap these resources in exchange for services or information.

Living conditions. Organizing a way of life in the field was not an easy job. The site of the camp often moved on a daily basis, requiring a mobile organization of everyday life. In some cases, a tent and a sleeping bag counted as great comfort; they were used only at the base camp, from which teams departed for hikes that varied in length from several days to several weeks. On these hikes, geologists often did not take tents and sleeping bags with them as they slept near the fire place on a sleeping place formed from branches, turning from time to time from one side to the other to keep warm. Considering that the field season lasted at least from May until October, these were tough living conditions indeed. Since it was impossible to move from one place to the next with heavy luggage, leaving behind "unnecessary goods" was often an insistent need; geologists usually carried only food and their equipment. Many geologists brought diversity to their rather unexciting food supply through fishing and hunting. In the years after the war, this was practically a necessity as geological teams were very meagerly supplied during that time. Also, hunting and fishing supplied the geologists with food that they did not have to carry with them from place to place.

Hardships. In the memoirs and reports of geologists, their work appears as a constant battle with difficulties. Supplies and transportation were essential for every geological expedition, and both were often difficult to come by. Especially in the early years, these issues were often dealt with on an ad-hoc basis and with the help of locals: the directors of kolkhozes, fishing cooperations and

co-operatives, the military and the authorities of camps. At the beginning of the field season, geologists spent a significant amount of time with preparations: the search for appropriate means of transportation and staff. Depending on local conditions, the former could be horses, reindeer, mules, boats, dogs, and sometimes camels. Since the 1960s, the use of cars, helicopters, all terrain vehicles and airplanes became more common. It is worth quoting one recollection during an interview of transportation problems on a particular expedition that used horses as means of transport. “The horses were overloaded, they could not go and fell. We had to help them getting back up. Mosquitoes, gnats were eating us, and them. We did a lot of stops. Oh God, what a pain to them! And to us!”

Many stories and reports of geologist deal with delayed home-transportation at the end of the field season. For the members of an expedition, this meant distressing waiting periods, inactivity, a growing shortage of food and uncertainty about rescue. Hunger is an omnipresent subject in interviews and memoirs; practically every geologist experienced hunger to a more or less serious extent. In these situations, geologists described nature as cruel and indifferent towards their own suffering.

2.4 Nature as Visual Harmony

This perspective on nature assumes the presence of an observer who admires the visual harmony and beauty of a certain place. Usually, these observations take place on a hill that offers a panoramic view on the area. Geologists often include an account of the viewing of a stunning landscape from the top of a mountain, alongside their tales of the long and difficult way to that destination. In these cases, the beauty of nature serves as a compensation for the strains of the voyage and a reward for the geologists’ exhausting work. In many cases, these observations also betrayed the geologists’ professional inclinations, and the delight over the beauty of nature mixes with geological observations and presumptions about the area’s natural history, as in the following quotation: “Emerald sea, green volcanoes, sea terraces at various levels in bays, beautiful Trias conglomerate outcropping, sandstone with enclosed weathering produced unforgettable impressions ... The shore of a bay that extends for several kilometers is framed by beautiful outcroppings of white two-mica granite. At the shore there is a gorgeous white beach and a beautiful lagoon lake. And the water in the bay is clear and of greenish–blue color! Here there was only us and seagulls. On the western shore an escarpment lined out, which had risen from sea level as a result of the sea’s regression.”³⁹

Geological field expeditions often attracted artists and writers during Soviet times. Driven by the chance to see beautiful natural areas, they were hired as

³⁹ N. Organova, *Chuvstvo Rodiny. (The Feeling of the Motherland)* (Vladivostok, 1998).

working personnel in geological parties, thus giving them the opportunity to travel a territory that otherwise would have been inaccessible to them. In his song “I am seeking a fog” of 1965, Urij Kuckin, a famous bard in Soviet times who had worked in the geological expeditions for several seasons, described some reasons why people chose the geologists’ profession. He portrayed himself as an original that joins an expedition for fog, mountains, firs, and the smell of taiga. “Some people travel on business. Some people look for money, or an escape from boredom and debt, but I am going to search for the fog, just for the fog, for the fog and the smell of the taiga.”

2.5 Nature as Freedom

This interpretation of nature was an indirect result of the persistence of the Soviet system for more than 70 years. The suppression of civil liberties, the absence of public space for criticizing the powerful, the state’s persistent attempts to control the private life of citizens made nature into a sphere of freedom. Going out to nature offered a chance to escape from the control of the system, if only for the duration of the expedition. In interviews and memoirs, geologists routinely point to the absence of snoopers in the field: at the fire place, nobody listened in, there were no spies, and everybody was honest. Even more, one of the hallmarks of geological expeditions was the absence of bosses: at the fire place, everyone was equal, and everyone ate out of the same pan. At least during field work, geologists were free to work almost without authorities. Therefore, the fire place stood as a symbol of social equality during the expedition, and a symbol of trust and honesty. By putting a physical distance between themselves and the authorities, geologists enjoyed an escape from state control, thus fostering a type of quiet protest against the system that has become known as “internal emigration.” Becoming a part of nature and participating in the life of a small collective gave geologists a feeling of freedom from the “things not true”: from cities, the petty bourgeoisie, and boredom. Nature served as a place for confirmation, a confirmation of themselves and others. For many geologists, embarking on a field expedition also meant embarking on a search for uniqueness, honesty in relationships, and real friendship.

3. Conclusion

For geologists in the Soviet Union, taiga was more than the name of a type of vegetation: it was a word with almost magical connotations. To many geologists, the taiga meant a way of life, a landscape that produced its specific “taiga laws” of behavior, friendship, and hospitality. The taiga seemed to dictate certain everyday practices and forms of social life, in a way unifying different

social positions and levels. It consists of the complicated network of people, creatures, artifacts, and their respective trails. Such an inhabited taiga brought together geologists, inmates, local NKVD officials, party secretaries, tourists, and bears, all living in the same terrain and in accordance with its laws.

The hegemonic discourse presented a completely different view of the taiga. For the state, the taiga appeared as an utterly simple, even primitive environment. It is easy to ignore the complex world of the taiga in the wake of the hegemonic Soviet discourse on the natural environment. However, while the notion of conquest of nature found its expression in elaborate schemes of regulation and control, it is important to consider that there were everyday practices, local interactions, and an abundance of microcosms comprising the production of other meanings of space. In spite of the intention of the authoritarian state to dominate and control the production of meanings and interpretations within its boundaries, the political actors' dream of total control was, fortunately, impossible. Living their lives, individuals and communities participated in the production of social order, inventing thousands of microscopic ways to construct their own life-world within the dominant system.

At the same time, the "production of natures" is not just a discourse, but also implies physical changes of the natural environment. In a way, the history of geology in the Soviet Union resembled that of Orientalism, a profession that arose, according to Said's famous narrative, out of a genuine interest in the culture of the "countries of the East" and yet supplied the knowledge necessary for the colonization of these countries.⁴⁰ In a strikingly similar way, the scientific knowledge of nature obtained by geologists who were in many cases "in love with nature" provided the foundations for Soviet projects of colonizing and subduing nature. The ideology of conquering nature found its most extreme expression in the "projects of the century" that sought a transformation of nature on a grand scale; the Siberian River Diversion Project was the best-known example. However, the projects ultimately found its critics even within Soviet society, and towards the end of the Soviet regime, protest was even voiced openly, especially by intellectuals.

Protest is accumulated in society by microscopic actions of citizens producing social order in their own way, beyond the purview of the ruling class. The microscopic transformations of the social system happen every day and every moment, and each individual participates in the process simply by living his or her own life. In the case under consideration here, the state ideology of conquering nature led to the creation of an "escape" for citizens to nature as the last archipelago of freedom⁴¹ in the first place, and later contributed to some extent to the generation of the first ecological protests in Soviet society.

⁴⁰ Cf. E. Said, *Orientalism* (New York, 1979).

⁴¹ Cf. Douglas Weiner's metaphor of a "little corner of freedom," which describes a sphere of freedom for biologists in national nature reserves. (Weiner, *Little Corner*.)

Soviet Geologists: An Overview of Discourses on Nature

Soviet hegemonic discourse on nature

Ideology of nature conquest. Nature is considered as a natural resource.
Economic rationality. Activity: to master, to use, to modify.

Alternative interpretations of nature within the geologists' professional community

- Nature as scientific mystery. Scientific rationality. Activity: to discover, to research, to reveal laws of nature.
- Nature as place of work and living. Rationalities of life. Activity: everyday practices, interaction with social and natural world. Peculiarities of geologists' field life: temporality, periodic character of this way of life.
- Nature as visual harmony. Observation of visual harmony of a landscape. Action: passive contemplation.
- Nature as freedom. Implicit protest against the authoritarian state system. Actions: escape from the state control, geographic distancing from authorities.

Managing Natural Resources at the North: Changing Styles of Industrialization in the USSR

Alla BOLOTOVA, Dmitry VOROBYEV

Cet article concerne l'histoire du développement des territoires nord et nord-est de l'Union Soviétique entre la Révolution d'Octobre et 1970. Leurs immenses ressources minières ou hydrauliques ont impliqué des objectifs d'ordre également stratégique. Le régime s'est efforcé auprès de la jeunesse de donner à la conquête de ces territoires à peu près vides une allure romanesque de « conquête du Far West ». Mais en fait la réalisation de l'objectif a connu de nombreux changements dans les objectifs et les méthodes, reflétant l'affrontement de divers groupes ou intérêts : entre le centre de l'Union et les régions périphériques, entre différents ministères de l'économie définissant chacun à leur manière les contours de l'avenir. Les intérêts locaux ont eu du mal à faire prendre en compte la nécessité d'encourager des plans de développement régional, en dehors des objectifs généraux d'industrialisation. Le processus est toujours en cours, de grandes utopies n'ont pas été réalisées. Le temps du patrimoine est loin d'être arrivé.

In this paper, we consider historical tendencies in the development of natural resources in the northern and east-northern territories of the USSR during the period 1925–1970. The central idea is to trace the major changes in the expansion style of the territory during the soviet stage of industrialization. We propose a historical narrative focusing our attention on changes in priorities of the ruling elite in different periods, transformation of the decision-making style, changes in the ways of managing natural resources, the main working force, etc. We base our inquiry mainly on examples related to the management of mineral and water resources.

How did such a phenomenon as institutional pluralism in decision-making inside the soviet system come into being in the 1950s-1970s? When did conflicts on how to develop the Soviet North arise? Why did the discussion become possible? In our marking of the northern area in the USSR we follow an influential soviet economist, Slavin, who was a specialist on economic development of the northern and north-eastern regions in the Soviet Union. Slavin defines the Soviet North as an economic zone that can be divided into two sub-zones called Far North and Close North, according to their involvement in the country's economy and opportunities

for economic development¹. From our point of view, the northern area is an interesting object for an analysis of the specificities of the soviet industrialization, such as the gradual development of institutional pluralism inside the authoritarian decision-making system.

Starting industrialization: North as a reservoir of natural resources

The change of the political regime in 1917 brought with it a transformation of the ways of management of distant territories. The Russians had engaged in the colonization of the Far North and Siberia for already some centuries. As in Czarist Russia the leading motivation for the soviet authorities remained economic, political and military advantages of power on the area. However, at the heart of it, the method and character of the expansion changed. Before the revolution, the main forces behind Russian territorial expansion were various interest groups: the military (mostly Cossacks), scholars, entrepreneurs and merchants (mostly involved in gold and fur trade). Despite the high interest of the State in the expansion of the eastern regions, the Czarist government in most cases had no chances to define the course of local development – it was defined by the



"Let's go with him to new lands", a poster by Vladimir Seleznev. Published in 1954.

Suivons-le vers les nouveaux territoires, Vladimir Seleznev, affiche de 1954.

interest groups on the spot². After the revolution and, especially, with the coming to power of Stalin there was a change of the "pluralist" model of expansion of the territory in favor of a more centralized one. Within the soviet State, the activity of various groups in the regions was subjected to the centralized planned system that was dictated from above. The management and decision-making took place in the centre, while the interests of local processes played a

minor role.

The soviet authorities started to pay close attention to the North very early: Lenin supported first research activities and projects beginning from 1918. The orientation toward the forced model of industrialization was taken by Bolshevik authorities after 1925³. Priority was given to development of the heavy industries and machinery, and the tempo of construction works was very high. The Soviet Union urgently needed to search for domestic minerals in order to supply raw materials for industries. There was a strong wish to get rid of dependency on export of minerals from capitalist countries. The interest to the North was based on scientific assumptions about mineral richness of the Russian North. At that time, this was only a hypothetical guess, due to the lack of scientific knowledge about the area. Another goal was to get quickly money (currency) for buying equipment abroad – mainly machines for developing heavy industries. The major source of currency was the export of gold, which was intensively

exploited at this time. There were also strategic goals to establish political control on the Arctic Sea space.

Romanticizing the conquest of nature

This change in the character of the expansion to the North described above was possible with the support of corresponding ideological concepts. The soviet variant of the ideology of subjugating nature started to develop in the USSR in the early 1920s. Slogans on the conquest and subjection of nature were among the most important ideological frames in the Soviet State. One of the bases for this ideology was the presupposition about the omnipotence of man, about his capacity to reform wild, passive nature as he pleased. The idea of human dominance over nature, and the call for human beings to subdue, modify and reconstruct a chaotic and meaningless nature in order to regulate natural processes supplemented the overarching goal of a total reconstruction of the social order. This relation is linked with the sweeping wave that romanticized industrialization and technologies and was characteristic of the literature and press at the time.

Overall, this romanticization of the battle against nature is characteristic of large industrialized countries, such as the USSR and the USA. The way of perceiving and colonizing open spaces can be described as "colonization of nature" – with some caveats – as opposed to "civilizing nature" that has been practiced in Europe for many centuries, i.e. the gradual spread of populated areas, organization of territories, perceiving nature as "my household" (I shall take care of it), as opposed to seeing it as "a wild, alien area" (I shall seize it).

Changing the natural environment in response to the collective needs of the Soviet Union was closely connected with the formulation of "the new (Soviet) man." "Man, while changing nature,

changes his own nature”, this was the motto proposed by the Soviet writer Maksim Gorky in the 1930s.⁴ The soviet battle against nature was supporting and continuing the class struggle with the capitalist world. Let us once more quote Gorky who was without a doubt the literary leader of this struggle against natural world in the first decade of Soviet power: "There is an ongoing battle in the Soviet Union between the rationally organized will of the working class against the elemental forces of nature, against that element in human nature which is essentially, among other things, an instinctive anarchism of the self that has been nurtured for centuries by the class-system"⁵.

One of the first poets who proclaimed the battle against nature was Mayakovsky. He embraced the revolution wholeheartedly and also accepted the ideology towards the subjugation of nature: "Build! With full proletarian speed. Breaking is not a shame in construction! If the Kazbek⁶ will be on the way, raze it to the ground! Anyway it is not visible in the fog!"⁷. The revolutionary construction demands the wiping off of all obstacles on the way. A mountain that is invisible to man has no point and man's duty is to reform, straighten out and replace natural beauty with new, man-made steel ornaments.

Exploring northern resources: science at the service of industrialization

Another moving force in the Soviet coil of expansion to the North was scientific knowledge. In the early stage of industrialization, the soviet politics in relation to peripheral northern and north-eastern territories was orientated towards massive scientific field explorations aimed to finding out available natural resources. Based on scattered and incomplete data that had been collected by pre-revolutionary scholars, scholars predicted the existence of big mineral reserves in the vast, unpopulated territories of the Far

East and Far North. However, the available data was not enough in most cases and further study and mapping of the regions was needed. Further industrial development of new territories demanded a systematization of the available empirical information, as well as the gathering of new data.

The mobilization of sciences for the prospecting of mineral raw materials was a necessary base for the industrialization, that is why soviet authorities gave priority to the development of earth sciences



The Party said: there is a need, the Komsomol answered: ay! To the fields, to the construction sites!", Irina Bolshakova, Vyacheslav Smirnov. Published in 1963.

Le Parti a dit : on a besoin de vous, les Komsomols ont répondu : Oui ! Aux champs ! aux chantiers de construction ! Irina Bolshakova, Vyacheslav Smirnov, affiche de 1963.

(Posters were an important mean of propaganda in the Soviet Union. These two posters aimed to attract young people to move to new places and to work there.

Les affiches constituaient un instrument de propagande important en Union Soviétique. Ces deux affiches voulaient inciter les jeunes gens à s'en aller vers de nouvelles régions et à y travailler.)

(geography, geology, hydrology, etc.): the scientific knowledge produced by earth sciences and field investigations opened the road to mineral deposits. Science and the development of technology were the basic instruments of modernization in the transition towards the industrial age in many other countries, but a special characteristic of the Soviet case was the fact that the strengthened role of science was accompanied by the development of the repressive machinery that tightly limited the free circulation of information and academic freedoms. The task was to link closely the work of academic

institutions with military purposes and industrial development. Strict State control over academic science was established in the end of the 1920s. This was made by means of the radical reorganization of educational and research institutes, as well as of the repression of the scholars of the "old school".

The first post-revolutionary expeditions were sent out in 1918. They had a complex of tasks with as a main goal to complete the detailed description and evaluation of the prospects of a region for the economy. For this reason, the expeditions consisted of specialists in many types of resources (minerals, water, bio-resources, animals). At the same time, they conducted many different investigations, e.g. geographical, geological, botanical, hydrographical and others. Mapping and mineral prospecting were among the most vital tasks of these fieldworks. Here is the list of the main areas where different expeditionary groups were sent to between 1918-1928: the Kol'skii peninsula, the Noril'skii territory, Karelia, Pechorskii krai and the Ukhtinskii and Aldanskii territories (Belov 1959).

In the late 1920s-1930s, expeditions sent to the North became more specialized. The investigations were orientated towards the search of minerals that were of vital strategic importance, e.g. gold, tin, nickel, copper and iron. Concrete results were expected – opening up of rich mining sites. Year by year the number of expeditions grew. Thus, for example, from 1927-29 to 1928-29 their number rose from 628 to 938 (Otchet ... 1931). Funding for these surveys also grew. On the whole, from 1923 to 1927 the budget for geological surveys rose twelve-fold, from 900,000 to 10,5 billion roubles (Otchet ... 1931).

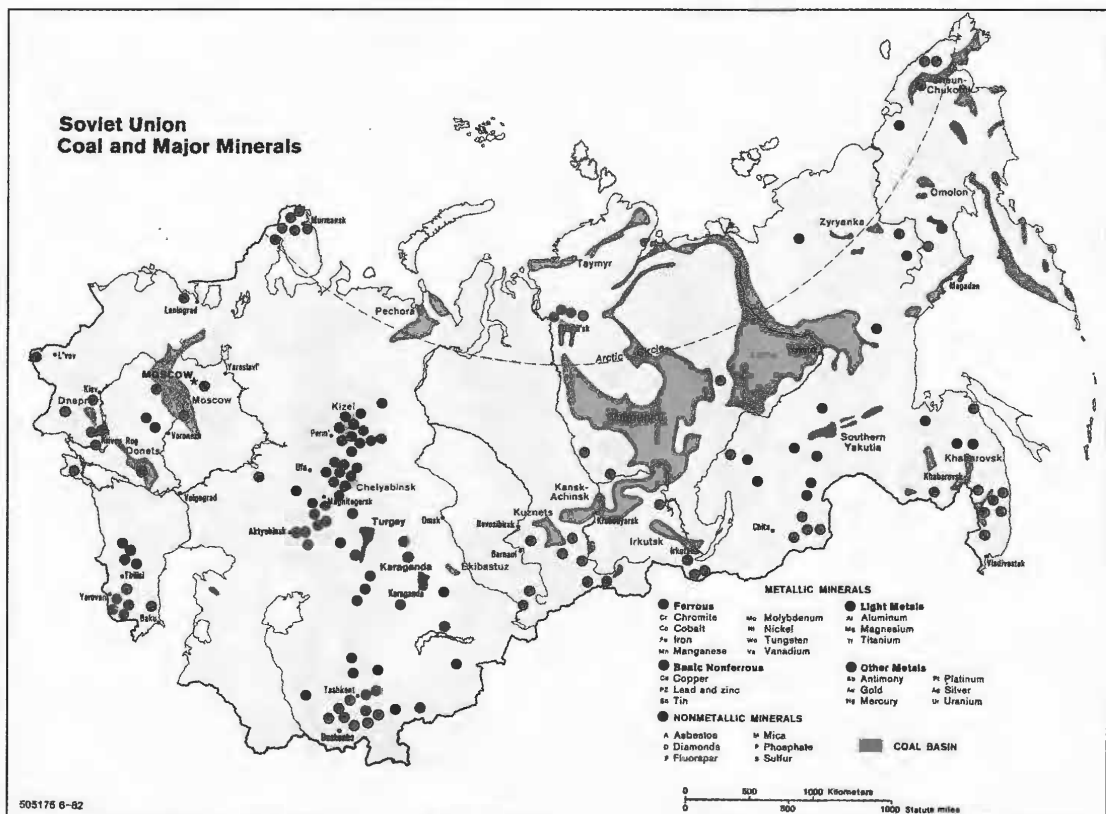
There were also some attempts to improve the water regulation system made by scientists. Suggestions to replace the permanent water-reserves from the Pechera at the expense of rivers of north-western USSR were developed⁸. In the end of the 1930s, the project of Kama-

Vycheгда-Pechera water complex (KVPC)⁹ was formulated. Within the framework of the complex use of the Volga-Kama-basin that was taking place in the beginning of the 1930s, an idea was born to direct northern rivers – Pechera, Vycheгда, North-Dvina and Onega – into new transport connections. Thus, the project KVPC foresaw the redirecting of the currents from northern rivers into the southern regions of European Russia, first as an attempt to develop water-transport (improving shipping industry) and to distribute the harnessed hydroelectric energy in order to boost the Ural industries, but then later in connection with trying to fight the water deficit.¹⁰ Later, these works were stopped.

First large industrial complexes to the North

Only few large industrial complexes were built in the North on the richest deposits of valuable strategic minerals before WW II. At this stage, industrial development of soviet northern and north-eastern territories was primarily orientated towards the construction of transportation networks and on quick digging of the most valuable minerals (as gold, for example), but not so much towards the construction of industrial enterprises. The reason for this was the very poor transport communication in all northern regions of the USSR.

In general, the distribution of industrial production in pre-war USSR was quite lop-sided: there were several highly industrialized regions in the country's European part where almost all industries were concentrated (Kantor 1991, pp.88-89). The primary function of the northern and eastern regions in the soviet economy was to provide raw materials for industries situated in less hard climatic conditions. The State supported quick resource extraction at lowest costs. Priority was given to the development of mining, in some areas – on wood processing, as other



natural resources were used more for local needs. Economic activity in the USSR was completely subordinated to the task of saving and strengthening the power of the bolshevik regime (Popov 2002, pp.4-10). These few new-built northern industrial complexes were situated in the European part of the soviet north. There are some examples of plants: two mining complexes in the Kola peninsula (Murmansk region) - Pechenga and Monchegorsk, one shipbuilding plant in Molotovsk (later renamed Severodvinsk, situated near Arkhangelsk), several paper mills in Karelia and the Arkhangelsk region. Despite of those big plants, mainly small enterprises alongside deposits with minimal infrastructure were constructed in order to make concentrate of minerals, which was transported then to an industrial production site (Slavin 1982: 155). All constructions were realized under

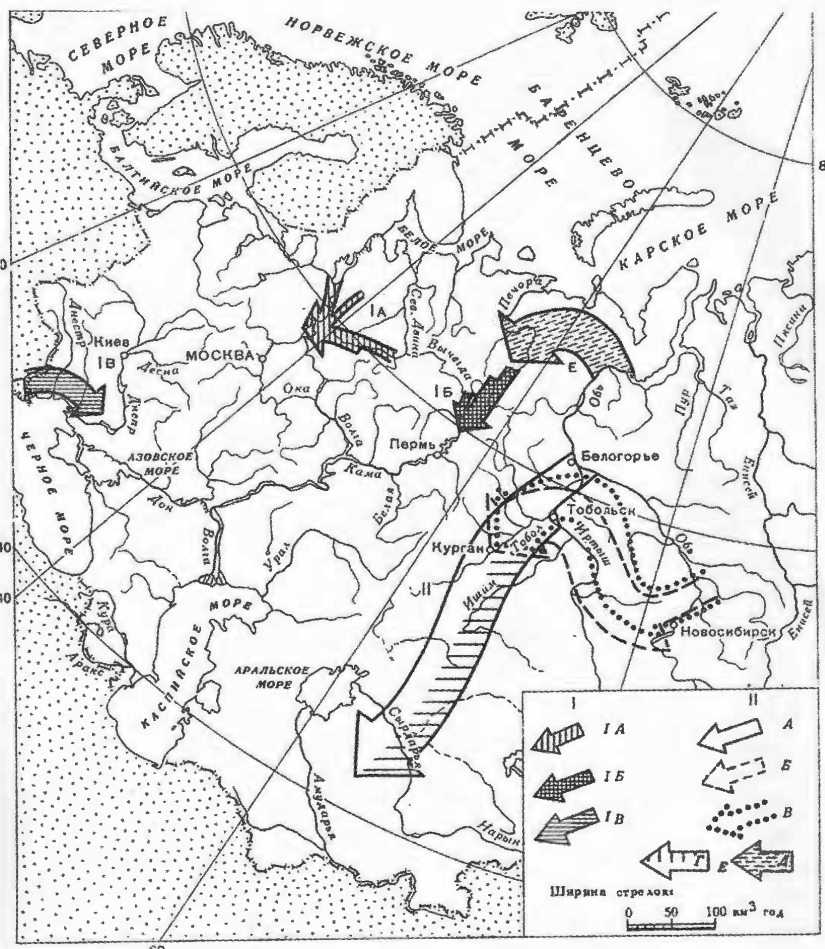
conditions of permanent rush and hurry. The conditions of planned economy and the permanent danger of repression put people under enormous stress and pressure, forcing them to work very hard. Beginning of the end of the 1920s prisoners are becoming the main working force for the expansion of the northern and north-eastern territories. A special decree of Sovnarkom USSR¹¹ "About using prisoners labor", was enacted on July 11, 1929. This document gives OGPU (later NKVD – secret police) the right to broaden the network of camps on the Ukhta territory (Komi) and also in other remote regions: "for the colonization of these regions and the exploitation of their natural richness by using labor of prisoners"¹². The first experiment of the soviet authorities where prisoner labor was used on a large scale was the construction of Belomorkanal. The major goal of this project was to improve water transport

Map of coal and other mineral resources on the territory of the Soviet Union, 1982 (from: http://www.lib.utexas.edu/maps/commonwealth/soviet_coal_82.jpg)

Carte des ressources en charbon et autres minerais sur le territoire de l'Union Soviétique, 1982).

Variants for transferring water flows from the European North and Siberia to the South. The arrows mark different possible routes. The width of arrows sizes up the volume of over-year water transfer. This map is in a way similar to war maps and represents attack on nature. Львович М.И. 1977. Территориальное перераспределение водных ресурсов. Известия АН СССР, сер. геогр. 2, с.22-36 (L'vovich M.I. 1977. Territorial'noe pereraspredelenie vodnyh resursov (Territorial distribution of water resources). Izvestija AN SSSR, ser. geogr. 2, s.22-36)

Carte du détournement des cours d'eau. Variantes en vue du transfert des flux hydrauliques de l'Europe du Nord et de la Sibérie vers le Sud. Les flèches indiquent différentes routes possibles. La largeur des flèches correspond au volume du transfert sur une année. Cette carte est d'une certaine façon analogue à une carte d'opérations militaires et représente une attaque sur la nature.



connections in the north-western part of the country and to connect the Baltic sea with the White sea). This experience of using forced labor was considered as very successful, and the GULAG system started to grow very quickly (Dzhojs 2005: 177-196). The northern and east-eastern territories of the USSR became the main space for its activity. The majority of the northern settlements founded before 1953 started their development from GULAG camps (cities were built later on places of prisoners camps).

War Time Development: Strategic Minerals

During the war period, the northern and eastern regions played a very important

role, providing minerals or ore for machinery and other industries, which started to work intensively in the eastern regions in 1942, after the evacuation process was over. Generally the evacuation move of industries was directed more eastwards than northwards. The main reason for that was the underdevelopment of the transportation networks, the hard climate and the long distances in northern regions. Therefore, the main function of the northern and north-eastern regions during the war period was to provide raw materials and ore for machinery works and arm industries re-moved from the European part of the USSR to Ural, Kazakhstan, Western Siberia and Central Asia. Still a few plants were evacuated from the northern border regions to

northern back areas (plant 'Severonickel' from Monchegorsk evacuated partly to Norilsk). During the war period, the selective development of the richest deposits by the working force of GULAG camps was continued. The most essential production of the northern regions was gold. It was called in the media "metal number one". This mineral was extremely important during the war period due to lend-lease agreements, since soviet authorities made arrangements to exchange gold and other natural resources for different goods (equipment, machines, airplanes, food, etc)¹³. The main sites for gold production were in the Soviet Far East: Kolyma, Aldan, etc.

Another extremely important mineral in wartime was nickel, which is requisite for tank armor production. During the first years of soviet industrialization (1920s-30s) this mineral was found at two sites in the North: in Kola peninsula (the modern Monchegorsk city) and in Komi republic (Norilsk). The nickel deposit in Monchegorsk was intensively developed already before the war when the nickel-producing plant Severonickel started working in 1938. The second plant in Komi (Norilsk) was under construction since 1935, but the constructing process was going on more slowly. The main reason for this was the long distance from the Russian heartland and hardships with transportation (Monchegorsk was connected with the center by the railroad). After beginning of the war nickel became an extremely important strategic mineral needed in large volumes. Severonickel in Monchegorsk was under obvious danger of occupation - situated very close to the Finnish border. Constructing works in Norilsk were intensified and the plant started to produce nickel in 1942. The Norilsk plant has got equipment and personnel from the Monchegorsk plant and this contributed a lot to intensifying the construction process. During the whole war period transporting nickel from Norilsk to machinery works was quite

complicated: part of the way by railroad to Dudinka, then by airplanes to Krasnoyarsk (Ertc 2004; Borodkin and JErte 2005). This shows that nickel was a very urgent mineral in wartime.

The war situation reinforced the pressure on people, since the authorities requested from the society enormous efforts for the defense of the country. Hardships with the delivery of goods, equipment and materials for production, especially in remote regions contributed to maximizing the use of local resources and stimulated technological inventions in remote areas. Still, in some places war intensified the use of technologies and industrialization due to foreign equipment delivered in the framework of lend-lease agreements. Nevertheless, mainly the extensive use of manual (prisoners) labor was continued. The indirect influence of the war and militarization processes was an improvement of transportation in the north – all kinds of transportation networks (water-, air-, auto- and rail routes) were developed and communications were intensified, many new ports, airfields, railroads were built and continued to be in service when WW II was over.

Enthusiastic Colonisation of the North

During the first after-war years, the main goal for the authorities was to restore the country and to regenerate the industries. The expansion to the North was continued according to a similar trend as before the WWII: strict control from above, repressive regime relying upon the GULAG system, prisoners as main working force. After the death of Stalin the political and economic situation in the USSR has changed radically. Still, the central goals in relation to the northern area remained the same: extensive development of natural resources and control over the territory, but there were changes in how these tasks were realized. After 1953, the GULAG lost its power –



Starting a new city in Khibiny mountains on Kola peninsula. Tent settlements called 'spetspereselency' (special settlers) on the place of future Khibinogorsk. Thousands of peasants were moved by force by the state from southern regions to develop northern mineral deposits in the 1930s. Source: Archives of Museum of local history of the city of Kirovsk (Istoriko-kraevedcheskij musej goroda Kirovsk).

Les débuts d'une nouvelle ville dans les monts Khibiny, dans la Péninsule de Kola. Des campements de tentes appelés 'spetspereselency' (colons spéciaux) à l'emplacement de la future Khibinogorsk. Des milliers de paysans furent déplacés de force par l'Etat depuis les régions méridionales afin d'exploiter les gisements de minerais septentrionaux dans les années 1930.

amnesty was declared and many prisoners were released (and later rehabilitated). The majority of the mining complexes founded during the previous period met with serious economic problems: when the possibility of using the labour of prisoners disappeared, many enterprises became unprofitable, due to the low degree of mechanisation. By this time, the economic losses caused by the Second World War were mostly overcome. The main strategies for coping with the economic crisis in the mining industry were the following: intensifying the geological surveys and using new methods of searching minerals, increasing the level of mechanisation, and the search for a solution of the problem of populating the northern and eastern regions of the country.

The main shift in labour politics of the State was a diversion from using forced labour to persuading young people to move into the regions. In the 1960s, the whole country has fallen into a state of permanent migration: people travelled to "colonise the North" and to the country's "great constructions". One of the most important propaganda tools that stimulated the colonisation of the distant areas was the ideology of subduing nature, which gained its strongest force in the 1960s. In order to legitimate the right of radical transformations, nature was discursively made senseless, passive and wild¹⁴. The State ideology, an integral part of which were the ideas of a battle against nature, nurtured a widely spread

technocratic philosophy in the USSR (Josephson 2002).

Changes in the political regime from a totalitarian to an authoritarian one happened synchronically with a technological shift. Technologies significantly replaced hard manual labour, the level of mechanisation of work was increased.

Generally, at this stage the industrialisation of the Soviet North was intensified: in spite of the reduction of the GULAG system, new sources of working force were found - enthusiastic educated young people replaced prisoners, new technological and economic possibilities enabled to strengthen the development in the area. New industrial centres started growing on the places of former GULAG camps. Still, in relation to the politics of natural resource management this period is already not so uniform as the previous one. A very characteristic tendency of this stage are the uprising conflicts between different ministries. Moreover, in the end of the 1950s the State system of nature protection was getting stronger: the first environmental laws were enacted, the system of natural reserves was developing (Weiner 1999).

Changes in decision-making in the USSR

The shift in the major working force in the North that followed the change of the political regime came along with a transformation of the decision-making style with respect to natural resources use¹⁵. A relative weakening of the repressive regime and command system in the country allowed the participation of different actors in the decision-making. Earlier decisions were made mainly at the centre and local interests of the peripheral regions were strictly subdued to the current State priorities. Starting from mid-1950s discussions on complex questions concerning the use of natural resources became possible among the powerful elite, local authorities and economic ministries.

Still the role of the central government was to support projects included into the General directions of the national economy. However, regions and economic ministries of different profiles started to lobby their interests at the centre and tried to impose their priorities (Skilling 1971; Kelley 1976; Beissinger 1988; Solnick 1998; Peregudov et al. 1999).

For the purpose of understanding the decision-making style in relation to natural resources use we follow the concept of "administrative markets" developed by Kordonskii (Kordonskii 2000). Let us consider it in more detail since it helps to understand the trend from the totalitarian regime of Stalin's time to the development of an institutional pluralism in decision making. This approach is very useful for analyzing the interactions, the coordination of interests and the cooperation between different groups which have participated in the development of natural resources in the soviet north.

According to Kordonskii, in Stalin's time different branches of the soviet national economy and units of administrative territorial division were embedded in the general system where actors were tied together. In this system, every functional place had a special status. The system of administrative market was working under strict control of functionaries – people who kept fixed functional places in the hierarchy. The more high-ranked organizations expropriated and redistributed from subordinate organizations and departments their production. Resources of peripheral regions were transferred for the satisfaction of wants of high-priority branches in the national economy. Subordinated organizations were strictly obliged to fulfill all regulations coming from above. These peripheral elements of the system could not have their own goals and resources for their realization; otherwise, a failure in the system would happen. Under the regime of Stalin

repression was used as a mechanism to defend the system against such failures.

In the early 1950s, the weakening of the administrative regime led to a degradation of this kind of administrative market. Regional authorities, different branches of the national economy as well as individuals and enterprises started to develop their own goals and to search resources for their implementation. They tried to redistribute the production expropriated by the State and to use it for their own interests. As a result the logic of the administrative market was inverted, which led to the formation of a black economy sector (Kordonskii 2000).



Power of Ministries: Competing Interests

Starting from the 1950s different groups of interests got an opportunity to influence on decision-making and to promote their views on further development of the northern localities. Economic ministries developed into very powerful institutions possessing resources to maintain their interests. They often had contradictory perspectives about the ways of development of the northern areas and defended certain priorities. For example, clashes of interests between such branches as water management ministry and geological ministry happened quite often¹⁶. Let us consider several cases of conflicts

Construction of a mining factory in the city of Khibinogorsk (later renamed Kirovsk) in 1931. (Source: The Archives of the local history museum of the city of Kirovsk (Istoriko-kraevedcheskij musej goroda Kirovska), Murmansk region).

between these two interest groups¹⁷. At the beginning of 1960s a project to build a hydro-power station on the river Ob was created (Nizhneobskaya GES). Many scientists argued against this construction, due to its large effect on the environment. The major contradiction of interests about this power station appeared between the Ministry of Energy, the Ministry of Water Management and the Ministry of Geology. The officials from the geological Ministry could not allow the flowage of huge territory in the West-Siberian Lowland and they started to struggle against it. Although this hydro-power project had already been approved by the Congress of the Central Committee of the Communist Party and included into the "General directions of the 5-years Plan" – one of the main documents defining the future development of the country, this project was stopped and the decision was cancelled.

Another case when interests of geological and water management departments confronted again with each other is the so-called "Siberian rivers diversion project"¹⁸. The plan was to reverse partly the stream flow of the rivers from North to South. In the 1960s-1980s, geological institutions were conducting large-scale geological surveys on gas and oil in the northern part of the USSR and western Siberia. The scientific prognoses were very positive and the discovery of large gas and oil fields was a matter of short time. This was the main reason why geological departments took the information about the planning "river diversion" and expected the flooding of a vast territory in the north of USSR very critically. Geologists suggested, first, to speed up the survey, and second, to change or to renounce the project, if it will cause the flooding of prospective oil and gas fields. They argued that both exploration and exploitation are much more expensive from water in comparison with usual work on land.

The Ministry of Water Management had to take into account the necessity of

developing oil fields in the Western Siberia. As a compromise, they suggested to construct artificial islands in the water-storage reservoir for gas and oil exploitation. Geologists resisted this idea as well, proving its economic irrationality. In 1957-1961 local authorities in some regions (for example Komi republic) also opposed the project arguing that this plan was contradicting plans of industrialization of the North. Due to this clash of institutional interests, economic difficulties and critic of large-scale technological projects, this project was stopped. The official decision about dismissing the project to turn rivers came in 1986, but it is necessary to note that throughout the time when it was discussed preparations were already under way and parts of the project were on the stage of realization.

Conclusion

How could the critical discussion, which became a barrier for the materialization of engineering mega-projects, emerge? It significantly influenced decision-making in the USSR and changed the political and economic situation in the country. This became possible due to the rise of institutional pluralism (Hough and Fainsod 1980) – series of contradictions within and between different sectors of the state, including contradictions between political, regional, scientific, economic and public interests.

Tracing the changes in styles of industrialization of the North we can emphasize two major trends: homocentric/polycentric industrialization. In the case of homocentric industrialization the local development is defined by the programs developed at the centre. The major characteristics of this style are the following: a utopian vision of the regional development, resources-demanding programs, ambition for implementation of large-scale projects, usage of the north as a resource appendix

of the centre. The second variant is more pluralistic – when different interest groups can participate in decision-making, including the local authorities.

In the history of the northern development we can trace two major kinds of conflicts emerging in the 1950s-1970s, which defined scenarios of further development of the area. First, this is the conflict between the centre and peripheral regions, and second, the conflict between different economic ministries. During the early soviet period, when the homocentric (centre-oriented) industrialization was dominating in the North, local interest groups did not have opportunities to influence the development of the locality. However in the mid-1950s the realization of large-scale projects was troubled due to endeavors at the localities to promote regional development. The different economic ministries also started to struggle at that time for power to define the future of the different territories. All these actors participated in discussions and research and tried to promote their visions. The debates in the scientific and public spheres reflected the fight of the groups of interests for the legitimization of their positions through science, through authority, or through public opinion.

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Notes

1 - According to Slavin 1982, pp. 12-13. Slavin defines Far North as zones of tundra and taiga, remote from the railroad network, situated in high latitudes and characterized by climatic conditions hard for the acclimatization of people. All north-polar regions, even those connected by the

railroads with the center can be considered as Far North. Close North regions are situated at a relatively short distance from the main railroad network, from large industrial centers, which can be a basis for the development of the rich natural resources of the North.

2 - Milukov emphasizes two flows of colonisation of the far North and Siberia in tsarist times: governmental and spontaneous colonisation (Milukov 1964). Both were equally strong, the State could not define priorities of local development (Vakhtin et al. 2004).

3 - The most important landmarks of industrialisation in the 1920s were the GOELRO-plan and the forced industrialisation program. The GOELRO-plan was made shortly after the nationalisation of all major industries (including the mining industry) that took place in 1918. The plan proposed the goal to restore and develop further the economy of the country that had been crushed by the wars and the revolution. The complete electrification of the country was considered as a mean for economic recovery. Other measures were the intensification of coal, gas and iron ore production, and the development of pig-iron, steel, copper and other heavy-industries (Plan ... 1955). The course of forced industrialisation was set in 1925 on the fourth meeting of the communist party, after a tough debate within the party. The alternative to this plan, which suggested that Russia's backwardness could be overcome very quickly, was a more reserved variant of industrialisation. This was proposed by the opposition, but they lost the debate (Industrializacija... 1997).

4 - Quoted in: Weiner, 1988. These words were taken from an epigraph to a collection of writings by Soviet writers called "The White Sea – Baltic Canal" (Gorki was one of the editors) that praised the forced labour of prisoners.

5 - Gorky 1953

6 - The Kazbek is a mountain in the central part of the Caucasus, in Georgia.

7 - Vladikavkaz – Tiflis

8 - The project of the Kama-Pechera waterway was planned in the 1920s by a department of the National Water Commission, "Ukamprek" – short for "Upravlenie izyskanij i proektirovanija Kamo-Pechjorskogo puti" (Vendrov 1984, p:7). On the basis of preliminary surveys made between 1927-31 of the upper reaches of the Pechera and river Kolva, the project of connecting the rivers Kama and Pechera via the so-called "nemsk-run" was

started, together with the construction of the Kama-Pechera water-reservoir (Schischkin 1961, p:87).

9 - From then on (between 1931-1939), investigations were conducted mostly by the Gidrovodtrans (that was organised in 1931, on the foundations of the Ukamprek and Ulakrek (the project-organisation of the Lache-Kubensk connection) and Sevzapviz (short for "Izyskanija vodnyh putej Severo-Zapada") (Vendrov 1984.7). Between 1933-37 there were detailed studies of soils, as well as hydrological and meteorological studies (Schischkin 1961: 87). In the end of the 1930s a joint-project was prepared by a number of organizations (Gidrovodtrans, Gidrocnergoproekt, the governing organs of the Solikam waterworks facility) - Kama-Vycheгда-Pechera water management complex (KVP), which was meant to redirect a portion of the flow into the river Kama. These materials were presented by the National Water Commission of the USSR in the form of a technical project, part of the series of works directed at the governance of the Volga river. The plan passed through experts at Gosplan and was recommended for further development (Schischkin 1961, p.:87).

10 - As part of the 1933-project, the participants envisaged the possibility of pumping 3-4 km³/year. In 1934 it was seen necessary to pump 7 km³/year and in the projects of 1937-40 the amount was 17,8 km³/year (Gangard 1971, p.10).

11 - An abbreviation for the main Soviet executive office Sovet Narodnykh Komissarov - Council of People's Commissars.

12 - Document 16, pp. 64-65. in GULAG 2002.

13 - "Agreement between the governments of USSR and USA about the principles of mutual support in prosecution of war against aggression" was arranged in 1942. By this agreement the USA promised to send: tanks, automobiles, oil-products, locomotives and rail-tracks, food and clothing. In exchange for military supplies, USSR obliged to send to the US gold, tin, wood, fur, caviar, etc. Cited after: Butenina 2004, pp.104-106, 292.

14 - More detailed analysis of the ideology of conquering nature in the USSR can be found in Bolotova 2004.

15 - Detailed analysis of decision-making in the soviet political system can be found in Pallot and Shaw 1981. The decision-making and different conflicts on environmental issues in USSR were considered in Peterson 1993. An overview of groups of interests in the system of decision-

making in the USSR: see in Skilling and Griffiths 1971. The role of local communist party organizations in decision-making is described in Hough 1969.

16 - There were also confrontations between other ministries. See Bush 1972, p:28 and Pryde 1991, pp :92-93 for examples of conflicts between the Ministry of Agriculture and the Ministry of Forestry.

17 - In details, the history of the realization of large-scale technological projects in the USSR can be found in Graham 1998; Josephson 2002; Richter 1997; Turnock 2001. For a description of the consequences of their realization for the environment see Feshbach and Friendly 1992; Pryde 1991; Josephson 1995b.

18 - Analysis of the Siberian rivers diversion presented in Micklin 1987a, 1987b; Darst 1988; Josephson 1997; Weiner 1999; Vorobyev 2005.

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Loving and Conquering Nature: Shifting Perceptions of the Environment in the Industrialised Russian North

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Loving and Conquering Nature: Shifting Perceptions of the Environment in the Industrialised Russian North

ALLA BOLOTOVA

Abstract

This article examines complex patterns of interaction between human settlement and the environment in the industrialised Russian north. I analyse how new mining towns, built during the Soviet period, were located and integrated into the environment. Residents have participated in the industrial processing of natural resources in the work domain, also developing a strong emotional attachment to the natural environments while spending leisure time around the cities. In both perception of physical space and ideas about place, the main dividing principle is between the spheres of work and leisure.

‘A CITY! IT IS THE GRIP OF MAN UPON NATURE. IT IS A human operation directed against nature, a human organism both for protection and for work’: thus voiced the renowned architect Le Corbusier at the beginning of the twentieth century (Le Corbusier 1987, p. xxi). According to the logic of high modernism, the building of a new city from the ground up in a previously uninhabited place is the acme of the taming of nature, of its subjugation to humankind and urbanism. In the Soviet Union, mass construction of new cities began at the end of the 1920s and continued with varying degrees of intensity until the collapse of the USSR. The rapid urbanisation of the country was realised, not only as a result of the growth of existing urban centres, but also to a noteworthy degree through the construction of urban, mostly industrial, settlements in new locations.

In the northern part of the Soviet Union, numerous new towns were built with a single purpose—to extract mineral resources. The official Soviet discourse supposed that the people who populated the north would take pride in taming and reconstructing the environment: to conquer the poles, to change the course of rivers, to move mountains and, most importantly, to build cities and factories. A famous Soviet song of the 1930s declared ‘Stepping out proudly on the Pole, Changing river streams, Moving high mountains—An ordinary Soviet Man is doing this’.¹

¹*A Soviet Ordinary Man* (music: S. Germanov; lyrics: Lebedev-Kumach, 1937). The words ‘on the Pole’ refer to Soviet expeditions to the North and South Poles.

The majority of settlers in new mining towns were personally involved in mining or in the industrial processing of natural resources in the north. However, in their private lives, most new northerners expressed strong emotional attachment to the local natural environments. This brings us to the central question of this article: how could personal participation in the process of ‘conquering nature’, governed by the state, be combined with a deep emotional connection and attachment to the lands of the north?

In this article I show the variety of uses and senses of the concept of environment in northern industrial towns. In order to do this, I first consider the historical process of the formation of new urban spaces and their integration into the natural environment. Based on materials from three case study cities, I analyse the process of the shaping of urban space, paying attention to the conceptual ideas of architects, planners and governmental powers, and their implementation. Furthermore I consider how the functional zoning of a model socialist city and its uses of ‘nature’, regulated by planners, were related to the everyday perception and use of natural environments by inhabitants of these case study cities. The empirical focus is on the complexities of personal experiences of landscapes, and on meanings and practices that filled in the newly formed space for its users, with a particular emphasis on what was called and used as ‘nature’ in different zones.

By looking at various uses of local environments, I suggest that the specificity of spatial organisation in socialist cities influenced people’s perception of the environment. The space of these new towns was organised according to the abstract model of *sotsgorod* (socialist city), developed by planners, which divided places of human activity into zones following certain functional principles. According to the principles of the *sotsgorod*, ‘nature’ belonged to the ‘green zone’ and its function was narrowed to sanitising the atmosphere, and providing a barrier for industrial pollution. To a certain extent, the users of such space—ordinary citizens of new socialist towns—followed the zoned perception of space created by planners, but at the same time they redefined the functions of zones and complemented them with differing practices and perceptions.

My main body of data is taken from fieldwork conducted on several field trips during the period 2007–2009 in three industrial cities in the Murmansk region (province).² This is Russia’s westernmost northern region and one of the larger industrial areas in the Russian north. Three cities were chosen for case studies: Kovdor, Kirovsk and Apatity. The rationales of selecting those particular towns were the following: those chosen were towns connected with mining industries with different profiles, and founded at different stages of Soviet industrialisation. The first one of the three case study cities to appear was Kirovsk, which was founded in the 1930s in the Khibini Mountains, close to a huge deposit of mineral apatite used for manufacturing agricultural fertilisers. At the beginning of the 1950s, the city of Apatity began to be developed 16 km from Kirovsk. Apatity is the second city of the Murmansk region in terms of its size and significance. A large research centre of the

²Fieldwork for this research was performed in the context of the project MOVE-INNOCOM (supported by the Finnish Academy of Sciences, funding decision N118702). For more information on the project see: <http://www.arcticcentre.org/innocom>, accessed 25 January 2012.

Academy of Science is situated there, which provides applied scientific knowledge to industries in the whole Murmansk region. A significant part of Apatity's population is still connected with the mining industry: they are either employed in Kirovsk and travel there for work on a daily basis, or work at the processing plant (*obogatitel'naya fabrika*) located in Apatity, where apatite from Kirovsk is processed. The third city where fieldwork for this research was conducted is Kovdor. This is a typical example of a mono-industrial city that was founded during the second wave of industrialisation at the end of the 1950s for the development of the large iron-ore deposit in that area. Open-pit mining is used for iron-ore processing in Kovdor, while in Kirovsk, apatite is extracted in both open mines and underground mines (grooves).

I spent a total of approximately seven months in those cities. The archive of the project consists of field diaries, 170 unstructured biographical interviews and records of participant observation that I made by accompanying some of my interview respondents during their activities in the cities and surroundings. The interviewees were chosen using the snowball method. In this article I focus on the experiences of people who arrived in the north during the second phase of industrialisation in the USSR between the 1950s and 1970s. The majority of my informants participated personally in the construction of their cities. In addition to fieldwork observations and interviews, I have also drawn on historical accounts, photographs, personal and public archives and newspapers.

Urban dwellers and perception of the environment

The life of the newcomers who arrived in the Russian north during the industrial era is often represented as exclusively connected with the urban space. The majority of anthropological studies of the Russian north are concerned with the indigenous population and rural life, while urban dwellers of industrial towns are often presented in the background in order to show how they contrast with particular qualities and features of indigenous life. On such a 'backstage', city residents are shown as being distant from nature, bound exclusively to the built environment, without any connections to the land, and alien to northern environments. Their settlements are also described as disconnected from the surrounding environment, situated in places hostile for humans, or even dead places (Anderson 2002, pp. 1–3; Gray 2005, pp. 122, 130–31; King 2002, pp. 74–77). Only rarely is this perspective turned around in the anthropology of the Russian north so that the indigenous people form the background for the main focus on industrial settlers (Thompson 2009; Stammler 2010). Even in the research of Niobe Thompson (2009), who pays attention to the interaction of former industrial settlers with the natural environment, northern incomers are described as developing a 'feeling' for the environment only after they stop participating in the modernising project of the state, develop contacts with the indigenous population and become almost indigenous themselves in their lifestyle and activities. In contrast to this approach, in this article I show that very often even people currently connected with industries, without having any contact with the indigenous population, develop a deep attachment to the northern natural environment.

In everyday life, people use the word 'nature' as actively as they did in the past, although the concept of 'Nature' has become very problematic in social sciences.³ What exactly do people mean when they say they go out to the countryside to enjoy 'nature'? It is difficult to imagine such a phrase voiced by a rural dweller; it is clearly a phrase specific to an urban dweller. This is a clear sign that 'Nature' in modern society is primarily 'not-city'; it is a particular space distinguished from the city environs by its characteristics. There are also many spaces within a city that can be situationally labelled as 'nature', and again, this label is given in order to show a contrast with one or the other aspect of the urban environment. In other words, 'city' and 'nature' are categories mutually dependent on and defined by each other: nature in this sense appears only when man and the city space he has created are separate from the physical world as non-nature: 'the world can exist as nature only for a being that does not belong there' (Ingold 2000, p. 20). Nevertheless, city inhabitants have extensive interactions with the space outside the city limits, although the time of their stay outside the city is always temporary: an urbanite, regardless of how much time he or she spends there, remains just a visitor to the forest. For many urban dwellers, 'to drive out into the countryside' represents a withdrawal into an environment that is an alternative to the city.

How was the notion of 'nature' used in official Soviet discourse? In the era of high modernism, the Soviet state (as well as governments of most states with arctic territories) saw the natural environment principally from an economic perspective—as a natural resource. The natural environment was subject to control, regulation and planning, with the fundamental goal of maximising profits gained from natural resources. The case of the Soviet government is exceptionally telling in this sense, inasmuch as the Soviet Union aimed for complete regulation and control of both 'Soviet man' and the natural environment. The dominant discourse on nature during the Soviet period, the rhetoric of which was actively used in propaganda of 'conquering nature' and 'mastering the north', was to conquer and exploit the wild, voiceless, hostile nature that found meaning and significance only when being used by humans.⁴

Representations and rules produced by the dominant social order do not reveal anything about how social actors use them in everyday life: we cannot understand how people interact with natural environments or how they use and perceive the space by studying just the official discourse on nature or planning in the newly built cities. I follow Michel de Certeau, who suggested an approach for analysing everyday practices by paying attention to usage of space (de Certeau 1984). De Certeau is interested in the everyday practical creativity of social actors, proposing to consider the hidden 'production' realised by users through everyday usage or consumption.

³This is one of the most equivocal terms in the social sciences at the present time. Modern geographers, sociologists, historians and anthropologists show convincingly that one singular 'Nature' simply does not exist, and 'natures' are constantly socially produced by different actors (see for example Macnaghten & Urry 1998; Latour 2004; Cronon 1995).

⁴See Bolotova (2003) for a more detailed analysis. Key here are the concepts of wildness and backwardness, which were also commonly used in relation to indigenous people and were important in justifying colonial ambitions: with the help of these notions, it was possible to determine the necessity of transformation and reform (see also Ssorin-Chaikov 2003).

Numerous studies have shown that 'actually existing socialism' worked very differently from how it was designed on paper (Humphrey 1983; Verdery 1996). Yurchak has analysed the way people read ideologies and change them, showing that people could serve the state and at the same time fill ideological activities with their own meanings, shifting between different discourses (Yurchak 2006). In this article I try to understand how people who settled in the northern industrial cities in order to participate in the ideological 'conquering of nature and the north' could still remain passionate enthusiasts of nature in everyday life. How did they breathe life into the state discourse and interact with the natural environment in their lives?

To analyse the process of people's active interaction with their environment and their engagement with it, Tim Ingold has suggested the concept of a 'dwelling perspective' (Ingold 2000). Particular attention is devoted to skills that develop through practice, education and training in the environment. The dwelling perspective is proposed as an alternative to an approach that Ingold refers to as the 'building perspective': analysing the world as something pre-given, ready-made—the perception that worlds are made before they are lived in, constructed before they are inhabited. In the case of northern industrial towns, we encounter an example of a combination of dwelling and building perspectives: people live in a pre-made environment that was constructed on the basis of standardised projects developed by remote planners. Only the first generation of incomers personally participated in the construction of their cities. Previous research has shown that this participation in the building process increased their attachment to place (Bolotova & Stammler 2010; Stammler 2010).

Ingold's notion of a 'taskscape' (Ingold 1993, 2000) is useful for analysing the different types of space characteristics of the northern industrial cities. Ingold defines a taskscape as a space with a characteristic array of related activities, a space of people's activity which has spatial borders and boundaries (Ingold 2000, p. 195). Ingold discusses this notion in terms of a process rather than of a state. The predominant type of activity in a territory with expressed goals and objectives strongly influences one's perception of the surrounding environment. In the urbanised environment one can single out work, everyday life and leisure as bases of activities. Accordingly, to analyse the interaction of the inhabitants of the new northern industrial cities with the natural environment, I examine the three most important taskscapes: the city (in the context of which concerns of everyday life take place); the industrial space (in which the larger portion of the population of the northern cities work); and 'nature' (the space for leisure activities).

Socialist cities and space

The modern face of industrial cities in the north of Russia was mostly shaped by the general tendencies in the development of Soviet planning. The construction of new socialist cities all over the territory of the Soviet Union was based on uniform models and projects that were developed by specialised institutes in central cities. That is why it is important to consider the concepts and ideas of Soviet planners in order to understand the spatial peculiarities of northern industrial cities. In this section,

I briefly consider historical context, as well as theoretical and ideological principles underlying the creation of new settlements in the USSR.

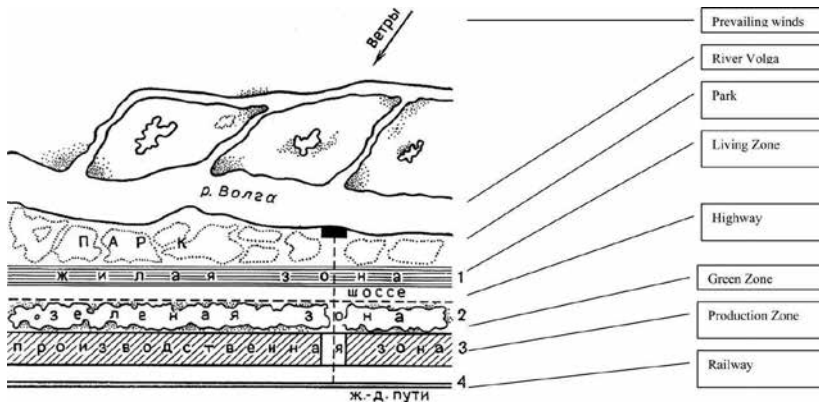
The sheer scale of the construction of new cities in the USSR boggles the imagination: between 1926 and 1989, 1,500 new cities and settlements of an urban type were built (Percik *et al.* 1998, cited after Engel 2006, p. 181). During the Soviet period, from 1917 to 1991, the urban population in the Russian Federation increased by a factor of seven from 15.5 million (17% of the population) to 109.8 million (74%) (Pivovarov 2001, p. 103). One of the distinctive features of Soviet urbanisation was that people were not just moving from rural to urban settlements but a large number of new cities were founded in territories that were previously not populated, or only scarcely populated. New cities were constructed not only in the north but throughout the Soviet Union—everywhere where natural resources were needed for industry or where conditions for the creation of industrial complexes could be found. However, building new cities in tough northern environments had an additional symbolic aspect: it was a manifestation of power, a demonstration of the distinguished success of the socialist regime. The idea of mastering the north exemplified the quintessence of high modernism, imported as an absolute belief in the progress, technique and unlimited capability of control over nature and humans.⁵

In the USSR, there was an ideological basis to the rapid urbanisation and industrialisation that caused significant spatial reorganisation of the country. The so-called ‘discussion on socialist resettlement’ arose among leading architects and planners of the USSR in 1929–1930 (Meerovich 2008). Under consideration were the new socialist principles of urban planning and the necessity of changing the spatial distribution of industries and population in the new economic conditions. Priority was given to the foundation of new towns in previously unsettled areas, though consideration was also given to the proposed socialist transformation of spatial organisation in existing cities.⁶

The concept of the socialist city (*sotsrogod*) (Milutin 1930) was developed as a result of this discussion, which gave the main priority to the purposeful organisation of new industrial enterprises throughout the country’s territory, together with the construction of cities adjacent to industry that would ensure successful functioning of resource extraction and processing. In other words, the central priority of new planning was given to the goals of the industrial development of the country, and industrial complexes came to be the main reason for the construction and existence of urban settlements (Meerovich 2008). It was suggested that specialised complexes of industrial enterprises connected to one another with the minimum of diversification be created: ‘Any local agglomeration of enterprises that are not connected to one another directly by the production process should be immediately dissolved since it is patently unreasonable’ (Milutin 1930, p. 19).

⁵John McCannon has investigated the myth of the north and the symbolic meaning of mastering the north for the Soviet state of the 1930s (McCannon 1998). The notion of high modernism was developed in detail by James Scott in the book *Seeing Like a State* (Scott 1998).

⁶For a historical account of the building of a new industrial city see the landmark study about Magnitogorsk by Stephen Kotkin (1995). For the socialist reconstruction of an existing city see, for example, studies of the transformation of city space in Leningrad (Gerasimova & Chuikina 2000; Staub 2005).



Source: Milutin (1930, p. 29).

FIGURE 1. A THEORETICAL MODEL OF ZONING IN A SOCIALIST LINEAR CITY, DEVELOPED BY N. MILUTIN (1930).

Life in a socialist city was supposed to be dramatically reorganised. One of the distinguishing characteristics of *sotsgorod* was a spatial division of relatively detached functional zones, for example, for working, living, recreation and transport (see Figure 1).

The principle role in allotting such functional zoning to the industrial zone and all other zones was meant to ensure the uninterrupted work of industries. Another goal of the spatial reorganisation of urban space by *sotsgorod* principles was to ensure the creation of a new ‘Soviet man’. Socialist planners suggested releasing workers from the majority of daily routine tasks in order to give them more time to work for the public good. The living sphere had to be collectivised by enlarging the scale of domestic services such as laundering, cooking and raising children (Milutin 1930). These transformations were aimed at raising the productivity of the labour force, increasing the time that people would spend working for the state, and providing more efficient labour resources. Spatial organisation based on such new principles and strict functional zoning had to enlarge considerably the authorities’ opportunities for control of the social sphere.

Next I consider how these theoretical ideas and concepts were implemented. How were ideas about *sotsgorod* and socialist requirements brought to life in the new industrial cities in the northern regions of the USSR, particularly in the Murmansk region? How were they related to both the industrial production and the urban territorial organisation that were created by planners and architects? How were new industrial cities integrated into the landscape, embedded into the environment and what spatial relations formed there? Special attention is paid here to the initial period of construction of the three case study cities, because at the time of construction, the way of placing the new city in the landscape was chosen and borders between the three main zones of ‘city’, ‘nature’ and ‘industrial zone’ emerged.

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'The Bolsheviks subjugate the tundra':⁷ placing and integrating new cities into the landscape

The industrialisation of the Kola Peninsula started with the construction of a railway from St Petersburg in 1916.⁸ It established the peculiarities of the modern spatial organisation of the region characterised by the clear-cut zoning of the peninsula's territory. Urbanisation developed substantially along the railroad, which was later paralleled by a motor road. Several clusters of industrial and military settlements of urban type formed that were either located near central roads or were connected to them by local branch lines. Meanwhile, the eastern part of the peninsula was almost completely unaffected by industrialisation and urbanisation and reindeer herding remained the main source of livelihood for the indigenous peoples (Konstantinov 2000, 2005; Vladimirova 2006).⁹

The Soviet authorities started to pay special attention to the Kola Peninsula when the geological expeditions of the 1920s confirmed its extreme richness in natural resources which were urgently needed for the realisation of industrialisation in the country (Fersman 1924, 1940). The existence of transport connections with Leningrad made this region attractive for immediate industrial development, though difficulties were encountered during this process due to the area's closeness to the border, where at that time military and defensive issues were given priority.

The process of industrialisation on the Kola Peninsula took place in two waves: the first began in the 1930s when the large mining complexes of Kirovsk and Monchegorsk were built; the second wave started after the war, when many new industrial cities and settlements were built on the Kola Peninsula during the 1950s.¹⁰ To populate those new towns, the Soviet authorities used different means in different periods. During the early stages of industrialisation, the first socialist mining cities founded in the 1930s were populated to a large extent by involuntary 'special migrants' (*spetspereselentsy*)—former peasants, forcibly resettled in the north to be used as a labour force for mining. Another group used for most hard manual work was that of *Gulag* prisoners.¹¹ There were also some voluntary contract workers and specialists who also did not have much choice about resettling to the north: during Stalin's time they simply received strict orders to go to places where workers were needed at any

⁷A heading from a local newspaper in Kirovsk (*Khibinogorskii Rabochii*, 24 October 1932).

⁸This road served military purposes, namely cargo delivery in World War I. For the history of pre-revolutionary development in the Murmansk region see Ushakov (2001) and Orekhova (2009).

⁹Even though rich deposits of mineral resources were found there, active industrialisation of the eastern part of the peninsula was not undertaken. Various development plans were prepared and discussed, but not realised. There are still no roads connecting this part of the peninsula to the central part.

¹⁰Here I provide only a short overview of the history of industrialisation in the region and in the case study cities, focusing mostly on how the new towns were integrated into the landscape. For more detailed information on the general history of Kirovsk's construction see Rakov (1972), Petrova (2006) and Berlin and Koroleva (2006). For more information about the construction of Apatity see Berlin (2006). The history of exploration and development of mining in Kovdor is presented in Rimskaya-Korsakova and Krasnova (2002).

¹¹For more information on 'specially resettled' peasants and *Gulag* prisoners in the region see Tararaksin (2006) and Shashkov (1993, 2000).

particular moment. The population of the cities that were founded during the second wave of industrialisation in the 1950s and 1960s was rather different: the majority of new settlers were enthusiastic young people in their 20s who went to the north voluntarily, attracted by material benefits and stimulated by ideological campaigns launched by the state. Intense campaigns in the media were largely based on ideas of ‘conquering nature’ and ‘colonising the north’.

The city of Kirovsk is an example of building a city under extreme social and climatic circumstances. In the 1930s, industrialisation accelerated and Kirovsk grew very rapidly during the first years.¹² The decision to create the city was made at the end of 1929 and already by 1935 it numbered 44,292 inhabitants, 21,325 of whom were forcibly resettled peasants—special migrants or *spetspereselentsy* (Shashkov 2004, p. 12). Such rapid growth involved a lot of suffering for the first settlers and practical difficulties that had to be overcome by the first builders on a tight schedule.¹³ Originally, the mining settlement was founded near Kukisvumchorr Mountain (a district now called the ‘25th kilometre’) in the immediate vicinity of the apatite mine. Soon all the shortcomings of this choice became obvious: houses and industrial facilities were built right at the foot of the mountain and were repeatedly destroyed by avalanches, causing the death toll of industrialisation to rise. Moreover, the gorge in which the village was situated exposed it to a strong chilling wind. Because of these unfavourable natural conditions, it was impossible to build a larger industrial city in this area. After difficult discussions and a review of different options for the city location, it was decided to found a new city 12 km away from the first one—where Kirovsk is now situated.

In line with the Soviet agenda for opening up the north and the justification of establishing industrial settlements as mono-cities, industrial needs were absolutely prioritised in the first period of city planning. The processing factory and miners’ settlement had to be located close to the mine. On the shore of beautiful Lake Vudiyavr, an apatite concentrating mill (which needed a lot of water), a railway station and other supplementary facilities were all established. Housing developments were built on the sides of mountains so that the city was cut off from the lake by the industrial area and railway station. In the words of the former main city architect: ‘If Kirovsk were designed and developed nowadays, it would certainly be placed right on the shore of this marvellous mountain lake; and the ore-dressing and processing mill, power station and storages would be moved away to somewhere on the swampy plain’ (Romm 2001).

A lot of problems arose because the planning of Kirovsk was executed from a distance by specialists from different cities, primarily from Leningrad.¹⁴ Construction on the complex land forms of the Khibini Mountains created difficulties, which were not always taken into consideration by distant designers. An example of the mistakes

¹²Until 1934 Kirovsk was called Khibinogorsk.

¹³For a more detailed analysis of the extreme suffering of *spetspereselentsy* and their everyday struggle with the harsh northern environment in Kirovsk see Bolotova and Stammler (2010) and Bruno (2010).

¹⁴Generally the following Leningrad project institutions worked on the Kola Peninsula: Leningrad zonal research institute for experimental design of housing and communal building (*LenZNIIEP*) and Leningrad research and project institute of urban planning (*LenNIIPgradostroitel'stva*).

that were made was the decision by the Leningrad architect Oskar Rudolfovich Munts, the author of the first development plan of Kirovsk (which was only partly realised), to lay out the central street of the city without any regard for the relief of the location. For more than 40 years this created difficulties for the local people.

Blunders like this were not uncommon because almost all planning was carried out by visiting specialists who had never lived in the local conditions. It was up to the local authorities to adapt solutions proposed by distant developers to the area, taking into consideration the configuration and peculiarity of the place. These problems and how they are remembered by locals nowadays show how a building perspective differs from a dwelling perspective in city conditions: it is through practices and continuous interaction with the environment that humans develop perceptions, skills and intimate relations to places.

By the time the neighbouring city of Apatity was founded in the 1950s, Soviet planning had developed already to a different stage from the 1930s. Projecting *sotsgorody* came to be a fixed routine of planners, and a code of practice of spatial organisation in new industrial cities had formed. That is why a lot of factors were taken into account when Apatity was located. The city grew to be a model of socialist planning in its own way. A flat and even piece of land alongside the Khibini Mountains was chosen; for *sotsgorod* a flat land form is preferable because the more complex a landscape is, the more difficult it is to organise space according to a standard plan. Furthermore, the city was located not far away from an existing railway station. Also, due to the special microclimate, the weather in Apatity is often significantly better than in neighbouring Kirovsk.

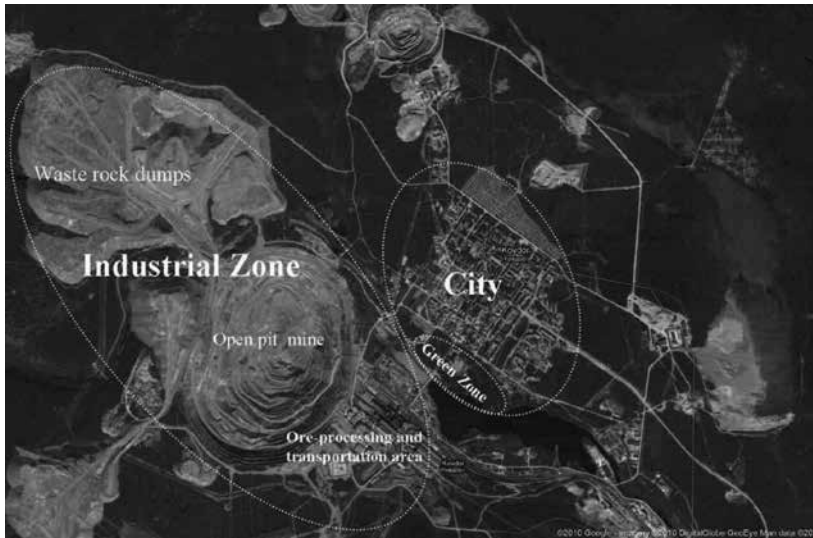
At the time of the construction of Apatity, the location of industry was not the only priority. Attention was also paid to a complexity of factors. Urban space was planned rationally in compliance with all the principles of *sotsgorod*. A processing plant was placed apart from residential communities and far away from the city. In the centre of the city, natural forest partly remained where houses for the *Akademgorodok* (Academic town) were built.¹⁵ All necessary social facilities were placed in every residential quarter, such as kindergartens, playgrounds, schools and shops. The result was a model of *sotsgorod* that locals deem to be exceptionally convenient for life.

The planning of Kovdor was to be less successful however. After building the first blocks of housing, the local geological service discovered a rich vein of iron ore underneath the centre of the town, under new houses that had already been built.¹⁶ The provisional geological survey was carried out in a hurry, and not thoroughly enough, so that when the vein was detected it was already impossible to move the construction activities, and the development of the town had to continue in the same location.

In other respects, Kovdor was planned in compliance with all the main principles of a socialist city (see Figure 2). An extensive industrial zone was situated some way from the city, on the opposite shore of the lake. On the city side there was a big natural

¹⁵Akademgorodok is a district in the city of Apatity where various institutions and laboratories of the Academy of Science are situated.

¹⁶This is similar to what happened much later in the Swedish Arctic mining town of Kiruna (Nilsson 2010).



Source: compiled by the author using Google maps, based on the author's field research.

FIGURE 2. A SATELLITE VIEW OF KOVDOR, WHICH DEMONSTRATES HOW A SOCIALIST CITY'S ZONING WAS IMPLEMENTED.

forest tract near the lake that was to be used as a city park. A small river flowing into the lake hindered mine development so it was purposely redirected. The city itself was built using prefabricated houses divided into blocks, each with all necessary services.

These three cities show different examples of the implementation of the *sotsgorod* ideas on the Kola Peninsula in different periods. In the 1930s the most highly convenient and advantageous placing of the industrial complex was of primary importance. During the second wave of industrialisation, much more attention was paid to the comfort of the population, housing and social issues. However, cities from the first wave were more original in their architecture in comparison with the second wave cities that were almost identical due to the further standardisation of planning, the cheapening of construction and the introduction of prefabricated housing. The natural features of specific landscapes were taken into consideration to some extent but numerous mistakes occurred because of the continuously tight schedules imposed by the central planning system. These mistakes usually were made by distant planners who proposed standard solutions not suitable for a particular location. Thus the cities considered here provide a good illustration of the argument by James Scott that abstract standardised knowledge based on universalised rules is always opposed to and contradicts practical local knowledge (Scott 1998). The new socialist settlements that were abstractly planned, based on centrally managed projects, were supposed to be manifestations of the rationally organised social and natural worlds. However, people who arrived in an 'empty place' and started to build a new settlement from the ground up inevitably encountered the complexity of local environments and situations and gradually developed localised practical knowledge and local customary practices.

Dwelling in the new environment

Residents of industrial cities do not have much influence on the appearance and spatial organisation of the places in which they live. They live in prefabricated standard housing and use urban environments organised by the requirements of both industrial production and urban territory. However, even the cities that were built on an empty space by a decision of an authoritarian state power, designed by distant planners on the basis of a standard project, are still made habitable by real people who settled in a particular locality and filled these spaces with their own meanings and practices. People who started building a city in a new, unfamiliar place where there were no settlements before faced extremely complicated and difficult problems. Even though the task was formulated from above, many first-comers very enthusiastically participated in the city's construction. Settlers became connected to the new place through the work of their hands; they contributed all of their time and energy to building a new city. They tried to make their cities as liveable and comfortable as possible in the conditions dictated by industrial priorities. In this context I next consider some common features of the physical and social space characteristics for the three case study cities, and then analyse how local residents perceive and use material environments in their daily life.

Many features of the urban space in northern new cities can be explained by the fact that they were all developed under the strong influence of the enterprises around which they were built.¹⁷ In general, the dominance of industry is very visible in those cities, for example in the vast extent of the industrial zones compared to the size of the rest of the town, in various kinds of industrial infrastructure, and in the large areas covered by industrial waste. During the Soviet period the local dominant enterprise had almost total control of the organisation of life in the cities with most of the industrial, housing and infrastructure construction being undertaken by the enterprise. The leading employer in the city often also controlled and managed the shops, entertainment facilities, schools, medical services, recreation and free-time activities.¹⁸ In this way Soviet enterprises can be seen as 'total social institutions' (Humphrey 1998, p. 452). In a way, the enterprise was the main representative of the state power in the city, and this feature made the Soviet mono-industrial towns different from Western company towns: all enterprises in the country were state owned and integrated into the centrally planned economy.

Industrial production of natural resources provided the main rationale for establishing the cities and this general priority accorded to industry was echoed in people's perception of their cities. In resource-based industrial towns, work constituted the main foundation of social life; it was placed at the centre of life's organisation. Generally, work was more important in new towns that were purposefully created than in cities that grew historically: here work was the main

¹⁷This is not just a Soviet peculiarity; similar features are characteristic for company towns everywhere in the world (see for example Crawford 1995; Garner 1992).

¹⁸This is not a specificity of northern cities, but a common feature of industrial enterprises in the USSR. They were responsible for a large part of the physical, social and cultural infrastructure in cities (Andrusz 1984; Domanski 1997; Shomina 1992).

reason for the creation of the community; it was for work that people came to live in new places, without having any roots there. Working for a Soviet enterprise that formed its own town was a means to gaining access to all resources: through work people earned money, received housing, privileges and various social goods. Work was the place where most of an individual's social bonds were formed.¹⁹

Another important feature of Soviet industrial cities was that all residents were, in one way or another, involved in the construction of the city and in the physical formation of the urban space, especially in cities built during the second wave of industrialisation. The ways of being involved were varied: builders worked on the construction itself, engineers developed projects and plans for industrial and housing constructions, and workers installed equipment. Moreover, practically every resident, including children, was involved in work to help 'clean and green' the city territory. The first settlers witnessed the growth of their city and they remember it with great nostalgia. They participated in physical place-making, developing a sense of place through the work of their own hands. That is why the first settlers often have sentimental feelings about their cities, including an attachment to the physical built and non-built landscape, as well as to social linkages.²⁰

The functional zoning typical for socialist cities has a strong influence on residents' perceptions of the physical environment and spaces in new industrial towns. As the functional zones of these cities were formed, developed and made habitable, various local rules of interaction emerged for each zone so that activities that are appropriate in one zone are seen as alien and strange in another. Local residents perceive different functional zones in their cities, seeing them as material imprints of particular activities and ideologies, as well as memories and history. I focus my analysis on the perception and use of various 'natures' or 'natural spaces', trying to understand what the inhabitants of northern industrial cities perceive as 'nature' in each of the zones. I consider three most typical functional zones significantly different by taskscape, which form distinct spatialities with specific kinds of interaction: the industrial zone (*promzona*), city and nature.²¹ The 'industrial zone' is a territory connected with production and its provision, where former 'wild nature' is turned into 'natural resource'. 'City' is the urban space as a whole, which contains various green zones such as parks, public gardens and alleys. 'Nature' is the area outside the city and is usually opposable to the city and urban life.

The industrial zone (Promzona)

In industrial towns, this zone has special importance: the activities realised there are the main reason for the city's foundation and existence. Visually, the industrial zone dominates the landscape: in all towns, various tubes and pipes can be seen everywhere. The territory of the *Promzona* is rather large, often similar in size to the city space, or

¹⁹See Ashwin (1999, 1996) and Alashev (1995) on the centrality of work for self-identification of the individual and the group in Soviet industrial work collectives.

²⁰See more on this in Bolotova and Stammer (2010).

²¹Undoubtedly besides these three zones there are others such as agriculture, for example. However, these three are the most distinctive and well defined, typical for all cities.

even bigger. A considerable part of the space around the cities is taken up by open seams and mines. Moreover, as production expands, rock refuse increases and hills of waste rock gradually become visibly dominant in the landscape as well.

In mining cities, the taskscape of the *Promzona* is the process of industrial production of local mineral resources. A sophisticated technological complex of multiphase rock processing is located there. This is a space where ‘nature’, formerly wild and useless in official discourse, is transformed into a useful ‘natural resource’. The main stages of processing can be summed up by three goals and tasks for the work: extraction, process and transport. Correspondingly, the space in the industrial zone is organised according to this order: from extraction of natural resources from the mine through buildings where the processes of separation and concentration of the ‘useful’ components take place, to the area where transportation starts. In the ore concentrate, the part of the ‘useful’ element is higher: one or several components are separated from the whole body of rock, and these elements are used in the production process and the remaining material goes to waste storage, the so-called ‘tailings’ (*khvosty*) or *otvaly*.²² In Soviet times, most industrial complexes were oriented towards mono-production, where only the one richest component was extracted.²³

The spatial boundaries of the industrial zone are usually marked out with swing gates on the roads that are opened only for enterprise workers with special passes. Though it can be disregarded from time to time, this rule is common for all industrial zones of all three cities. Depending on the strictness of the access control set by the administration, there can be a fence as well. However, not all parts of the industrial zone are considered to be for authorised access only; for example, ‘tailings’ and hills of waste rocks are essentially left unguarded.

A large number of northern city residents work in the industrial zone and are engaged in disciplined and organised activities within this environment. The modern industrial process is characterised by a narrow professional specialisation so that every person participates in only a part of the process of natural resource treatment. He or she is included in the production on one small section of the industrial chain and therefore personally takes part in the process of transforming the natural object into a ‘useful’ object—a concentrate of one or another substance, such as iron or apatite ore. The tasks in the industrial zone are dependent on complex technological processes, but also on the skilful labour of workers. Through experience, people engaged in a particular task obtain specialised knowledge and skills of working with particular equipment and materials. They develop a specific perception of the natural resource they are working with. For example, an explosives expert begins to ‘feel’ a rock.

²²There is a substantial difference between the two kinds of waste materials that are formed as a result of the industrial production of mineral resources. The first kind is the so-called ‘tailings’—liquid waste materials which are produced as a result of ore concentration at the processing plant and stored in artificial reservoirs. The second kind is waste-rock dumps (*otvaly*)—hard rock refuse stored at special dumping grounds, which visually look like artificial hills (see Figure 4).

²³The Kovdor plant was an exception; there, complex ore processing practices were established already in the Soviet period. See Blinov (1987) for more details on how complex production was established in Kovdor.

Within the space of the processing plant or the mine, an individual interacts with the resource that has already been excluded from 'nature' and has become a part of the production process. In other words, this substance is not perceived as 'nature', rather it is referred to by technical terms and is considered separate from the mountain itself. It is seen and perceived as a resource to be processed and transported. The people who are personally involved in the process of turning 'nature' into the resource incorporate the 'resource' approach to nature that is implanted into the industrial zone and respective activities, but this perception is spatial and connected with the territory of the industrial zone. Most of them do not look negatively on industrial structures, fuming pipes and waste refuse if they are inside the industrial zone (at least the generation of first-comers): these are signs of a living city and its prosperity. However, the same people love to spend their leisure time outside the cities in the 'nature zone', where they can be very critical of traces of pollution and waste.

The infrastructure and buildings of the typical Soviet industrial zone were mostly a space of grey colour. Usually it was very utilitarian with nothing unnecessary or irrelevant to the production process. That is why the presence of something unconnected with industry in this territory causes surprise and pride to visitors. Thus during one of our research meetings in an industrial zone, trees, grass plots and flowerbeds were demonstrated to me as something outstanding and unusual. As my local guide commented: 'This was done by our chief, Boris Ivanovich. He loved nature very much'.²⁴ Another example of an appearance that seems irrelevant to the zone, but is also a source of local pride, is when a wild animal enters an industrial zone. A mobile phone picture of a fox cub was shown to me with the following comment: 'This fox comes here from time to time; it was noticed several times, and see how it's not scared of people!'²⁵ Even in the industrial zone, the environment is not exclusively human, and here such misplaced encounters with nonhumans always attract special attention from workers and become talking points.

People's perceptions of the environment are defined by the taskscape of the zone, and they depend on the tasks in which a person is involved. People working in the industrial zone incorporate the industrial logic of mining production, sharing the dominant discourse on nature as a resource to be processed. Actually, for industrial workers, what they see is not 'nature' anymore but a substance excluded from the environment and meant to be transformed while undergoing processing in the industrial zone. Entities that are actually perceived as 'nature' in the industrial zone, such as small green spaces or wild animals inside the zone, are in fact marginal here. In the *Promzona*, an individual is a part of the collective whole working with mineral resources, and he or she identifies with and is attached to the enterprise and its tasks. However, this attitude to nature as a resource is mostly limited by the borders of the industrial zone. The natural environment outside the industrial zone and the city is perceived as space for leisure and relaxation from the excessive regimentation of industrial cities.

²⁴Female guide, author's fieldnotes, Kovdor, 7 October 2007.

²⁵Female guide, author's fieldnotes, Kovdor, 7 October 2007.

The city

As in every city, the environment of northern industrial towns is rather diverse by taskscape—it is a space where people access different services, meet and spend free time. Space configuration in new cities is organised according to the principle of functionality and the *sotsgorod* ideas can be easily found within them. The city is divided into residential quarters, each of which offers all necessary services: shops, schools, polyclinics and kindergartens. It took a while for cities to develop to this stage, which is why particular interest should be paid to the first-comers' experiences.

At times, during the early growth of the city, the zoning was not very clear: first barracks and tents were situated near the industrial area and there was no general plan of the town. Zoning was developed as the city developed: urban space was divided from the industrial area and a general development plan was created and implemented step by step. Gradually, the forest line was moved back. Old-timers like to tell how they jumped from one tuft of grass to another on what is now the central street, how they went mushroom-picking at the place which is now the central square, how they once picked blueberries at the location of what is now a building. According to one respondent:

And there were no buildings. You just walked like this and noticed: there's a new house, and another one. They sprouted up like mushrooms, everything was developing very well and it was great to witness it . . . Instead of the community centre there was a forest. We went skiing right from the doors of our houses. The town was smaller and all this territory was a forest. And we skied straight away.²⁶

The farther the forest was pushed aside, the greater was the distance to be covered to take part in leisure activities such as gathering mushrooms and berries, hiking and skiing. Therefore the need arose for transport to travel out of the city zone. In other cases, activities might have been transferred from the 'nature' zone into the city, such as hiking and skiing in stadiums and city parks instead of in the forest.

As the city space formed, more attention was paid to 'green zones' within the city. In the concept of *sotsgorod*, the main function of 'green zones' was buffering—they were created to protect the living space from the pollution caused by the industries. In the USSR, green zones were actively created in all cities and their purpose was to support the health and functioning of the labour force. In the north, these measures were more complicated due to local climate conditions: establishing a plant was considerably more difficult than in Central Russia.²⁷ Nevertheless, in all cities much effort was put

²⁶Female, born in 1940, interviewed 13 October 2007, Kovdor.

²⁷During the Soviet period, numerous scientific studies were conducted about the survival ability of green plantings in new industrial cities of the north. The following factors were identified as problems: the severe winter that lasted for between 230 and 280 days, with a polar night of up to 50–80 days, strong winds, snowstorms, snowdrifts, insufficient sun and ultraviolet radiation, short and cold summer and low water temperatures in rivers and lakes (Chromov 1982, p. 2). Several academic and applied research institutions worked in northern cities, and they carried out investigations on plants' survival in northern conditions (for example Polyarnaya Opytnaya Stantsiya Vsesoyusnogo Instituta Rasteniyevodstva (POSVIR, Polar Experimental Station of All-Union Institute of Crop) near Apatity and the Polar–Alpine Botanical Garden of the Russian Academy of Science in Kirovsk).

into making urban greening possible. In the cities of the first wave of industrialisation, forest was usually cut down to free an area of land for construction and greening took place later when houses were already built. New seedlings from the forest often took root badly. Afterwards, as the Soviet planning system developed, planners began to suggest a partial saving of natural forest when creating a new city.²⁸ For example, the city park in Kovdor is a natural forest on the outskirts of the town, near the lake, and at the same time it is a buffer between the industrial zone and the city.

In practice, besides protection from pollution, the city green space in new northern towns had a lot of other meanings. All kinds of urban green spaces are very important for the formation of residents' attachment to place.²⁹ It is characteristic that locals are extremely proud if a piece of natural forest remains in their city. For example, in the Academic town of Apatity, constructors saved as many trees as possible, placing buildings among the trees. This area is in the very centre of Apatity and due to its original planning it became one of the favourite places for locals in the city, usually being shown to guests as an important place of interest. In this way, residents demonstrated their city's distinctiveness in comparison with other *sotsgorody*.

Preservation of the natural forest inside the city zone is very important for the local sense of place, but greening created by residents also has a very high value of a different type. Involving city residents in urban greening was a usual practice in the Soviet system, especially in new towns. Moreover, in industrial cities, people's participation was ensured by enterprise departments: they had to organise their workers, whose participation in such activities became mandatory. Every department or organisation had its affiliated lot of the urban space that it was required to 'green up'. As a matter of fact, the actual practice performed in such greening works was the moving of the forest back into the growing city: seedlings were taken from surrounding forests and planted in city spaces. Enterprises provided the materials and organised the work as part of the *subbotniki*³⁰ programme of volunteer work. In spite of the obligatory nature of this activity, co-operative work for city improvement strengthened the local collective identity. People regularly met, planted trees together and in this way contributed to city development. Many locals also went to retrieve seedlings on their own initiative to green their courtyards. Through these practices, citizens became attached to the place.

A representative case took place in Kovdor in the 1970s when it was decided to build a new administration office in the territory of a park that had been planted earlier by the first-comers. It caused vehement protests; people wrote letters to the administration and higher authorities, and collected signatures against this decision.

We planted the square . . . There was no forest here, so we planted all the trees on the square by ourselves. Later we protested against the district executive committee's building because

²⁸For example, see the methodological recommendations for natural forest preservation during construction in Maslyakova and Smirnov (1980).

²⁹Several recent studies demonstrated the importance of urban green space experiences for the formation of migrants' place attachment (see Armstrong 2004; Hitchings 2010; Jay & Schraml 2009; Rishbeth & Finney 2006).

³⁰The *subbotniki* were days of volunteer work on weekends, regularly organised by enterprises or community services.

this part of the square was planted with trees and they cut them down. We even made lists of those who protested...³¹

The citizens' opinions were ignored and the trees were cut down, the building constructed and protest leaders punished. However, this case demonstrates the importance of city greening carried out by the citizens: people even participated in open protests against the administration in order to defend the results of their own work. Attachment to place increased through residents' active participation in activities for improving the urban space.

'Nature' as non-city

From the point of view of a person living in a northern industrial city, the area beyond the urban territory and the industrial zone is primarily a space for leisure. The most favourite recreation practices of city residents are connected with staying out of town: skiing during winter time, barbecuing beginning in the spring, hiking in the hills and mountains, visiting summer houses (*dacha*), picking mushrooms and berries, hunting and fishing.

The diversity of these practices shows that beyond the town borders, nature is not uniform either. As Macnaghten and Urry (1998) pointed out, 'natures' are created in various social environments and are always rooted in a historical, social or geographical context. There are a series of spaces perceived by residents of northern industrial cities as 'nature', and these spaces differ from one other by their characteristic activities as well as by their proximity to cities, the level of development and human influence on them. They can vary from the 'refined nature' of *dacha* communities near cities to the 'wild' nature of remote, hard-to-reach areas without roads. This range of different spaces is characterised by different ways of dwelling and each requires different skills that are learnt by individuals through their experience of living or staying in a particular space. The common characteristic for various spatial activities is the temporality of those experiences for northern urban dwellers that is different from the indigenous people. Urban residents go to the forest only from time to time, although frequency depends on an individual's preferences: in every city there are several renowned 'forest experts' who spend a lot of time in forests and therefore possess special deep knowledge, skills and a feeling for nature.

What do residents living in northern industrial cities take from outdoor leisure, and how do they perceive non-city environments? Above all, they see natural surroundings as 'non-city': in everyday use the word 'nature' is usually opposed to everything connected to urban life and space. Diverse practices of being 'out in nature' are experiences of staying in spaces radically different from the regulated standardised environment of the *sotsgorod*. Various 'natures' serve as alternatives to the control and functional zoning of the urban environment: they become spatialities for emotional discharge and for aesthetic and spiritual satisfaction. Engagement with the natural world increases the connections of former migrants with their new places. As one of

³¹Female, born in 1939, interviewed 3 April 2008, Kovdor.

my informants commented, if people were 'to live here and not to love nature . . . to tell you the truth I do not know what would keep such people here . . .'.³²

Somehow I put my soul into this place at once If I had arrived in winter, maybe I would not have had this attachment. But I came in summer and took to my heart to these mountains. Even now I go around and say: you are my dear, you are my golden, you are so beautiful, it is so great to be here! I say hello to the river, to the mountains, say thanks to the sun for shining³³

At first sight, many outdoor activities of urban dwellers are practical and aimed at obtaining a result and bringing something home from the forest: mushrooms, berries, fish or meat. However, many people say that it is not the result that makes them fond of these activities, but the process of being engaged with the environment: 'I do not really need the mushrooms themselves, since I do not like their taste so much. But I need the process of collecting, this is my favourite activity I love so much to walk in the forest'.³⁴

People's engagement with the environment has a sensuous and embodied character: various practices and activities in the natural surroundings practised by residents of planned socialist cities give people a sensual, intimate and emotional engagement with the non-built environments.³⁵ Depending on their level of expertise and co-ordination of senses, urban dwellers like to enjoy visual and tactile experiences of the landscapes, such as sight, smell, touch and hearing. Through repeating interactions with local natural environments over time, they develop localised spatial and biotic knowledge:

I know everything here—every path, every bush. For example, I go and say: here should be an Aspen mushroom, right here, in this place. And exactly, it is there! And I go like this around the area So, here should grow chanterelles, let's check under this pile of branches. Indeed, chanterelles!³⁶

The assertion that the *dacha* is a kind of natural area can be questionable, but, as my fieldwork and other research shows, for many dwellers of northern industrial cities, the *dacha* serves as a very important space of nature. The *dacha* is perceived as a place alternative to the city, and is often considered as belonging to 'nature'. This argument can be supported by extracts from in-depth sociological research by Nakhshina and Razumova on *dachas* in the Murmansk region (Nakhshina & Razumova 2009). For example, one respondent described the purposes of visits to the *dacha* as follows: 'That's a kind of staying in nature, as it has become rather problematic to go to the south, you know. And that's a kind of leisure in nature'.³⁷ For a number of city dwellers, the *dacha* territory is a bit of a natural world:

³²Male resident, born in 1967, interviewed 23 October 2007, Apatity.

³³Female resident, born in 1931, interviewed 25 April 2008, Kirovsk.

³⁴Male resident, born in 1933, interviewed 18 September 2007, Apatity.

³⁵The sensuous and embodied character of people's engagement with the natural world is actively studied now in both anthropology and cultural geography (e.g. Macnaghten & Urry 2001; Lee & Ingold 2006; Whatmore & Hinchliffe 2003; Mullins 2009; Franklin 2001; Lorimer & Lund 2003).

³⁶Female, born in 1935, interviewed 13 October 2007, Kovdor.

³⁷Female, born in 1946 (Nakhshina & Razumova 2009, p. 436).

Sure, I like observing our mountains, I like seeing how snow appears there at the end of the season when we gather potatoes or how it melts bit by bit and the slopes become green during spring. There's everything on our allotment of three hundred metres. We've got our mountain, our forest and our mushrooms. Well . . . And we observe how . . . well, here's our birch turning green and it's all pleasant. Interaction with nature is always pleasant.³⁸

In northern industrial cities, decisions on the appearance of urban areas are made by planners and city authorities, while the residents of the cities are usually not involved in the decision-making process. Therefore the *dacha* becomes a very important place where people have a chance to express their creativity on the borders of city and nature.

The data for my research also show that people living in northern industrial cities sometimes use the words 'dacha' and 'nature' as synonyms: on the one hand, they consider *dacha* as 'nature' and, on the other hand, the natural landscape, neighbouring their houses can be jokingly called *dacha*:

Interviewer: And did you have any allotments and *dachas* there?

Respondent: Well, yes, we had a *dacha*! The *dacha* was very big, there were hills all around. That was our *dacha*. Everyone spent all summer from the middle of July and all autumn on the hills. We walked there this way—a loaf of sausage or drumsticks and bonfires, barbeque. And all of it was without any wine! We gathered a lot of blueberries during those times, there were loads of them. Cloudberries, blueberries, lingonberries, the whole winter we had berries, but it's the process that is important . . . Everyone knew all the lakes and how long it took to get to them. And there were many mushrooms, a lot of them . . .³⁹

This woman was joking, using the word *dacha* for all natural environments around the city, but it shows that the nearby natural landscape can be perceived by city dwellers as home, their own space. The local environment became appropriated over time, with growing experience of being in a particular place. Becoming more familiar with the specificities of northern landscapes, former migrants chose 'their places', where they go regularly. Similarly, nearby *dacha* settlements in the surrounding natural environments were appropriated: since this was the area used by residents most often, they started perceiving it as home. This argument can be illustrated by an episode from my fieldwork. A colleague and I were walking around a *dacha* settlement near Apatity and we met a man about 50 years old who started to talk to us. After a short conversation about life at the *dacha* and the weather, he invited us to join him on his walk. He guided us through a small forest to the shore of a nearby lake, telling us that this was his favourite spot for relaxation and that he went there every time he visited his *dacha*. What was remarkable was that he was wearing his slippers (*tapochki*) and that he perceived this place as a continuation of his living room.

In hard times, leisure practices often change their meaning and turn into activities for subsistence support. The first-comers who arrived in the 1930s, during the first

³⁸Male, born in 1926 (Nakhshina & Razumova 2009, p. 437).

³⁹Female, born in 1948, interviewed 15 September 2008, on the train from St Petersburg to Apatity.

wave of industrialisation, used all the available forest resources to feed themselves and to obtain additional vitamins. During the economic crisis in Russia in the 1990s, a lot of people in northern cities survived the food shortage by relying on *dacha* harvests and mushrooms and berries collected in the forests.

Intensive industrialisation and the development of transport had various consequences. Over time, 'nature' moved further away from the city borders as the nearest outskirts of the cities become engulfed by waste areas and dumps. The majority of first-comers were strongly distressed by the changes that they observed:

Some time ago you went out and found yourselves in the forest, with nature. That's all. And now it's spoiled, for example this old Kovdor, it's full of muck, this is awful. That's not a forest there but a landfill... There are construction blocks, spouts, some forest and whatever... But I still remember us going on a picnic there... We took a tablecloth, some canned goods, food, and all. We made a fire and before we left the place we gathered all our papers, all the scraps and burnt everything. As for the cans of preserves and the like, we put this stuff in a bag and took it to Kovdor to throw it away in the waste bins. That's the way we went for picnics. And now this is over...⁴⁰

Nowadays in order to reach 'real nature' different from the city environment, one has to use transport:

Before, one could run to the forest just before work and gather both lingonberries and mushrooms. Nowadays we have engulfed all the outskirts with our industrial waste so if you do not get far away by car it's impossible to gather anything. In this respect, surely, all of this, all this industrialisation, it... [shaking her head in distress].⁴¹

Now in northern industrial cities almost every family has a car that is mainly used for leisure practices outdoors: it has become impossible to get to favourite recreation places without a car.

Northern urban dwellers sometimes complain about the consequences of industrialisation and the enlargement of cities such as the growing industrial zones and landfills that surround urban territories (as in Kovdor), vast dumps along the roads in all the investigated towns, dirty banks of the nearest rivers and lakes. These complaints rarely show any recognition of their own participation in the process of the industrialisation of the northern regions. The functionally zoned territory of northern cities does not present enough opportunities for individual initiatives and people have a feeling of distance, of the impossibility of influencing the processes due to which individual distancing from results of industrial development is created.

Shifting spatialities

According to Tim Ingold, in order to understand people's engagement with the world, it is important to study the ways that human beings relate to their environment in the tasks of making a living (Ingold 2000, pp. 4–5). Industrial cities in the Russian north,

⁴⁰Female, born in 1937, interviewed 9 October 2007, Kovdor.

⁴¹Female, born in 1939, interviewed 27 April 2008, Kovdor.

built during the Soviet period, represent an interesting case for studying the perception of the environment by urban dwellers. A city established in a new, previously uninhabited place needs to be integrated and embedded into the landscape. The same is true for people: arriving to live in a new, unfamiliar location, they need to become physically engaged with the new site. Various material environments can structure social interactions and perceptions in different ways: they give varying possibilities for actions, depending on the goals and capabilities of the person. The concept of affordances of the environment was developed by Ingold based on the work of Gibson (1979). According to Ingold:

A place owes its character to the experiences it affords to those who spend time there—to the sights, sounds and indeed smells that constitute its specific ambience and these, in turn, depend on the kinds of activities in which its inhabitants engage. It is from this relational context of people's engagement with the world...that each place draws its unique significance. (Ingold 2000, p. 192)

For a Russian city, similar ideas on how material spaces of different types can structure social interactions differently were developed by Norwegian anthropologist Finn Sivert Nielsen, who wrote in his research about Leningrad in the 1990s: 'Rules are the only thing that restricts or controls a flow... Avenues are sets of rules that manage flows of people, ideas and goods differently from courtyard rules' (Nielsen 2004, pp. 64–65).

In this case study, I have explored the built and non-built material environment of northern industrial cities and the affordances that it gives to local residents. I have focused on both the processes of placing and integrating new towns into the landscape and on people's active interaction with the encompassing environment and their engagement with it. In the structured functional space of a northern industrial city, the dominant taskscape of each zone defines varying perceptions of space and distinguishes the activities that are appropriate there from those that are not. An individual involved in industrial production incorporates the rhetoric of taming the environment and its ensuing relationship to the environment as a resource. Inside the industrial zone, the necessity to process natural resources is not questioned because this production and the successful functioning of the enterprise is a common concern of the community and is very important for the local identity. However, the same person can perceive in a different way an environment with another dominant taskscape outside the industrial zone.

An episode from my field experience in one of the case study cities, Kovdor, illustrates this argument. On one occasion I went for a long walk with Maria, a woman who had arrived in Kovdor in one of the first groups of settlers at the end of the 1950s. She had been employed in the main local enterprise for her entire working life and she was now retired.⁴² We walked outside the city boundaries on a road rarely used for transport. A half-hour walk brought us through a forest to a spot where piles of waste rocks were stored alongside the road at some distance from a small-scale open mine, without any fence or hedge (see Figure 3). Maria showed it to me very angrily, telling

⁴²Author's fieldnotes, Kovdor, 12 August 2009.



FIGURE 3. A VIEW OF THE PILES OF WASTE ROCKS IN KOVDORSLUDA (PHOTOGRAPH TAKEN BY THE AUTHOR).

me that those unordered blocks of unused rocks belonged to a small local enterprise Kovdorsluda. It had gone bankrupt recently but had never kept its territory well maintained, nor did it organise and order its waste rocks properly, just putting them chaotically into heaps of stones near the forest. ‘It is so ugly how they destroyed the nature by occupying a large part of the territory with waste!’ As we continued to walk further, we saw a very tall, artificial hill at some distance (see Figure 4). Maria explained to me proudly: ‘and this is our waste rocks pile’, meaning that it belonged to the main city enterprise, an ore-enriching plant—Kovdorskii GOK (*gorno-obogatitel’nyj kombinat*)—where she had worked. In her opinion, this was the proper way to organise waste disposal: formatted by mining surveyors, accurate, planned, with steps. When I commented that those hills were much bigger and occupied a larger territory, she replied that at least they were ordered.⁴³

This story illustrates how similar objects can be perceived differently depending on their spatial organisation. When artificial hills of waste rocks are properly maintained and ordered, they belong to the industrial zone and are seen as a necessary part of the industrial processing of natural resources, so they do not disturb a person’s perception of ‘nature’. In this case, Maria identified herself with the enterprise and shared the vision on the environment as a resource for industries. When waste rocks lay around as chaotic piles of stones near the forest without a fence, they intruded on the territory

⁴³Author’s fieldnotes, Kovdor, 12 August 2009.



FIGURE 4. A VIEW OF THE ARTIFICIAL HILLS OF WASTE ROCKS OF KOVDORSKY GOK (PHOTOGRAPH TAKEN BY THE AUTHOR).

that this person perceived as a zone of 'nature'. This example shows that in the contested territory of a fringe zone, where boundaries between different types of space are blurred, one person can shift very quickly from the perception of the environment as a resource to be processed (sharing the dominant discourse) to seeing nature as a space for leisure which is vulnerable to nearby industrial production.

The dominant discourse on nature as a territory to be colonised and a resource to be produced was powerfully implemented in the Soviet Union. The practical 'conquering of nature' and 'mastering of the north' was in the hands of specific individuals sent by the government to the north for the exploitation of natural resources. For these people, the territory that they were meant to colonise became, in many different respects, a living environment in which everyday life took place. As Aleksei Yurchak has argued, people living in the Soviet state formed a complex constellation of thoughts, meanings and practices which cannot be described in a model of thinking based on dichotomies (Yurchak 2006). Those who were involved in the implementation of norms and practices of various authoritarian discourses casually devised multifold new meanings, practices and lifestyles that were not directly provided by the dominant discourse, although they were not necessarily in opposition to it either (Yurchak 2006). Thus, the areas of the north that were meant to be colonised and mastered by the newly arrived inhabitants gradually came to life and became filled with a multitude of various meanings and values, both similar and different, or even contradicting the rhetoric of 'conquest' in the dominant discourse on nature. Dwelling in new industrial cities consisted both of mastering the environment for resources, as the state required, and of a love of nature as a space of leisure and relaxation.

Many inhabitants of northern industrial cities have become passionate enthusiasts of nature in everyday life. The alternative perception of nature as a space for leisure has no direct connection to the industrial process. These people dwell in a pre-constructed world: all new cities were planned and built based on the ideas of remote planners who were implementing the concept of the socialist city. Going 'out to nature' has a therapeutic effect and has become especially important for people living in these cities because the non-city environment provides an alternative to the greyness and boredom of similar-looking towns with standard housing. Personal understandings of uses, meanings and practices 'in nature' can differ from gardening at a *dacha* and picking mushrooms in nearby woods to hunting in a 'wild' forest, but in general it is opposed to the spaces of work and city life. A side effect of strict functional zoning of new cities is the desire of an individual to eschew the all-embracing control of city life by running away 'out to nature'.

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ENGAGING WITH THE ENVIRONMENT IN THE INDUSTRIALIZED RUSSIAN NORTH

• ALLA BOLOTOVA •

ABSTRACT

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This article deals with the complexity of relations of urban dwellers with the natural environment. It explores a rich variety of practices in engaging with non-built environments developed by the population of mining cities in the Murmansk region, Russia, founded during the Soviet period, showing how recent settlers adapt to new conditions, gradually transforming the environment into a place of dwelling. Both physical space and residents' ideas about the place are shaped by a principle of division between the spheres of work and of leisure whereby the natural environment has acquired the meaning of leisure. Perception of the natural environment outside the urban territory developed by settlers over time contributes to the formation of people's attachment to local places.

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Keywords: industrial communities, perception of the environment, sense of place, Russian North

Introduction

When asked what they like most about their environment, people living in one of the numerous industrial towns in northern Russia usually talk about the beautiful landscapes, the special colours which are unique to the area, and the richness of natural local produce like berries, mushrooms and fish. However, the majority of the cities in the area were built in the twentieth century during the height of industrialization in the USSR and populated by labour migrants from all over the Soviet Union. The soviet planning system produced towns that are very similar, built on the basis of standardized projects, and visitors are likely to wonder how humans can live in this ugly, uniform environment. In reply locals tell stories about great mushroom and berry picking, fishing, polar days and northern lights. Apparently, the natural environment has become very important for the majority of the local population: over time people have learned how to cope with the greyness and inhospitality of planned socialist cities by emphasizing the beauty of northern nature. Gradually, 'new northerners' established strong emotional ties to the landscapes which are, in most cases, rather different to the places from which they originated. Yet, paradoxically, these people were sent to the North by the state to exploit natural resources. At the official level they were promoted as active participants in the soviet campaign to master the North, and were publicly glorified as its conquerors.¹ Newcomers populated numerous mining

cities founded with the single goal of extracting rich mineral resources. The new cities' urban environment was developed and structured according to the interests of industries, oriented around extensive exploitation of natural resources. In a way these factory towns represent the essence of a high modernist opposition between cities and nature.

The central focus of this article is an exploration of how inhabitants of the single-purpose mining cities interact with non-built, natural environments—the forest, the mountains, the flora and fauna, the lakes and rivers—and how these interactions are embedded in social relations. This study explores how people's relationships to the locality and their sense of place are shaped by experiences of dwelling outside the built environments of cities, and how complex relations and emotional attachment to the natural environment have developed over the decades among inhabitants of the new cities. Data was collected in the framework of a larger project about industrial communities in the Russian North.² The fieldwork was conducted in 2006–2008 in three industrial towns in the Murmansk region: Kirovsk, Apatity and Kovdor. The archive of the project consists of about 170 unstructured biographical interviews, from which I have selected narratives related to people's interaction with natural environments over their life histories. These interviews were supplemented by participant observation conducted while accompanying interview partners in their activities in natural environments. The interviewees were chosen by the snowball method, selecting people who had personal experience of moving to the North after making a voluntary decision to migrate during the second phase of industrialisation in the USSR: between the 1950s and 1970s. The majority of my interview partners participated personally in the construction of their cities. Interviews were conducted with representatives of various social groups practicing hunting, fishing and gathering.

The following section offers an overview of current theoretical discussions of the interactions of urban dwellers with the environment, followed by a brief elaboration of the social and historical context of the new industrial cities in the Murmansk region. I then discuss how recent settlers adapt to new environments during their first years in the North in a process of settling which turns the 'location' into a 'place' (Agnew 1987). In the remaining part of the article I consider how vernacular ecological knowledge and various practices of interaction with non-built environments are constructed. One of the questions in focus is how the migrant population gradually develops the skills necessary for dwelling in the northern environments.

Urban dwellers and the environment

People living in cities do not dwell exclusively within the urban built environment but also interact with non-built environments in and around cities, encountering a variety of non-human components in their everyday life. Contemporary social science research on the relations between people and natural landscapes offers a broad context in which to discuss interactions with their natural surroundings by city dwellers, particularly within the discipline of cultural geography (e.g. Braun 2005, Jones and Cloke 2002, Whatmore and Hinchliffe 2003). New hybrid geographies criticize and rework the nature–culture divide with the emphasis on everyday knowledge and practice (Whatmore 2002). In anthropological studies of the industrial towns of the Russian North, urban dwellers

are still often considered to be distant from natural environments, lacking knowledge about the forests and mountains, the flora and fauna, the lakes and rivers. This bias can be explained by the fact that, in general, urban issues are still not represented very prominently in northern anthropology,³ which is mostly focused on indigenous people and rural life, or on indigenous people living in towns. There are numerous works studying connections with the land on the part of northern indigenous people (e.g. Anderson 2002; Ingold 2000; Nuttall 1992; Stammler 2005) that have as background an assumption that the ability to establish intimate relationships with the landscape and to develop skills required to dwell in the local natural environments belongs exclusively to indigenous people. Anthropologists studying northern native people often use examples from city life and the urban population to contrast particular qualities and features of indigenous existence. Northern settlers of the industrial era are not the main focus of these studies, usually being portrayed in an aside as people bonded exclusively to the built environment, without connections to the land, and alien to northern environments (e.g. Anderson 2002; Grey 2005; King 2002).

There are, however, several studies devoted to the non-indigenous residents of the Russian Far North that pay attention to the interactions of this part of the northern population with natural environments (Karjalainen 2006, Thompson 2008). In his book about Chukotka settlers during the period of soviet industrialization, Niobe Thompson analyzes practical interactions with local natural environments, but he still suggests that the settlers acclimatised because of contact with indigenous people after they stopped working in the industrial domain (Thompson 2008). In this article I consider practical engagement with natural surroundings by urban citizens who have little or no contact with the indigenous population, but still develop intimate relations with the northern environment. I aim to contribute to the ethnography of the non-indigenous population of the Russian North, following Tim Ingold's call (2005) to broaden the scope of anthropological research in the area and to investigate how its various groups are connected to landscapes and localities in the formation of their personal and collective identities. Non-indigenous people nowadays comprise the majority of the population of the Russian North, living mostly in industrial towns built during the soviet period. An incomer—a first generation migrant—is a somewhat 'de-territorialised' figure after the experience of migration and settling. Though the majority of soviet-era migrants never lost connections with their places of origin, over time many of them settled permanently in the north and started to perceive their new places as home, developing a kind of place-polygamy (Beck 2000).

'Sense of place' is one of the key concepts used in different social sciences for explorations of how people perceive and experience the places in which they live, and which they call home (e.g. psychology: Altman and Low 1992; geography: Relph 1997; Hay 1998; sociology: Hummon 1992). Anthropological considerations of place aim to produce ethnographies focused on complex relationships between place, identity and culture (e.g. Feld and Basso 1996). Keith Basso (1996: 146) emphasizes close intertwining between selfhood and placehood: 'place roots individuals in the social and cultural soils from which they have sprung together, holding them there in the grip of a shared identity, a localized version of selfhood'. Some investigations of sense of place articulate the particular importance of its environmental context. Hummon (1992: 262), for example, notes:

By sense of place, I mean people's subjective perceptions of their environments and their more or less conscious feelings about those environments. Sense of place is inevitably dual in nature, involving both an interpretive perspective on the environment and an emotional reaction to the environment.

Migrant communities interact with their new places of living through the experience of both built and non-built environments. The new living space is constructed through people's 'social exchanges, memories, images and daily use of the material setting' (Low 2000: 128) that transform it and give it meaning. In the case of a migrant population the idea of a 'sense of place' raises the question of how newcomers get to know their new places and find their own way of belonging (Armstrong 2004; Rishbeth 2007). Casey emphasizes the role of knowledge in sense of place: 'To live is to live locally, and to know is first of all to know the places one is in' (Casey 1996: 18). Places that were initially unfamiliar start being identified as home in the process of settling. While getting to know a new place over time people appropriate the locality and start to perceive it as their own. As noted above, urban places consist not only of a human-made world but also of non-built environment and numerous non-human entities (Degen et al. 2003; Hinchliffe 2003; Whatmore and Hinchliffe 2003). Interaction with these is an important part of the lived experience of a place, which contributes to a specific human-place connection and influences how this is constructed. In the case of migrant populations, when analyzing formation of place identity and belonging to a locality it is important to consider how newcomers encounter, apprehend and inhabit the new landscapes, and how interactions with natural environments in and around the city contribute to the formation of their new local identities.

Tim Ingold (2000: 198) writes that '[h]uman beings do not inscribe their life histories upon the surface of nature as do writers upon the page; rather, these histories are woven, along with the life-cycles of plants and animals, into the texture of the surface itself'. He also suggests a research distinction between 'building' and 'dwelling' perspectives based on the phenomenological tradition of Heidegger, Merleau-Ponty and others. The building perspective assumes that 'the organisation of the space cognitively precedes its material expression; built environments are thought before they are built' (Ingold 2000: 181). The urban space of North Russian cities that I have examined is organized according to centrally planned 'building perspective' projects. However, over time migrants often (though not always) establish lived familiarity with their new environments and develop intimate relations with it, and this article assumes the dwelling perspective to examine the skills that have developed among my informants through localised practice and training. Thus, it utilises the concept of *enskilment* (Ingold 2000: 36) which acknowledges that people learn through everyday life experiences, the teaching of others and the environment itself, which combine to offer varying possibilities for actions, depending on the goal and capabilities of the person (Gibson 1979). As Ingold (2000: 192) asserts:

A place owes its character to the experiences it affords to those who spend time there—to the sights, sounds and indeed smells that constitute its specific ambience and these, in turn, depend on the kinds of activities in which its inhabitants engage. It is from this relational context of people's engagement with the world (...) that each place draws its unique significance.

The sensuous and embodied character of people's engagement with the environment—through walking, hunting and angling, foraging, canoeing, mountaineering and orienteering,

for example—has recently raised interest in anthropology and cultural geography (e.g. Franklin 2001; Lee and Ingold 2006; Lorimer and Lund 2003; Macnaghten and Urry 2001; Mullins 2009; Whatmore and Hinchliffe 2003). Sensory perception is considered an important side of local spatial and biotic knowledge that people develop over time through interaction with the natural environment. Depending on their level of expertise and physical coordination urban dwellers enjoy visual and tactile perceptions of the landscape through sight, smell, touch and hearing. The various activities practiced in natural surroundings by residents of planned socialist cities that provide people sensualized, intimate and emotional engagement with the non-built environments will be considered below. Following Milton (2002), emotional attachment to the environment is seen as product of learning and practice.

Establishing new cities in the northern environment

The cities that I examine are located in the centre of Kola Peninsula, which administratively belongs to the Murmansk region. This region is incredibly rich in mineral resources, and numerous mining cities were founded next to mineral deposits. My three case-studies represent different types of industrial communities: Kirovsk and Kovdor are both single-industry towns but founded in different periods—Kirovsk in 1929 and Kovdor in 1953—which has created some differences in the structure of the city populations. Apatity was founded in approximately the same period as Kovdor near a small railway settlement, 16 km from Kirovsk. It differs from the two other cases in that it was created not as a company town but more as a science-city: a large research centre is situated there providing applied scientific knowledge for industries in the whole Murmansk region. The significant portion of Apatity's population, however, is still connected to the mining industry: they are either employed in Kirovsk and travel there for work on a daily basis, or work at the processing plant in Apatity. The natural environments of the three cities are also a bit different: Kirovsk is surrounded by mountains reaching up to 1,000 metres, while neighbouring Apatity is located in a relatively flat area with a few small hills, as is Kovdor. The whole region enjoys numerous lakes and rivers. In 2009 the population of Kirovsk was 30,200, Apatity—61,600, and Kovdor—19,100.

The deposits which were the reason for the founding of these cities were discovered and explored by the first soviet scientific expeditions in 1920s. At that time the region already had better transport connections with central Russia than with other northern territories, enabling intensive industrialization of the area by the end of 1920s, despite the difficulties of developing industries in the Far North. The industrialization process advanced with incredible speed and was oriented mainly towards the quick extraction of mineral resources. As with everywhere in the Soviet Union, industrialization in the Murmansk region proceeded in two main phases: based on forced labour during Stalin's rule and on a voluntary labour force stimulated by the system of 'northern benefits' after dismantling the prison labour system following Stalin's death in 1953. Kirovsk was founded during the first wave of industrialization while the two other cities, Apatity and Kovdor, started to grow intensively in 1950s, during the second wave of industrialization.

How was the space of newly founded industrial cities shaped in different periods? Generally, construction of new cities in the North was realized in the framework of 'socialist resettlement', developed by soviet architects and planners during the 1920s and implemented all over the USSR (Meerovich 2008). One of its aims was a more equal distribution of the population over the country's territory. In general this conception prioritised the founding of new towns in previously unsettled areas, though it also proposed antagonistic socialist transformation of spatial organization in old existing cities.⁴ The new type of built environment, under the monopoly of the socialist state, was based on the ideas and needs of the new socialist society and aimed to create a new generation of people: soviet people. Spatial ordering of the urban territory became very rational and disciplinary; it was based on strict functional zoning with a clear segregation of work zones and green zones, spaces for work and leisure (Milutin 1930).

The first wave of industrialization has shown that practical implementation of this concept was problematic, especially under the conditions of rush and shortage characterising early industrial development in the USSR. Under the pressures of timing and plan fulfilment, construction of the ideal socialist city with a whole range of functional zones based on rational organization was hardly possible. In reality only some aspects of the socialist city model were implemented, with priority given to the needs of industries at the expense of other aspects of urban life. Furthermore, the plans for new cities were not developed locally, but from outside, by specialists from Leningrad or Moscow, causing additional troubles: distant architects coming to a place for just a short visit often ignored local specificities such as variety in climatic conditions or the characteristics of the landscape (Romm 2001).

The location of Kirovsk, for example, was determined by a large deposit of mineral *apatite* used mostly in agriculture as fertilizer. In the beginning, due to harsh climatic conditions in the region, there were discussions about how to develop the deposit: would it be more reasonable to create small-scale temporary settlements in order to extract raw minerals and then transport them to more temperate regions for processing, or build a permanent town and people the region? The second choice was made, and the city of Kirovsk (formerly Khibinogorsk), founded in the Khibiny Mountains in 1929, became the first soviet industrial construction in the region. At this time the problem of a work force in these scarcely populated territories was solved by enormous coerced relocation of people from all regions of the USSR. In Kirovsk, as in many other places, the majority of settlers were families of exiled peasants—victims of collectivisation and de-kulakization, called *spetspereselentsy* (special migrants)—whose households were confiscated prior to forced resettlement. In the new locations they suffered extraordinarily in the absence of basic supplies, but they were not guarded as prisoners and they had the right to work and receive a salary of sorts.⁵ There were also some people who came to the North voluntarily, mostly specialists in mining. The Murmansk region was also a gulag site and gulag prisoners worked on constructions in Kirovsk and on the railroad to Kovdor.⁶ In the early years Kirovsk's first settlers had a tough struggle with local environmental conditions and a harsh climate determined by the city's location in the foothills of the Khibiny Mountains; avalanches also caused the deaths of many of the first builders. People without any northern experience were not aware of the latter danger and knew nothing about how avalanches are caused, therefore did not choose appropriate places for construction.⁷

In the 1950s and 1960s, during the second phase of industrialization, numerous new cities were founded in the Murmansk region, including my other case-study locations: Apatity and Kovdor. Their spatial organization was also based on the model of socialist city as before, but its main principles were much better implemented as the soviet planning system was more developed and more attention was paid to environmental and social factors. In addition, while industrialization was intensified from the late 1950s, people started going to the North voluntarily, a process stimulated by the state with various material benefits and ideological campaigns. The new generation of newcomers was different from the settlers of the 1930s, tending to be a rather homogeneous group of young people of approximately the same age—born in the 1930s—and similar educational background and work experience mostly connected with mining. It is important to note in the context of the appreciation shown to the natural environment by the inhabitants of the three cities examined here, that the majority of new-comers, both educated and non-educated, were originally from peasant families. The non-educated either followed relatives, or were hired on a contract basis in their home villages (special recruiters were sent by northern enterprises to villages in other parts of the Soviet Union in order to hire low-qualified workers). Their new urban environment is planned, functionally zoned, rationally organized, oriented to the needs of industry, and with all necessary social services provided for the inhabitants who live in multi-storey blocks of flats. The lives of people living in this planned space are divided between work and leisure and they perceive the natural environment as a leisure-space alternative to the grey functional environment of cities.

Encountering the northern environment

Many of the newcomers did not know anything about the North before their arrival. In their imaginations, the North mostly figured as an endless hostile white desert, populated by polar bears. Narratives of first impressions include reports of processes of adaptation to the specificity of northern nature and the harsh climate; there are many stories of people arriving in winter without proper protection from the cold—or in summer from the mosquitoes—which remain in memories as a shocking experience. However, while many had a hard time adapting to the new conditions in the North, gradually they started to like it:

I came in January, and cried, and cried. I said [to my husband] 'Let me go home, I go home now'. 'Ok, wait, I get an advance [salary], and send you home'. I say 'just for a day'. 'I get my salary—I send you home'. That's how we have been living—for how long? From 1975 on. Now I don't want to go home any more. I started to like it here and don't want to go anywhere else. I wait for the winter to pass and for summer to come, in August, for mushrooms and berries... That's how it is. I quite like it. (female, aged 62, Kovdor)

The specificity and beauty of the North was an attraction for those newcomers with an enthusiasm and interest in nature and in different forest activities. Natural phenomena such as polar days and nights, midnight sun and northern lights made very strong first impressions.

I wake up at 2am, and it's daylight (...), and these clear names 'Arktika'[Arctic], 'Severianka' [northern woman]. Somehow these were associated with romanticism. Because I am romantic to some extent (...) I called to friends and said: the forest is lighter, good visibility, a lot of mushrooms, lots of berries. An enchanting region somehow, very interesting. (male, aged 56, Apatity)

This informant first came to the Murmansk region just to visit a friend. The 'interesting' nature and the atmosphere of the young, intensively developing city of Apatity were so attractive that later he decided to move there.

First impressions show the contrasts that in-comers encountered when they arrived in a new place. Mostly these impressions are about climatic conditions for which newcomers were not prepared. Talking about hardships encountered in the north, most people emphasized the special character of social relations there and the importance of the help of others in processes of adaptation. They appear to see all the local inhabitants as a collective of like-minded, honest, generous and trustworthy 'northern people', who help each other to survive in the harsh northern environment.⁸ As one informant framed the attitude:

Nevertheless, conditions here are a bit harder. Therefore, neighbourly help becomes more important, even if only as moral support. And in the forest... Indeed, in Ukraine, what are the predators there? There are none, only humans. And here, in the forest, or at the lake, you need a shoulder, support, that is why people help each other instinctively. (male, aged 58, Apatity)

One of the most common remembrances for the first arrivals in these new towns is the feeling of living in the middle of nature: just a few houses surrounded by the forest, and people could pick mushrooms right next to their houses. New houses appeared very fast, so early settlers could observe the growth of their cities and reminiscences of development strongly connect them with the place emotionally:

I wish everybody could see how his or her settlement had grown, because this stays in your memory for your whole life. (...) Sometimes we walked in the town and noticed: aha, there is a new house, and there is another one... They grew like mushrooms; it was great to observe that. (female, aged 67, Kovdor)

After the first period of adaptation people gradually got used to the local conditions, environment and climate. They learned how to deal with local difficulties and developed the skills and knowledge necessary for dwelling in the place: the appropriate clothing, surviving the long winters, enjoying the white nights, battling with mosquitoes. This process was not easy for many new northerners. In the beginning many of them were sure they would not spend more than a few years in the north, planning to return home after getting work experience and earning some money. But the claim 'I came here for 3 years and stayed for 33' is one of most common in the narratives of my informants: many of them got so used to the local conditions that they did not move elsewhere. Attachment to the local natural environment plays an important role in this gradual transformation of intentions.

Through the experience of dwelling in the new environment the hostile landscape was transformed into a living space: in this process a localized version of selfhood was formed (see Basso 1996). The important feature of this process in the northern socialist cities is that for all the newcomers the environment was equally unknown in the beginning

and they jointly turned it into 'their own place'. The sense of 'togetherness' arising from experiencing the place is thus highly important for the local identity. However, unlike some migrant communities in big cities (e.g. Armstrong 2004, Rishbeth 2007), in this case the newcomers do not have previous common identities and a shared sense of place in the past; therefore, they need to elaborate both for the new community.

Leisure in nature

Most people living in northern industrial communities make their living working in the industrial sector; even these who work in other spheres are still connected with industries through their families. Therefore local life is significantly dependent on industry and its schedules. However, apart from the officially assigned industrial taskscape, there are also privately developed taskscapes in local natural environments. The strong connection of the population with industries turns natural environments outside the cities into the spaces of leisure: communication with non-built environments happens mostly during free time when people get out of cities to practise their hobbies. Dunlap and Catton (2002) consider three functions of environment: 'supply depot', 'waste repository' and 'living space'. Through their dwelling experiences the migrants in the northern cities transform and broaden the function of the environment from the 'supply depot' into the 'living space'.

The most common hobbies involve harvesting natural resources such as hunting, fishing and gathering berries and mushrooms, all very widespread among all social groups in local communities. The choice of hobby depends on the preferences of the person, or traditions in families and groups. Hunting is a predominantly masculine activity; there are almost no female hunters, though some wives occasionally accompany their husbands on hunting expeditions. The most precious but difficult target for a hunter in the Murmansk region is a bear: a very valuable trophy. There are also weasels and foxes in local forests which are valued for their fur, and elk, rabbit and wood grouse that are hunted for meat. The most common targets are birds, mostly ducks and ptarmigans, because they are easier to hunt and require fewer permits. Fishing is the most popular hobby for men, but there are also many women who like to fish. Mushroom and berry picking are the most common practices; almost every family engages in these activities during the season.

Foraging trips are usually made either in a circle of close friends or with the family, with every group having its so-called *nashi mesta* (our places), which are not shared with outsiders. These locations are usually specific for each type of activity: mushrooming, berry picking and fishing. These places can appear as a result of a collectively experienced pleasant time, or be chosen based on observations of the best harvest in the area.

We collect chanterelles in one place, aspen mushrooms in another, and ceps somewhere else. We have different routes when we go for berries or for mushrooms. And we also have our special, precious places, where we know we can get everything—mushrooms and berries. (female, aged 45, Apatity)

Many people tend to express strong emotional attachment to the natural environments of the North, talking about their love of the forest, lakes and hills, telling stories about the time they spend outside the cities. Settlers gradually develop emotional relationships with

their new surroundings and get attached to northern landscapes. They feel connected with the flora and the fauna of the area: birds, squirrels, pine trees, reindeer moss. Being in non-built environments gives them a feeling of freedom and harmony. At the same time the forest also serves as an important social space of encounter and communication, where people go in small groups of close friends or relatives.

Most of the nature activities are seasonal. The period for mushrooming and berry-picking is rather short in the North, confined to the end of July and September, when almost everybody goes to the forest, even in the evenings after work. Fishing and hunting seasons vary according to species, offering greater scope in terms of year-round engagement. Some people combine several activities: fishing, hunting or picking berries and mushrooms depending on the season and developing skills specific to each practice. Forest activities do not usually provide a living, though they can be an important subsistence source for the poorest segment of society. However, the provisions that people get from their foraging hobbies gain special importance in times of dramatic social shifts and economic changes, when people are trying to adapt to difficult economic conditions by actualizing new skills and resources. During the social and economic crisis in Russia in the 1990s 'practices in nature' became very important for people in northern industrial cities as additional subsistence support.

The importance of social interactions in the process of place attachment was described by Setha M. Low (2000). In our case we see a specific form of incorporating the place into social connections. The shared experience of appropriating the new environment is very important for social ties in the locality: people selectively choose companions and places for their private leisure activities, contrary to their industrial working places where all selections and choices are made by the enterprise. In their private spheres and leisure time they thus have the control they lack in the industrial domain.

Acquiring skills: recognition, orientation, foraging technology, processing harvests

Tim Ingold (2000: 36) introduced the concept of 'enskilment' to examine how people learn to dwell on the land through practice and everyday life experiences. In their research, Ingold and Kurttila (2000) discuss how Sami people living in northern Finland perceive their environment, showing that experiences and skills are closely bound up with individual life-stories and the work of memory that is tied to the experience of inhabiting particular locales: '... knowledge is local because it inheres in the activity of inhabiting the land that actually creates places. And in creating places, it also makes the inhabitants people of these places—it makes them local' (Ingold and Kurttila 2000: 193). Here the authors are discussing indigenous people who have grown up on the land and belong to the localities where they were born. In the case of migrants to Russia's industrial north, however, the process of enskilment also plays a very important role. Bonds between persons and place develop with the experience of living in, and moving about, its environs. The foraging activities discussed above require specific knowledge and skills which people from areas with radically different landscapes did not have prior to moving to the area. These comprise four main areas of competence: recognition, orientation, foraging technology and processing harvests.

One of the main skills is the ability to recognize and distinguish local species, animals and plants: what they look like and the kinds of habitats in which they live or grow. Most inhabitants of northern industrial cities are able to distinguish several types of mushrooms and berries; this is something that practically everybody living there gets to know. In the following quote the informant reflects on her gradual engagement with the local environment:

What is a bilberry? At the beginning it was a bit strange for me, because I had first seen another berry very similar to it which I had begun to pick. It turned out to be inedible and actually it looks rather different as I know now—different bushes and leaves. [laughing] Now it is sooo easy, I know everything, everything is *svoe* (mine) here. (female, age 45, Apatity, came to the north from Kyrgyzstan)

The berries that had been unknown to her became her 'own' after some experience; this appropriation develops through dwelling in this particular environment. With time it can turn into a strong emotional attachment to a locality, sometimes an almost spiritual perception of it. Another informant has told me a story about how she searches for mushrooms, saying that mushrooms 'lure' her; she can feel them from distance:

I go and say: there should be an aspen mushroom, right here, in this place. And exactly, it is there! And I go like this around the area... So, here should grow chanterelles, let's check under this pile of branches. Indeed, chanterelles! (female, aged 72, Kovdor, came from Vologda region)

Similarly, the best hunters are able to 'feel the animal': they can read traces, know the habits of animals and their dwelling conditions. In the same way fishermen need to know the behaviour and preferred places of various local fishes.

A second necessary competence is the ability to orient oneself in the local forest which requires the selection of appropriate landmarks. Stefan Dudek (2008) has described how indigenous people employed in the local oil industry have a double system of coordinates: the rivers used in earlier times by reindeer herders and the newer system of roads and the locations of oil deposits. Similarly, my informants use a variety of landmarks in built and non-built environments for orienting themselves:

You cannot get lost here, there are mountains. There, you go up to the mountain pass and you already know: no need to cross the pass, there is a huge meadow where little mushrooms grow. (...) And here, there is a river, two lakes and a stream (...), you cannot get lost if you go by this mountain. (...) And near our *dacha* place we have quarters⁹ in the forest: there is a road made by tractors, and then there is a quarter, about a kilometre or 500 metres and then there is a road again. Sometimes I walk around in these quarters and think: 'Where could our dacha settlement be?' And then I hear music from somewhere, and head towards it. I can also orient there well, by these roads, can go far away sometimes. (female, aged 76, Kirovsk, came from the Archangel region)

Most people do not use any maps or instruments for orientation in the local environment: they are already familiar with it. Maps are used mostly by non-local visitors such as backpackers, who visit occasionally—though both locals and tourists get lost from time to time and these stories are always told to guests like me to underline the moral that in the harsh climate of the North everybody needs to be prepared for the unexpected in the forest. For example, a female informant once went mushrooming with her family and

got lost. This happened in August, the warmest summer month, but she was not well equipped: her clothes and shoes were too light and she had neither knife nor the means to make fire. She spent three weeks in the forest alone, living on berries and desperately searching for a familiar landmark. She could hear the helicopter that was searching for her after her family asked for help, but could not attract the attention of those on board and it was not until the end of the third week that she encountered someone who could show her the way out of her ordeal.

The third factor pertinent to the realisation of various activities in natural environments is a mastery of the technology used in foraging. There are for example, numerous different pieces of equipment needed for fishing, depending on the season and kind of the fish. Hunters also use various tools for different animals such as guns, traps and bird calls. Even for the relatively simple activity of gathering berries people use a specialized instrument called a *grabalka* (from the verb *sgrebat*—to rake up), which speeds up the picking process. People acquire skill in using specialised tools and technologies gradually, while the most experienced prefer to make some of their equipment themselves, or to personalise standard, shop-bought items for their purposes. The availability of private transport is another aspect of foraging technology. The major problem for those who do not own a car is that areas near the cities have become overused by city dwellers and polluted by industries so those looking for unspoilt areas in which to pass their leisure are increasingly buying cars for the sole purpose of getting away from the urban environment.

Finally, there is the issue of processing the harvests of the forest, rivers and lakes. Before moving to the North most people had little knowledge in this field. Depending on their hobby, free-time-foragers have had to learn how to skin animals and clean and preserve fish, mushrooms and berries. This sphere is predominantly female; with a few exceptions, women are responsible for processing all forest goods. The high popularity of forest activities has also had some influence on the tastes and nutritional preferences of the urbanized population of the Russian North: *ukha* (fish soup) made of self-caught fish, home-made pickled mushrooms or pots of berry jams are among the delicious dishes offered to visitors with special pride, and people often exchange recipes for 'gifts of the forest' at various celebrations. Often they are accompanied by narrated memories of where, when and how these natural goods were collected (see also Yamin-Pasternak 2007).

Gradually newcomers' perceptions of the North change as they become familiar with the local environment and develop the skills necessary for surviving there. The process of learning is inseparable from doing, and embedded in the context of a practical engagement with the world: 'dwelling' in Ingold's terminology (2000: 416). Various new skills are 'incorporated into the *modus operandi* of the developing human organism through training and experience in the performance of particular tasks' (Ingold 2000: 5). Newcomers who came to the north to work in the industrial domain practice recreational activities in forests in their free time. They develop skills and knowledge about natural environments differing from the dominant industrial taskscape. Through engagement with activities requiring new skills, the landscape is appropriated; the environment outside the cities becomes part of home and contributes to the development of new northerners' ties to the new place.

Dwelling in the forest

People belonging to different social milieus develop varying skills and ways of interacting with the environment which become most noticeable when we analyze contacts between different groups. Let us consider the forest dwelling of the most experienced people—‘nature experts’—taking as an example one of my informants: 65 year old hunter and fisherman Vladimir (a pseudonym), who came to Kirovsk from the Novosibirsk region to work as a miner. When telling me about his forest routine, he contrasted himself with backpacker tourists whom he described as an example of the ‘wrong’ way of using local landscapes. He actually went on several trips with backpackers because he was curious to know what they did while travelling around the Murmansk region; the opinion he formed as a result was not a positive one. As he noted: ‘I was a little bit bored by these tourist routes, because merely to sail and meditate is not interesting for me. I need to do something active: to catch, to invent things, to act.’

From Vladimir’s point of view, the activities of backpackers are boring—they just float in kayaks and observe the landscape without any particular goal—while he prefers more dynamic practices aiming at getting fish or fur as result. Vladimir is very experienced in forest activities; he calls himself a ‘forest person’. He feels at home in the natural environment, knows the habits of different animals, can orientate himself anywhere, knows how to survive in the local forest and how to cope with extreme situations. Recently retired from the mining industry, he now spends most of his time fishing or hunting. He makes fun of backpackers, seeing them as inexperienced, unskilled intruders into the local environment.

I do not like these tourists, they are awful: not prepared for the forest at all. They take these huge bags higher than their heads [backpacks] and go into the forest in gumshoes [i.e. sneakers]. What can you expect from them? We have swamps here, forest, more swamp. It never gets completely dry in our places; there are rivers and swampy areas everywhere. How can they walk in gumshoes in our places! Even in normal shoes you can only go by the mountain pass; everywhere else you need good water boots. And they walk around in gumshoes!

Over his years of experience Vladimir has developed his own ideas about what kind of equipment is necessary in local forests. Usually he goes fishing or hunting for several days at a time, sometimes for up to two weeks, which is why the right choice of equipment is very important.

In winter I have one set of gear, in summer another, and in autumn a third. It is all different, you choose according to the weather. In winter I always carry a saw and an axe. Actually we make the saw ourselves from a big saw by cutting it shorter and making it more narrow. Then you can easily fold it around the backpack and bring both: a saw and an axe.

When it comes to all-important shoes, Vladimir prefers to order his, hand-sewn, from Sami reindeer-herders from the village of Lovozero.

Vladimir’s rules and principles help him to survive in the harsh northern conditions:

If a person gets into a difficult situation, he needs to know the area well, this is the first thing. Secondly, it is necessary to know where you can stop and make a fire quickly. I can make a fire in 5 minutes, even in winter: just duck under a big pine tree, there are always dry sticks there and tar. So,

this is really necessary to teach beginners. Another thing—where and how to stay over night. For example in autumn, how to sleep near the fire? If there are two of you... even in bad weather, rain or snow, you can make a canopy from pine tree branches, then you have a fire, a canopy and can sleep well and rest, it is really warm there, you can even get undressed.

Furthermore, Vladimir asserts that no one should go into the forest alone: 'You can fall down there, you can slip, fall into the river, this has happened to me several times. So, it is not possible to go alone, no way.' However, according to Vladimir, the choice of companions is very important for forest excursions; they should be reliable and trustworthy: 'It is not possible to take new people with you every time. Because you do not know the person—how he will behave in the forest? I stop going with people if I do not like something...' Incidentally, Vladimir usually does not get licences for his hunting and fishing, and he admits that according to the law he is a poacher, but from his point of view he has the right to use local resources because he knows everything in the area much better than the inspectors and because he never sells anything that he catches, just gives it away to relatives and friends.

Vladimir and other skilled fishermen and hunters like to build wooden lodges in the forest—equipped with necessary minimum facilities like a stove, sleeping boards and a fire place—usually located away from roads in order to hide them from the authorities. These can be used by other hunters, especially if the guest knows to whom a hut belongs (who built it). It is acceptable to use things in such a lodge like firewood, salt, matches and food, though informal ethics require that guests should leave something in exchange. Similar behaviour is expected in other 'public' places in the forest: for example, it is polite to leave some firewood near a fire place.

'Nature experts' prefer to go as far as possible from urbanized areas in order to avoid meeting people. For them the process of finding of their own favourite places is even more important than for others, as Vladimir told me:

Now a lot of people have started to come to the places where I used to go before. Everybody has got mechanised vehicles, snowmobiles and other things. People have also changed: before it was possible to leave things in my hunting lodge and now it is necessary to hide everything. I have got other places now, in more remote areas. (...) To tell the truth I don't like to take anyone there because another person will come after him, and then another one, and then more. Then the place is gone. So I only go there with my permanent reliable people, and do not invite anyone new. This is a very small circle, just three to four persons.

For 'nature experts' the environment outside the cities becomes the most important area of dwelling, which is why it is so important for them to create their 'own' places. The landscape gets appropriated by the most skilled and experienced, who share their knowledge and practical experiences of dwelling in the environment only with the most trustworthy people. Newcomers who were sent to the North by the state in order to process natural resources gradually develop alternative relationships with the territory, very different from the activities characteristic of the dominant industrial taskscape, and occasionally superseding them. In his study of ways of knowing the land on the Taimyr Peninsula, David Anderson (1998: 82) considers how different types of knowledge are used for legitimating rights to the territory.

Evenki notions of appropriation suggest that in order to understand the legitimate entitlement of a person to land, one must consider how that person attends to the landscape. A proper Evenki entitlement reflects not only a lifetime of contact with a territory but a proper way of knowing all the sentient persons of that landscape.

Similarly to indigenous people, 'nature experts' from northern industrial cities perceive themselves as 'owners' of the territory, developing this right to the land through gaining extensive practical knowledge about it.

Conclusion

As I pointed out in the beginning of this article, northern industrial cities built during the soviet period are often perceived by occasional visitors as grey, ugly and unattractive spaces. There are some locals who share this opinion but, surprisingly, over time a large proportion of former migrants who settled in the North have developed passionate attachments to their new localities (Bolotova and Stammeler 2010).¹⁰ In order to understand the liveability of these cities—how they are perceived and dwelt in by their inhabitants—it is important to observe the place as lived, appropriated or engaged with by people. 'Dwelling is (...) potentially bound up with ideas of home, the local, and concern or affection for nature and the environment' (Cloke and Jones 2001: 651). In this article I have focused on one aspect of people's engagement with the place: their interactions with natural environments outside the cities.

People's 'structure of feeling' (Agnew 1987) and sense of the place goes beyond the city borders: landscape experiences outside the urban territory contribute to the formation of people's ties and attachment to their places. I have shown how the newcomers have gradually turned the alien and harsh landscape that they encountered upon arrival into their new homeland. The first generation of migrants that populated new socialist cities in the North participated personally in the construction of their towns from the ground up (for a more detail analysis of this process see Bolotova and Stammeler 2010). This involvement increased their personal engagement with the built environment of those cities, since they perceived it as the work of their own hands, even though it was planned from above on the basis of standardized projects and looks so ugly for an outsider.¹¹ At the same time locals develop passionate attachment to the non-built natural environments in and around the cities, seeing them as alternatives to the unified, faceless and highly regulated urban environment. Narratives of northern settlers convincingly demonstrate that various green areas have become significant living spaces beyond private home and work. They serve as places of identification and important habitats, where people go to escape from the routine and stresses of everyday life.

The strict functional zoning of planned socialist cities influences the spatial practices of locals, with the main dividing principle being between the spheres of work and of leisure in both physical space and residents' ideas about the place. The natural environment outside urban and industrial territories develops as leisure space in this case: people develop their practical ecological engagements with green environments in their free time. The specificity of northern mining towns is that in the work places a large part of the population is personally involved in the industrial processing of natural resources.

The necessity for this production is not questioned by the majority of settlers since it is the main reason for city existence—the basis of life in the place—while the substantial sector of the environment exploited by mining and manufacture is not considered ‘nature’ by local inhabitants. Even though it is possible to hear some emotional complaints about the pollution produced by industries and its destructive influence on the local environment, the majority of settlers relate positively to the industrial processing of local natural resources, simply excluding ‘industrialized nature’ from the environment used as spatiality of leisure.

Strangers that came north from elsewhere have developed their perception and knowledge of the local environments through action and experience, gradually becoming locals. A previously unfamiliar hostile landscape has become more familiar while vernacular ecological knowledge about particular local species and places has developed amongst those who made the North their new home. This knowledge of place has grown through pragmatic experience and processes of enskilment. Human engagement with the world is based on embodied relationships with physical surroundings. The local practical knowledge is constituted of embodied skills and familiarities. Those engagements with the natural environment have a collective character: the knowledge, skills and practices are shared and distributed, shaping localized personal and group identities. The first settlers of these industrial cities combine the perspectives of industrial workers, peasants and hunters-gatherers: they work in factories and mines as their main economic activity, produce agricultural harvests at their dachas and hunt and gather for additional subsistence and leisure.

NOTES

¹ John McCannon (1998) has analyzed the campaign to ‘master the North’ in the USSR of the 1930s. For an analysis of the more recent conquest of nature and colonization of the North see Bolotova 2004; Bolotova and Vorobyev 2007.

² Fieldwork was performed in the context of the project MOVE-INNOCOM (supported by the Finnish Academy of Sciences, funding decision N118702). For more information on the project see: <<http://www.arcticcentre.org/?deptid=23759>>.

³ The general field of urban anthropology, however, has been developing very intensively for several decades (see Low 1999).

⁴ See, for example, an investigation of socialist transformation of city space in Leningrad (Gerasimova and Chuikina 2000).

⁵ However, their rights had limitations: they had to re-register with the local administration every month, they received a reduced salary, and they did not have the right to leave the town. For more information on exiled peasants in Murmansk region see Bodrova et al. 1997; Shashkov 2004.

⁶ For more information about gulag camps in the Murmansk region see Kiselev 2008.

⁷ For more details about the extreme suffering of the *spetspereselentsy* and their everyday struggle with the harsh northern environment in Kirovsk see Bruno 2010.

⁸ The collective identity of northerners is described in a similar way by Niobe Thompson in his book on settlers in Chukotka (Thomson 2008).

⁹ Quarters or blocks are made by forest services who cut lines through the woodland (*proseka*); people often use them for orientation.

¹⁰ There is evidence that people get attached to places which are unattractive to outsiders such as marginalized communities, closed settlements, dying cities and abandoned villages. See, for example,

an article by Corcoran (2002) about marginalized communities in several European countries and a documentary by Tone Grøttjord 'Prirechnyy—The Town That No Longer Exists' (2007), about people living in an abandoned mining settlement in the Murmansk region.

¹¹ This is partly because an outsider's eye is struck by the numerous abandoned buildings and other traces of neglect that appeared in great numbers in all industrial cities after the collapse of the USSR.

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