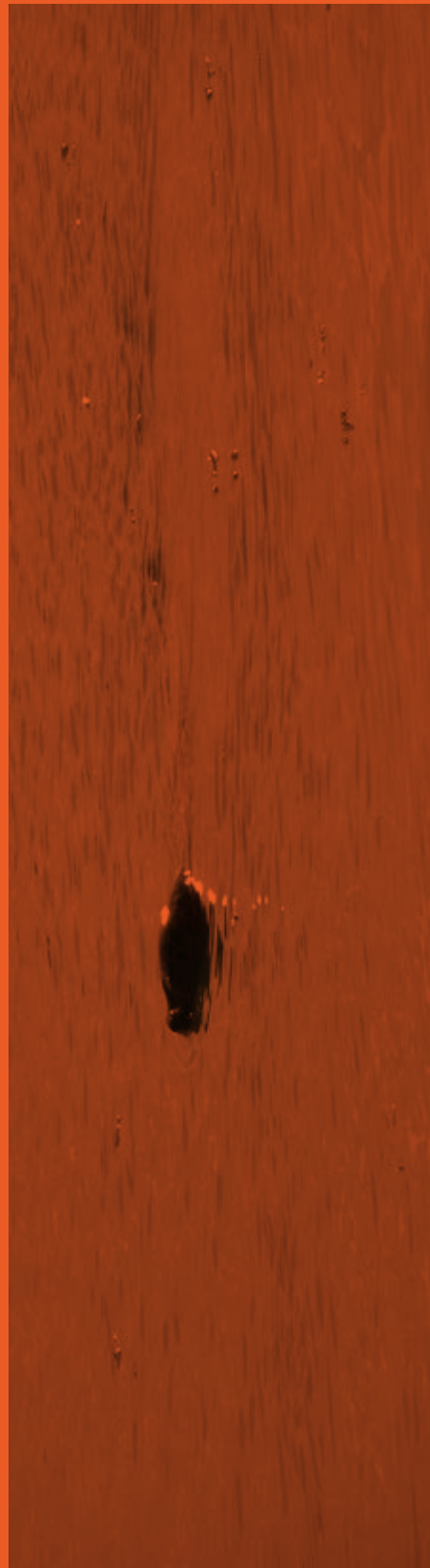


Future North

Kola



**Future
North**

Kola

FUTURE NORTH — KOLA

Publication details

Edited by:
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All large scale photos by
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indicated otherwise

Pamphlet series design:
NODE Berlin Oslo

ISBN 978-82-547-0326-7

Published by OCULS at AHO:
www.oculs.no
www.aho.no

An outcome of the research project
Future North
www.futurenorth.no

2019 © Future North

ON THE PAMPHLET SERIES

Future North — Kola
Future North — Svalbard
Future North — Vardø

This is one of three pamphlets that are outcomes of the *Future North* project at AHO. They are designed to complement more formal research outputs as well as present material from the territories and terrains the project team and adjunct members travelled and from where we were based. The pamphlets offer a mix of materialities and media, showing experimental writing, student projects and reflections on research.

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NODE is a Berlin- and Oslo-based design studio founded in 2003 by Anders Hofgaard and Serge Rompza. The studio works collaboratively across various media for a diverse range of clients from individuals to institutions, focusing on print, identity, exhibition and interactive work. Besides studio projects, NODE gives lectures and holds workshops at art and design academies.

ACKNOWLEDGEMENTS

The research project *Future North* has been funded by Research Council Norway (RCN)

The project extends its thanks to the youth and culture house Mr. Pink and particularly to Natalia Kolesnik for her collaboration and engagement.

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Preface

The Future North research project studies the relationship between social development and landscape change in the Arctic. It is funded under Research Council Norway's SAMKUL programme, which is particularly concerned with the prospective social impact of academic research.

The research team has travelled in, observed and interacted with cities and territories in the European Arctic facing the Barents Sea that are imbued with a promise of future potential. These are places that are transforming as the Arctic region is under pressure from several transformation forces, including climate change with subsequent intensified interest from the extraction and transportation industry as significant drivers. As the polar ice cap is melting, and the summer ice recedes, areas for oil exploration and new sea routes are being planned. Such plans also involve people and settlements and activate geopolitical and territorial concerns.

To us, these territories function as laboratories for investigating landscapes in the making — their materiality and appearance as well as their cultural layers. Specifically, we have looked into the Russian Kola Peninsula and its cities, the Barents Coast in northern Norway (particularly Vardø and Kirkenes) and Svalbard. Our concern has been to study the Arctic as a condition where both climate and human agency charge the relationship between landscape and people in unique ways.

The texts in this volume are authored by project researchers, including landscape theorists, specialists in visual media, design, art and architecture, an ethnographer and social scientist as well as guest researchers. This volume on the Kola Peninsula relates findings, observations and approaches from the project and its various activities and lines of inquiry. In our work, we have particularly had fruitful interaction with young entrepreneurs in Murmansk and academics residing on the Kola Peninsula, but also many other helpful local informants. Students from the Tromsø Academy of Landscape and Territorial Studies have also been essential contributors to mapping out issues and impressions of the changing spaces and landscapes of Kola.

Janike Kampevoid Larsen
Peter Hemmersam



1. Encountering Kola

Peter Hemmersam & Janike Kampevoid Larsen

In September 2013 researchers from the Future North project visited the Russian Kola peninsula. For some members of the team, this was a repeated visit, while for some the territory was encountered for the first time. This text accounts for our attempt to explore modes of journeying and collaborative landscape reading — mapping natural, transformed and built-up landscapes while moving through them.

Our trip was not one of immersion; it hinged on brief, intense meetings with people, cities and territories. Yet, we took care to maintain and even nurture the perspective of the outsider. We wanted to investigate how we perceive things for the first time. This included studying how the perception of material landscapes is mediated through existing knowledge, disciplinary perspectives and preconceived notions of landscape, originating elsewhere.

We are not the first to document and present experimental landscape research including traveling and exploration, and our work draws on and coincides with certain art and architectural practices based on traveling, mapping and landscape documentation. In addition, scientists and explorers have represented the Arctic through travel, expeditions and documentation for centuries.

In our travels, we are very much aware of the ‘danger’ of reproduction that Jilly Traganou points out: “Traveling ... not only produces new ideas that were not previously thought or explored but also often reproduces preconfigured ones” (Traganou 2009:25). What we ‘see’ may rely more on concepts embedded in us as observers, rather than on the material qualities of the experience. In fact, she argues, travelling functions as a “framework of representation” that is conditioned by and related to “major epistemological and geopolitical transformations that shape geographical desires and imagination” (Traganou 2004:3 cited in Traganou 2009:25).

Well aware of the pitfalls of reproduction, we try to exploit the tendency to always compare something new with what we already know, and we find that it is indeed possible to cultivate certain approaches to

mapping landscapes that highlight this double character of travel observations.

OBSERVING THE ‘NEW’

Architectural traditions of traveling and mapping provide us with clues to the way these activities construct knowledge of the landscape. In their book *Learning from Las Vegas* (1972), Robert Venturi, Denise Scott Brown and Stephen Izenour argue that visiting a car-based Las Vegas totally devoid of traditional architectural qualities, was as instructive to the contemporary architect planning and designing today’s cities, as a visit to the eternal city was to the young educated mind of the 18th and 19th century. It thus argued that normative theories of urbanism should be abandoned in favor of a process in which “the built evidence of the existing city, which had come into existence almost ‘unconsciously’, was to be furnished with a theory after the fact” (Stierli 2013: 318).

Venturi and Scott Brown’s work inspired a tradition of performing urban research as a kind of architectural production (Hayden 2004, Sieverts 2005), and of architects traveling “temporarily to various types of otherness” (Traganou 2009: 22). This tradition is most explicitly illustrated by Rem Koolhaas’ investigations of alternate states of modernization in non-US/European contexts (e.g. Chung et al. 2004; Koolhaas 2000) with the aim of uncovering — in a raw form — the structuring forces of globalization as the predominant driver of change — with the purpose of affecting future change.

Specifically, the tool applied in *Learning from Las Vegas* was the journey format. While traveling, the research team attempted “to maintain an aura of objectiv-

ity and a tone of scholarly dispassion” (Vinegar and Golec 2009), attaining to scientific credibility (Latour, 1987) by enforcing strict, unbiased and repeatable protocol to the fieldwork they undertook. Inspired by the photographic works of Ed Ruscha, the team adopts a ‘dead-pan’ documentary style that mimics classic scientific documentation in which bias or judgment is withheld. In Martino Stierli’s opinion, this attempt at neutral observation may be linked to the “radical, sceptical epoché” of Husserl’s phenomenology (Husserl 1960; Stierli 2013). Husserl’s epoché involves bracketing the phenomena looked upon; through a ‘phenomenological reduction,’ a phenomenon is delimited from its surrounding context to serve as an object to the intentional gaze. However, as Rem Kolhaas (2000) stresses, what we are ‘learning from’ are situations, lands, cities where the structuring forces of globalization as the predominant driver of change may be identified. They are complex situations of forces and drivers — not easily ‘reduced’ to a pure object. Also, social forces and initiatives are of seminal importance. On the Kola Peninsula we are indeed looking at situations depending on global states of capitalism, and specifically the price of ore on the world market. And we are indeed trying to isolate physical traces of those forces that work upon the region.

WHAT DID WE SEE AND HOW DID WE SEE IT?

We have travelled to Murmansk and the Kola Peninsula in Northwest Russia several times, and in a variety of constellations with other researchers. In September 2013 we travelled the peninsula for a week as a Future North team. To get to Kola, we took the two-hour domestic flight from Oslo to Kirkenes right on the Russian border. The group from the Oslo School of Architecture and Design included a media scholar, two architects/urbanists, as well as a literary scholar and landscape theorist.



Park in Zapoljarnyj (Photo: Peter Hemmersam)

After meeting up at the Barents Institute with our fellow researcher, a social scientist, we were picked up in Kirkenes by a minibus, and Russian driver called Alexandr, who would travel with us for the next week.

Traveling to the Kola Peninsula involved identifying and refining the way travel works as a structuring device for observation, but also for conceptualization of landscapes. The methodological tools that emerge include everyday activities: walking, pausing, talking and driving, but also social media tools — and all of these involve ways of seeing and communicating observations. Our itinerary though six Kola cities provided us with diversifies opportunities to try out different methods of working. Initially, we explored the potential of our minibus as a workspace.

Travelling Northern landscapes always involves a lot of driving. But cars and buses have turned out to be poor places for the kind of discussions and exchanges you can have while walking. What we have learned, however, is that reading out loud while travelling — about the landscape travelled through — is a productive use of journey time. Cars and buses also perform as ambulating viewing technologies. Veritable landscape machines, they allow always-new views to continually develop. They delimit our access to the landscape, but are still our primary means of access and representative of how we see. They do however require a second element: the pause, whenever we stop and step out to photograph.

After crossing the Russian border, we travelled straight to Zapoljarnyj where we spent the first night at Hotel Pechenga at the central square. That night we walked the city, discussing what we saw and to what degree it represented a planned Soviet city. We marveled at the intricate art decorating public buildings of the town and sought out the edge of town where the surrounding landscape and the overwhelming industrial transformation of the landscape could be observed.

Since our first walk as a group, walking cities and landscapes with a multidisciplinary team has become a central approach to reading landscapes. We have no planned entry to the cities. We approach them from scratch. We observe phenomena that can be described from one or several of the expert perspectives that we bring along. We encounter people that tell us stories about themselves and the places we see. We all take countless photographs, often very similar ones.

From Zapoljarnyj we backtracked to *Nikel*, a town that has become almost mythical in



Nikel (Photo: Peter Hemmersam)

the Norwegian environmental consciousness due to its massive emissions of sulphur dioxide. Situated very close to the Norwegians border, it features bleak architecture, monumental forbidding industrial structures and a barren surrounding landscape in which vegetation has been burnt off by sulphuric downfall. We wandered the town eager to find information that could inform our impression of the place. As our appointment with a city official was cancelled, we sought other sources of information, but the museum was closed on a Monday; helpful librarians at the town library could provide only two books containing historical information and photographs. This somewhat failed visit demonstrates that as academics we are not satisfied with what we see — part of scientific observation involves trying to make sense of a place — to search for the reasons and stories behind the appearance.

We then left for Murmansk — the largest city of the circumpolar North, a city that to most people is immediately associated with coldness and remoteness, dominated by grim industry. To us, however, it has somehow become the White City of the North. Sharply delimited from its surrounding landscape, its mass of concrete ending abruptly, the city performs as a landscape feature.

In Murmansk, we further explored the walk as a tool. The walk as an urban practice is well-established in urban studies, such as Pierre Bourdieu’s (1977) theories of practice which included the bodily disposition of the habitus, and Michel de Certeau who uses

the act of walking through the city as an example of the reappropriation of space through everyday practice (1984, see also Walter Benjamin (1991) and Tim Ingold (Ingold and Vergunst 2008)). The flâneur is a reoccurring concept in literature and art practices. Charles Baudelaire, Virginia Woolf, Friedrich Nietzsche are but a few famous walkers. Guy Debord uncovered an alternative Paris in his *derives* (1958), Robert Smithson interpreted the suburban landscape of Passaic, New Jersey (1967), and Rebecca Solnit has explored the dynamics of the reflexive flâneur (2001), as have Francesco Careri in *Walkscapes* (2001). Most of these, however, were solitary explorers — connecting the city to inner landscapes. We are a walking, talking group of observers, intent at sharing impression, there and then.

In Murmansk, we applied the walk, cultivated on this trip both as transect (akin to the rapid assessment tool for evaluation development potential in rural and urban contexts (World Bank 2007)) and ramble, as a methodological device — call it a rambling, lingering and gazing, as do Katja Grillner, whose work by this title explores narrative dialogue in the landscape garden, a dialogue that discusses the very landscape one is walking through, reflecting on its constitutive powers, and meanings (Grillner: 2000). During our two days of walking the city, we further employed elements from different forms of architectural ‘mapping’ techniques as a way of discovering and documenting both the city and our impression of it.



Murmansk. Photo: Peter Hemmersam



The transect starts and stops at the city's landscape edges

The first day we drew a line on the map, which we then followed, photographing, sketching and discussing what we encountered on this almost day-long walk down the steepest residential hill in Murmansk. Again we sought out the edge of the city and moved towards the centre while observing the distribution of ground and space. As it was our very first systematic approach to reading the Murmansk landscape, we embarked on this walk with what we might call the lure of the familiar at the back of our heads, a fact we all became aware of during our walk.

We had planned the walk within an urbanistic frame. The line ran from the edge of the city, at the back of a building we had identified the year before, to the harbor where the ice-breaker-now-museum, The Lenin, is moored. Along this transect, we tried to capture modulations of frontal and lateral views — not so much for the view, but to trace the level of attention the different landscape types required (the closeness of ground in the lateral view, transport to view in the frontal ones).



The start of the walk on the city's edge in the Salnisjkaya district.



It was during this walk that we realized that our preconfigured notions of landscape were informing our ways of looking to an almost absurd degree, and that we tend to describe them by referencing landscapes we are already familiar with. We noticed the semblances to places we already knew, such as the urbanized Mediterranean foothill landscapes of Naples or Marseilles.

Walking meandering streets, paths short-cutting between them, and long stairway systems, we recalled the Potemkin Stairs in Odessa, but also the homelier path system at Fløien in Bergen, Norway, as well as the hikes in Tromsø's hilly city landscape. The streets we started on, receded behind us as back streets to the center of Murmansk.

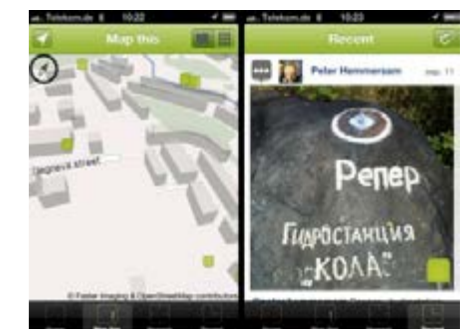
We discussed the layout of this hill, how it allowed views to develop as we descended it. The lateral and frontal views poured in as we descended the stairs, this was a space entirely informed by the panoramic, it seemed. We had to ask ourselves to what degree it was planned like this? We soon learned, from a passing former sailor and construction worker, that this section of town was built over only four years in the 1980s. Back then, these hills were considered the countryside. There seems, however, to have been incentives to preserve parts of the original landscape, slopes maybe too steep for heavy construction equipment, now unfolding as green slopes between the terraces, covered by shrubby birch and different weeds.



We discussed the layering of the views — how they included residential areas, commercial district, iron ore loading areas, and the nature beyond it. However, we soon realized how focused we were on sightlines and the meandering system of paths stairs and road. To us, the landscape unfolded as a picturesque landscape, referencing those planned mid-eighteenth century English parks where the views were so carefully planned. Gordon Cullen's serial vision also came to mind, inspired by studies of experiences of movement through Italian hill-towns (1961).

Arriving at the industrial harbor, our conversation was no longer about the layered views, but about crushed and processed rock and other materials of different grain. We crossed over long ore trains sitting idle on different tracks. Watching these, we did not even think about the fact that we were standing on a viewing platform of sorts — the footbridge leading over the tracks — we were concerned about this sudden presence of minerals from across the expanses of Kola, testimony to the mining activities in more remote parts of the peninsula. We knew of course that they were being reloaded here, but were not prepared for such a splendid variation of differently textured minerals on the move.

The following day we met up with a group of young people, associates of Natalia Kolesnik, the dynamic vice director of an incubator for cultural entrepreneurs called Mister Pink. We talked to the group about their hopes and expectations for the future of Murmansk and walked with them through the Northern district of the city. Here, they pointed out businesses and entrepreneurs, as well as points of particular interest for them: a flower garden untypical of a city where private care of urban space are still rare, childhood places such as the local school and candy store, and what was a dilapidated, presumably former Sami urban village, now occupied by people in line for new and modern apartments. The walk ended at a creek that reeked of sewer and chemicals — a poignant reminder of the fact that cities, as well as industry, are a significant source of pollution on the Kola Peninsula.



This walk unfolded as one of the first testing grounds for our new iPhone app for collaborative and interactive urban mapping — MAPPA — developed in a different research project on urban media and the city, called YOUrban¹, and useful for our ambulatory event. Our assumption is that this kind of digitally mediated cultural mapping, which relates to creative and experimental readings of urban landscapes, but also emphasizes the “objects” and contents of mapping as culturally co-constructed and integral to actual mapping performance in the field (see Hemmersam et al. 2014, Morrison et al. 2012).

The social aspect of the app implies a degree of collective authoring taking place, enabling not only reading but also collaboratively writing the city, “reformulating what already exists” (Corner 1999: 214) as a fundamental precondition for future thinking. It relates to emerging forms of mapping covering the interaction of human and non-human actors (Latour 2005; Yaneva 2012), and as a social mapping tool, it emphasizes space as “a social product — one less designed and constructed than enacted or performed through specific behaviors and practices” (Shepard 2011: 22).

Rather than exposing particular ‘expert’ views on the urban landscape, in our use of the digital mapping tool we have learned that it creates combined and shared narratives. These narratives emerge through the conversation between the mapper’s expert perspectives that occur when traversing the urban landscape, but also in the social nature of the app which allows mappers to add to, change and delete entries and to create transversal themes. Importantly, the app streams geo-located Instagram posts to the live map during mapping sessions, linking to a ‘virtual’ landscape space of brief moments, the interior of buildings and glimpses of the dreams, aspirations and playfulness of segments of the community. This provides a third level of landscape reading beyond the immediate sensorial registration, and the remapped preconfigured notions and conceptions brought along by the mappers.



Seed storage pavilion, Polar-Alpine Botanical Garden. Photo: Peter Hemmersam

Leaving Murmansk, we travelled to the interior of the peninsula. We visited the extraordinary Polar-Alpine Botanical Garden of Kirovsk, located in the spectacular Khibiny Mountains that are being ripped apart by mineral extraction. This garden does not just display indigenous flora, it is an experimental archive of plants from all over the world that have been collected by scientists since 1932 and introduced to the Khibiny climate. The seeds of those that survive are stored and archived in on-site pavilions, and later introduced in the ecosystems in other parts of the region.

To the south, the garden hugs Lake Bolshoy Vudyavr, allowing visitors a splendid view of the geological archive of the ‘25 Km’ mining town (located 25 km from Apatity). Shockingly, however, the large-scale mining of apatite, which is integral to the production of fertilizers and other products, interrupts the otherwise pastoral idyll by its display of torn mountainsides.

Here, we found ourselves in the middle of two extraordinary situations, an earthy archive of rare and robust plants and their seeds on one side, and on the other, a mountain-obliterating mining practice. At 25 Km the mountain itself is the ore, and the miners have developed a method for bringing it down, bit by bit. We were looking at a paradoxical juxtaposition of storage and exploitation, where the exploitation area form part of a picturesque scene, distorted to the degree of escaping its picturesque framing.



Photo: Janike Kampevoid Larsen

The concept of the picturesque was developed to mediate between then Kantian notions of the beautiful and the sublime, explicitly trying to escape the speculative element of the sublime. Theorists such as Uvedale Price (1810) and William Gilpin (1804) praised the picturesque for its ability to offer variation while still providing near pastoral scenery with a particular arrangement of views — often composed of a foreground, middle ground and background



The view from the botanical garden. Photo: Peter Hemmersam

landscape arrangements featuring human scale environment often including technologies like windmills and dams.

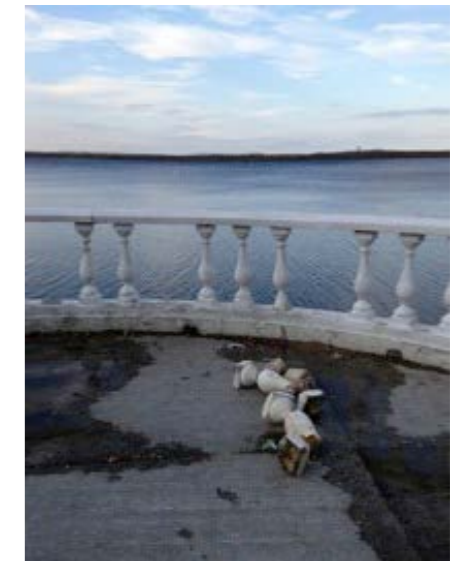
The blend of industry and park, so explicit in the scene above, offers however variation so extreme that it may contribute to reintroduce sublime elements in the landscape situation. Not only is wilderness introduced, but it is also a wilderness demolished. This is not an uncommon outcome of Soviet economic planning, which saw little or no value in the uninhabited landscape. Instead, it regarded the presence of minerals in the ground as an opportunity to include territories in the productivity of European modernity (Bruno: 81). An imposition of industry upon an uninhabited region, allowed man to “accord its labor with its eternal beauty” (Oscar Munts, quoted by Bruno: 90), and aligned with the development of urban centers fully equipped with transport and social infrastructure, including parks. The *raison d’être* for the botanical garden was the identification of and breeding of plants that would enable, thrive in, and beautify, such northern towns (Bruno, 2011).



The theme of the industrial picturesque found outside Kirovsk re-emerged later on,

in *Monchegorsk*. Its main features (beyond the diabolically looking industrial plant outside the residential district) are the monumental central boulevard and the picturesque lake-side park. It contained a remnant of the original tundra vegetation symbolically left standing inside the city to emphasize the way industrial cities were seen to be in harmony with, and to be enhancing, nature in Soviet urban planning ideology (Bruno 2011).

Strewn among the sometimes scruffy trees in the park we found reminiscences of concrete structures that we could not tell the origin of, and the iron railing framing the now empty site of the merry-go-round, residues of what in a proper French or English picturesque park would be called follies.²



View across the lake. Photo: Andrew Morrison

The central axis of the park ends on the shore, in a terraced stair framed by a crumbling white balustrade, reminiscent of the ruinous remains of classical architecture that would symbolize classical virtues in the picturesque park. Here we find a paradoxical view to a distant mountain of tailings, or mining residues, in the neighboring town of Olenegorsk. Where the classic picturesque park would offer views of pastoral fields and beautiful horizons, this one provides a view to landscape destruction. The urban axis of the main boulevard of the city similarly ends in the exceedingly large nickel and copper production plant that leaves the town and its surroundings one of the most polluted in Russia. By its two axes, the city displays its paradoxical manifestation as extended through a vertical and a horizontal desire — the desire for and dependency on the prehistorically formed deposits of minerals, and the desire for grand human manifestations in the form of an urban, industrial and landscape footprint.

² Follies are architectural features that serve to visually suggest different types of activities or allude to exotic and remote places (in time and space).



Monchegorsk. Photo: Peter Hemmersam

TERRITORIAL LOGICS

To the traveler, present-day Kola appears entropic by nature and culture. We have observed dilapidating wooden structures slowly sinking into the ground, dust from unmanaged tailing ponds blowing over the landscape. The landscapes of the peninsula emerge to us as ancient geological formations, overlaid with visually thick layers representing the Soviet era from 1916 to 1991: railroads, roads, mines, tailings, factories, power lines, housing blocks. Traveling the six cities, we feel we begin to see like professionals: we selectively observe landscapes, industry, urban plans and parks, as well as the visual indicators of living conditions.

The most significant layers in the landscape are those representing political events: the urbanization spurred on by the building of the railroad in 1916 as part of the armed conflict of the revolution, as well as the traces left by Second World War. This layer is less physical, but leaves a significant reading in the form of memorials, monuments, memories and stories. This event also connects the landscapes of Kola with conflict and the strategic war effort: Nickel was a strategic war supply over which the horrific battles were fought. This strategic perspective on the peninsula was continued in the post-war period, which saw further militarization and large-scale urbanization and mineral extraction as a result of the drive for industrial independence of Soviet socioeconomic planning.

We are struck by the first views of the cities themselves, of Nikel and Murmansk as they lie, monochrome and contained, in the landscape. They appear to be defined objects on the one hand, but it is precisely this object-

ness that makes them look like landscape features at a distance — much the same way as do the open quarries and tailing mountains.

Entering the cities, we are struck by the amount of greenery that seems to penetrate the city limits and spread along its streets. We realize that these are planted: Every street is lined with trees, and each city has parks carefully laid out with defined areas for vegetation that is carefully tended to.

In contrast, we observed what strikes any traveler in these landscapes: the burnt and damaged ground around Nikel, Zapoljarny and Monchegorsk. This ruined landscape is the effect of the nickel and copper ore processing.



Zapadnaya Litsa. Photo: Peter Hemmersam

It is surprising for us to realize how quickly we employ a generic aesthetic and a culturally reproduced set of references in our first reading of landscapes. One example of how our seeing is prefigured is fellow researcher Andrew Morrison's many associations to Southern Africa during this trip. It started at the fields in *Zapadnaya Litsa* where the Russian red army defeated the Germans in 1944 and where the field's expanse and situated-ness among the mountains had a configuration not unlike his childhood Zimbabwe.

This may be an essential and useful insight: in our reading, what we saw often seemed to refer to something else, in a relational network of references. What we see is all the time just another configuration of landscape, city, nature. By making explicit what preconfigured notions echoed with observations and by being 'reductive', we may be able to move beyond our preconceptions of the region, mythological references, and expectations to how the Kola Peninsula might look.

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2. Murmansk: A Coastal City?

Aileen A. Espiritu



Murmansk's waterfront September 2013. Photo: Aileen A. Espiritu

Forged by its strategic location and by geopolitics, Murmansk has been the primary port city in the Russian Arctic since it was established in 1916. With access to ice-free routes to the Barents Sea and open waters to the West, Murmansk has been a strategic military port and indeed has been witness to two World Wars. Significantly, Mikhail Gorbachev put the city on the world stage when he appealed for making the Arctic a zone of peace in his 1987 Murmansk speech.¹ More recently, the Murmansk port has burgeoned as an economic hub for the transshipment of minerals and raw materials from mines on the Kola Peninsula and oil and gas from the Russian North and West Siberia. The port of Murmansk is indeed highly industrialised and militarized. I interrogate whether there is any room for human scale activities along the coastline of the city, and whether the Murmansk city government can reasonably include such considerations in its long-term strategic planning. By analysing future planning documents, the city administration

website, news media, and speeches, I analyse briefly the tension between the port of Murmansk dominated by big business and federal regulations, and the city of Murmansk and its drive to diversify and grow its economy. I argue that the division of political jurisdiction between the port, that appears to be controlled at the federal level, and the Murmansk city administration is markedly separate, hampering not just the possibilities of sustainable economic development within the city, but also citizen's use of the waterfront so important for their livelihood yet out of bounds for their leisure and recreation.

While undertaking a transect that our Future North team walked in September 2013, the inward-looking strategies and industrial economic policies that have built the city of Murmansk since 1916 was evident. Starkly obvious is that city planning is superseded by the transportation needs of the entire minerals-rich Kola region with the waterfront flanked by a tangle of rail-

¹ Mikhail Gorbachev, "The Speech in Murmansk at the Ceremonial Meeting on the Occasion of the Presentation of the Order of Lenin and the Gold Star Medal to the City Of Murmansk, 1 October 1987" (Novosti Press Agency: Moscow, 1987), Pp. 23-31. Accessed 18 June 2016 From https://www.Barents-info.fi/Docs/Gorbachev_Speech.Pdf.

roads and the shores overwhelmed by hills of charcoal and loading canes. In a sense then, Murmansk is a service city, providing the rest of the region that brings mineral wealth to the entire Murmansk region. Nevertheless, as our transect revealed the city itself and its citizens very much focus on the livability of its neighbourhoods and city streets illustrated by neighbourhood flower and vegetable gardens made to beautify the city's cementscape. Though, since our transect in 2013, owing to the low oil and gas prices, the sanctions against Russia because of the annexation of the Crimea and the ongoing conflict in Eastern Ukraine, buildings and streets not targeted for renovation because of the 100th anniversary continue to decay. This is particularly acute on the Lenin Boulevard with some of the more historic buildings visibly falling apart.

BUILDING THE "HERO CITY" — MURMANSK

By all accounts, the last city created under the Tsarist Empire, Murmansk, was the quintessential Soviet city — industrialised, boasting modernity, a robust population, heroism (awarded in 1985 for its role in the Great Patriotic War), and providing economic revenue for the running of the state and Communist ideology. It was also one of the Soviet state's centre-pieces for industrial shipping, development, and population growth and presence in the Russian Arctic. It was only second to St Petersburg in terms of volume of transport from their respective ports.

Murmansk as an industrial transport centre in the high Arctic began, resulting from the Russian Empire's involvement in the First World War as the ports on the Baltic Sea were being closed off. Murmansk as a city with a significant industrial port has deep roots both in its fleeting but venerable Tsarist past and its more significant Soviet development. The necessity of building transport infrastructure — a railway, from Petrozavodsk in the South led to a workforce in the tens of thousands, including Russian peasants, Austrian prisoners of war, and Chinese labour. The construction of communication transport infrastructure was the foundation for a permanent population living in Russia's High North. Inhospitable, remote, bitterly cold, and undeveloped, Murmansk nevertheless thrived because of the investments made by the central Soviet State in mining the Kola Peninsula and thus the need to transport the commodities from the port of Murmansk. In many ways, the goals of Murmansk's early days are no different from the development aims today. The mineral riches on the Kola have been massively exploited and sold as hard-currency revenue for the state — both Soviet 1917 to 1991 and Russian from 1992 to present day.

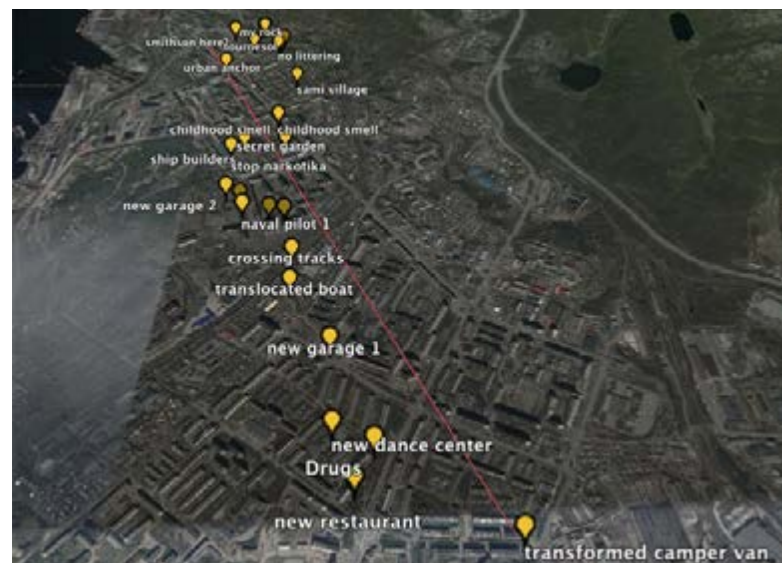
Significant, however, is that while the newcomers to Murmansk in the 1910s, 20s, 30s, etc., were incited to move to Murmansk from other parts of Russia and the Soviet Union — overwhelmingly from Southern Russia, Ukraine, and the Baltic States, offering high wages, promises of apartments, and benefits, those who have stayed express aspirations beyond just their jobs and benefits. With identities firmly rooted in place, they wish to see a city that engages its citizen in local-level development including human-level access to the sea. This explains the ambitions for a renovated and accessible waterfront to be created in celebration of the 100th anniversary of Murmansk City in 2016,³ and into making it into

a tourist port for cruise ships. As of the Summer of 2016, however, most of the tourist activity was generated by interest in the icebreaker "Lenin", which is docked at the only accessible waterfront in Murmansk City. Accompanying the "Lenin" is an impressive mural telling its history, but in Russian only, which limits understanding of that tourist attraction for many. Around the ship itself and on the quay, there are places for buses to park, but no places for people to sit or spend any time on the docks. However, the city and the oblast' (provincial) administration have promised a meeting place nearby with the restoration and renovation of an historic building on the waterfront.

↓ This photograph shows the planned public space, with a café, near the Icebreaker Lenin's quay, taken on 23 June 2016. While the city has been preparing for and indeed celebrating its 100th anniversary, the official Murmansk celebrations are planned for early October 2016.



Murmansk waterfront, June 2016, Photo: Aileen A. Espiritu



Maps courtesy of Peter Hemmersam

² Gennady P. Luzin, Michael Pretes, and Vladimir V. Vasiliev "The Kola Peninsula: Geography, History And Resources," *Arctic* Vol 47, No. 1 (March 1994): 1-15.

³ Atle Staalesen, "Building a tourist sea port in Murmansk," *Barents Observer* 09 March 2012. Accessed 01 September 2016. <http://barentsobserver.com/en/business/building-tourist-sea-port-murmansk>

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⁵ "100 Страниц Истории К 100-летию Мурманска" (100 pages of history towards 100 years) Accessed 5 June 2016 <http://vmnews.ru/proekty/100-stranic-istorii-k-100-letiu-murmanska>.



Photos: espritu



ANALYSING DISCOURSES

Overwhelmingly, however, and outside the frame of the 100th anniversary celebrations, discursive plans for the Murmansk port have focused on the ports as an enormous industrial resource. Thus, the concentration has been on continued expansion in anticipation of climate change leading to ice-free Arctic waters making possible the transshipment of minerals, oil and gas, and possibly consumer goods from Asia to Europe. Reflected in official documents, speeches, meetings among the municipal and provincial governments, the shipping and industrial stakeholders, as well as the long-term developmental plans have diminished any objectives regarding human-level and tourist access to the waterfront. The current governor, Marina Kovtun, declares that creating an “Integrated development of the Murmansk Transport Hub” as one of 17 ambitious plans that will boost the Russian state’s promotion of an Arctic Zone. Hence, Murmansk will continue have its place as a leading force in the economic prosperity of the country.

Indeed, an urban transect our research team walked in 2013 from a residential district atop Murmansk city down to the “Lenin” Icebreaker revealed having to cross a rather formidable industrial park and railroad transport area in order to gain access to the water. The crossing was only possible on a ribbon of steel and cement overpass that overlooked the railroad transporting still the most important commodity for the Murmansk port — dirty coal. In stark evidence is the dissonance between the social people-centred history of the 100 years of building of Murmansk depicted in the city’s official website and the big industry priority of both the city and especially the oblast’ governments.

Funded from the *Arctic Urban Sustainability in Russia* project (2012–2015) under the NORRUSS Programme and from the *Future North* (2013–2016) project under the SAMKUL Programme of the Research Council of Norway. Paper presented at the *Arctic-COAST I: Indicators, Resilience, and Governance in Arctic Coastal Social Ecological Systems* Murmansk, Russia, on the nuclear icebreaker *Lenin* 23–25 June 2016.

Murmansk is not alone as an industrial city following its well-worn path to anticipated wealth and prosperity. Arctic cities that have historically relied on heavy resource industries and its industrial transshipment are caught in the groove of this dependence on the one big thing that has the potential to fund all of the social, economic, infrastructural, and cultural needs of a place. For some cities in the Arctic, this has meant diamond mining (Mirnyi in East Siberia and Northwest Territories, Canada), oil and gas (Hammerfest, Norway), mining and processing nickel (Norilsk, West Siberia), coal (Longyearbyen and Barentsburg, Norway), and industrial shipping (Murmansk, Russia). It would take a remarkable shift in mindset for most of these remote, resource-rich regions and cities to change the focus of their mainstays to something more sustainable, human-scale developments. Reliant on non-renewable resources or their transshipment, no other economic enterprise seems as promising. And so we are left with a Murmansk that *could* develop a human-centred waterfront that has the possibility to grow sustainable tourism, attractive accessible spaces for recreation and habitation, but the city’s political will still gravitates towards what it knows best — serving as an industrial transport hub for the resource-wealth of the Kola Peninsula, and unfortunately leaving out the endless possibilities for human-scale developments that we see in other world cities such as Portland, London, Glasgow, Oslo, Helsinki, etc. — cities that have transformed once industrial sites to living, commercial, and recreational spaces for its residents and visitors alike.





3. Ennobling Urban Space in the Border Region

Interview with Morgan Ip
by Peter Hemmersam and Vlad Lyachov

Morgan Ip is a PhD student in the Future North Project. He has researched the cultural landscapes of the Norwegian-Russian border region using various ethnographic methods. He has lived in the border town of Kirkenes for two years.

What is an imaginary city, and why is it important to study what they look like in the communities along the Barents Coast and the Kola Peninsula?

An imaginary city is a city that people perceive in their minds. It is a mental mapping of their everyday life, and it describes hopes and visions for how they see the future of their community. There are two things that make it important for that particular location: 1) The value that it gives to the residents themselves on being able to discuss their city with each other, their hopes and dreams, 2) and also in globalized, increasingly fast hyper-landscapes it allows people to share their notions of their city in the future with others around the world and the Arctic region, who would be interested in how these confluences of geography and cultures can share and discuss with each other.

Why is it important to study several towns and not just one?

Everyday life expands beyond one's immediate neighbourhood, services are more spread out, and there is a flow that extends far beyond the local in these particular places, especially on the border between Norway and Russia. There are flows of trade and political meetings facilitated by the Barents institute and Barents secretariat, organisations that sprung out of the collapse of the Soviet Union and the opening of the economic and political engagement with each other in this region.

What was important in your choice of approach to understanding how locals think about the future of their cities?

It is always difficult to engage the public in discussions about city planning. It is attempted by municipalities around the world to get this local perspective and understanding of what builds the city. I try to go to a virtual tool which would be accessible by anyone through the internet, which most people do have at this stage. It was also coupled with in-person workshops, which was initially intended to show people how they were meant to use the online tool, but then became a thing on its own, and people started to use the physical map the way they were using the digital map. As a result, catching a wider network of people. Because it is a border neighbourhood, not only your maps available, but also the maps of your neighbours are available. You can discuss what happens when you visit people, or you can put your ideas for the other community because you do also have parts of your life shared across the region.

You use a technological platform called MyCity that was developed in, and for use in, Murmansk. In what way is that important in your research that it has this local association?

This goes back to my previous work in Canada when I was doing my Masters in Architecture. I had an idea before going to a place about what sort of architectural needs would be required in the community, and I knew housing was an issue in northern communities across Canada. But when I went and spoke to local people, I found that their wishes and their needs were different than what I had preconceived. It was this very engaging process of including local people in research that shifted what the research question was in that case. When I came to Kirkenes, I knew that I wanted to capture the cultural landscape and get local voices. It was important to have some local feedback in the process, and I came across this mapping tool by being in the North: I heard about it when I was in Tromsø, when I moved to

Photo: Morgan Ip

Kirkenes local people knew about it (at least people who were the decision makers). I had been to Murmansk as well and met the developers, and I thought it was a great tool that had some local life but hadn't been deployed at that particular place. So, it made sense to use it.

What were the most prominent ideas for urban space in Nikel that emerged through the mapping service — and why do you think they were popular?

The first idea was about the metallurgy plant that is a very strong polluter in the city, and it is known to leak. People simply wanted it clean. It was the most popular idea by far. It could be because if one goes to the map, this will appear as the brightest dot, so people automatically go for it, or because it is seen to be the most significant problem in town. Probably both. Surprisingly there is a very strong connection to nature and how close it can be to the city even though there is that giant polluter in the middle of it. People still like going not too far for walks and have everyday access to the natural environment for their health and well-being. There is a Russian word, which we do not typically use to describe aesthetics in English. It is to “ennoble” the space (oblagorodit; Russian: облагородить). You can use it to mean improving the physical environment as well. I thought it was super interesting because it adds a certain value to the aesthetics, which might exist elsewhere. It is quite a particular to Russian culture to describe improving

your town as making it more noble. To an English-speaker it sounds very romantic. Like you are adding some extra values, prestige. This was used a lot.

What is the most significant difference between the suggestions on urban improvement in Nikel and Kirkenes (in Norway)?

I would like to start with the similarities. In both communities, the small scale of the towns and access to the natural environment was very important. On both sides of the border, people were talking about the cultural heritage in the landscape and how you can use or strengthen that component to both improve everyday life and attract new visitors. Increased transportation links with both each other and the bigger world and aesthetic values were also noted.

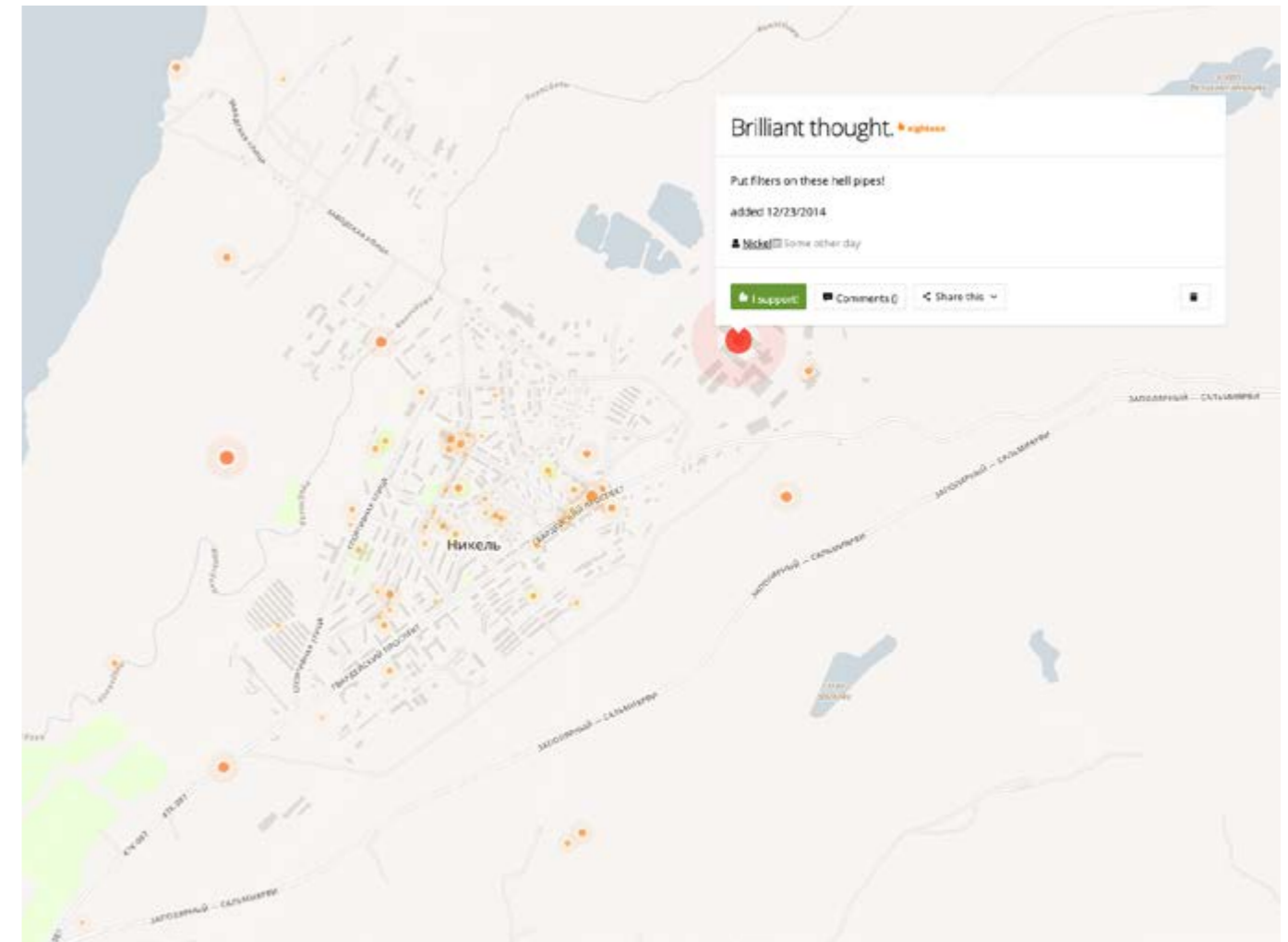
The difference was that on the Russian side, the question “how would you improve your city” did not get many responses that included commercial activity such as new hotels, cafes or shops. This was quite common on the Norwegian side, and I think it might be a reflection on what one expects from the government and how that has evolved after the Soviet Union, which was not that long ago.

Apart from the findings and facts from your research, what are your emotions or personal attitudes towards these cities, local communities and the overall project?

My expectations going into the project were different from what came out of it. I was nervous about going North, into these communities, because they were small and remote in my perspective. Once I got there, I found that they were not too different from other communities I have been to, and were very open to new ideas and open to having me there. I felt really at home while living in Kirkenes and even going to Nikel across the border I felt comfortable and relaxed. I had people I could talk to, had my favourite restaurants, grocery shops that became part of my own every day. So, I had a very vested interest in how it proceeded into the future, and I have faith in these communities because they have strong, engaged people living there. I enjoyed working with people up there, and the ideas that came out were eye-opening. I learned about landscapes, and the proposed ideas led me to different journeys to find out more about each of the places.



Photo: Morgan Ip



The interactive map allows people to georeference suggestions for interventions in the urban fabric.



Photo: Morgan Ip



Photo: Morgan Ip

4. Disturbed Ground and Landscape Change in the Arctic

Peter Hemmersam

While the geologic impact of human actions is mostly considered to consist of large-scale chemical alterations and material deposits to the atmosphere, sea and land, it is the mechanical manipulation of the soil that most directly 'creates' or even 'designs' landscapes for specific purposes and uses. The results of these direct impacts from human activities can be summed up with the concept of the 'technosphere', a label for present and future 'technofossil' deposits, the 'material output of the contemporary human enterprise' (Zalasiewicz et al., 2016: 1). The term is complementary to the idea of the 'biosphere', and it explicitly includes urban and agricultural landscape layers. It even involves less evident and subtle processes, such as soil alterations resulting from migratory animal husbandry practices in Arctic regions.

In landscape research, the scratching of the Earth's surface by mechanical means provides evidence of new or changing uses and future spaces in the landscape. These landscape futures may be addressed in a more nuanced way by arriving at new understandings of the logic, scale and nature of such geo-transformational practices and procedures, as well as the material, social, economic and political conditions that they reflect.

Arctic territories are among the most rapidly transforming in the world, as global warming affects vegetation, precipitation patterns, sea ice flows and animal migration patterns. Changes in all of these alter landscapes, land use and settlement patterns, thus enabling new patterns of industry, infrastructure, agriculture and habitation (e.g. Smith, 2011; Arbo, 2013; Dodds and Nuttall, 2016). Traditionally considered 'remote', Arctic landscapes are still subject to powerful meta-narratives that direct the perceptions and actions of individuals,

businesses and states, both within and outside the region. Prominent among these narratives are those on climate change, neo-colonialism and industrialisation. Such narratives frame future imaginaries in specific ways, and in order to challenge these, we might follow Frans Berkhout who argues that the 'Anthropocene analysis may influence the perceptions, norms, plans and actions of people, organisations and governments,' and continues to say that 'the future is not a stable object of study – awareness of it leads immediately to changed expectations and behaviour, changing the stream of events that shape the future' (Berkhout 2014: 156). Indeed, Anthropocene discourses might contribute to establishing a degree of collective consensus on long-term and global perspectives. As such, studies of current landscape transformation decisions and practices also raise awareness of, and even manifest, the futures latent in mundane and everyday activities and technologies — in ways that affirm individual or local agency.

In the Arctic, landscape change is currently mapped primarily through remote sensing, and indeed, satellites and sensor-based observation currently drive the broader discourse on the Arctic as the 'locus' of climate change (e.g. Rönnskog and Palmesino, 2014). These technologies comprehensively evaluate impacts on natural systems and global ecosystems, yet such mapping practices are not necessarily effective in understanding how social and/or economic practices produce landscapes indicative of things to come. To reflect local desires or future imaginaries within landscapes, it may be useful here, using Raoul Bunschoten's terminology, to map and identify 'subliminal forces' or 'proto-urban conditions' in the landscape. Such forces and conditions occur when 'the behaviour of people, groups and institutions is linked to large-scale but



Photo: Peter Hemmersam

sometimes invisible action tendencies, forces or more general conditions that create instability. We call these proto-urban conditions. They are like emotions in human beings, or like tectonic forces under the crust of the earth' (Bunschoten, 2001: 28; see also Kampeveld Larsen, in press).

OBSERVING LANDSCAPE CHANGE

In Arctic climates, excavated or disturbed soil re-vegetates slowly, which makes the topsoil and the traces left on it a particular type of research media for studying landscape change. This form of research is particularly pertinent in situations where the ground shows little immediate or identifiable imprint of human activity, such as through extensive agriculture. The terms 'broken' or 'disturbed' ground are used in the plant sciences to describe locations in which human-made (or other) disturbances of the soil create possibilities for certain species to establish.¹ In Arctic territories, broken ground reveals the potential for new and emerging, but also continued, processes and land uses. Some of these uses are well-known and well-understood (like agriculture and building construction), while others may be more recent or entirely new forms of landscape interventions. These new interjections often take the form of hitherto unseen hybrids of programs in which practices and economic uses of land reflect and engage the properties and agency of the material landscape. To illustrate, a hydroelectric installation in the landscape is an example of a land use engendered by the material landscape including water and topography. While such structures often are designed as mono-functional pieces of infrastructure, they also change and reconfigure the local and sometimes regional ecology. But as one realises when travelling the landscape and visiting specific structures, they often also perform as social spaces in new and unexpected ways, by becoming tourist destinations for instance.

¹ <http://www.ragwort.org.uk/background-info/7-i/14-the-term-disturbed-ground>

² See www.futurenorth.no. Participants in the Iceland journey were as follows: Jamie Kruse, Elizabeth Ellsworth, Janike Kampeveld Larsen, Mason White, Luis Callejas, Peter Hemmersam, Alessandra Ponte, and Giambattista Zaccarotto. The Kola journey participants included Janike Kampeveld Larsen, Gisle Løkken, Bjørn Gunnarsson, Nadir Kinossian, Kelly Shannon, John Palmesino, Ann-Sofi Rönnskog, Peter Hemmersam, and Armin Linke.

On our journey to Iceland, we were driving along the great ring road, where one encounters spectacular scenery, but also traces of human interaction with the landscape. The road itself is man-made, and the dynamic Icelandic landscape of floods and volcano eruptions means that the re-making of the road is a continuous activity. During our trip, I noticed that the instrument of landscape transformation, the mechanical excavator or digger, was omnipresent as evidence of this endeavour, but also in connection to a wide variety of other activities — all leaving traces behind, broken ground.

On our way to visit the small town of Teriberka on the Russian Barents Coast a few months later, we passed a truck loaded with a digger. We could not help but think that it was the last digger leaving town: a few days earlier, it had been announced that preparations for the Shtokman gas field in the Barents Sea had been suspended. Teriberka had been supposed to be the land hub of this project, with port and processing facilities, and a temporary settlement of 15,000 workers in the construction phase. When the announcement was made, preparations were still underway, including land infrastructure, new road construction and social infrastructure. Despite these visible indicators of a possible future, the town was obviously in need of more attention and investment to return to former glory.



The departure of the last digger on 31 August 2012, signalled a radical change in this landscape; it also symbolised a shift in the community's future thinking as the research team soon learned in an interview with the town's mayor. Photo: Peter Hemmersam

DIGGING FOR WAYS

Beyond its connection to plants, disturbed soil is also a concept that relates to archaeological geophysical surveys, an indication of layers and areas of human activity to be studied further through excavation, an activity intimately associated with archaeology. As an archaeological activity, excavation entails procedurally tracing ground disturbances as material evidence of uses and activities.



Photos: Janike Kampeveld Larsen

PEOPLE	POLITICS	PROFIT	PLEASURE
Roads (K,I)*	Border zone (K)	Power grid (I)	Visitors centers (I)
Bridges (K,I)*	Geothermal plants (I)*	Deadscape (dead vegetation) (K)	Hotels/Guest houses (I)
New villas (K)*	Reforestation (K,I)	Tailings (K)	Off-road tracks (I)
Urban Development (K*,I)	Floodway maintenance (I)*	Agriculture (K,I)*	Golf courses (I)
Replacing district heating pipes (K)*	Post-industrial demolition (K)*	Sand/gravel pits (K,I)*	Road side stops (K,I)
Landfill (I)*		Coal in transshipment (K)*	Cabins/Datchas (K,I)
Cabins (I, K)		Ore pellets (on trains) (K)*	
Noise barriers (I)*		Sludge deposits/Tailings/deposits(K)*	
Snow clearing (K)		Open mining (K)	
		Hydroelectric dams (I,K)	
		Harbour construction (K)*	
		Ash/Slag deposit (K)	

Arctic landscapes "remodelled for new needs": Kola: (K), Iceland: (I).

The object of study in this research, however, is not the archaeological past, but rather contemporary conditions that implicate possible futures. In archaeology, such perspectives are echoed within the emerging sub-field of 'archaeology of the contemporary past', which may be conceptualised as the archaeology of modernity, or an archaeology 'in and of the present' (Harrison, 2011). According to Rodney Harrison, this approach constitutes an 'investigation into modernity as partial, fragile and unfinished', not through aesthetification of the ruinous, but through the revelation of the open and 'unrealized social and material project' (Harrison 2011: 8). Unlike traditional forms of archaeology, this approach engages with the future in the sense that it can 'realise the sorts of ontologies of the future which have been advocated by contemporary cultural critics such as Frederic Jameson ... and others' (Harrison, 2011: 9).

Following Harrison and Schofield, using the archaeological perspective in studying Arctic landscapes 'can sometimes sidestep the value judgements implicit in some other approaches' (Harrison and Schofield 2010: 223). It can provide distance from dominant meta-narratives through its procedures and valuation of materiality (Olsen and Pétursdóttir, 2014). Such procedures for landscape reading find parallels in various forms of artistic and architectural landscapes practices, such as the Center for Land Use Interpretation's documentation of land uses in the USA,³ or Hayden and Wark's (2004) aerial study of suburban landscapes. These are studies that 'investigate the present landscape in relation to recent processes or

change, and potential future change' (Harrison and Schofield, 2010: 225).

Scratches on the Earth's surface left by human activity reveal new or changing uses and future spaces in the landscape. Excavators are the primary instrument of direct landscape transformation, and the traces and inscriptions they leave behind reveal old, but also new and surprising land uses. The diggers 'break ground' when new construction starts, and the varying configurations of broken ground — left behind or still being worked on — can be seen as images of change. *Images of Change* is also the title of a book by archaeologist Sefryn Penrose (2007) that sets up a typology of 20th-century landscape types in England. The mapping presented in the book is based on methods of historic landscape characterisation,⁴ which is a holistic reading of historic landscapes. Rather than reducing the landscapes to sites of historical events, this comprehensive view sees them as the result of mundane activities over the ages. The book lists four main themes in 20th century landscape transformation: *people* (including housing and transport spaces), *politics* (including institutions and spaces of collective or political manifestations), *profit* (including energy landscapes, retail, industry and cargo transport), and *pleasure* (including gardens, recreational facilities, tourism and sports landscapes).

While this book focuses on identifying the characteristic landscapes of the 20th century from an archaeological and cultural heritage perspective, the present research emulates the idea of a landscape typology applied to the study of contemporary Arctic

landscapes, via a visual survey of landscapes in Iceland and Russia's Kola Peninsula. Diggers are ubiquitous in these landscapes. Even though they are standing still, they are involved in and indicate a number of different operations: from building the very roads we travel on, to excavating minerals, building houses or re-establishing watercourses. Spotting them and identifying the programs they 'enact' is a systematic procedure, with results that can be compared to the images of change typology. In this research, the diggers are seen as triggering indicators of landscape change. The resulting categorisation is not limited to instances involving diggers, but often includes the traces left behind in the sub-arctic landscape.

TWO ARCTIC TERRITORIES

The two territories, Iceland and the Kola Peninsula in Russia, were surveyed in 2012, followed by several consecutive visits to Kola. Here, the scratching of the Earth's surface reveals contemporary developments, superimposed on a very recent alternative political and economic reality with its clear material history and landscape logic (Bruno, 2016). In Iceland, this overlaying is very different — with traces of recent geological events as well as economic landscape practices, such as agriculture and power generation.

On the Kola Peninsula, the most obvious cases of disturbed ground — in different ways revealing new, emerging or ongoing landscape change — include the following:

1. The border fence to Norway and Finland, including a raked and vegetation-free strip that would reveal footprints. This broken ground is kept open due to politics — a significant and shifting force of change here.
2. Tailings, slag deposits and sludge ponds from mining activity. The core industrial activity of the region continues to operate but responds to changing national and international conditions, such as ore prices.
3. Urban development and building construction sites. While the population is declining, new construction is still occurring as new programmes appear — such as detached housing areas or facilities for the not yet operational gas industry.
4. Updated and replaced infrastructural grid, including the pervasive district heating pipes.
5. Roadworks and bridge construction and maintenance (see fig 3). The main roads on the peninsula have both been upgraded recently. The road to Norway seeks to improve trans-border relations

(financed by Norway), while the main road to St. Petersburg was upgraded as part of a program for improving the appearance of Murmansk ahead of its 100-year anniversary. Planned petrochemical extraction also led to the construction of new infrastructure.

6. Agriculture. Mostly hay production.
7. Sand and gravel pits (and concrete plants).
8. Hydroelectric dams.
9. Piles of coal on trains and on the harbour in Murmansk or at the many power plants. Coal is imported from Siberia, and either consumed on Kola or shipped to Europe.
10. Various forms of ore (piled up or on trains). Various plants in the region perform different refinement processes on the local mining products: nickel and apatite.
11. Open mining sites. Kola was a test site for nuclear mining, an abandoned programme.
12. 'Deadscape'. Zones of dead vegetation around industrial facilities.
13. Post-industrial sites undergoing demolition and recycling.
14. Harbour construction in Murmansk.
15. Snow clearing along roads in winter/spring.
16. Landfill.
17. Datchas. Cabins for hunting and food collection.

ICELAND

The most obvious recent landscape transformations in Iceland result from the following:

1. Road and bridge construction and maintenance.
2. Power plants (geothermal and hydropower).
3. Power transit (power lines and geothermal pipelines).
4. Tourism (visitor centres, hotels, guest houses, golf courses).
5. Reforestation, a visually present transformational program.
6. Agriculture (mainly in the form of grazing land).
7. Settlements and towns continuously being 'remodelled for new needs'.
8. Landfills.
9. Waterway (re)design and restoration. This reflects annual maintenance, but also extraordinary natural events such as volcanic eruptions or Jökulhlaup.⁵
10. Gravel pits
11. Noise barriers along roads.
12. Off-road tracks.
13. Cabins in the landscape.

³ <http://www.clui.org/>.

⁴ Developed by English Heritage.

⁵ 'Jökulhlaup' = the periodic flooding resulting from the volcanic melting of glaciers from below.

MATERIAL DISPOSITIONS TOWARDS THE FUTURE

Mapping excavators and their traces reveals old but also new and surprising land uses, as well as new functional hybrids that may form new structural entities in the Arctic landscape. Overall, transformations relate to megatrends in Arctic development, such as increasing urbanisation and migration, infrastructure development, a continued — and in some cases increased — reliance on the exploitation of natural resources and also tourism (e.g. Rasmussen, 2011). The survey conducted here of two Arctic and subarctic territories reveals, however, that they are entirely different when it comes to landscape change. This observation indicates that while megatrends can be identified and meta-narratives deconstructed — they are individual landscapes in which territorial and material logics play out in diverse ways.

Using diggers as indicators of landscape change connects to the activity of excavation, which is a critical activity in archaeology; however, it is of course not directly constituent of the broader scope of the landscape research conducted in this research. Rather, the use of archaeology as a frame for landscape observation introduces a procedural approach to ‘making the familiar “unfamiliar”, of distancing the observer from their material world; a work of alienation’ (Harrison, 2011: 1). Significant in this regard, archaeological and material studies of the recent past not only reveal the heroic or iconic traces of a past, but also the traces of everyday life, the pieces that essentially make us who we are and which may otherwise be ignored or overlooked (Harrison and Schofield, 2010). For instance, in the current context of great mega-narratives of Arctic and subarctic landscapes, the everyday potentially may be overlooked in the futurology of the north. Just as studies of the recent past aim to provide insights into the grounds for decisions in the present, studies and interpretations of contemporary and ordinary landscape transformations also inform frames for future imaginaries. Scratches and new traces on the Earth’s surface left by mechanical diggers reveal everything from cataclysmic events (such as floods and volcano eruptions) to simple, everyday road maintenance. Causal readings, however, should be questioned systematically. Proceduralising scrutiny of ongoing landscape transformations contributes to suspending the preconfigured significance of contemporary changes. It allows us to juxtapose potential future developments, repeated landscape and land-use practices, and entirely new, but so far unseen hybrid developments.

This study aligns with more extensive attempts to ‘investigate the present landscape in relation to recent processes or change, and potential future change (“futurologies”)’ (Harrison and Schofield, 2010: 225). Archaeology is involved in producing multiple pasts, but, as Bjørnar Olsen and Þóra Pétursdóttir argue, ‘one virtue of the term “archaeology of the contemporary past” may be claimed to be its resistance to such wishful modernist selectivity by literally showing the past as constantly and inevitably contemporaneous, always folding into the present and the future’ (2014: 22). This idea raises the possibility that this approach to landscape reading can enhance the speculation on multiple possible futures. As outlined here, procedures for landscape surveys indicate that we may even ‘think of the surface as a metaphor for an unconstituted present, a space in which the past, present and future are combined and are still in the process of becoming; archaeological surface survey emerges as an allegory for a creative engagement with the present and the spaces in which the past intervenes within it ... Archaeology is no longer a trope for alienation and estrangement, but becomes present and future centred. It is no longer about an “other”, but instead about “us”’ (Harrison, 2011: 10).

While Anthropocene analysis strives to ‘systematically convert [assemblages] into geological terms that would allow full consideration of “urban strata” to be contrasted with “natural” geological strata’ (Zalasiewicz et al., 2017: 4), our concern here is not towards stratification, but rather identifying forces of a social, economic and political nature. This research has indicated an Anthropocene corrective to the Arctic narrative of landscape change as resulting from (although anthropogenic) climate change — to one in which the human imprint and agency is visually evident through direct action in and on the ground. This concept may contribute to a broader discourse that differentiates understandings and approaches to Arctic territories as predominantly natural while underscoring agency towards the future.

The Anthropocene analysis functions parallel to contemporary archaeology in establishing a ‘remote’ view on Arctic cities and landscapes; it also is one in which ‘things’ are studied as human-non-human entanglement made evident at the material level, without focusing solely on the ‘social’ or issues of signification (Harrison and Schofield, 2010). But while archaeology focuses on the past to inform the present, discourses on the Anthropocene tend to focus on the negative impacts of urbanisation and the human influence on ecosystems in the

future (e.g. Katsikis, 2014). In fact, “the Anthropocene” is one of several frameworks which happen to be not only analytically defective but also inimical to action (Malm and Hornborg, 2014). In the discourse on Arctic and subarctic landscapes, this concept is essential as landscape alteration is not only a detrimental loss of something original — but also the creation of something new. It rests on an Anthropocene understanding of human impact, but also on the agency of locals, groups, individuals and landscape materiality itself.

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Garbage area on one of the hills in Murmansk. Photo: Janike Kampevoid Larsen



5. Levels of Intimacy

Janike Kampevoid Larsen

• Photos: Janike Kampevoid Larsen

Last August I left a pair of hiking boots at the airport in Longyearbyen. They were still good to use, especially as an alternative to having no hiking boots, but I knew too much about where they had walked — in Svalbard mainly in ruinous mining landscapes, not too polluted, but on the Kola Peninsula in much worse terrain. I almost left them then, the year before — after having walked the perimeter of Murmansk with a couple of my students. We set out to trace the border of the city and to investigate what types of landscapes were manifest there. They turned out to comprise dusty main roads, smelly swamps, a creek foaming with substances leaving an indescribable stench, a landfill with plenty of rats, and one of the shadier garage areas sitting on a south facing hill that in a more temperate place would have been the venue for expensive housing and gardens.

The year before that, my boots had walked almost all of the mining towns on the Kola, including Revda, where uranium dust in the abandoned mine was flying in the open, and they had certainly also picked up some of the gold dust flying around the processing plant in Monchegorsk. On the Kola Peninsula, and particularly in Monchegorsk, Palladium (Pd) and Gold (Au) are byproducts to the copper and nickel ore being processed there. 60.000.000 US\$ worth of Pd and Au is estimated to have gone up in smoke every year in the 1980s and 90s, and ended up floating about the terrain. In addition, in the same period, emissions of Sulphur dioxide (SO₂) were estimated to somewhere between 300.000 and 600.000 tons per year). “[We] observe the formation of a new ore deposit at the earth’s surface in the surroundings of the smelter,” says Clemens Reimann and Rolf Tore Ottesen in a 2005 report from the Norwegian Geological Survey.¹ I could not see the Ur, Pd and Au dust on my boots, but I knew it was there — along with a whole set of less attractive substances.

¹ Clemens Reimann & Rolf Tore Ottesen, ‘There is gold on your feet,’ *NGU Focus* No. 9, 2005.

² <http://www.darkecol-ogy.net/>



Tailing pond somewhere south of Murmansk



Revda — Where the uranium dust flies

Late October 2015, after coming back from Svalbard, I drive from Kirkenes to Murmansk with a Dark Ecology group.² The weather is grey and there is a thin layer of snow on the tundra between the Norwegian border and Murmansk. Owls are resting on the naked branches along the road. For the first time, I am not photographing while being driven across this terrain in a mini bus with a small group of researchers — artists and curators this time. I am content with looking at the landscape as it rolls by. The tundra landscape strongly resembles Norwegian high mountain plateaus, only its topography is slightly different — formations are larger, valleys are broader, and the birches slightly different. These are definitely territories featuring a particular kind of landscape beauty; horizon, sunset, sprinkle of snow, classical tundra materiality.

It is my fifth trip to the region, and the landscape has become familiar. The new road does not take us through Nikel like the old one did, but straight past Zapoljarnyj. Hence, we do not see the tailing mounds



Iron collection at the Kola Superdeep



The cap covering the superdeep hole

around Zapoljarnyj until we are quite close. I am used to them too now; how they seem so 'natural'. Taller than anything around them they perform as hills, and it is not until one comes close that one realizes that they are definitely man-made. Yet, they are compelling by scale and character — and offer a welcome break from the wide flat tundra landscape. I feel somehow intimate with them, and I appreciate the non-excitement of recognition. I know the Kola Superdeep Borehole is hiding out there among the hills of tailing — the remnant of an amazing Soviet endeavor to drill as close to the Earth's mantle as possible. On our visit there in 2012 we were puzzled by the amount of materials left to decay, and by the anti-entropic effort by a few independent 'entrepreneurs' to sort them by type — presumably in order to trade it. I am also no longer surprised at driving through military camps or villages that are not marked on any map. Jurij Gagarin trained in one of them, which makes the area representative of two opposites of Soviet desires — one for outer space, and one for the core of the planet.

Most of the major cities on the Kola are informed by the minerals deposited underneath them. Nikel, Zapoljarnyj, Monchegorsk, Apatity, Kirovsk, Revda and Kovdor are all mining cities where apatites, nephelines (nickel and copper) as well as iron ore are extracted. They were all planned as mining cities and display Soviet state of the art urban planning. The design is clean and structural. All cities have beautifully designed parks and green buffers separating the roads from the pavements (a fact that contributes to making Murmansk the greenest city above the arctic circle). Adjacent to them we always find the opposite; industrial areas informed by the rationale of ore processing — entangled masses of factories, worn and blackened by fumes, mud and mineral residue. The vertical desire for the mineral is overlaid by a horizontal desire for grand human scale plans that are also structured by lines — nowhere more apparent than in Monchegorsk. The city was planned in the 1960s on a sensational modernist model; the city center was placed three kilometers away from the processing factory itself — a fact that invoked debates about the loss of effective time as the workers had to actually travel to the plant. It is equipped with a park, and the park's central axis runs perpendicular to the main street towards the lakeshore, and ends in a terraced stairway framed by a white balustrade. This picturesque arrangement provides a paradoxical view to a mountain of tailings in the distance, in the neighboring town of Olenegorsk.



A Picturesque view to Olenegorsk

The central axis of the city itself is the Metallurgica Prospect, 'Mineral Boulevard', which ends in the large nickel and copper production plants that causes the city and its surroundings to be among the most polluted in Russia. What we see at the end of the street is a jumble of black steel and acid burnt ground. Lines of beauty end in the grandeur of mineral production, not unusual, I am told, for Soviet planning.



Monchegorsk's scarred landscape

Traveling the Kola Peninsula, one is left an interpreter and reader, of lines, layers, and materials. Landscapes and cities are connected by a flow of minerals in different stages of processing, from ground to surface, and from harbor to plants. The different 'subliminal forces' that operate in the territory seems to leave clear patterns of vertical and horizontal lines. However, both lines and the materials are evidence of things not seen; some known about, and some not know-able in detail. Data on Kola is difficult to access for political and language reasons, such as, exactly how much sulphur dioxide (SO₂) the air, ground, vegetation, human and non-human bodies contain. It is difficult to find out what pollutes the stinky creek in the northern part of Murmansk, or exactly what the Kola organisms pick up. We look at the sunken boats in the ship cemetery in Murmansk, and imagine that some of them were nuclear, but we do not know. We could be offered pasta with local mushrooms in Monchegorsk and not know what is in them exactly, or what our skin soaks up from the distinctly red water in the shower.



Monchegorsk processing facility

What we do see are the lines and the minerals. What we do not see is the intensity of a human-natural mesh of pollutants pervading the air, the soils, waters, mushroom and other life forms. The carts full of processed minerals sitting at the train station in Murmansk are just traces of an industry that has marked the entire peninsula, and contribute to what we now pertinently call a dark ecology — the intimate mesh of us as industry, us as economics, us as desire for minerals, us as nature.

Reading by lines on this last trip occur to me as a desire to structure, order — and to retain a distance between me looking and reading, and that which I look at. This perspective leaves the effort to understand the Kola by the logic of lines, horizontal and vertical, futile or even outdated. To read by

³ <http://blogs.agu.org/mountainbelt-way/2015/11/09/the-final-days-of-sub-400-ppm-carbon-dioxide>.

⁴ Morton, Timothy. 2012. *The ecological thought*. Cambridge, Mass: Harvard University Press.

lines seems hopelessly modernistic in a post-human perspective.

The Monschegorsk landscape opens another experience than the more familiar scenic landscapes. In this time and age, we are intimate with territories to a degree that opens abysmal depths for experience. In other territories in the Arctic this intimacy has some lucidity to it; On Svalbard, we know that the glacier in front of us is melting, and at what pace. We know that there are very few things in the territory that are not changing as a result of climate change; new species are discovered every year, the atmospheric level of methane is increasing, populations change (from miners to researchers and tourists). We generally know that we are beyond the days of sub 400 ppm carbon dioxide in the atmosphere, and the temperature keeps rising.³ On the

Kola this intimacy is darker, since we do not know what contains what. What are the actual numbers to evidence the mesh of the human with the non-human? The experiential effect is the same, and maybe the only true sublime experience left: we have become intimate with everything around us.

Landscape traditionally implies something that is apart from us and which can be perceived 'at a glance'. The perspective of a dark ecology changes this profoundly. I am not looking at landscapes, I am looking at something that is at the same time me and not-me — a SO₂ infused mesh of materials and desires. My new boots, my camera, the bus, the road, my clothes, my breath are all entangled in this new 'landscape'. The gaze, then, is left as an old-fashioned attempt to simulate distance.



View to a tailing pond in Zapoljarny. Photo: Janike Kampevoid Larsen



Researchers looking at Monschegorsk. Photo: Janike Kampevoid Larsen







Kirovsk, Botanical Garden

6. Anticipatory Thinking Through Landscapes

Andrew Morrison

• Photos: Andrew Morrison

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PART I

FRAMINGS

The Kola region of north western Russian Federation and its multiple landscape types form a complex of systems and relations. Thinking through the landscapes of the Kola is thus an intricate endeavour — akin to wider issues and relations in polar regions (Luzin, 1994; Sörlin, 2013; Sörlin, 2018) — of making sense of complexity. This includes matters of urbanism, climate change and governance (Graybill, 2015); contested practices and economic livelihoods for Russian Sami herders (Konstantinov, 2015), and wider issues of developing regional plans and actions to support sustainability (Elginston, et al., 2015). It is also a matter of understanding the region poetically as this chapter suggests through approaching the Kola peninsula as *an anticipatory landscape*.

The Kola peninsula is a vast region that is infused with material and immaterial political and policy concerns. It is also a region that is imbued with visionary imaginative and conceptual human endeavours: one may argue that its life in the past century or so has indeed been about projecting futures. Formerly central to the Soviet Arctic development project (Bruno, 2011), and subsequently the north westernmost outreach of Russia and bordering Europe during the Cold War, the Kola has undergone intensive industrialisation and urbanisation (Salmi & Hukkinen, 2008) in latitudes not seen elsewhere globally. Currently, Russia is investing in mineral extraction and actively expanding its geo-political Arctic strategies in which the Kola features prominently especially in terms of shipping, naval harbour and security expansion and the larger Northern Sea Route. As Doel et al. (2014) remind us more broadly, the Arctic itself has been through various constructions, characterisations, and interpretations: heroic representations of Arctic exploration in the

International Polar Year of 1932–1933, post-WWII militarisation, the International Geophysical Year 1957–1958, and environmentalism such as current climate change related views.

In this contribution to the *Future North* project's work on the Kola peninsula I take up the format of the verbal-visual essay to open out matters to do with encountering given, emerging and changing Arctic landscapes. The essay aims to unfold the notion of knowing the character and dynamics of the Arctic that is undergoing considerable transformation and challenges in a time of climate change and increased geo-political activity. In order to do this I have gradually developed the concept of *anticipatory thinking through landscapes*.

Principally I do this by drawing on situated analyses of the experiential, the socio-semiotic and the socio-technical. I enact this as part of a wider current project, inspired by *Future North*, into what I term 'an anticipatory poetics' that investigates ways to shape our notions and practices of not only future making but for studying futures. This approach complements that of a geo-poetics (not geo-politics) of the Russian Arctic offered by Hansen-Magnusson (2018). That work draws on the topoi of heroism, nature and technology, illustrating them through key works from Soviet cinema. My chapter offers an account of travelling with reflexive eyes (drawing on the work on postcolonial travel writing, e.g. Pratt, 1992, Clarke, 1999). However, it does it with some hindsight, and with access to a growing body of research literature on Arctic landscapes including postcolonial views (e.g. Hogan & Jensen, 2016). Given these frames, I acknowledge that this chapter refers to my first fully formed visit to the Arctic. As a Zimbabwean who has relocated to Norway this was in itself a journey beset with exoticisation as well as a white, male gaze (Blunt & Rose, 1994). In addition, visiting contemporary Russia — always 'imperial' in scale and global in force — would be an experience to

fathom for the future by unpacking the past and understanding the dynamics of the present.

Repeatedly, while 'on the road', but also later in discussions and reading, I would need to learn more about places of cultural expressions and political policies, the current relations between the state and private enterprise, and the prospects and projections of Russia's Arctic futures visions and emerging policies. What was unexpected was the parallel force extraction economies that have prevailed in both southern African and Russia in the past fifty years. How could this unknown region seem familiar while I was dazzled by the autumnal hues of the tree sized Logan berries? Having studied Russian history decades ago, the journey across museum settings and collections brought home to me the power of context and conditions. All of this sense making occurred while being in and, significantly, moving through an environment I had never experienced, yet one filled with surprises and materialisations of former Soviet projections and experiments now being reconfigured in the 21st century. These were places and articulations of lived experience that preparatory and on-going reading of research articles (e.g. Luzin, et al., 1994) and related print and online images could not convey.

As we travelled, in later inquiries, and in this reflexive account, my text adopts what may be understood in narrative terms as a 'skaz' technique, that is a blend of spoken, informal and emergent articulations rather than merely formalist academic rhetoric. This points to the status of thinking through the essay, or the *essai* (to try and to explore in French), as championed by Montaigne. The essay is also a verbal-visual mesh of exposures and responses, a meld of the serendipitous and the features of planned routes and stops. I do not try to write a temporal, diary-like travelogue, though the themes are drawn across a ten-day intensive journey and its somewhat circular topical reflection.

As a blended humanities and social science narrative, experiential and expository, it sits in relation to, but in rhetorical contrast to, other research on Arctic narratives (e.g. Bravo & Sörlin, 1992). 'Thinking through' refers to modes of knowing through experience, engagement and reflexive and critical review. Landscapes have agency beyond our purposive interventions; we are embedded in system changes in which our own agency is urgently requested. My account then is a mix of embodiment, collaboration, mediated meaning making and transdisciplinary discursive analysis. Overall, and as I return to in the conclusion, this is a matter of

beginning to shape what I term 'anticipatory landscapes'.

Consequently, my account adopts the character of a lyrical essay in its form and articulation (Shields, 2010). Instances, images and experiences are taken up as prompts, not categories, as topological discursive and socio-material resources, in a mesh of movement, the photographic and the written, with shifts in style and focus. Photographs are impressionistic and vernacular, taken with a smart phone, not intended to be authoritative. These media types together point to the diversity of cultural and anthropocenic landscape as a dramaturgy of experiencing phenomena entwined with information, of economic and ecological systems and their relational complexity and spatial character and assemblies, to the kinetic of the journey as an autographic yet shared before, during and post events, along with the photographic, archival, social mediational and print as multimodal. I do so with reference to work in auto-ethnography (e.g. Sparkes, 2002) and sensory ethnography (Pink, 2015) that seeks to provide nuanced, evocative and analytical approaches to the giving of accounts of unfolding processes, journeys and encounters with the new, unknown and emergent (Kennedy, et al., 2018).

I was fortunate to travel with a group of project members, especially our project leader Janike Kampeveld Larsen, who had not only previous and expanding knowledge of the region from previous visits but also deeper experience of working in Russia, as is the case of our Canadian (Russian speaking) colleague Aileen Aseron Espiritu, from the Barents Institute and University of Tromsø. Aileen worked tirelessly as a translator from Russian for our project team on its travels, as well as offering her own insights and critiques of what we encountered and could read from her own varied perspectives as a researcher and fellow traveller in wider Arctic environments, chiefly Siberian and Canadian. Later I would be supported by the insights and support of Vlad Lyakov, my research assistant, himself AHO's first Russian landscape master's graduate.

*
PART II

INITIAL IMPRESSIONS &
DIVERSE EXPERIENCES

The project used online reflections on the processes and outcomes of the project in two ways: 1) through individually and jointly written reviews of phenomena, research and experiences that, and 2) by way of blog posts we authored within and across our project team through the use of a mythopoeic persona, the nuclear powered narwhal called Narratta. An example of the first uses of blogs is given in the section here. Later in the chapter Narratta appears through presentation of the backstory of birth and discursive presence as a shared a cultural imaginary drawn from research and practice in design fiction (Morrison, 2017). The point here is to indicate the different ways we also went about encounters with the landscape of the Kola, connected to outlines by Janike Kampeveld Larsen and Peter Hemmersam (2013; and in this booklet).

It's autumn 2013 and exceptionally warm, with vibrant autumn foliage. I'm immediately struck by the richness of the vegetation and surprised at the number and size of trees and several large open fields. But this is no neutral landscape, with the bare rocky hills dotted with monitoring stations, their massive communications aerials and white radar domes a reminder this is a most highly technologised landscape.

Yet is also one of ideological projections and devastating war, with each town still bearing heroic statues and these open fields before Nickel the scene for massive monuments to battles of the Soviet Red Army against Nazi German invaders.

Early on the first afternoon of the visit there is the matter of an immensity of scales — geological, environmental, technological, ideological, cultural and human — that are woven together in this complex region. I feel right away that the challenge to make sense of them, individually and as an ecology. To experience and fathom them as an ecology of anticipation and mixed materialities is unavoidable, and will remain so.



Fields and monuments

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Janike Kampevoid Larsen, Andrew Morrison, September 09, 2013

After some hours of being on the road and stopping now and then to observe the landscape we turn a corner and suddenly instead of the expanse of rolling hills and rocky outcrops covered in autumn birch is a wide and open valley. The road bisects this unexpected space and we all comment on the enormous fields. In the bright sunlight we see that they are already all mown. This is Zapadanya Litsa River.

Peter reminds us that once near Murmansk there were large dairy farms. The scale of these two stretches of absolutely flat earth remind us of earlier collective farms. Kjerstin tell us how tough it is to grow food this far north. Perhaps a hay field. We drive through the centre of the pale yellow and green earth and traffic streams past us in the opposite direction, feet to the floor now the corners have gone. We slow down and turn into a set of two monuments that commemorate the Russian achievements and losses in pushing back the German advances. Victorious but at a huge cost of life.

These are the plains and surrounding hills of horrific loss and yet they today are bathed in bright sunlight under a cloudless sky. To the right there is a monument that contains the name of each of the 30 000 or so Russians lost here. The black plinth extends horizontally to the left, name after name etched into the stone in small columns. The scale of this loss is silencing.

We walk over to a second monument that stands with its back to the field. It is flanked by two maps etched in matt white onto the mottled red granite. They tell of the war moves and their imagery is heroic. On this maps are the outlines of boats and planes and task.



Just behind the maps we see a gigantic harvester. It is stock still on the flat earth, paused perhaps at the turn on long lines of passage. There is no one in sight and the tractor is relatively new.





We look again at the maps and trace the progress of victory, socialist realist concrete emblems in the space behind us, one appearing to be three concrete bayonets reaching 30 m into the sky. We discuss the scene, the battle scenarios that preceded our short visit.

And when we turn to walk off the paved area onto the field we see that the giant harvester has left us and is now a kilometre down the field, nearly out of sight. We are reluctant to actually walk onto the field. As if on a beach we are lingering on the 'shore' of the field, on the sandy strip separating it from the landscaped space of the monument.

Beaches generally perform as a marker of the limit of human space. They leave us painfully singular as human figures, hominids of sorts, left in a material space consisting only of a few elements. This beach performs not as a crude existential reminder, but opens a historical abyss in the horizontal expanse around us. As Andrew runs onto it all the same, in remembrance of his childhood in Zimbabwe. They leave us painfully singular as human figures, hominids of sorts, left in a material space consisting only of a few elements. This beach performs not as a crude existential reminder, but opens a historical abyss in the horizontal expanse around us. Andrew runs onto it all the same, in remembrance of his childhood in Zimbabwe.

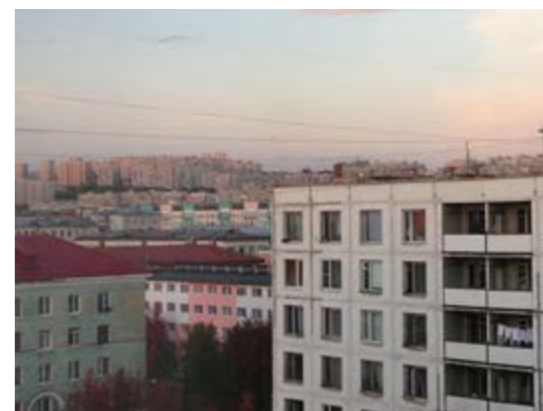
Peter picks up a handful of the chaff. In it we see a head of oats, shorn from these battlegrounds. Above us the enamel blue sky. To one side the uniform painted grey of a single large military tank that sits motionless against the hum of traffic on the highway.

Field and monument intertwined. Harvester and tank. A scene of regeneration, the season's end unreal in this extended summer so far into September. Concrete and soft sandy earth, a site of strategic manoeuvres, today both bucolic and forever bruised.

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PART III

ANTICIPATION STUDIES & LANDSCAPE

Gathering force in the past five years (Poli, 2017), Anticipation Studies is concerned with inquiry into how concepts and practices relating to the future, as possible, putative and projective, may realize activities in the here-and-now (Poli, 2010). It is through fuller explorations of the immediate world and of assumptions embedded in the contemporary that may also influence how we conceive of and develop and implement future facing actions (Celi & Morrison, 2017). Visiting and studying the Kola peninsula took on both these aspects. It did so in the context of the dynamics between human and bio-environmental systems and behaviours in wider Arctic futures discourses. For over a century — as part of imperial, Soviet and contemporary Russia — the Kola peninsula has been a region strongly propelled by futures views.



Driving above Nikel; Apartment complexes, Murmansk.

What then does focus on the potential and the actual imply for unpacking landscapes of the future north? How, as we look forwards, might the Kola be a site, a region, a domain, a terrain and a territory for developing such a prospective, and indeed, landscape rhetoric of today's tomorrows? The region still has the highest concentration of restricted access areas or Closed Territorial Administrative Federations (CATFs) (Hønne-land & Jørgensen, 1999) as well as being central to current military investment and expansion.



Murmansk Cultural History Museum, foyer.



Photographing denuded landscape, effect of mine airborne pollution, Nikel area.



Former botanical garden section, Kirovsk, now fallow.

Getting to know and to access the landscape is itself a complex and partial activity. Further, visitor research is formally and professionally restricted and access to human expertise and to publications is often limited by language. The Kola is perhaps increasingly one of the most significant landscapes to study: it is undergoing rapid change as the ice-free western end of the Northern Sea Route, the location of key storage terminals and routes for Liquid Natural Gas (LNG) together with the expansion of the Russian fleet, nuclear submarines and missiles along with strategic monitoring. The Cold War is no longer a war, but there is a chill in the air as missile technologies and the means to their dispersal are themselves propelled and designed through the seas and skies of the region against the backdrop of Russian territorial seizure, most recently in the Ukraine.

The Kola is one of those places that so efficiently demonstrates that landscape is more and other than 'seen space', entailing landscape as veil, text and gaze (Wylie, 2007). Landscape may be more fully conceived of as a multi-layered, relational construct: historical, geological, geo-political and experiential. 'Thinking through landscapes' in the plural form refers to processes of travelling through the Kola peninsula as part of the project team, by bus, on foot, by way of meeting Kola researchers and through access to wider Arctic and specific regional print and online publications.



Minibus travel through Kola; Janike Kampevold Larsen takes a turn at reading out loud to the project team; Peter Hemmersam examines an urban plan on his laptop.

Within this framing, though, I draw on the recent work in embodied and sensory ethnography, such as the work of Sarah Pink and others (Pink, 2015). I do this to tackle head on the need to work through what encountering the Arctic may mean. I engage with how we might make sense of Arctic landscapes through tempo-spatial experience, and ways we just may be able to act and intervene in shaping thinking about futures through landscapes. I therefore look back on a visit to the Kola in the form of a journey, taken together, but presented through my own written and visual selection of experiences and views, and consider again the material features, contexts and conditions of a contemporary 21st century Kola landscapes.



Kjerstin Uhre, making notes and sketching on the edge of Murmansk city, prior to project's transect locative media mapping.



Murmansk. Preparing for the transect walk with GPS urban mapping app called MAPPA. Aileen Espiritu and Peter Hemmersam.



Janike Kampevold Larsen taking photographs, project team's transect walk, Murmansk.



On our later Arctic travels and in formal academic and artistic settings we met Russian colleagues who are from and work in and on the Kola. Given its formative and experimental character — at least for me encountering landscape research and Arctic landscapes at the same time — the project only began to lay some of the ground work for possible future collaboration. Understanding Russian perspectives further continued when back in through discussion with my assistant, Vlad Lyakhov.

Taken together, this embodied encounter, situated verbal-visual narrative and analytical exegesis may be seen as contributing to a view on landscape as topological (Wylie, 2007: Ch 6), a perspective on landscape as shaped by cultural production and consumption logics. Focus on the topological allows us to better assess place, and the ways we can better understand and design with the substance and the structure of ground, modifying the 'natural' in working through terrain (Girod et al., 2012).

Topology is about the intelligence of a site perceived, and shaped by society topically. It defines a discerning approach to the physical and natural conditions of a landscape, guided by the technical, ethical, and aesthetic choices that have occurred. Topology sets the physical, cultural, and temporal reality of a given place through a series of reflected deontic and cognitive choices. (Girod, 2013: 82)

This is a notion saturated with concepts from related studies in landscape/cultural geography that Wylie reminds us are relational, vitalist and hybrid. Fixed views of landscape as pictured as extended by practices and analyses that are, to be brief, more fluid and lubricous, part of a plurality of landscape perspectives and mediations.

Kirovsk. Below Botanical Garden, looking across Lake Bolshoy Vudayr. Future North project team: (from left to right) Janike Kampevold Larsen, Aileen Aseron Espiritu, Kjerstin Uhre, Peter Hemmersam.



Social interaction, suburban Murmansk.



Lakeside scene, Monchegorsk.

The landscapes of the Kola are indeed plural; this is one of their challenges and fascinations. They are industrial, economic, ecological, climatic, strategic and cultural ones, co-occurring in the age of the Anthropocene, yet still implicated in the massive earlier modernisation projects of Arctic development and extraction based Soviet policies (Dobain, et al., 1992; Brunstad, 2004). These too are historical landscapes with long experiences of settlement, trade, movement of people and regional strategic interests and demarcations, such as between Murmansk and Arkhangelsk (e.g. Federov, 2011). They are also implicated in the overlays, intersections and tensions of traditional indigenous knowledge and life worlds of reindeer herding and earlier industrialisation along with the changing pressures and practices of 'development' of today (e.g. Konstantinov, 2010). The rural and urban landscapes of the Kola have seen considerable economic reconfiguration in 21st century Russia, such as in the privatisation of nickel mining and smelting (Humphreys, 2011). However, these still very plural landscapes may be said to remain to be further transformed beyond current extractionist carbon centred policies and practices so as to meet the pressures and needs of averting climate change (Johansen & Skryzhevskaja, 2013; Kokko et al., 2016).

There are undeniably many important issues we need to face in order to understand and anticipate potential changes in the landscapes and discourses of Kola. Histories. Ideologies. Mediations. Futures. Matters of engagement. These are also some of the



Wooden gateway to section of Kirovsk botanical garden.

views covered in a conference paper by my project colleagues Janike Kampevold Larsen and Peter Hemmersam (2013) that casts Kola landscapes in terms of 'archives of the future'. Following their thinking, this text then is also situated in my own involvement in futures related inquiry, spanning systems, culture, and change, framed within the emerging domain of anticipatory systems, practices and studies. In the *Future North* project we came to understand that there are 'many norths' as Hamelin (1975; 282) suggested. While these continue to be related to various interests, conceptualisations and constructions of the Arctic, our interest has been to investigate a diversity of futures of the north in a changing and dynamic Arctic. Related layers of sense making and a mesh of meaning are two themes I now take up.

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PART IV

LAYERS OF SENSE MAKING

How then might one convey these aspects and intricacies as a visiting novice, as personal experience, with reference to other publications and perspectives, for others who have not the privilege to visit? To offer something that gives some sense of the diversity and complexity of the region as the most intensively developed and populated part of the entire Arctic? What connections might be made between such a multi-layered landscape and a prospective and anticipatory view of this highly strategic region that is undergoing transformation in Russia's reconfiguring of its Arctic resources, presence and global futures?



Public concreted square, Nickel. Early pre-cast apartment blocks, with nickel smelter stacks in background.



Newly paved public square, Nickel. Wooden church nearing completion in the background, smelter stack in use.

The Kola has been a region of urban and ecological experimentation, such as, just outside the town of Kirovsk and beside Lake Imandra, in the Polar-Alpine Botanical Garden Institute of the Kola Science Centre at Apatity. Established in 1931 this was a venue concerned with experimenting with plants from other regions for their adaptability to the Arctic, along with collecting, preserving, teaching and researching. However, the Kola, as with other strategic areas under the USSR and still today, is peppered with closed and unofficial cities, part of a wider state machinery and militarisation that is changing from its previous autonomous identity (e.g. Hønneland & Jørgensen, 2008) but also being reinvigorated.

In this sense the Kola is a unique, experimental and yet highly populated and ideologised terrain and territory. This has been the



Kjerstin Uhre photographing Nickel from the project minibus.

case historically and increasingly so in the present with a rise of strategic shifts concerning mineral extraction, security and trade, that is commercially and by the Russian state. It is a region with cross border activities with Norway, concerning trade, work and social networking, de-escalation of airborne pollution from its nickel mines as well as support for decontamination and decommissioning of nuclear facilities, including submarines.

Yet, as the *Future North* project advanced, the Arctic and the Kola region also changed. When there, and when continuing to follow up issues, it felt often that we were not only on thin but also shifting ice. Sources of information online, such as the *Barents Observer* and the *Russia Today* websites were debated for partisan allegiances, sanctions against Russia reduced the sale of Norwegian salmon, and cross border trade between Murmansk and Kirkenes faltered some, and eventually with piles of bicycles appearing on the Kirkenes side of the border with the mass migrations in Europe in the past two years, seen in person by our project leader and doctoral researcher Morgan Ip just as they began to appear.



Food stall, suburban Murmansk, September, on lateral level space between layered levels of pre-cast concrete apartment blocks.

Between the visit in September 2013 and this publication, a string of important books would be published, reminders that there are 'many norths' (Sheppard & White, 2017). Our own project's book would join this collection (Kampevold Larsen & Hemmersam, 2018); this Kola booklet, part of a series from the project characterises a situated and reflective sibling to the internationally published project anthology, one that would speak less formally, in my case more tentatively and even ephemerally, articulating experimental design work and expressing the poetic along with the interpretative. Along this wider journey I would meet other books engaging with the dynamics, the unfurling, the swirling and at times seething processes of change, such as Paul Carter's book *Turbulence* (Carter, 2015). A relational charting, between cultural mapping, anticipatory rhetoric and strategic political economies, in changing times. Guattari's chaosmosis for climate change (Guattari, 1995), the shifting surfaces and a need for continuous recalibration. Donna Haraway's notion of 'staying with the trouble' (Haraway, 2016), and Morton's 'dark ecology' (Morton, 2016) coming out of another research project, *Dark Ecology* that travelled to Nikel and Murmansk numerous times.

Against this backdrop of perspectives, my essay poses questions more than it promises a synthetic reading of the Kola peninsula. The Kola is a dense, rich, dynamic and yet contested space where political and democratic voices remain corralled to some degree. A cultural organisation we met with informally called Mr PINK was closed. We also met highly informed and articulate researchers at regional events representing their research interests and their own interpretations of the lived worlds of the Kola. There appear to be much to investigate further, such a histories of urban planning in key with the uses of wifi on public transport, where apps delivered information about the strongest signals and the potential to hop electric tram/buses. The Kola is evidently a technologically dense domain.



Example of the numerous multi-purpose use lock-up garage areas, a private-public space from Soviet times continues today.

A MESH OF MEANING



Entrance with frieze, Nikel culture house. Socialist realist metallic relief accompanied by digitally printed advert and Christmas lights.



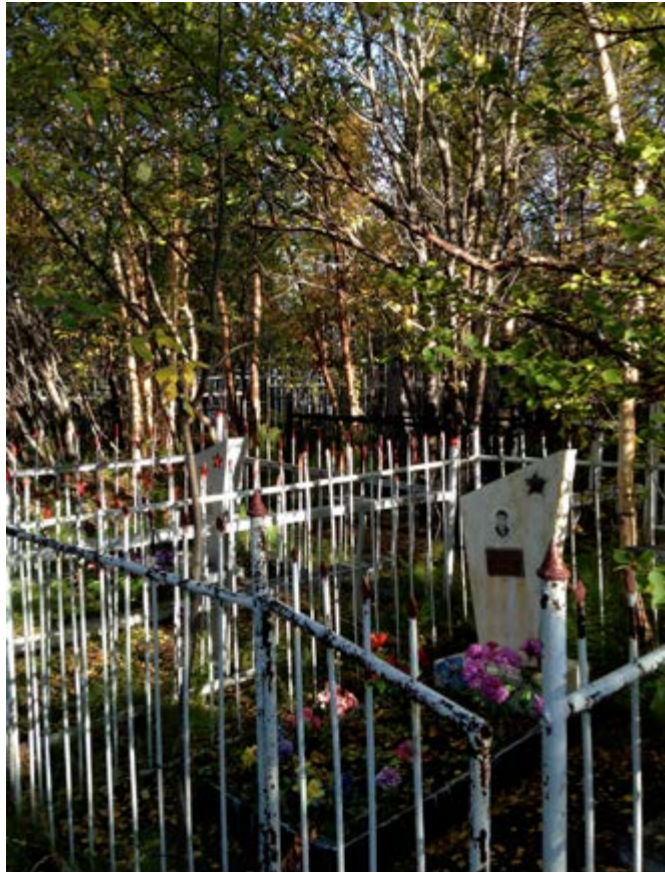
Electrical and transportation infrastructures.



Diverse parking and street scene, Nikel, with mining stacks in vicinity.



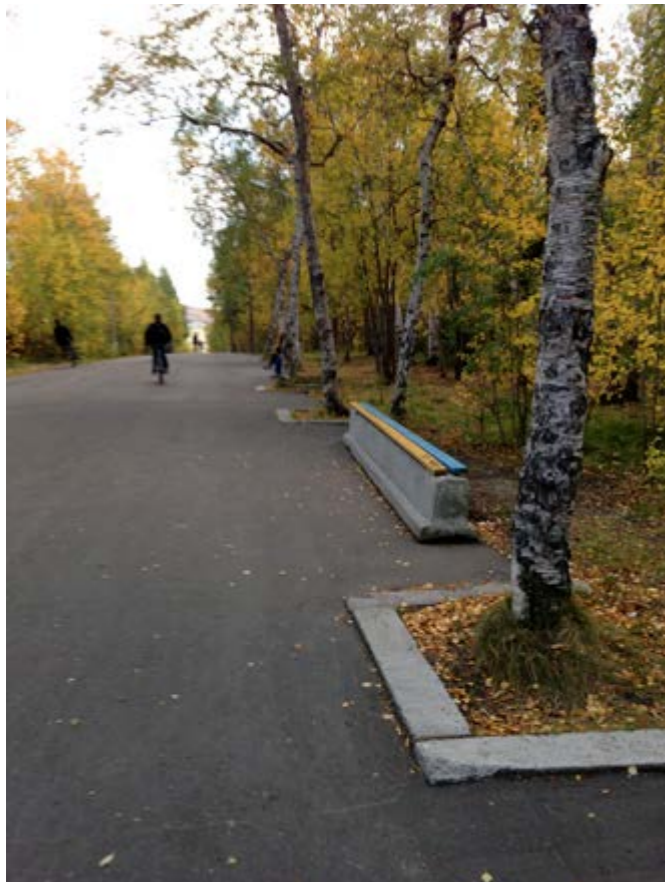
Torpedo, Murmansk Regional Studies Museum



Cemetery, near Nikel.



Evening traffic, electric trolleybus, Murmansk.



Pedestrian boulevard, Zapolyarny.

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PART IV

LANDSCAPES OF TRANSFORMATION

It's important that I reiterate that travelling as a member of the *Future North* project for the first time to the Kola Peninsula in Russia confronted me with a mix of awe and apprehension. I had never been immersed in an Arctic landscape nor its planned, industrialised and militarily strategic cities. Once amassing over a million inhabitants, the Kola Peninsula is most likely the most highly industrialised and densely populated part of the Arctic: it is often mentioned that it is home to some 70% of all Arctic dwellers. The Kola region is also directly adjoined to Norway, and hence to NATO and to history as I show below. Yet today, it is also central to Russia's Arctic policies and futures, ones that play out more widely in national terms but also internationally in the Arctic Council.



Driving past the town of Monchegorsk, metal advertisement, base of Russian airforce.



Russian orthodox Church, newly built, Monchegorsk.



Urban planning, street layout and lakeside design, Monchegorsk.



Monchegorsk from across lake Lumbolka.



Murmansk, lateral zone carries transport and services across the city; density of housing.



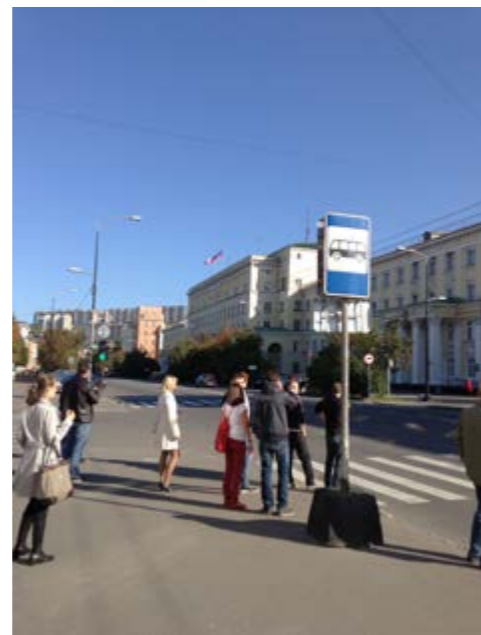
Variation in housing types, age and materials when descending towards the lower slopes of Murmansk.



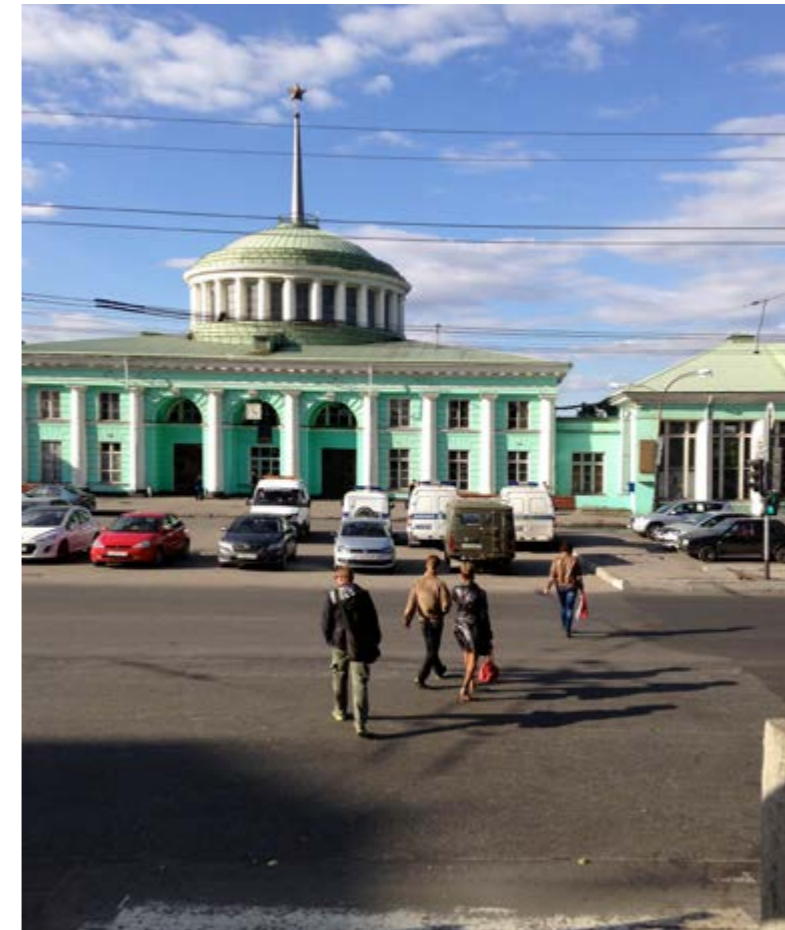
Example of periods of development, architecture and current use, hillside, Murmansk.



Examples of apartment and building facades, Murmansk (above); hospital facade (below).



Central urban scene, Murmansk, transect walk.



Approaching Murmansk central station, Peter Hemmersam (central); transect walk, lower city flat area beside harbour and fiord.

AN ENTANGLED LANDSCAPE

It is hard to anticipate the meanings and systems relations (Poli, 2010) of the Kola. Its key modern city Murmansk, and its surrounds, are home to the northern military fleet. It is a city connected to digital infrastructures and social media. Sheltered in a fiord and fed by the warm Gulf Stream, this region is unique as the open western end of the vast Northern Sea Route and land mass of the Russian Arctic. Military facilities have been rapidly and extensively upgraded and expanded in just the past five years as part of the country's resurgence as a global power.



Poster, the legendary Lenin nuclear icebreaker, Murmansk.

Further, entangled in the spread of global goods and exchange, the region is part of Russia's strategic investment in the Northern Sea Route (NSR) and its presence as a 21st century northern power with global reach. Mineral extraction has continued and expanded under the aegis of private-public partnerships. Most recently, this has been implicated within other global power plays through China's assertion of a 'Polar Silk Road' (see e.g. *Arctic Yearbook*, 2018: 42off; *Arctic Frontiers Conference*, 2019). These are symptoms of climate change some would claim; others might suggest they are opportunistic developments that sidestep the near suicidal denial of rising temperatures and the need for the urgent curtailment of many daily living and work practices.

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PART VI

PERSONAS & CO-DESIGN

When we set out on our numerous trips to explore our near Arctic, we constructed a persona to help us navigate the complex landscapes of the Kola. Drawing on the domains of design fiction and un/natural narrative (Morrison, 2017; Morrison, 2018), Narratta allowed us to move chronotopically, that is to shift between time and space, settings and perceptions, in relating to the plural character and complex constructions of this important Arctic region. Readers may access the project website for further instances of her voice, of our shared mediational attempts to speak as a human/non-human entity.

2013. In September we are to visit the Kola peninsula. All summer I've been trying to come up with a device, a persona, a trans-human, mixed species entity, a being, a fantastic ventriloquist. But what for, my friends asked me. The point is to try to shape, give form to, co-create a mediational means to communicate about the vast and changing character of a future north. In part this is my own making, but it is the mediational part of the project was designed to be a cross over between design and urbanism and landscape.

One sunny morning, in July I would understand that we needed to be on land and in the sea, in flight and able to land. This was influenced in working with GPS in our app called MAPPA and also that other colleagues were working with GIS. I'd also been working with personas in design fiction and the meanderings of a female urban drone who'd gone rogue. I saw an online chart, poster perhaps, of whales and there it was, the narwhal. A remarkable creature, foreign

to our Arctic waters, a fascinating shy small fellow maritime mammal. It's unique long tooth instantly made be seen as an aerial, a sensory beacon and in fact later I would learn that it was depth and temperature sensitive. I'd go on to write about the person called Narratta we developed between us in our project book (Morrison, 2017). But her birth was in the Kola, for us as a team.

I dove into the depths of the web to learn about this so-called 'unicorn of the seas'. One afternoon in August, my project colleague Henry Mainsah and I were ascending the steep steps from the Vulkan food and entertainment district in central Oslo. I'd been telling Henry about my preoccupations with Narratta and he'd been listening patiently. We paused on the upper street level beside the Vulkan hotel and I looked down at my feet. There to my astonishment and to Henry's puzzlement I found a metal drill bit. A spiral, just like Narratta's toothy sensory aerial! There was no anticipation of its role, it was already embedded in a narrative about Arctic journeying. That would unfold later, in Murmansk. This as drill bit too, symbolic of the Kola super-deep well experiment, and connected to the regions many mines. Simultaneously a narrative resource and a techno-cultural referent.

September 2013. Breakfast after our first night in a hotel on the hillsides of Murmansk. The project team assembles slowly. We've agreed to have an informal project meeting and discuss themes and logistics. Then we turn to Narratta. She's out of the bag, already now in discussion with the project team, not everyone quite clear what she might articulate. The result of a fictive experiment at the end of the Cold War. I explain narrative voice and devices to convey satire, to pose and project, that there is space to experiment together with narrative methods (Riessman, 2008), that famous Russian novelists have done the same as Janike reminds us.

I explain that this is also a means to investigate design fictions that are future oriented, and that we might travel this different, non-literal route as Raven and Elahi (2015) would later argue. I mention that she is our meeting of not only species (Haraway, 2008) but that she is also ours to shape in an unfolding of information, issues and understanding. As one of us in a wider and troubling post-colonial narrative framing, yet remote, always in relation, becoming not given. Later Donna Haraway would write about her own connections with non-human entities as making 'kin' in this Anthropocenic age (one she'd term the Chthulucene; Haraway, 2016).

There in Murmansk, Narratta came alive, at breakfast, kin also to other such similar narratives to bring things to life (e.g. Lowenhaupt Tsing, 2015), to extend agency where systems and relations are interwoven. Later, I would read the Russian writer Yuri Kazakov's short stories (Kazakov, 2013; Kazakov, 2015) many set in the region, and marvel at earlier personas travelling the physical and cultural landscape of the Kola, Barents and White Seas, Narratta prefigured by a talking bear and in translation! Between us we took a banana, the drill bit and a sugar sachet and shaped her physical form, an amalgamated being made before our eyes, shifting and thinking through — and with and alongside — the immaterial landscapes of the changing, far north



The persona Narratta is formed at a breakfast table, Murmansk hotel with project team. Drill bit, banana and sugar sachet.

Right there, Narratta began to take *communicative* form. We began to engage in 'a poetics of anticipation' manifested through co-design and co-creative reflexive narrative to allow us to perceive and to project beyond our immediate embodied experience, to in a sense catapult our minds forwards, above and through thinking landscapes of a future north.

http://www.oculs.no/projects/future-north/news/?post_id=3584



Reaching for reason

Narratta, October 30, 2013

I've kept quiet for a long time now. Centuries of lips sealed and horn retracted. Learned that one from the invention of the telescope. They have found me nevertheless, explorers, mariners and hunters of the north. But it's time to show up and shout out. Time that someone shaped these stories of the far far north. Alas. As if anyone can here me in this Arctic blizzard as the autumnal shifts seize the ice and toss it about in the shallower water.

But it's my beginning, Shouting against the wind and force. My head above the waves, ice fragments bobbing about me, my horn pointing skywards, an antenna to reason.

STARS SHONE FOR THE MIDNIGHT SUN

On 5 March 1953, two scientists found themselves sitting on opposite banks of the their border river. It was a warm Arctic evening, the pale sky luminous above them. The Norwegian turned on his radio, and then quickly turned it up. A special item.

About
At present the Circumpolar North provides a unique laboratory for studying future landscapes of production, infrastructure, excavation, and environmental change. [More »](#)

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'The Death of Stalin. An era has ended.'

And he leapt for joy and yelled out his happiness to the heavens, still starless. The Russian put down his rod, and waited. Such was his life, often. They had spoken several times earlier in the month when they unexpectedly met near the narrow crossing point that was always under surveillance. So they knew they both spoke Russian.

'What is it?' Shouted the Russian.

'It's Stalin!' yelled the Norwegian. Enough to make any Russian squirm, that the giant might appear and not just look, his magnetic horrors about to stick to you, this quiet scientific mind beside a small river, waiting for a catch. 'DEAD! DEAD! DEAD!' the Norwegian sang.

And then they were both laughing and shouting and yodeling and yipping and skipping with joy.

In a bid to celebrate the death of Stalin with alcohol, to wash away all they could remember in one night of foul spirit, they agreed to meet the next evening, both thinking to themselves that there might be a real future for science after all.

That night they dreamed the same dream. The stars came out in the bright sky of the midnight sky, defying physics, upending the sagas, a watery light they had never seen. And in that sky they saw something fly past them. Just a glimmer of a shape, indescribable, compelling, glimpsed and then even fuzzier as the dawn, itself awake all night, continued into the heat of day.

It was a shape, a shadow, a mammal they knew, now airborne, the grit of last night's drinking crusty in their eyes. Spectacular. Mythical. Unicorn of the seas now airborne.

They met later in the week and knew they had seen something of the near future, the imaginary now shared. So they drank some more and made their pact. They never spoke of it to others. They met secretly and fashioned their flight of fancy, biology meeting nuclear science.

To create a nuclear powered narwhale. To secure and augment a living example of the mythical unicorn of the seas, that notoriously shy mammal of the icy arctic water. To invent beyond today's boundaries and the creative and thought landscape of their borders.

A NEW MYTHOLOGY ARRIVES

Over fifty years later the fruits of their labour has been sighted in the northern sea routes. A new mythology is unfolding, an unexpected device for reading the here-and-now and projecting the future via the Future North project.

Yes, that's me, Naratta, reading this all backwards and forwards. Design fiction materialised! Follow this space and you'll see what I have in store for you.

CONNECTING THE HISTORICAL & PROSPECTIVE

* PART VII

One afternoon later in the visit, we run a formal workshop and writing session in the hotel's café lounge, gathered indoors on wrought iron chairs, each pitching ideas and writing drafts that we discuss and begin to see that this persona allows topics, reflections and difficult issues to pop up in different places and times. Narratta sidles up to the renowned Lenin icebreaker in the Murmansk harbour as we cannot. There is a fluidity and a means to work with indeterminacy and uncertainty. I later read the following from two colleagues at RMIT University in Melbourne. For them, the:

... abandonment of certainty gives rise to discomfort, yet also shows possible ways to produce avenues of knowing about things not yet encountered, possible alterities and potential futures. As such, we place value upon uncertainty and put the not-yet-made at the centre of inquiry: ethnographers/designers are substantively engaged in *processual* worlds where they work with emergent qualities and people who are sharing their journey into the immediate future. (Akama & Pink, 2018: 287-288, emphasis added)



SIMILAR GEOLOGY, DIFFERENT CLIMATES

We visited two key museum sites in the central Kola. These were startling testaments to the dedication of former Soviet specialists, the first, geological in Apatity and the second botanical in Kirovsk.

The Museum of Geology and Mineralogy of the Geological Institute of the Kola Science Centre of the Russian Academy of Sciences in Apatity was established in the 1930s. Housing over 9 000 items of rocks and ores this was a wondrous collection to visit.

I am wholly transfixed by the samples carefully displayed and by the explanation the formal guide was giving. I KNOW these rocks! I really know them in an embodied sense as I'd grown up in a mineral rich region and 20 kilometres away was a nickel mine. Fascinated by geology, by the materiality of rocks and their colours and particles and processes, I'd had many of these very same items under my own pre-teen bed!

The rocks displayed in Apatity are not at all unfamiliar. They are from an earth that is simply round and geologically similar across the savanna of Zimbabwe and the tundra of the Russian Kola. Exfoliated vermiculite is shown supporting plants, just as in my childhood I saw it being promoted locally as a soil-less medium for invigorating and nurturing plants, an early hydroponic experiment occurring across climates zones I now learn. The Museum and its patient guide are a remarkable revival of interest, memory and mapping, her eyebrows raised on more than a few times when I pose questions and lurch ahead of her tour, a young inspired boy again, but in the Arctic, time sealed in geological processes, future time our challenge to change climate destructive practices.

Set of apetite (above) and category chart (below), The Museum of Geology and Mineralogy of the Geological Institute of the Kola Science Centre of the Russian Academy of Sciences, Apatity.



RESEARCHING BOTANICAL PROSPECTS

In Soviet times grand experiments were undertaken, technically and environmentally, not all of them successful, such as the Aral Sea depletion. However, the second museum setting we encountered, the Botanical Museum in Kirovsk, was extraordinary in its attempts to see what plants might thrive and adapt in Arctic climate zones. While current practices about expulsion of 'invasive species' abound, in this setting the intent was to look to the production of food, plant life and potential futures. This garden with its extensive environs of zones, beds and potting and seed houses is now only a glimpse of its former glory. Yet, it still remains a functioning and impressive site, attended to by a highly motivated and informative staff.

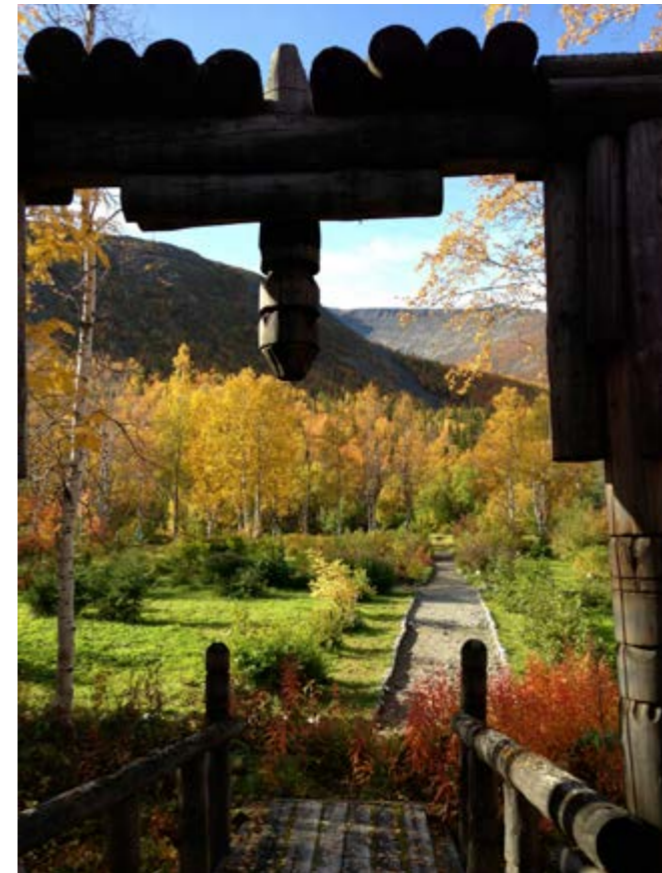
Visiting this outdoor experiment to a potential 'living future' reminded us that there is a biological and environmental urgency to altering the production of CO₂ and to ensuring rivers, lakes, fiords and coasts remain unpolluted by mining. We marvelled at the inventive gardens and then stood silenced beside the beautiful Lake Bolshoy Vudyavr where a sign warned that its waters are toxic; new mine head gear was visible in the distance.



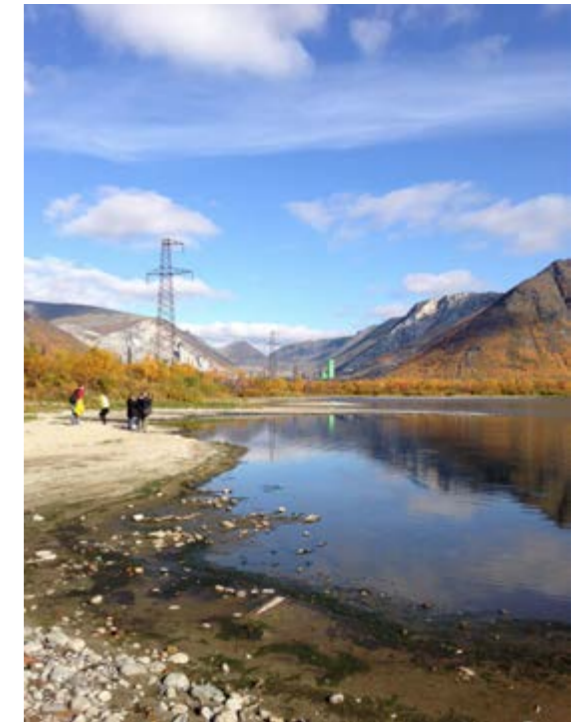
Illustration (top) and (bottom) core samples, The Kola Superdeep Well, The Museum of Geology and Mineralogy of the Geological Institute of the Kola Science Centre of the Russian Academy of Sciences



Kirovsk: Kjerstin Uhre in front of mirrored image of large photograph of the town; view from hotel room with city, industrial tower, Lake Bolshoy Vudyavr and Khibiny Mountains; with botanical garden valley (left), and mining area (right).



Kirovsk, Botanical Garden



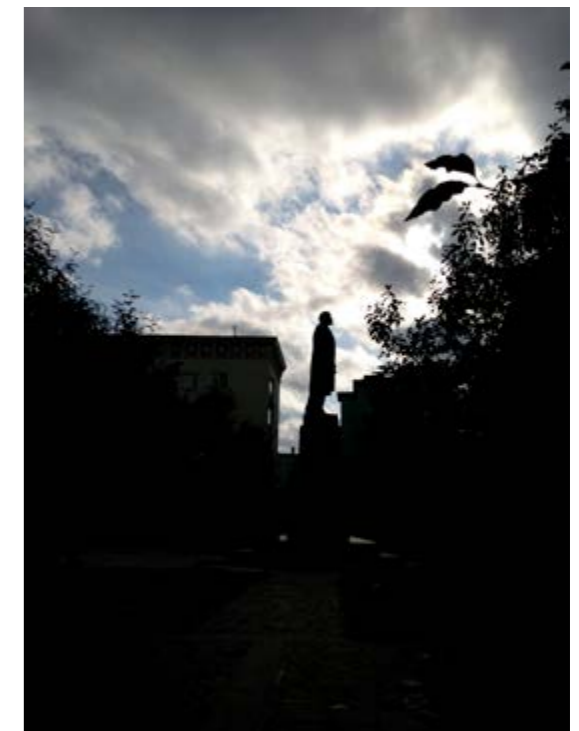
Research team, at end of botanical garden, beside Lake Bolshoy Vudyavr with new mine in valley (green).



Greenhouse, Kirovsk botanical garden.

* PART VIII

THE PROSPECTS OF HISTORY



Silhouette, statue of Lenin, Murmansk.

It's been another busy day in Murmansk. The *Future North* group takes a breather to follow up individual interests and to take time to drink in the city. Kjerstin Uhre and I, as an extension of our relationship of student and supervisor for her PhD in counter mapping of cultural Arctic landscapes, decide to visit the Murmansk Regional Studies Museum on Prospekt Lenina. It's a large, solid, multi-storey, neo-classical building, a volume of luminous jade green, from 1926, and it is filled to the beams with visual and verbal accounts, artifacts and human struggles.



Future visions of progress, Murmansk Regional Studies Museum.

Our inestimable teacher John Strickland had enticed us into exploring the different accounts of the contest between the Red and White armies. Standing in the massive Murmansk museum, filled with information in Red view, I'm reminded of his trendy Oxford bag trousers and his ironic laughter, ever thankful for his love of reading and historiographical curiosity that he so generously gave us in the context of a deliberately limited colonial southern African education. Now passed away, his spirit seems to smile on what he had prepared me to appreciate, the strident tone of survival here overwhelmed by the details of loss, of resilience, the immense struggles to protect the Revolution's access to the liquid Barents Sea.



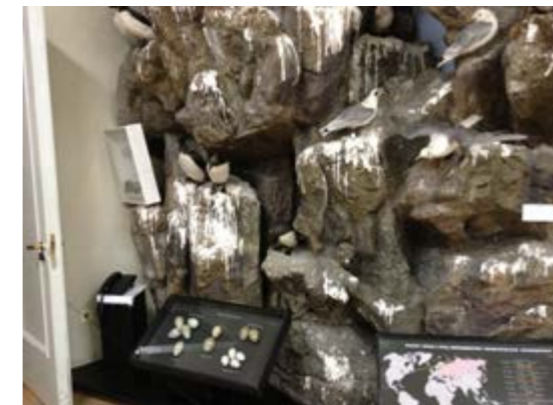
Focus on maritime history and artifacts, Murmansk Regional Studies Museum.

And then I'm roaring with laughter when one of the women guides, already speaking less and less Russian to this ignorant visitor and extending her gestures to me in an ever more child-like way as we proceed, turns away and rapidly answers a telephone plugged into the base of a wall size image of a coastal avian Arctic landscape.



Exterior, Murmansk Regional Studies Museum, showing historical mural.

I'm struck by the epic scale of this Arctic historical collection and museum exhibits. Floor on floor of socialist realist representation all appointed to the domain through which we had been travelling, including core extracts from the Kola Super-Deep Well (Kozlovsky, 1987). The galleries are detailed articulations of the fight for the nation state, a stark and detailed view on the First World War that I've never seen imaged, but only read in an A-level 20th century Russian history class.



Natural history display, with telephone on table with cloth (left), Murmansk Regional Studies Museum.

Pragmatic, idealist, immense in scale, projections and mediations of Soviet survival together with future success, the march of progress, pride in surviving the onslaught of the White army, later the Germans. Murmansk. The rooms about the Second World War reduce me to a speck of dust as no other depiction of war has done.

ALWAYS PROGRESS!

I recall, from right at the start of our journey into the Kola territory and terrain, the monuments beside the enormous field and harvesting machine to the giant battle with the German invaders (see Part I). That the memorial was also a map, a documentation, a physical slice of the earth, carved and polished and set upright, an immense charting, a cartography of stone beside the chaff.

Wall after wall of visions of technological, socialist progress: trains and planes and technology abound. The promise of the future. The allure of technology, transportation, then the machinery of war, the drive of ideology. It is enthralling, walls of modern history in this neo-classical building, floor upon floor, until I arrive in one of the top floor rooms and there in the corner, higher, I see an early fresco, naïve, on a blue background, reaching forwards in its aesthetic. Clearly hand painted unlike the bolder practised strokes of the later ones. Protean. To make a cultural landscape. To bring the cultural forward, the social experiment of the city, its remarkable history and its growing revival. A landscape that has been inhabited and traded for centuries, the Tuloma river and the ice-free fiord running below the built environment and the vast expanse of fiery coloured autumn forest on the opposite bank.

Here we see the scenic 20th century formed for the 21st. Through the woblier brush-strokes of this earliest of the painted galleries, I'm reminded of the handmade rough edges of the pre-cast concrete panels for the early apartment blocks in Nikel and panels of concrete painted now. Nikel. Once part of Finland, later the USSR, now Russia. And connections to Murmansk's urban cultural landscape history, painted on the walls layer upon layer, floor by floor, just as the



Sequence of images showing communication of military and WW2 history. Murmansk Regional Studies Museum.



topography of the city can be read decade upon decade as one moves from the top of the hillsides through urban planning and lived histories to the water, urban planning for this ribbon city manifest on its slopes and harbour side.

Here is the largest concentration of people in any place in the Arctic. Though numbers have fallen, the city is again primed for strategic development and is central to the wider project of the Northern Sea Route and on-going carbon extraction of LNG, much of it Europe bound. With massive investment in the naval capacities of the outer Murmansk fiord, the city itself too is likely to become gas powered in the next decade. New turbines, different power sources, but still carbon fuel.



Looking upward to hillside of Murmansk, typical street scene midtown (above); recreational area in apartment area, upper Murmansk (below).

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PART IX

LANGUAGE & DIALOGUE

Not reading Russian is a massive limitation in attempting to 'see through the landscapes of the Kola'. While the *Independent Barent's Observer* online news site has provided much rich material, orientations and translations of contexts by our Russian colleagues has been most important. On our journey, translations, negotiations, explanations and commentaries were provided by project member Aileen Aseron Espiritu who works in a span of projects on Russia. Her talks and published works also provided further context for making sense of Kola landscapes.



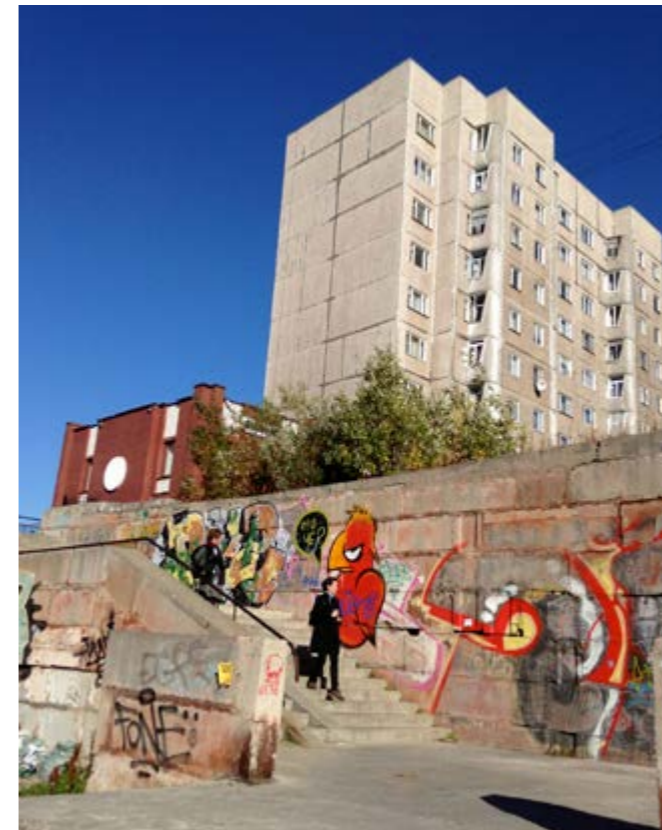
Aileen's open-minded, critical and wider knowledge of the Russian Arctic, contexts, conditions and communication provided us with an essential backdrop to our much more modest study. Similarly, Vlad Lyachov provided useful suggestions and a critical voice in his studies as a masters in landscape, including in Tromsø, and as my research assistant and discussant.

Dialogue with Russian experts and scholars became a delicate matter for the Future North project when the Russian government reformulated its policy of registration of NGOs and foreign researchers via more stringent terms for 'aliens'. Many countries require such registration as part of professional practice; we envisaged this as a wider monitoring move of independent and diverse views on the part of the state. The Russian state clearly flexed its geo-political muscles during the life of our project, when it annexed Crimea and reinforced its access to its southern seas. Murmansk and the Kola military harbours thus become connected again in a national strategic move to bolster Russia's naval and geo-political force. How then might one find out about more about the Kola without engaging in an ideological stand-off and learn from Russian colleagues who are public in their views and from media that may be seen to represent specific Russian views, such as *Tass* and *RT News*? One has to also think through these landscapes as researcher and as a global citizen concerned with climate change, and the wider picture of the NSR, new carbon extraction developments and fluctuating neighbouring relations.

CONFERENCES & TALKS

One of the connections I made in Tromsø at Arctic related conferences was with two attending researchers, Larisa Riabova and Viktor Didyk, from the Russian Academy Science based in Kirovsk. Viktor has passed away during this project's short lifetime. These scholars have published a wide span of research on social sustainability and local self government, municipal economic development and urban planning, amongst others. Such published research, along with that of the impressive array of scholarship at the *Arctic Modernities Conference* in September 2014, helped unpack established and emergent inquiry into the Arctic, Russian views and the Kola.

In addition, twice since visiting the Kola peninsula I've had the good fortune to hear excellent talks by a pair of Russian designer scholars, Tatjana Gorbachewskaja and Katya Larina. I'd heard about them from Janike but meeting them face to face after



Public announcement/warning speaker (above) Murmansk Regional Studies Museum; graffiti on steps in upper Murmansk (below), Kjerstin Uhre (left) and Aileen Aseron Espiritu (right).

visiting the Kola gave me some experiential understanding of their research presentations. Studying in Germany, Tatjana is from Nickel, making her work resonate quite differently to reviewing my own photographs and the blog posts in our project website. She work closely with architect and urban studies researcher Katya, based in London.

Janike and I presented a paper on Svalbard at the 2017 Design History Conference, in Oslo. It's here I meet Tatjana and Katya. My research assistant Vlad has also urged me to hear about their work. Their talk is one of the highlights of the conference for me. It takes me back to the mines of the Kola viscerally. Their presentation provides a clear analysis of their work developed in the wider *Dark Ecologies* project (Belina, 2016a). Locating their research in the conference theme of 'making and unmaking the environment', the pair provide an analysis of their design and contextual material mapping of Nickel (also see Belina, 2016b).

Their work is partly captured in an interview with the editor of the *Dark Ecologies* project book that presents its artistically oriented field notes (Belina, 2016a). Drawing on the methods of New Materialism, Tatjana Gorbachewskaja and Katya Larina merge their professional expertise and local insights in studying the changing 'urban tissue' of Nickel as an interconnected material system ecology.

Next, I hear them they speak on this project at a Dark Ecologies project event hosted at SALT, also in Oslo. Their visually rich account of their inquiries is accompanied by a suspended three dimensional exhibition that brings their visual material into an eerie relation with the glossy backdrop of the award renowned Snøhetta design Oslo Opera (Gorbachewskaja & Larina 2018).

I wish both times that I'd met them before travelling through the glowing autumnal landscapes of Kola in 2013 but there is some relief in hearing their thoughts echo some of my own, especially on the surfaces, aesthetics and urban regeneration from the bottom up evident in the mining towns we've visited, extending well beyond them with their local and national knowledge expertly articulated. Seeing them present and exhibit this material in a formal conference and artistic venue offered ways to further appreciate their analytical-design dynamic.

In their interview publication, (Belina, 2016b: 102-103ff) they provide photographic examples of a four part schematic map of the city as an infrastructural element, mentioning the veins of above ground services to avoid damage by permafrost and the earlier

colourful painting of buildings (Belina, 2016b: 104). Their interests was on mapping the material agency of the city 'as a multi-scalar expression of new materials that appeared and evolved while embedded in the town's fabric' (Belina, 2016b: 105).

Interestingly, for these designer-researchers, in their inquiry into the artificially constructed environment of this key Kola city that has subsequently lost its state protected dome-like status (Belina, 2016b: 99), local inhabitants did not react negatively to their work on the manifestations of such changes in the built environment.

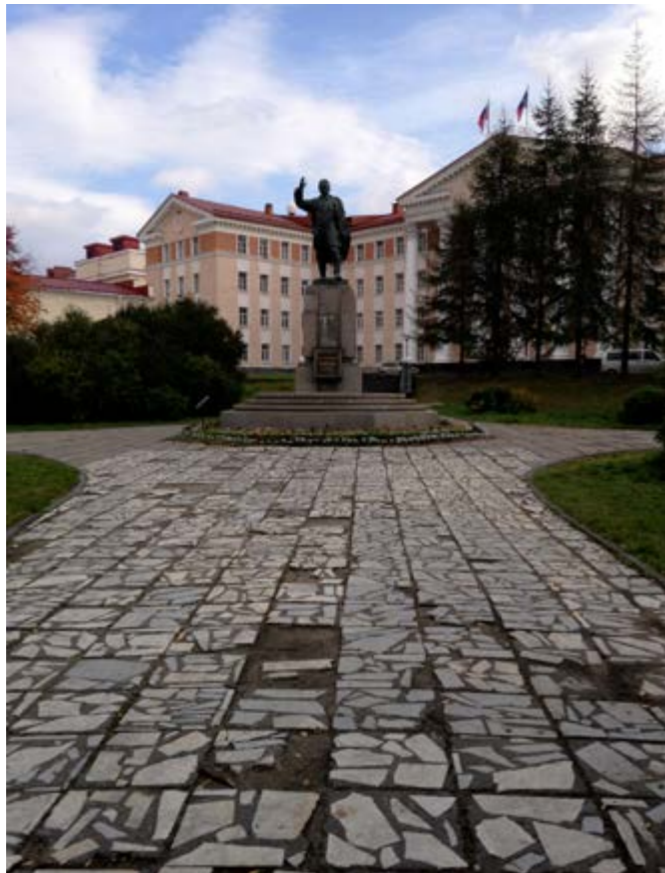
This raises the central issue for the region of how anthropocenic (systems, actors, change processes) view of Arctic landscapes are also connected to cultural geographies and cultural landscapes of human intent, engagement and change making (Jones, 1993; Cosgrove, 1997). Russian views and insights on such change relations will need to be a far a more influential part of wider intersections of how to survive climate change in a regional, and, by implication, also global scale.

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PART X

CHANGING DISCOURSES OF CHANGE



Selection of historical mediational modes, Murmansk Regional Studies Museum.



Public square Murmansk.



Allotment garden, Monchegorsk.



Two lakeside scenes, Monchegorsk.

The discourses of Arctic change have altered radically in the past decade, as is already also apparent in the Kola region. Apart from the insistence of coal and oil interests, it is almost universally and scientifically acknowledged that urgent, rapid and far reaching transformations are needed in how we live work and play for the destructive effects of extraction and consumption based economies and lifestyles to be turned around. There are clamours that it is already too late to halt, let alone reverse, rises in temperature in the Arctic.

The Kola houses a large Arctic population who will experience these changes. They will be participants in a global laboratory of further future change, the region remaining at the forefront of the intersections of technology and inhabitation, environment and commerce. I see similar but differently pictured frescoes on the walls of the Murmansk museum in a hundred year's' time. How heroically our 'forecestors' in dealing head on with the many, complex landscape of climate change remains to be seen.

What is difficult for many people to understand is quite how these dynamics are interconnected. Visiting Kola highlighted this repeatedly as has following continued developments and interpretations of its changing materialities, such as Tajana Gorbachewskaja and Katja Larina discuss in their studies of the town of Nikel as material (Belina, 2016). And increasingly these are national, regional and international strategic discourses, policies and developments. In addition, the Kola needs to be read alongside Norway's own drives for presence, position and power in an emerging 'new north' (Jensen, 2016).

Arctic regions are physically remote to most people considering the effects of climate change. They are largely inhospitable. They are sparsely populated. Research has con-

sistently shown too that it is difficult for people living elsewhere to conceive of distant settings and delayed consequences. Public health education programmes have repeatedly shown this to be the case, where decades of information made slow alterations in rates of smoking and where the invisibility of the HIV virus made it difficult to persuade people to consistently change sexual behaviour practices. Identifying the urgent need to alter current practices is tough when they themselves are in transition to indistinct destinations. The Kola is warming up and it is central to Russia's expanded extractive and export economy.

Further, that these changes occur most visibly and rapidly in the Arctic makes it hard to fathom quite what is in play. For distant viewers, and even for those interested in climate change, it is the acceleration of change in the geo-biologies of the Kola that is difficult to understand and to follow. These are changes that are not only materially present, as temperatures rise and as the biological and ecological systems of the region alter. The burned landscapes around the northern nickel mines of the Kola are black swathes of industrial destruction, seasonally covered by snow and seasonally revealed as the consequence of the sulphurous outputs of smelting of ores imported from other Arctic zones, though now halted. These marks are indeed brutal manifestations of a wider social semiotics of layers of 'development': Soviet and post-Soviet as mineral extraction and processing prepare materials for their journeys outwards and onwards into other environments. Nuclear waste continues, or rather will endure as, a major issue for resolution and careful regional collaboration.

The 'dark ecologies' of the Kola are complex: air quality is constantly monitored as cross border clouds from the enormous towers link the Kola to its neighbours, especially

Norway. Large funds are contributed to the monitoring and management of nuclear waste (e.g. Wijnen, 2017), principally that relating to the military and submarines (Nilsen, 2017). Home to Russia's large nuclear submarine fleet, icebreakers and its northern navy, and with two nuclear electricity generating reactors, the Kola is also the most atomically powered and militarised part of the entire Arctic.

In December 2018 the two floating reactors on the *Akademik Lomonosov* became operational (Bellona, 2018) extending notions of technology, development, export and strategic risk even further within and potentially beyond the Arctic. At the same time, the largest city Murmansk is once again centre stage in a geo-politics of change. With ice melting, the Northern Sea Route continues to open out. Minerals, oil and gas are shipped across the Russian Arctic and may impact on delicate coastal environments on their way to distant markets and are at most risk of accidents in their transfer between land and sea and between maritime vessels.

Visiting and studying the Kola wholly transforms typical notions of the Arctic as remote, known for its frozen temperatures and treacherous ice, inhospitable conditions, hardy populations and scientific outposts. Today Murmansk is not being built brick by brick and precast concrete panel one above another: it is undergoing a repositioning in Russia's strategic plans and processes and in which discourses of climate change and nationalism are further entwined. These will need to continue to be studied and understood for its inhabitants and as a changing polity, but also for their effects on environmental conditions that are now even more intimately embroiled in political and military formations.

AN ANTICIPATORY LANDSCAPE

So, with such a mesh of relations and as an assemblage of contexts, conditions, policies and effects, how are we to make sense of Kola's Arctic landscapes in any anticipatory sense?



Two images from minibus showing typical infrastructural scenes, Kola.

Hansen-Magnusson (2018: 3) writes that '... geopoetics addresses the social production of space as a multidimensional, often heterogeneous dynamic that is supported by cultural practices.' (ibid.). My chapter has offered an anticipatory poetics via a verbal-visual journey that connects the experiential, the socio-semiotic and the cultural-technical.

Futures. Need for understanding in the present. A 'future present tense' I argue. A device to both prospectively consider not only strategic decision making approaches to futures but alternative ones to futures that connect them back to today, to the here-and-now of current issues and needs. To have a temporal framework with short and long term trajectories to THINK through change, not only to mark out strategic decision making.

This too is part of negotiating environmental justice approaches that entail the human, the ecological and the systemic. These are assemblages, rhizomes, archipelagos of complex relations and intersections, overlaps and knottings (Wiedorn, 2018). They ARE difficult to understand when they are beyond one's reach but central to local, national, regional and global survival. To consider the most populated region of the Arctic as one of the most important areas in contemporary landscape studies: where current changes in extractive industries from coal to gas, the expansion of the maritime sector, both supply and strategic, and where again the prospects of future 'development' across the NSR are a state policy. Much remains to be investigated, translated, understood, shared and published.



Urban street scenes, Murmansk, with fourth image from restaurant in outer city.

This account of encountering the Kola as an experiential approach to knowing, is only an offering, but it is also hopefully an evocative discursive one. It is one that considers how the affective and cognitive and the physical and socio-material are interconnected in understanding changing climates and climates of change in encounters with landscape in the Arctic. It is given to suggest that we might engage further with these ways of knowing to better unpack and circulate how to understand and to engage others in appreciating, and indeed, anticipating, ways to look forwards to alternative Arctic futures and this global ones to those that predominate today.

So, what register might we mark out, what account might it become, what potential could emerge from moving beyond the strategic decision making preoccupation with much research in Futures Studies and work into an alternate, humanities and social science mesh of anticipation. One that is experimental, yet exploratory, situated yet entangled, not contained and bound but an assemblage, an archipelago of experience, ideas and problem seeking. A design inflected perspective that moves beyond

the formalism of planning or the directedness of strategic resources to thinking ahead, to asking questions and making apparent issues, making undeniable, the needs to face our shared futures, across borders, between experts, across disciplines, beyond the now of contest or the pursuit of profit today that already damages tomorrow's qualities.

Visiting and studying the Kola has challenged me to begin to shape such a view, to consider how to proceed. For me this has from the start been about allure, affect and aspiration. Aspire as to be able to breathe tomorrow. The vast blackened swathes of vegetation surrounding the smokestacks of Zapolyarny, Nickel and Monchegorsk remind us of what we need to face, technically and productively.

Appetite. Apetity. Apetite the fertiliser mineral!

That we will need to globally tackle reductions in emissions, rework notions and practices of materials use and above all ensure water and soils are not contaminated further. Yet we will continue to build things, extract

ores and ship them around the globe. The Kola's 'modernisation' is not over.

The Kola presents us with the future made problematic today. It is a region that has for over a century been shaped by expressly futures-oriented visions and policies. It is a region waiting to be better understood and championed differently. This will continue to demand changes in policy and practices by the Russian government and industry, and there await them the further challenge of how to more boldly, and envisionarily, take up this radical mantle (as the Chinese are already doing in for example renewable energy) in their future north, one where experimental gardens and urban planning and modernisation projects on a vast Arctic scale may be ambitiously and challengingly reinvigorated. As Ananyeva (2019) argues, this is very much a matter of understanding and relating to President Putin's and the Russian Federation's policies for resource extraction and strategic presence that shift between the uni-, bi- and multi-lateral. The Kola Arctic and anticipation is thus a complex dance of international relations and national policies. For Valeriano and Maness (2015) this is a matter of understanding what they term Russia's situational 'coercive diplomacy'. This one they argue that is located in the exercise of policy concerning energy, cyber technologies and the maritime as new sources of power. Further, Hansen-Magnusson (2018) argues that there is need to regard the emotional and cultural aspects of nation building in shaping a more holistic understanding of the layers of Russian Arctic politics as it moves between international cooperation via the Arctic Council and individualistic state action.

Anticipation. An act of looking ahead, but to take care ahead of time. A prospective landscape yet challenged by the cultural values and strategic and political policies of the present. To consider the Kola as a prospective landscape, as a complex of terrain and territory. To draw from this journey that new concept, an anticipatory landscape.

The Kola is already an atomic landscape, with long life waste, yet it is the tail end of the North Atlantic current and the gateway to the Northern Sea Route with increased passage and trade. It also has new infrastructure well underway in support of more mineral extraction and shipping. It may be the home of potentially future population re-growth and perhaps more mixed economies. What are the issues and themes, then, and what might our being open to them open out for? What potentially care-full actions in the present for time ahead of us, might be shaped in this complex region?

The Kola is always northern, and always Russia's. It is more than home to the base of the northern fleet or a border zone to north western Europe. Increasingly it is a key strategic, dynamic passage to oceans beyond. Our visit illuminated that this is a part of the world that is one of the most complex and most interesting landscapes we should be learning about and learning from if we are to more actively and successfully anticipate how to engage together with all our future norths and futures north.

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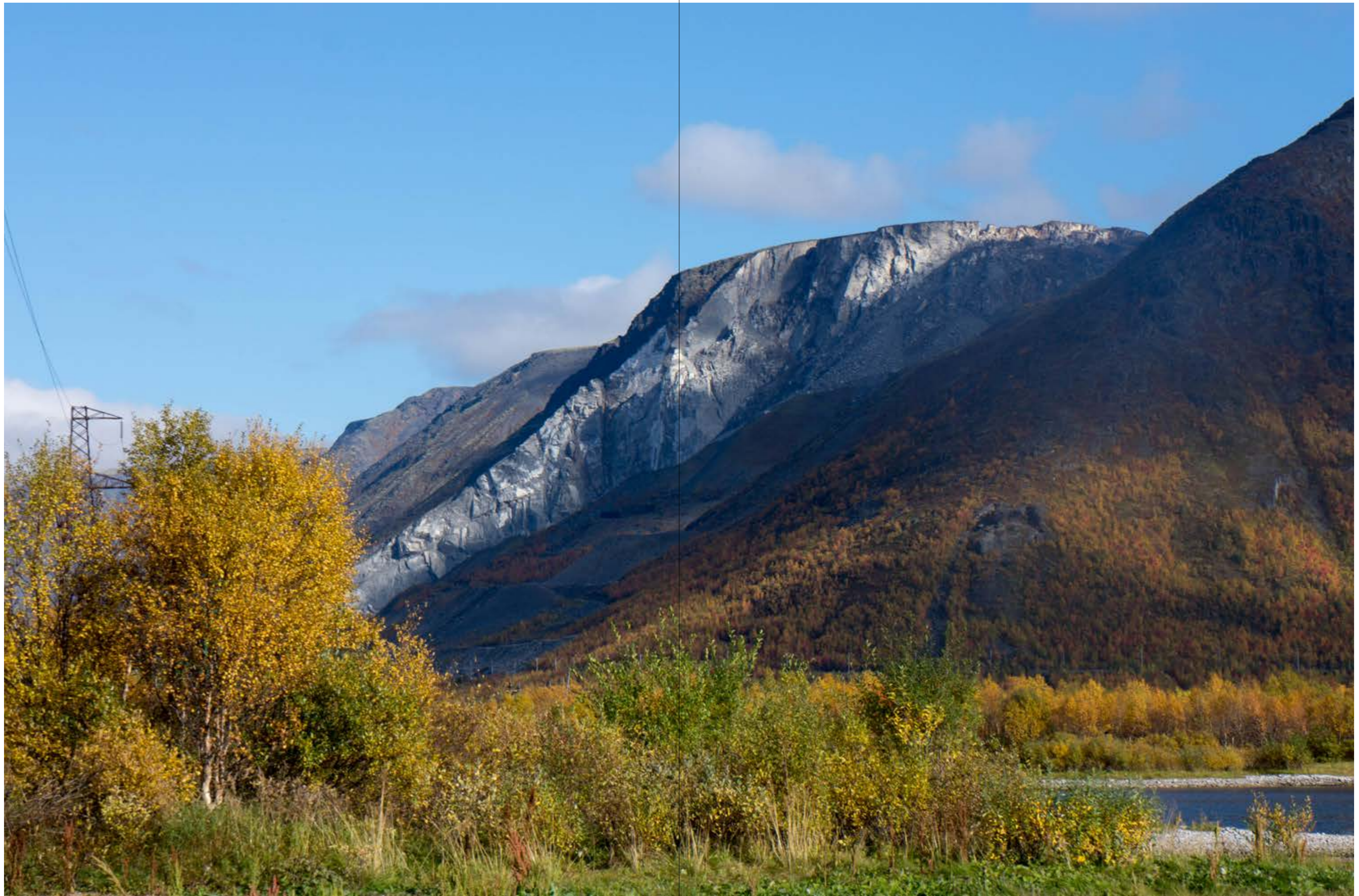
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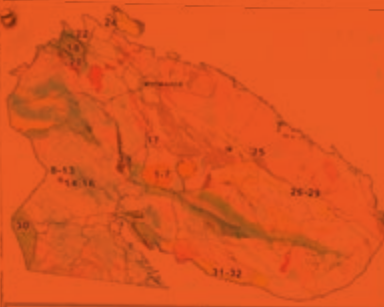
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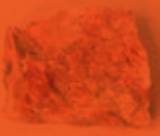


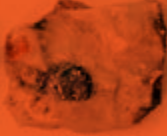
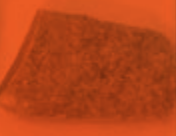
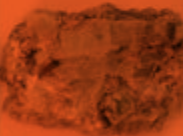
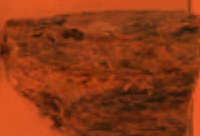

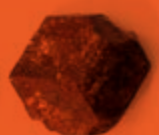



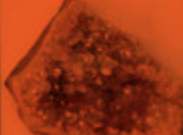

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Narratta
Co-created persona of the researchers in the *Future North* project.

ORES AND MINERALS OF THE KOLA PENINSULA



						
		1. APATITE. <i>Khibiny</i>	2. NEPHELINE. <i>Khibiny</i>	3. TITANITE. <i>Khibiny</i>	4. AEGIRINE. <i>Khibiny</i>	5. EUDIALYTE. <i>Khibiny</i>
						
6. ASTROPHYLLITE. <i>Khibiny</i>	7. TINGUAITE. <i>Khibiny</i>	8. MAGNETITE. <i>Kovdor</i>	9. APATITE. <i>Kovdor</i>	10. OLIVINITE. <i>Kovdor</i>	11. CALCITE. <i>Kovdor</i>	12. PHLOGOPITE. <i>Kovdor</i>
						
13. VERMICULITE. <i>Kovdor</i>	14. MUSCOVITE. <i>Rucolava</i>	15. QUARTZ. <i>Rucolava</i>	16. MICROCLINE. <i>Rucolava</i>	17. JASPILITE. <i>Olenegorsk</i>	18. COPPER-NICKEL ORES. <i>Pechenga</i>	19. CHROMITE. <i>Monchegorsk</i>
						
20. DOLOMITE. <i>Pechenga</i>	21. TITANOMAGNETITE. <i>Gremyaha-Vurnas</i>	22. GALENITE SPHALERITE. <i>Murmansk</i>	23. MOLYBDENITE. <i>Yariuki</i>	24. QUARTZITE. <i>Polvinskoe</i>	25. SPODUMENE. <i>Kalmazovskoe</i>	26. KYANITE. <i>Keivy</i>
						
27. STAUROLITE. <i>Keivy</i>	28. GARNET. <i>Keivy</i>	29. AMAZONITE. <i>Keivy</i>	30. BARITE. <i>Salsolava</i>	31. FLUORITE. <i>Cape Korabl</i>	32. AMETYST. <i>Cape Korabl</i>	

