

**From the White Sea to the North Sea:
Journeys in Film, Writing and
Ecological Thought**

Ruth B. I. Maclennan

PhD in Fine Art, by practice
Royal College of Art

September 2016



Copyright Statement:

This text represents the submission in partial fulfilment of the requirements for the degree of Doctor of Philosophy at the Royal College of Art. This copy has been supplied for the purpose of research for private study, on the understanding that it is copyright material, and that no quotation from the thesis may be published without proper acknowledgement.

Author's Declaration:

During the period of registered study in which this thesis was prepared the author has not been registered for any other academic award or qualification. The material included in this thesis has not been submitted wholly or in part for any academic award or qualification other than that for which it is now submitted.

Signature:

Date:

Abstract

In the face of climate change, what can art do? The question is both practical and ethical: a question of art's efficacy, its ways of working, and its uses to audiences. These intertwined questions are articulated in writing and film-making, both of which draw on an empirical method, alongside research into ethics, ecology, film history, the politics of climate change, and critiques of capitalism.

I seek to represent the consequences of climate change as they are experienced by the inhabitants of the north of Scotland and Arctic Russia. Through writing and film I document and interpret changing relationships with the sea and the land, thus bringing to light the interplay of climate change with history and memory, and with the social, economic, environmental and political forces that are shaping places and lives.

One of the research methods of this PhD is a form of fieldwork, consisting of recorded interviews and informal encounters, filming and note taking, which form the source material for a multi-vocal approach to writing and filmmaking.

The written thesis consists of narrations of journeys, both actual and theoretical. I tell stories of journeys to the White Sea in northeastern Russia, and to the north Highlands and islands of Scotland, where the political, economic and environmental upheavals are emblematic of a geopolitical shift north. I examine how ideas of North and of the sea, of nature and landscape, contained in films, oral histories, myths and writings, contribute to contemporary perceptions of place. These ideas are analyzed further through Alexander Dovzhenko's film *Aerograd*, and Michael Powell's *The Edge of the World*.

I shot the two films, *Call of North* and *From Time to Time at Sea*, alongside supplementary film works, in Northern Russia and the far north of Scotland, in Caithness, Orkney and during a sailing expedition to the Northern Isles with Cape Farewell. Concomitantly with the first person written narrative, they investigate the camera as a participant-observer, and the implied presence of a future audience. The familiar trope of anthropology whereby the observer influences what is observed is explored here within the context of film.

Both the written and film works document disappearance: of individuals and their memories, of species, of ecosystems, of ways of life, of imagined worlds, and of entire societies as well as the vertiginous fear of the future annihilation of human civilization. At the same time a plurality of perspectives and voices are combined to

produce polyphonic compositions that resist being reduced to pessimism. The documentation of disappearance is examined and articulated as a distinct response to an ethical and ecological imperative. Meanwhile, the works propose to speak to a future audience — to speak not to the world as it is but as it could become.

From the White Sea to the North Sea:
Journeys in Film, Writing and Ecological Thought

Contents:

	Page
Coyright statement and author's declaration	2
Abstract	3
List of Illustrations	7
List of Accompanying Material	9
Acknowledgements	10
 Preface	 12
 Part One: The Call of North	 14
A sense of direction	14
Travel North: <i>perdre le nord</i>	17
<i>Aerograd</i>	36
Households	39
Northern winter	50
Invisible ecosystems	58
 Part Two: The Call of the Sea	 64
Origins of an unnatural history of the sea	64
Catches, currents, routes: in and around the Pentland Firth	69
Journey around the islands: Sea Change	75
Enclosures; zones	82
Walking the cliff: views of land and sea	84
Orkney departure and landings	94
Setting sail on the <i>Swan</i>	98
21 August: to the island of Hoy	100
22 August: sailing undre full sail	103
24 August: Westray	106
25 August: Rousay	109

26 August: night sailing	109
27 August: arriving on Fair Isle	111
28 August: views from Fair Isle	114
<i>The Edge of the World</i>	114
29 August: leaving Fair Isle	118
Thoughts from here: <i>The Three Ecologies</i>	120
Conclusion	124
Bibliography	127
Appendix	
Technical specifications: film and sound recording, editing, file format	134

List of Images

Note: all photographs are by the author, taken between 2012-2016, unless otherwise stated.

	page
fig. 1 Station platform, Karelia	17
fig. 2 A <i>Pomor</i> boat, image courtesy Dmitri Lajus	21
fig. 3 Goods trains, Murmansk	23
fig. 4 A <i>Tonya</i> , White Sea	25
fig. 5 Former dormitories of the Chupa camp	28
fig. 6 Abandoned railway line, Chupa	30
fig. 7 Rooftop, Chupa	33
fig. 8 View of Chupa, West	34
fig. 9 Mica mines, Karelia	35
fig. 10 Khitogora mountain	39
fig. 11 Lenin fresco, State Museum of the Arctic and Antarctica	39
fig. 12 Chkalov, Hero of Soviet Aviation	40
fig. 13 State Museum of the Arctic and Antarctica, St. Petersburg	40
fig. 14 School visit to the North Pole, St. Petersburg	40
fig. 15 Shoreline, Keret	43
fig. 16 Hospital, Keret	44
fig. 17 Kartesh, 1970s, Courtesy D. Lajus	45
fig. 18 Kartesh, herring, Courtesy D. Lajus	46
fig. 19 Arctic Scene	49
fig. 20 Winter, Chupa	50
fig. 21 Kovda bell	56
fig. 22 Varzuga river crossing, winter	58
fig. 23 <i>Billingsgate</i> , 2000, video still, Ruth Maclennan	66
fig. 24 Sea route: view north from Stroma, towards Hoy, Orkney; a transatlantic cargo ship, owned by Atlantic Ro-Ro Carriers, travelling between the east coast of the USA and St. Petersburg, and a cruise liner	68
fig. 25 Herring workers, Johnston Collection, Wick Heritage Centre	70
fig. 26 Herring boats, Wick harbour, late 19 th century, Johnston Coll.	71
fig. 27 <i>And Now We Need to Tell What Happened</i> , production still, 2012	73

fig. 28	<i>Fathom</i> , two-channel video, 2013, video stills	74
fig. 29	Birds feeding, Inner Sound, Pentland Firth, from Stroma	74
fig. 30	MeyGen construction site, from Canisbay Church, Dec. 2015	75
fig. 31	prototype wave energy equipment, Stromness, Orkney, 2013	79
fig. 32	Oyster catcher eggs, near Birsay, Orkney Mainland	81
fig. 33	Shags on a stack, near Skaill Bay	88
fig. 34	Over the Edge	93
fig. 35	Stromness Museum	94
fig. 36	Stromness Museum, Hudson's Bay Company recruitment poster	95
fig. 37	Seals on Ham beach, Caithness	97
fig. 38	Once the biggest cinema in Britain	100
fig. 39	Rackwick, Hoy	101
fig. 40	Bay with wrecks, Lamb Holm	102
fig. 41	The <i>Swan</i> sails	103
fig. 42	Tyres on the dunes, Noltland	106
fig. 43	Figure, Noltland	107
fig. 44	Noltland	107
fig. 45	Harbour, Westray	108
fig. 46	Fair Isle	110
fig. 47	Eider duck, keeping still	111
fig. 48	Woolly	117
fig. 49	Airstrip	118
fig. 50	Leaving behind	118

List of accompanying material

4 DVDs with films, all are DVD PAL. The two key films, on DVD 1 and 2, are the main part of my submission. The supplementary films have formed part of my research.

Key Films:

DVD 1:

Call of North

22'

Aspect ratio: 16:9; original format: high definition video (HD)

Filmed in Karelia, Northern Russia, 2013 and 2014

Languages: Russian and English

Ruth Maclennan © 2014-15

Production, cinematography, sound, edit, translation: Ruth Maclennan

Made with support from: Basin Council of the North Karelian Coast, Lighthouse

Foundation, AHRC, The Royal College of Art

DVD 2:

From Time to Time at Sea

18' 59"

Aspect ratio: 16:9; original format: HD video

Filmed and recorded in Caithness, Orkney, Fair Isle, and on boats, between 2012-15

Language: English

Ruth Maclennan © 2016

Production, cinematography, sound, edit: Ruth Maclennan

Made with support from: Erland Williamson Art Foundation, Cape Farewell, Creative

Scotland (Sea Change expedition), The Royal College of Art.

Supplementary Films:

DVD 3:

Fathom

2' 7" two-channel, each 4:3, video projection

And Now We Need to Tell What Happened

5' 25" 16:9, original format HD video

Ruth Maclennan © 2013

DVD 4:

Hero City

13' 55" 16:9, original format HD video

Voice: Juliet Cadzow

Script, cinematography, sound, edit:

Ruth Maclennan © 2016

Acknowledgements

First of all, I thank my supervisors at the Royal College of Art, Yve Lomax and Francette Pacteau, for their encouragement, for their critical engagement and commentaries, and for their practical guidance throughout my research. I have been inspired by their thinking, their writing and the conversations we have had. I am extremely grateful for the financial support of the AHRC which enabled me to pursue my studies at the RCA.

I am grateful to Olivier Richon, Jordan Baseman, Jasper Joseph-Lester, Margarita Gluzberg, Michael Schwab and Ian Kiaer for their insights into aspects of my work. I thank Simon Ward, Lewin St Cyr, and Jan Narine in Photography, for their help. I thank everyone in the Moving Image Studio at the RCA; I have especially appreciated the support and friendship of Roddy Canas and Stuart Croft.

I am very grateful to all my colleagues and friends in Fine Art Research at the RCA, with whom I have had many stimulating conversations and experiences, in particular Sarah Jones, Hans-Jörg Pochmann, Lee Trimming, Brigid McLeer, Carol Mancke, Mercedes Vicente, Amélie Mourgue d'Algue, Manca Bajec, and Peter le Couteur, especially during the Research Biennial at the RCA.

Several people and organisations have played key roles in this research, and I am very grateful to them all. Daniel Hinchcliffe introduced me to Professor Philippe Blondel at University of Bath, whose sonic mapping of the seabed led me to the Environmental Research Institute in Thurso, Caithness. Jo McGonigal invited me to do a residency in Birsay, Orkney, and Barbara Williamson welcomed me into her home. I thank everyone at Timespan Helmsdale, where I did a residency and contributed to the *True North* conference. Ruth Little invited me to join the Cape Farewell Sea Change expedition. It was a great privilege and pleasure to spend time with all those involved. David Buckland of Cape Farewell introduced me to Jens Almsdorf of the Lighthouse Foundation, which supports the Basin Council in Russian Karelia. The Lighthouse Foundation generously supported my research financially as well as through the opportunities and introductions it provided. I am grateful to Yulia Suprunenko and her friends and family, to Yuri Rybakov, to the young people who joined my 'masterclass', to Yulia and Dmitri Lajus, and to the scientists at Kartesh and BBK, for their generosity. Thanks to James and Liza Gerson for lending me their flat in St. Petersburg. I am grateful to the filmmaker Lutz Becker for introducing me to the film *Aerograd*; to Bergit Arends and Michael Bravo with whom I have enjoyed discussing my, and their,

research on ecology, art, and the Arctic, and who have invited me to join their research seminars at Royal Holloway and the Scott Polar Research Institute, Cambridge.

Thanks to LUX Artists' Moving Image for distributing my films, and for the opportunity to air some of my films and ideas in the context of the London Film Festival.

Finally, and above all, thank you to my parents Helen and Bob MacLennan for their encouragement and practical help, and to Hector and Sasha, and especially to Robin, for more than I can say.

Preface

In the 1820s and 30s, Elias Lönnrot travelled throughout Karelia, writing down the songs and stories people had to tell him. Karelia straddles North-East Finland and North-West Russia but he had no borders to cross as Russia had annexed Finland from Sweden in 1809. The historian Lönnrot had an ambitious project in mind — to write an epic poem that would found a national literature and thereby help define and rally a Finnish nation. Lönnrot's travels to collect and write down folk tales were a quest, and the result is well-known, *The Kalevala*, first published in 1835. *The Kalevala* sparked a fashion for epic-style literature based on folk culture that spread quickly, especially in Eastern Europe.¹

The current project comes at a time when the idea of writing an epic — ‘a poem with history’ as Lönnrot described it — seems even more anachronistic than it did then. But the need to collect and compose stories to describe and understand our times and ourselves is even more urgent now. The quest of this project is not to define a nation through its voices. The term ‘nation’ may well become irrelevant to the future history of humans in evolutionary terms. The current situation has different questions and movements, divided up into compartments and departments for experts to deal with from economic, political, scientific, geographical, social and historical perspectives. The languages of each seem unable to articulate the indivisibility of the world, even in a situation where the prospect of climate change hangs over everyone and everything, affecting even those people who don't think about it. Even the expression ‘climate change’, clear enough if you look at temperature graphs and statistics, has to hold too many meanings, speculations, prognoses, fears and contexts together at once to be able to be grasped in any unified or uniting sense. That would not matter (the right words may be just round the corner) if it weren't that so much in the world seems under threat, in danger, and at the very least changing. We don't know the extent or consequences or meanings of all the changes, and no one can take on everything at once, so even though the world is not divided, people do divide it up, to get a grip on things, or to stake their claims. Our languages are the most fundamental means we have to cut up the world, describe and recombine it. By gathering and connecting stories of a particular place and moment, recording voices, listening to different disciplines and

¹ Elias Lönnrot, *The Kalevala*, 1835, second edition 1849, translation by Keith Bosley, (Oxford: Oxford University Press, 1989).

experiences, perhaps one might be able to keep moving through a world undivided, but always changing, and better understand what is happening. Perhaps it might be possible to imagine and to learn, what to do and be and what the implications of all the changes are that cannot be contained by ‘climate change’.

This project brings together voices to articulate the relationships of our species with other species in a particular somewhere. Voices call out across species, environments, and ecosystems. The aim of this quest is ambitious, nothing less than to try to understand how and why humans today live and imagine the world the way they do and how with this understanding, along with the mysteries and gaps that remain, to live better in the future. But it is also narrowly focused on particular circumstances, experiences and people. The project shares some geography with *The Kalevala*, as well as the belief that there are many voices and many stories that make up a place. The voices that call out are not only human voices. It is in the calling — in the experience of and in the articulation of the call — that a place, a moment, a time, a voice will become manifest. The quest was set up to answer a desire to find the right questions to ask, in order to hear the calls more clearly, and to respond.

Part One: The Call of North

A sense of direction

Human beings do not have a strong sense of direction, compared to birds. Studies show that birds that migrate North and South have a sense of the magnetic pull of the Earth. We know the physical experience of heat and light but we cannot know if we can accurately imagine what it feels like to always sense which way North is. I cannot see like an owl or a falcon, or a swallow, either, or fly like them, or flap my wings, or rearrange my feathers, or even sing like a bird. So I shall just let go of that imaginary bird and hold onto the pull of North. Humans might not feel the magnetic pull of North physiologically through a magnetic sixth sense, but the other senses serve to imagine, to call up North. The hovering arrow of the compass, the projections of maps and the interpretation of our movements across the surface of the earth all rely on the objective reality of the magnetic North of the planet, and our physical orientation in relation to it. But the physical circumstances of the planet and the solar system are at a scale beyond human control and experience. Nevertheless, ideas of North that have no apparent reality in physics have a much stronger pull. What is this call of North? Who or what is doing the calling? What does it mean to be called, somewhere or somehow, by something? Where is this North? What is happening there?

North is far away, remote and cold. North is where snow comes from, ice, thin cold air. It is white, and blue, and deathly dark or blindingly bright. It is a place of forests, tundra, icebergs, polar bears, walruses and the sea unicorn.² Voyagers and prospectors go there to find ways through its emptiness to lands of untold wealth. Explorers and poets³ go to discover themselves, to cross imaginary frontiers. North makes demands of the individual, striving for spiritual and physical peaks of endurance against its elemental forces, and against the unknown. North is howling winds, howling

² The narwhal.

³ Francis Spufford explores this theme exhaustively and vividly, in *I May be Some Time: Ice and the English Imagination* (London: Faber and Faber, 1996). Peter Davidson describes the pull of North across different cultures in, *The Idea of North* (London: Reaktion, 2004).

wolves, cracking ice. North is vast, unending, unchanging, un-encompassable, unfathomable, inhuman. North is dangerous. The North of fairytales is where cold enters the soul of those who unwisely venture there. The Snow Queen is cold and heartless. North is a lonely, cold death; permafrost, and woolly mammoths preserved whole. North is our link to Ice-Age Man, like the Ice-Man in the Alps who held a flame close to his heart.⁴ Or, elsewhere, North is eternal life over the distant horizon, beyond the known to a beautiful, ineffable heaven of green and plenty. Other Norths are less voluble, less accessible, and more down to earth. The North of Inuit and Yupik, of Nenets, Chukchi and Eveny, of fishing seasons, seal hunting, husky-driven sledges, colonial boarding schools, camping, reindeer herding, collective farms, shamans, alcohol, short lives, long memories. North is ice-breakers, Arctic convoys, bleak cities, giant trawlers, seaports, warships and nuclear powered submarines. And now the North is ‘opening up’.⁵ The new North is expanding, becoming louder and bolder. This is the North of oil platforms, gas exploration, the Greenpeace ship *Arctic Sunrise* stormed by commandoes, the ‘Arctic 30’, melting ice releasing new frontiers, the Northern Sea Route, the North West Passage, flags under the North Pole, military build up, cryopolitics’.⁶ All this is North, and more.

North is the arrow to keep an eye on, whichever way you turn your gaze, your feet, your prow, your wheel. With satellite navigation the N is less pervasive. The movement you imagine starts with a question, a destination tossed up to the satellite, upwards, out of this place, into the stratosphere, and bounced back down again as a blue line, or directions uttered robotically to a mobile phone. North and South are absolutes leading out of the particular to an imagined beyond. The call of North has been heard before, is heard again and again. *J'ai perdu le Nord*, or is it 'we' who have collectively 'lost North', lost sight of it, lost the feel of it, lost our way?

⁴ ‘Ötzi the Iceman’, a well-preserved body of a man, dating back to around 3,300 BCE found in the Tyrolean Alps in 1991. Ötzi was found with pieces of tinder fungus that were used for lighting fires. The Iceman is on display in the South Tyrol Museum of Archaeology <<http://www.iceman.it/en/oetzi-the-iceman>> [accessed 20 September 2016]

⁵ The intense political and commercial interest in the Arctic is analysed in several books, notably, Laurence C. Smith, *The New North: the World in 2050* (London: Profile Books, 2011) and Charles Emmerson, *The Future History of the Arctic* (Oxford: Bodley Head, 2010). The Arctic is perceived as an economic opportunity: a packed meeting on the subject, at the Royal Institute of International Affairs at Chatham House in autumn 2012 included the head of Shell in the Arctic, the Swedish Ambassador to London and then President of the Arctic Council and was chaired by Charles Emmerson. In 2014, a committee of The House of Lords was set up to take evidence from expert witnesses in order to draw up a report on the Arctic for the British Parliament, *Responding to a Changing Arctic*, published in February, 2015.

⁶ A term coined by Michael Bravo, (Geography Department, Cambridge University) to describe rising political tensions in the Arctic, where, he speculates, the idea of a ‘right to cold’ may soon become a question of international importance.

I decided to go to a particular North, in Russia. Russia defines itself in relation to North. South is the holidays, the beach, Crimea. Since Czar Peter I, North has been a ‘window onto Europe’, by sea from St Petersburg.⁷ East is the Orient, where the Barbarians come from (the Mongol invaders). North for Russia is all the norths above, but especially the never-ending forest, the land that goes on forever. Russian Arctic exploration started in the nineteenth Century, but took off as a symbol of the frontier in the 1920s and 30s, taking over from the battle fronts of the Revolution and Civil War. The Arctic was the first Soviet frontier, to be conquered by the ultimate symbol of modernity — the aeroplane (and the ice-breaker).⁸ The Arctic and flight are linked in the Soviet imagination, personified by the pilot-heroes, such as Valery Chkalov who made the first non-stop flight over the North Pole to the United States; just as the next frontier, Space, would be forever linked to rockets and Gagarin. The North of endless forests, Arctic seas and the North Pole was a favoured backdrop to the idea that land and people are in the service of an idea, an ideal, and that the individual doesn’t count for much, except the hero who symbolizes the ideal. North is the perfect place to disappear into, and became the place of the disappeared.



fig. 1

These thoughts, stories tumble over each other to be heard. But what happens to that call of North if you go where you are called? Your position shifts, your voice sounds different, the medium thickens, moves, and other voices and stories well up. The call may turn into something else. North may take you in many directions at once.

⁷ Peter I, 1672-1725, also known as Peter the Great, Czar of Russia, 1682-1725, Oxford Reference Library <www.oxfordreference.com>.

⁸ Russia’s biggest ever nuclear powered ice-breaker, named *Arktica* was launched in June 2016. The purpose of the ship is both to facilitate oil exploration in the Arctic Sea, and for military purposes. <<http://www.marketwatch.com/story/russia-to-dominate-arctic-ocean-with-worlds-largest-nuclear-powered-icebreaker-2016-06-23>> [accessed 22 September 2016].

What will you find there, what will you become, what does it look and sound like? What is happening?

— People come and say they pity us, ‘you don’t get to see anything.’ Why should I be pitied? I have everything I need. I can go into the woods in ten minutes. I can be home and play with my son after work. I can’t bear to be away from home. I can’t sleep anywhere else.

— I don’t want to be filmed. The last time people came here from Moscow to film, they made a film that said we ought to hang ourselves.⁹

Travel North: *perdre le nord*

I flew east, to Russia, to go north. I boarded the train from St Petersburg on a Wednesday afternoon in late June. The train to Murmansk leaves from Ladozhskii Voksal. The station is named after Lake Ladoga north-east of St Petersburg. The station is recent, to the south-east, situated inside a shopping mall. I was distracted from my imaginings of the journey north, confused by all the escalators, stairs and slopes that led from the deep of the metro station up to the heights of the train departure hall. It is irrelevant here to know where ground level is. But I want at least to know what lies beneath the surface of my shoes, and how far down the intervening layers go before you reach rock.

Years ago, a museum guide told me how during the long cold winter of 1940, Leningrad was besieged by the German Army and the only supply line was a trail across the frozen Lake Ladoga. You can hear the feet trudging across the ice to get food in Shostakovich’s Leningrad Symphony.¹⁰ Soon even this route was cut off but for a time the ice provided a sliver of hope to the isolated city, which somehow managed to survive, though millions died.

The current president of Russia’s parents lived through the siege of Leningrad during the Great Patriotic War.¹¹ The constant frustration of appetite, the denial of basic sustenance, besides the physical ravages wrought on the body can produce irreversible changes to a body’s relationship with the world. The besieged parents’ adaptation to constant fear and hunger may pass on unwitting effects to their children.

⁹ Voices from Chupa, in Karelia, and Varzuga on the Kola peninsula.

¹⁰ Dmitri Shostakovich, Symphony No.7 in C major, Opus 60, written in 1941.

¹¹ Vladimir Putin’s childhood is briefly dealt with by Masha Gessen, in *The Man Without a Face: The Unlikely Rise of Vladimir Putin* (London: Granta, 2012).

The survivors of catastrophe might well try to shelter their children, keep them in the dark, as they themselves continue to live subject to the adaptive impulses they developed in extremis.

In the Museum of London, a time-lapse animation shows how human beings evolved to respond to scarcity, to move across continents to hunt and gather food, and latterly to grow it, and raise livestock. There seems little reason to doubt that the ability to develop sophisticated tools to compete effectively with other predators, and other humans, has gradually led to the populating of the far northern hemisphere. There have been many other reasons too, for people to go north.

In St Petersburg, the ground, that you rarely see, is a swamp, and therefore constantly shifting. The city is notorious for having been built by slaves (prisoners and serfs) on the orders of Tsar Peter I. The city's foundations are laid on the bodies of those who died building it. How many less famous cities and towns are built on unmarked catacombs?

In St. Petersburg, I am a time-traveller. I inhabit the city through its literary heroes' peregrinations as much as my own, and like the petty bureaucrat Evgenii who loses his mind when the Neva river floods its banks and is sent fleeing through the city in Pushkin's *The Bronze Horseman*, I am haunted.¹² As I walked along the Moyka Canal I peered into the water at the regular and satisfying line of classical buildings. Suddenly I encountered myself, or rather found my current self replaced with my self all those years ago, or some in-between self that felt then, and now, at the same time. I whispered in my head to my friend Andrei Medvedev, with his gentle, quietly ironic voice. His studio door was open to everyone, so he painted polar bears and cosmonauts and their rockets at night, and served tea during the day. I strode alongside Long Igor from Novosibirsk, who drifted back there with his drums, and listened to Lyosha who painted birches and pines on his penniless wanderings through Europe when the Wall came down.

Haunting is not the most respectable way of describing the past as it is experienced in the present. It suggests a belief in supernatural activities or a refusal to look for scientific explanations of phenomena. However 'haunting' expresses the force of the experience. There may be many explanations, causes, and consequences, but the experience itself is irreducible. Haunting is perhaps more pervasive than we think. To

¹² *Медный Всадник: Петербургская Повесть*, (*The Bronze Horseman: A Petersburg Tale*), Alexander Pushkin, written 1833, first published by Sovremennik, St. Petersburg, 1837.

‘visit old haunts’ is benign, but ‘to live in the past’ is pitiful. The victim or patient is detached from present reality, living in an illusory world drawn from his or her previous experience, or from representations that she has been exposed to.

I am, from an inexpert but personal perspective, able to describe the slightly sick feeling, a dizziness and fear, a physical vulnerability, first hand. Several times I was left shaken by the wave of emotion, and by my body’s ability to be pulled into the orbit of a feeling, a presence, I had forgotten long ago. Sometimes I was able to push these feelings away, to concentrate on the present, dismissing my experiences as nostalgia. But what is nostalgia? The call to a past that doesn’t exist, and never did exist as it is imagined now. I had no desire to relive the past, but could not let it lie. Maybe I had to sort out something in the past, to deal with unfinished business. This is how ghosts appear in stories, such as the ghost of Hamlet’s father. They appear to sort out unfinished business. I wasn’t aware of being asked to perform any particular task. But it was however somehow slightly comforting to be able to name what happened as a ‘haunting’.

In my decision to travel northwards, I had been aware that I would be calling into question my own motives. While I would often describe my reasons for travelling to northern Russia in the context of geo-political transformations and climate change, this was always only part of the story, the easiest to explain to others and to myself. A literal, physical enactment of that decision — buying tickets and taking transport to a place — provided me with an incontrovertible fact, a simple if not the only beginning. The situations I have found myself in, at each stage of the project, have called into question who, or what, is doing the calling, and what is being called. The experience in St Petersburg was, if not a premonition, then an example, of some of the unpredictable and uncontrollable acts of memory that connect to a place, that I would encounter later on. Haunting seems to be the fate of certain stories, that keep on circulating, unfolding, again and again. It plays a part in writing too, as I struggle with words that carry the stories and voices of others into the present utterance. My experiences travelling north made me feel, as well as understand, that there is no edge between the imagined place and the ‘real’ place, but that nonetheless the idea of a place being real outside of one’s experiences of it is essential.

I would later hear half-remembered stories that had become living myths used to explain absurd or frustrating contemporary situations. These stories were told as history. I listened to these stories, even as I tried to find information about what had

actually happened, that I felt must exist somewhere. More often though I would end up reflecting on the way the stories were told, and what they meant to the teller. It is in the call of a place that it becomes materialised, that I can describe it. And that call can be made up of many calls — many-timbred voices, rhythms, rings, that come together in a polyphonic wave, sometimes drowning out other sounds, sometimes calling for a response.

At the time I first visited, St. Petersburg was Leningrad. I can see I was a space-traveller — I even stayed at the Sputnik Hotel — arriving in a parallel world, a country on the other side, where artists were believed, the truth was something sacred, and the state was a fiction.¹³ A science-fiction world of frictions and absurdities — that no-one I met believed in, but that implicated everyone. That particular fiction has been wound up, or at least is meant to have ended. But there are no ends to stories, only endings within stories. Business is still unfinished.

This time, I chose a place in Russia to be ‘North’: Chupa, a settlement on the White Sea. I could have gone further north, found somewhere more remote, and had a more adventurous or difficult journey, more of an expedition. But this was not to be the story of an expedition; the intrepid explorer would be a ridiculous figure here. The call of north is not hard to hear, and you might be able to hear a call nearby if you listen out. East used to be remote to the west, and vice-versa. My direction was east, as well as north. I chose an ordinary place that was in a northerly direction. Of course nowhere is ordinary, and nor did I really choose it.

I have found during my sojourns north in Russia, that haunting is a common experience, as if many people’s lives are a continual negotiation with intractable ghosts that cannot be laid to rest. The story of Varlaam of Keret is an interesting case. Varlaam was a reasonably well-off and well-regarded fisherman from the village of Keret on the White Sea. One day, in a fit of rage he murdered his wife who had committed adultery. He was immediately remorseful and had a vision from God telling him that he must carry her body up and down the Kola peninsula for the rest of his life. So he set out in a small *Pomor* fishing boat to do just that.¹⁴ He rowed with the body for three years. And then one day he came upon a deadly storm, and he believed he might drown. But he didn’t and at that moment he realized his sin had been forgiven and he

¹³ *Sputnik* is the word for satellite in Russian.

¹⁴ *Pomor* means ‘by the sea’. The *Pomors* are Russians from near Novgorod and elsewhere who settled by the White Sea from the 12th Century onwards. *Pomor* fishing boats are deep-hulled wooden row boats.

became a holy man, Saint Varlaam of Keret. This is how Maxim, a man of about forty, who joined my so-called film masterclass, told me the story. Maxim hinted that he too had a past.

— I am lots of things: a builder, a sailor, an engineer and now a landscape gardener. I have been planting flowers in public places around Chupa. People promise to help me, but they never get around to it. Russians like to give their opinion but when it comes to doing, they think, ‘Why me?’ It takes them a long time to act.

Not a purely Russian phenomenon, I assured him.

— It is very difficult to connect the feelings of individuals about the changes that they experience to objective facts.

These words keep coming back to me. They are those of a scientist, Alexander Tsetlin, professionally sceptical and full of sympathy, as he answered my blunt question:

— Are the effects of climate change being felt on the White Sea?



fig. 2

Struggling with a heavy suitcase, I slumped onto the train. Volodya and Olga from Murmansk travelled in the same compartment as me. He worked in shipping, or possibly the Navy. She worked in a military hospital, but not as a doctor, and lived just outside the city. They shared their meals and toasted new friendships. They both moved to Murmansk from elsewhere, falling in love with the North. They moved for the same reason most people did, lured by high wages and employment opportunities in the Soviet Union, as well as the romance of the North.

North for me, the visitor, was a direction and an idea, not a destination. The Petersburg-Murmansk railway line is one of many routes I might have taken. I resisted

the loudest call, to extremes. There is always somewhere further north to go, and someone else will be going or have been there. A direction seemed like a fine beginning.

I stowed away the reasons for my journey, in order to listen to my surroundings. These had been to experience and understand what is happening in Russia's Far North; to witness changing relationships with the Sea at the coal-face of climate change in the country that occupies half the Arctic; to understand the role of north for Russia's myth of itself. I might know where I had been later. For now, I was on the train, with lots of time.

Passenger trains are long, I counted twenty carriages. Freight trains are longer still, closed containers and open carriages full of raw materials, with signs stencilled across them with the names of towns dedicated to the exploitation of what lies beneath — Apatit, Kandalaksha, Olenogorsk ... *Apatit* is named after apatite, a group of phosphate minerals used for making fertilizer.¹⁵ The earth's matter — coal, rocks, gravel, uranium, copper, iron, and liquids too, crude oil and Liquid Natural Gas — is dug up and loaded onto trains to wend its way along the threads of a tangled web of railways, concentrated again, shipped abroad, to feed the factories of China and other manufacturing countries. There the materials are scattered, and recombined, molecules twisting into new shapes, new objects, swelling and multiplying, into all the goods we all consume.

This grand old transport network of heavy industry is a solid if misleading metaphor for the distribution of power in Russia. You can see how much oil the train carries as you watch it go by, but you do not see all the wealth flow into a few pockets in central Moscow, or out of the country to offshore havens. A pipeline is less visible of course, more permanent, less of a fire hazard, creating a network of arteries that also flow in one direction.

¹⁵ Kandalaksha is a port used for transporting oil. Olenogorsk means 'reindeer mountain'. All these towns are connected by the Murman Railway opened in 1916, running between Murmansk and Moscow.



fig. 3

Humans adapt to deal with scarcity: we hunt, and hoard. Abundance is more of a challenge. Is it churlish, selfish and weak-willed to allow abundance to rule our lives and desires? But it is hard to overcome dependence on needs and especially the desires that grow from them. So as we satisfy needs we search for new ones to feed our insatiable desire for need. We accumulate needs rashly and enthusiastically, or despairingly, and deny ourselves the satisfaction of needs met.

I turned to Volodya. He likes to hunt in the countryside outside Murmansk. He likes the feeling of shooting wild things that sometimes escape. He likes the short trees, and the cold expanse of the Barents Sea. He likes being on the outer edge of the country, a pioneer. He is fond of the arctic city, its wide streets, its public parks, bright winter street lights and cultural landmarks. He has one slight complaint.

— How is it in winter?’

— The streets are well lit, there’s plenty of light.

Olga reassured the visitor, defensively. Volodya was more melancholy, aware of what the visitor was seeking.

— It was fine before, because at lunchtime you’d see a slight, pale, lightening of the sky, and your body would recognise that the day had happened. But the government decided to change the clocks, so now we never see any light, and it doesn’t feel right. We always miss the light because it isn’t at lunchtime any more, it’s earlier.

The train trundled along, rattling, occasionally blasting to a standstill. Old women were stationed at intervals along the platforms selling strawberries, raspberries and yellow cloudberries, until the train was too far North for the berries to be ripe. They also sold dried and smoked river fish, delicious chewy nail-like substances, to be torn apart and gnawed on, swooshed down with beer, or vodka. The cold smoked fish was soft and translucent, golden sweet dissolving in a salty smear, also delicious with cold drinks and black rye bread, or scalding hot black tea. The bitter liquids help metabolise the grease, bones and protein, and distance the sweaty, immobile fug of the cramped compartments.

At Chupa, I tumbled off the train — the last step a metre from the ground. It was a struggle to disembark a heavy camera-laden suitcase within the allotted three-minute interval before the train headed north. At small rural stations, the train tracks are not set down between platforms. Passengers have to adapt to the ways of the train, to handle it like a large, unwieldy, stubborn pack animal. Once it sets off on its long meandering route north, the passenger train 022 is a slow caravan. People join and leave, travellers disembark for a few minutes to smoke. The summer gets later and later. The growing season is shorter and more compact, faster, to fit it all in.

Little villages along the White Sea are like tiny islands in a sea of forest and slivers of lake. Away from the single highway to Murmansk, the few, poor, ice-broken roads keep them cut off. The railway artery is as important as a helicopter airlift is to islanders. But boats are the best way to get about along the coast, at least in summer.

A young, blonde fairy-tale fisherman from the *Kalevala* squeezes guests and rucksacks into his low-slung Soviet *Zhigouli*.¹⁶ Evgenii is taciturn, dreaming of doing up his boat, of his beautiful, competent, bossy, incomprehensible and uncontrollable young wife from Central Asia. Where is she right now? As he tosses another tent into the boot. Who is she with? As he smiles at the foreigners. She always has some new plan or scheme. She has ambitions for herself, for him, for their little family, for Chupa, for the White Sea. She is an organizer, bringing people together, scaring some off, and scattering rumours, plotting. He gives her a quick ring on his mobile.

— I've met them. Yes. Where are you?

He knows that it is good for her. But he doesn't understand what she wants from him, where he fits into her plans, if he even does fit into her plans. It makes him anxious all the time she is out of his sight. Irina would like to finish her PhD, to make

¹⁶ The *zhigouli* is the brand name of the smallest of the Soviet cars.

sense of the data she has gathered, to complete her fieldwork. Irina wants to prove what she feels is true, that *Pomor* — the Russians who live along the White Sea shore who originally came from Novgorod in the 12th Century — have evolved, due to their perfect adaptation to their environment, as fish-eaters. She believes, from her experience of her new family and her interviews and encounters, that the nutrients contained in White Sea fish have entered the DNA of the *Pomor*. However, these inhabitants of the White Sea are being deprived of their traditional foodstuff due to bureaucracy and corruption. There are only eleven fishing permits in Chupa, out of a population of three thousand.¹⁷ What is everyone to do? It's hard to buy fish in the shops, even if you could afford it. Everyone is a *brokanior* — a poacher. Tradition is criminalised.

Irina's research was stalled. The problem is that it is so difficult to find any pure *Pomor* these days, she tells me.

— I always find that someone had a Finnish grandmother, or a Ukrainian father, or was born on the wrong side of the tracks and who knows where they come from? So the cheek swabs for collecting DNA are not a sufficiently big group to study. Of course, I know that there are dangers attached to the idea of the 'pure' *Pomor*, with playing the race card. I know the *Pomors* are not a race. The problem is that other groups, the Nenets and Saami for example, do have rights to pursue their traditional ways of living, fishing or reindeer herding. They have protected economic rights, while the Russian *Pomors* have none. Even though they've been here for centuries.



fig. 4

¹⁷ In March 2014, when I visited a second time, I heard that only eight fishing permits had been issued this time, and in order to get them, applicants had to travel to St. Petersburg to fill in the many forms.

Later that summer, Irina and Evgenii took me camping on the open sea, where I watched the Arctic summer sun roll across the horizon and skim the surface of the sea to rise again, the day barely interrupted by the dazzling spectacle. After a snatched sleep, we walked along the shore and Irina was thrilled to discover a wooden *tonya*. *Tonyas* were devised by *Pomor* soon after they settled on the White Sea, she explained. They are wooden cabins for fisherman to use — like a Scottish bothy — and also the name of the *Pomor* system for managing and dividing up the sea, a means of communal management of resources. Before the Revolution, each family had a *tonya*, an area and a right to fish a certain amount, which they could use themselves or sell on. The community kept the best fishing areas, so there would always be enough food, even in hard years. And then, with the Soviet Union, the *kolkhozes* — collective farms — took them over.

The story is picked up another day, by Galina, whose father-in-law was the only prize-winning fisherman of the Chupa fishery *kolkhoz*, the only fisherman from Chupa to be awarded a medal for his work.¹⁸

— He was a true Karel! says Galina proudly.

I don't press Galina on what she means by a true Karel, besides the idea that her father-in-law was good at fishing and was born in the area. As Irina had pointed out, Karels and Pomors are barely distinguishable now. Presumably a true Karelian (from Lönrott's epic perhaps) would have known to catch only enough fish to allow stocks to be replenished, rather than catching the quantities of fish that would warrant a reward from the *kolkhoz*. 'A true Karel' is a way of claiming a fond connection to place, and to a tradition that is being lost.

The *kolkhozes* carried on the traditional fishing techniques with nets that the *Pomor* had developed, but there was no longer any incentive or community regulation to control how much was caught. Quite the reverse, hence the decimation of herring and salmon, and every other fish in the White Sea. Photos of her father-in-law and fishing nets line the walls of Galina's café. Upstairs are the skins of beasts he hunted — a brown bear, a wolverine, a seal, a reindeer and a hare.

Irina's research is also interrupted by family life. Evgenii and Irina have a little boy of eighteen months, who clings to his mother day and night; he — a Karel too — also clings to a little piece of fish, which he chews on like a dummy. He leaves little

¹⁸ In the Soviet Union, there were *kolkhozes* for agriculture, forestry management, reindeer herding and fishing.

shreds of dried fish all over the flat. I found one on the washing machine in the bathroom, another by the toothbrushes, and a whole dried fish behind the microwave in the kitchen.

Chupa has a bus stop called, ‘Camp #3’. Irina explains to me:

— It wasn’t a prison. You could leave the dormitory and go for a cigarette at the other end of town.

— There wouldn’t be any point in leaving town as you would have nowhere to go, unless you took the train and you wouldn’t be able to, I think aloud.

— The prisoners worked in the same factories and mines as Chupa’s other inhabitants, Irina continues.

I cast forward: Dmitri Khodorkovsky, the oligarch who was imprisoned for ten years for fraud and tax evasion was released from prison in Karelia in December, 2013. To celebrate the twentieth anniversary of the Russian Constitution, in a show of magnanimity an imperial pardon of a few thousand prisoners was announced by the President of Russia. This was a celebration of the document intended to define and enshrine democracy and the rule of law in the newly constituted Russian Federation.

Last summer, Khodorkovsky was living in a prison in Karelia still serving his open-ended term. Maybe he was out smoking a cigarette in the unexpectedly balmy weather, or playing cards with a guard, or reading an article about his own captivity in a newspaper, somewhere nearby. And if the Greenpeace ‘Arctic 30’ hadn’t been released in the same amnesty, perhaps they would have ended up in the forests of Karelia too.¹⁹

Chupa is in Louhi district. Louhi is the witch of the Northlands in the *Kalevala*. Louhi is also the district town, with a bank and a mayor, and not much else. Louhi the witch has blown through Chupa too. There are many empty buildings. A few are partly squatted by those who have been left behind. ‘Left behind,’ hovers over Chupa, especially in winter. It has a summer face, and a winter face. Summer is a time for walking and talking all night. Along Chupa’s main street, I noticed some strange single-storey wooden dwellings, with oddly out of place classical columns and pediments over the front doors. Squat and long but almost grand compared to their neighbours. They

¹⁹ The Arctic 30 was a group of activists and two freelance journalists on board the Greenpeace ship, *The Arctic Sunrise*. They attempted to scale Gazprom’s Prirazlomnaya oil drilling platform to protest at Arctic oil exploration and exploitation on 18th September, 2013. They were arrested at gunpoint and the ship towed by the Russian authorities to Murmansk. The Arctic 30 were prosecuted for piracy and hooliganism, and imprisoned for two months, until the amnesty. For a list of who they were see, <http://www.greenpeace.org/international/en/campaigns/climate-change/arctic-impacts/Peace-Dove/Arctic-30/> [accessed 21 September 2016].

are the dormitories of the labour camp, the Gulag, Irina and Yuri both told me.²⁰ They had no running water or indoor plumbing. People still live in these buildings, behind the classical façade.



fig. 5

Chupa unsettles. Or perhaps I didn't know it well enough yet and it was keeping something from me. There is something makeshift, at least in its summer guise. Its streets bear no sign of a considered plan like a new town, but neither has it grown organically like a village. There is no civic centre or focus. All significant public places have either burned down or have been vacated for fear they might: the *gorely pristan'* (Burned Pier), the community centre with its little theatre, the wooden church built by a St Petersburg artist who moved here in the 1980s, of which only the tower still remains after a fire. The burned remains stand as relics, incorporated into the make-do present. A new, solid, working pier is needed, but the decision to build it, and the funds, lie in some unforeseeable future. The primary school is the most prominent and permanent institution. It includes a little museum, a children's library and classrooms, but in June and July, no children.

²⁰ The acronym GULAG stands for *Glavnoe* (main) *Upravlenie* (administration) *Lagerey* (for the camps). It was the name given to the government organization that oversaw the forced labour camps. The word came to mean the entire system of forced labour and imprisonment in the Soviet Union. See Anne Applebaum, *GULAG: a History*, Doubleday, USA, 2003. The introduction to the book, explaining the expanded meanings of *Gulag* is reproduced here: http://www.siteground206.com/~anneappl/wordpress/wp-content/uploads/2008/11/gulag_ahistory_introduction.pdf [accessed 10 October, 2016].

Further along the main street is a cluster of dilapidated Soviet-style 60s housing blocks with unkempt courtyards, children's playgrounds and parked cars, and some half-built, bright orange contemporary wooden *isbas*. The new *isbas* in Chupa are not really *isbas* at all. They are built of logs but the owners have decided to update the design to incorporate flourishes of classical or contemporary style: a Graeco-Roman pillared entrance, a wooden portico, a patio, a bathroom, washing machines, saunas, satellite television. Ilya, a musician brought up in Chupa but living in Petrozavodsk from where he organizes the White Noise music festival, called them *konfetki dlya Moskvichi* — sweets for Muscovites.²¹ He cannot afford to build himself a confection on his plot of land in nearby Pulonga.

— The government will pay two-thirds of the cost of building a house here in the north, but not many people know this. The government wants to keep people in the north, Yuri explains.

Yuri Rybakov (Yuri 'Of the Fishermen'), is the director of the Basin Council.²²

— Or just bring back those who can work the system? I suggest.

— Well, it isn't working. There is no economy here to provide the last third. I have a plot too, sometime I'll build myself a home.

— What about the empty, crumbling and burnt out houses? Why don't people clear them or repair them? That building near the Burnt Pier that the boys want to clear away, and Snezhana wants to make into a playground, what is stopping them? I ask. Warily, as if my enthusiasm and ignorance are something I will grow out of, Yuri explains that there is an owner.

— Well, he can't be gaining much from having a burnt-out warehouse, I continue.

— Yes, but if he lets it come down, he may lose the land. His papers aren't in order. The case has been waiting to go through court for years, explains Yuri.

— Can it be hurried along?

— There are many cases like this. Nobody cares to hurry this one along.

²¹ The White Noise music festival takes place in Chupa in June or July. It has been going since 2009. It is supported by the Basin Council of the North Karelian Coast, whose primary supporter is the NGO the Lighthouse Foundation <<http://www.lighthouse-foundation.org/index.php?id=222&L=1>> and <<http://kandalaksha.su/chupa-calls-again/>> for a blog-post on the 2016 White Noise festival and the Basin Council conference on the White Sea [accessed 20 September 2016].

²² Basin Council of the North Karelian Coast, sponsored by the Lighthouse Foundation, which supports sustainable development projects in coastal regions around the world <<http://www.lighthouse-foundation.org/>> [accessed 10 September 2016].



fig. 6

In odd places, down small paths, in scruffy courtyards, round the back of tower blocks, are little *univermag* — or supermarkets. They are understocked corner shops, with a motley assortment of biscuits, crackers, dairy products, dried fruit, nuts, sweets, drinks, and a selection of tired produce. The high prices reflect the distance the food has to travel. A large eight-floor 60s tower block has a little café at the back. It used to make good, cheap food, apparently, but now it is not a nice place to go.

— I don't know if they sell food anymore. It's only spirits and beer for the drunks, warns Irina.

Galina and Snezhana tells me later that Chupa used to be rich. Snezhana means 'Snow-Anna'. She is Chupa's Snow-Angel, who cooks up Karelian feasts with fish, venison, wild mushrooms and berries, in Galina's café.

— We had everything in the 80s. You could get all kinds of Finnish and Norwegian food. We are neighbours after all.

Galina tells me how with Perestroika there were joint ventures between companies in Norway and Finland and there was a barter system, whereby Chupa would send its wild berries and mushrooms and the kolkhoz would send fish, to be made into food for Scandinavians, and in return all sorts of consumer goods could be sold in Chupa's shops.²³ There was a thriving retail cooperative in Chupa.

²³ *Perestroika* was a policy introduced in 1985 by Mikhail Gorbachev, First Secretary of the Communist Party of the USSR. The word means 'restructuring', and it was a policy to reform the Communist Party and to stimulate the economy by decentralizing economic power and the planned economy. In practice, this meant encouraging enterprises to become self-financing. Limited forms of private enterprise and international joint ventures ensued. *Glasnost*, which means 'openness', was the other famous new policy introduced by Gorbachev, which allowed for a more open discussion and criticism of officials, in the media, and by individuals. It also brought about an opening up of the Soviet Union to the non-Communist world. The third term was *democratizatsia*, meaning 'democratization', expressing a desire to make local, regional and federal government, and the government of enterprises, more accountable, but falling well short of multi-party or direct democracy. For definitions of the terms, see: <<https://www.britannica.com/topic/perestroika-Soviet-government-policy>> [consulted 10.09.16]. The

— Believe it or not Chupa was rich. The company was bankrupted at the Collapse, explains Galina.

The Collapse, or sometimes Perestroika, is used as shorthand for the end of the Soviet Union. In the north it meant economic disaster as many industries closed down: the mica mines, clay quarries, fish processing plants, timber mills, even the food shops.

— Someone did all right for himself.

Marina hints from the back seat of the car as we drive back from visiting the decimated villages of Plotina and Chkalovsky.

— *Likvidator!* (The Liquidator!)

— We had them too! It's just like neo-liberal capitalism in Britain and the USA in the 1980s, with Soros and Goldsmith...

I try to explain, but Marina is in the swing of her tale. She shudders:

— I met the Liquidator. He came to my workplace.

— Is he still here?

— No, why would he be? He's done his job. He came to my building. I was installing the telephone network and he kept sneering and asking if I needed any help, waiting for me to break something. He wanted me to mess up so he could fire me.

Another day, I hear about a more recent Liquidator, from the scientist, Andrei Naumov, puffing hard on his cigarette:

— The company has been bankrupted.

I prod him for details:

— Does that happen a lot?

— Yes. And it's a shame. It is a well-run shipping company. They distribute oil and gas out of Kandalaksha port. You might be surprised but they paid us to do research into pollution in the White Sea. They financed three years of marine research in the White Sea.

— I hear there was a big spill near Kandalaksha a few years ago.

— Yes, that has dispersed now. But this company was not so bad, they supported scientific research. Then suddenly, *He* comes along and bankrupts the company.

— Who is *He*? I ask.

'Collapse' came towards the end of the Soviet Union, in 1990-91, and there are many reasons for it, which are beyond the scope of this PhD.

— A Kazakh oligarch: the type of businessman — yes I met him — who makes his money by bankrupting perfectly good companies.

Dmitri and Julia Lajus both know Naumov from spending long summers working with him at Kartesh, the Biological Research Centre.²⁴ Julia used to be a biologist but is now a historian of the Arctic. She tells me about the research trip they led to the Solovetsky Islands in the White Sea. Known as Solovki for short, they are the home of the Solovetsky Monastery.

— The monks kept their financial records in good order. They go back to the fifteenth century and scientists and historians are using them to understand fluctuating salmon stocks over the centuries, Julia tells me.

— You must go to Solovki. It is the heart of Russia, says Masha, a summer camp leader I met at the White Noise festival, wistfully.

Mariusz Wilk, a Polish writer, spent six years in the 1990s living on Solovki. He describes it as a lighthouse from which to observe the rest of Russia. The desperate poverty and suffering of many current residents, and the traumatic twentieth century history contrasts with its prosperous beginnings.²⁵ These islands' sacred role goes back further still, according to Biornar Olsen, a Norwegian archaeologist, who suggests that the Solovetsky archipelago may have been chosen for the Orthodox monastery because the islands were considered the most important sanctuary of the local Saami population and for many centuries were the centre of their sacred landscape.²⁶ Beginning in the sixteenth century, Solovetsky quickly became the richest monastery in Russia, selling the fish from the White Sea.

— Salmon populations were stable between the seventeenth and the beginning of the twentieth Century, fluctuating with climatic changes, the biologist Dmitri Lajus explains.

²⁴ Kartesh White Sea Biological Station is a marine research station of the Zoological Institute of the Russian Academy of Sciences, located in the Chupa inlet of the White Sea.
<http://www.zin.ru/kartesh/default_en.asp> [consulted 10.09.16].

²⁵ Mariusz Wilk, *The Journeys of a White Sea Wolf* (London: Random House, 2003). The Solovetsky archipelago was where the GULAG prison camp system began, and took shape. It gave the name to Alexander Solzhenitsyn's *Gulag Archipelago*, first published in France, Editions du Seuil, in 1973, translated into French by Geneviève Johannet, José Johannet, Nikita Struve, and in English in 1974. It circulated in Samizdat (unauthorized typescript form) in the Soviet Union until it was published there in 1989. For a history of the GULAG drawing on recently opened archives, see Applebaum (bibliography).

²⁶ Kuzmin D.V., 'The Saami Period in the History of Karelian Pomorie', from the report of *The Second International Scientific and Practical Conference, Natural and cultural heritage of the White Sea: Perspectives for conservation and development*, 17-19 July 2015 (Karelia, Russia: Basin Coucil, 2015), p 60.

—The changes in the twentieth century are anthropogenic, due to dam construction, over-fishing and pollution.²⁷



fig. 7

Evgenii, the Kalevala fisherman from Chupa, is also an *alpinist*. He hangs off walls and roofs to fix windows and cables, to paint walls and go where no one else dares to go. I followed him up the back stairs of a tower block in the centre of town. I wasn't allowed up there. The roof was strewn with pipes, cables, broken tiles, scraps of sharp metal and television receivers. Setting up a tripod for a video camera, I stepped into my makeshift panopticon, in order to make sense of the topography of Chupa. It isn't an aerial view allowing for a forensic, or anatomical analysis of the scene. It is the view from the gods at a metropolitan opera house. Figures but not faces are visible. Even outside the frame of the camera, I took in each scene as a separate compartment, or unit. There could be no seamless panoramic sweep bringing a landscape into focus, making sense of it as a whole.

Facing away from the shore (West), is a row of tower blocks, one of which houses the little boxy flat where I was staying. The grid is small, more crossword puzzle than Manhattan; the blank spaces from this vantage point a wasteland, brown-grey, indeterminate, undecided. Beyond, a dark green sea of evergreen forest. Directly below the building on the same side, between the blocks, the little figures of people moving together and apart, passing each other in the carpark, on the street, passing the time of day, moving on or pausing, kept me watching and filming for some time. I glimpsed the street market between buildings and cars, drawing people to and fro unhurriedly. As when watching birds, the impulse is to wait for something to happen, for recognition,

²⁷ My conversations with Dmitri and Yulia Lajus were supplemented by watching the videos of their expedition to Solovki on the website of the 'History of Marine Animal Populations' website. Unfortunately the video has been removed and is no longer available online.

for patterns or rare occurrences. But my interest was not in catching a glimpse of the rarity, the unique, or unexpected visitor. In any case, I did not know enough to know what would have been unusual. The regular patterns and movements of everyday life, the glimpses, overheard snatches of lives were enough for the moment.

The view on the other side of the tower, looking east towards the coast, shows a different town. Low wooden houses are set within gardens of flowers, vegetables, trees, and shrubs. This side is growing. The dwellings nestle into the landscape, belonging in the woods, among the trees. The sea was still. I could almost imagine the scene was a hundred years ago, if I erased a couple of cars and satellite dishes.



fig. 8

That evening, dinner by the barbecue was an opportunity to negotiate and interpret for Günther, the friendly German tour operator, and my new Chupa acquaintances who hoped to entice him to the region with his wealthy customers.²⁸ After several hours, I kept quiet. It seemed churlish to mind, to press the point, to want something else for Chupa, when I have nothing better to offer. But I felt I was witnessing and facilitating a transformation that is happening and has happened already to many places in the world. This simulacrum of a place for the delectation of tourists, the transformation of its relationship to itself, separates the histories and meanings of a place from its image. Taken to its extreme — which would probably not happen because people always let something slip through — the life and history of Chupa would be forgotten. The performance of wilderness could make Chupa disappear even

²⁸ The annexation of Crimea by Russia was enough to make the Germans who had signed up for the holiday pull out.

more quickly than it perhaps already is. Maybe that is what should or could or will happen anyway. It is what the authorities want: another branch of the world's wilderness theme-park.

The dilemma was not lost on anyone. The trade-off is not simple. And the economic benefits of tourism could lead to other businesses, opportunities, investment, and to people staying.

The next day, on the way to Khitogora mountain with Ilya, we visited two abandoned mica mines.

Mica sheets are [also] transparent to opaque, resilient, reflective, refractive, dielectric, chemically inert, insulating, lightweight, and hydrophilic. Mica also is stable when exposed to electricity, light, moisture, and extreme temperatures.²⁹

The horizontal mica mine dates from the 1950s, I was told, but cannot be sure from the contradictory stories I have heard since. The mine is a cave into the hillside that could have been dug anytime in the past 2000 years. The shiny flaky rock was chipped away by hand. In the vertical mine from the 1980s the excavation was mechanised.



fig. 9

All that remains are empty white brick buildings and deep cavities, and the dust in people's lungs and skin. Mica was used in the 18th Century for mirrors and

²⁹ There are different kinds of mica, all of which are sheet silicate minerals, which means that pieces of it peel off in fine sheets. It glitters and has many qualities, which make it useful in many different contexts. The United States Geological Survey introduction to mica
<<http://minerals.usgs.gov/minerals/pubs/commodity/mica/>> [accessed 11 April 2016].

decoration, even icons were painted on mica. I saw an icon in the tiny chapel in Keret made of mica. In the twentieth century, mica was used in electronics, especially radio transmitters, to assist you on your ride into Space, and to add an extra sparkle to paint, I heard from a lady in Chkalovskii. The demise of the Soviet Union coincided with the demise of the mines, a case of technology and ideology being overtaken, as well as the Liquidators moving in.

From the top of Khitogora mountain I see an archipelago at the mouth of a river. The river meanders towards the sea through a loose weave of water and evergreen forest. In Summer, land and sea and lake and river are all loose terms as they spill into each other.

Higher up than the roof in Chupa, I see something else from Khitogora, recollecting a celluloid landscape.

Aerograd

We can make nature appear and disappear. We are on our own, swaying to music, enjoying the freedom. This is the cockpit of a small aeroplane flying over a pine forest. We could fly forever and never see the end of the forest, or the sky. Nature is a vast, wild panorama and we have the best view. We can tilt the aeroplane up and away, and almost see the future. We are flying towards it, bringing the future with us to this empty wilderness. This is our future. This will be.

*Glory to the city of Aerograd, which we Bolsheviks
will build on the shores of the Great Ocean,³⁰*

Now we can feel the wind all around us, the wind made by all the other aeroplanes flying above and below us in formation, all flying north to the sea, to find Aerograd, Air City, a city of pure will.

...where ice floats on the Bering Sea, above the Amur River.

The waves are crashing beneath us. Listen to the beat of the drums, the marching music of the future. Nothing will stop us, we are all together, marching, flying, running, everything is swept aside, scattered in our wake, as we hurtle into the future.

I arranged to view the 16mm print of *Aerograd*, at the British Film Institute in London before travelling to Chupa, on the recommendation of Lutz Becker, a film

³⁰ Alexander Dovzhenko, *Аероград* (*Aerograd*), (USSR: Mosfilm, 1935). The italicized quotes are the author's translations of intertitles in the film. 'We' refers to an imaginary audience.

maker and dedicated Dovzhenko admirer. I invited a Russian friend, Elena Dobrashkus to accompany me. I was concerned that I might miss something without a native Russian speaker, and former citizen of the Soviet Union. As it turned out, it helped to feel together as we watched, to feel a companionship and reference point outside the patriotic fervour and pervasive paranoia expressed in the film. It helped make it possible to appreciate the film, to analyse it together, to compare experiences, to draw on our other knowledge of the country conjured up by the film.

...by the Sea of Japan

Something foreign is looming. Suddenly there is gunfire. We are in the forest surrounded by trees. The shots are those of a brave peasant unafraid of anything or anyone. The forest is a hidden, mysterious, world — eternal, vast, frightening, but essentially ours, Russian.

He who can read the Taiga, can see a man from afar.

Enemies are lurking. There is a Japanese samurai, who is leading astray some treacherous Russians. They are the *chuzhie*, the ‘others’, the *vragi narodov*, ‘enemies of the people’ — a technical term still recalled by people in Chupa. They want to blow up Aerograd and destroy the Soviet future. But the hero is able to read the forest, to read nature. He sees through the subterfuge of traitors, hunts them down like animals, showing no mercy. The *chuzhie* and their followers, and the crazed priests, stumble, rant and tear their hair out when they face the hero.

There are dangers at every turn. The forest is a hazardous, unpredictable place. Remember how the witch *Baba Yaga* hides in disguise, ready to entrap children and eat them? Beware the ‘others’ out to destroy us; we need to be in control, we need to use force and vigilance on the ground, and kill the enemy in the forest and within ourselves.

The forest is dense; it is impenetrable — hence the need for guidance. The forest and the land seem to go on forever. There is no perspectival view. Like the flat landscapes of Orthodox icons, the thick impenetrable surfaces do not represent reality but lead the way to a mystery, a truth, beyond.

The aeroplanes rise above this fearful morass. They are in control, seeing everything from above, from another world. The aeroplanes bring us to paradise, to Aerograd, just over the horizon, flying effortlessly through the air like birds or angels. This is the aerial view, the topographical view, the town planner’s view. And then the aeroplanes drop their pilots who float down, with their parachutes, like strange angels coming down to Earth at the Last Judgement.

The hero-peasant has subdued his own wild nature and destroyed it in those who threaten Virtue, Communism, and Aerohrad. Nature is being conquered to build a city in the Arctic. There is no room for nature in the new city. Communism has competed with nature, and surpassed it. Nature needs to be re-fashioned. The hero-peasant has internalised the virtue of the communist system, he is better than nature, and he is ridding society and nature — the forest — of its enemies. In the end, however, the bearded peasant himself no longer quite belongs. He is the hero but he belongs to an ‘old world’, while the new world of clean-shaven young Slav aviators belongs to the young who will build Aerohrad. The implication is that you get the peasants to do the dirty work and then come flying in to build a new world over the land they have cleared. It has echoes of the Western trope, where gunfighters clear the prairies, and settlers stake their claims and start farming. Here however the farming stage is bypassed and civilisation takes the form of a city.

Aerohrad is the ideal city, designed from the air, colonised from the air, arrived at from the air. It is Air City: a city made of air, to be conjured out of thin air. The balloon is burst by the Chukchi, the noble ‘native’ in his sealskins, the Soviet Nanook, who arrives on foot and asks where Aerohrad is.³¹ And it isn’t there. Despite his grinning enthusiasm for Aerohrad, the Chukchi who skiied all the way to the site of the future Aerohrad on his own, points to an alternative life, of self-reliance and freedom in the harsh northern environment.

So the city Aerohrad is nothing... yet. Or maybe nothing, ever — just an idea. But Aerohrad was built: there are nearly two-hundred cities in the Russian Arctic.

³¹ Nanook is the hero of Robert Flaherty’s feature-length documentary film, *Nanook of the North* (USA: 1922). Several scenes were staged, and Nanook was a consummate performer, who worked together with the director to depict scenes of Inuit life <<https://www.youtube.com/watch?v=m4kO1zMqso0>> [accessed 20 September 2016]



fig. 10

Households

Looking out over Karelia from Khitogora, I wonder whether Dovzhenko might have shot his film near here. It is easier to reach from Moscow than Siberia, and the forests would have been just as dense.

There is a village near Chupa called Chkalovskii, named after the Arctic pilot Chkalov who was a hero of the Soviet Union in the 1930s. The village used to be called Samoylev, after a hero of the Revolution, but he fell out of favour, so the village was renamed in 1939. The State Museum of the Arctic and Antarctic in St Petersburg has a bust of Chkalov, and there is an aeroplane from the period, with flimsy canvas wings, hanging just inside of the entrance to the museum, so you walk beneath it. The museum is inside a baroque church, which opened as the museum in 1937. The arches that might have had frescoes of angels, or scenes of the lives of the saints, are decorated with murals with the lives of Lenin, Stalin and the heroes of the Arctic.



fig. 11



fig. 12



fig. 13



fig. 14

— Do you know the story of this second pier, the *Belyi Pristan*, where they have the festival, and why it's so huge? Jens asks me. I'll tell you. During the '80s they shot down a Japanese civil aeroplane and it landed on water nearby, here in Karelia. They wanted to salvage it, but didn't want everyone to see. So instead of taking it to the pier in the centre of town, they built a huge concrete pier at the edge of town, behind the ceramic factory, and towed the aeroplane here.

On the way back to Chupa from Khitogora we swim in a lake beneath birch and fir trees to wash off the dust and heat. Dip your body a foot beneath the surface, and the Arctic reaches up to grab your internal organs. *Morož* (Frost) of the fairy tales lurks even in summer. Back in Chupa, Ilya invites the group for tea and *blinis* with cloudberry jam at his parents' flat. His father Valera is a geologist. He hands me a slab of the weird *belomorit*, a mottled White Sea stone, iridescent, geological bling. He shows us his extensive collection, including purple *granat* (garnet), basalt and other crystalline rocks, like a prized stamp or medal collection, or family photographs, each one cherished for its memories and a source of pride.

Can the extreme — whether imaginary or wished for, or real — be that which liberates or calls? What is extreme? A situation that demands everything of you, demands that you relinquish yourself to it, that you draw on all your resources to respond to it. Motives are always mixed. The call of north has often been the call to a new opportunity to make money and status: to find gold (black or yellow — the Klondike).³²

Olga Nikolaeva, of the village of Plotina near Keret, knows about Varlaam too, and is happy to tell me her story of him. She reads a lot of history and used to be a schoolteacher. She is good at telling what she has read as her own experience.

— Varlaam loved his wife very much. He was a very good man. He noticed that his wife was spending a lot of time aboard a visiting ship. One evening she came home drunk, and Varlaam was so angry that he hit her with a frying pan and killed her instantly. He was so distraught at having killed the wife he adored, that he vowed to spend the rest of his life rowing her body across the White Sea. He packed the body into his boat and rowed her corpse up and down the Western coast of the White Sea for

³² The Klondike Gold Rush is the most famous gold rush of the nineteenth century, 1896-99, when thousands headed to the Klondike region of the Yukon to prospect for gold. Most were unsuccessful. The events inspired many films and books. The writer Jack London travelled to the Klondike and drew on his experiences there for his novels, *White Fang* and *Call of the Wild*. Charlie Chaplin's silent film, *The Gold Rush*, 1925 is set in the Klondike.

three years. At the end of his tether, unable to keep on going with the burden of his guilt, he decided to head to an area of the sea which fisherman usually avoid because there are worms there that eat through wooden boats and sink them. But he wanted to sink his boat and drown. However, the creatures seemed to know, and left the boat alone. He knew then that his sin had been forgiven. From that moment he returned to Keret and built a hermitage and was a saint. I never heard whether he worked any miracles.

Back home I search the internet for more tales of Saint Varlaam of Keret. The Russian Orthodox church in Louhi region has a website, with animated snow drifting across the page, about Varlaam. The article doesn't clarify anything. The confusing software-generated English translation adds to the mysteries surrounding Varlaam, the number of wives he buried and the causes of the murder of one of them — possibly a demon tricked him. It seems he married and became a priest around 1535, and was zealous in 'fighting Saami paganism', until the events I was told about.³³

The head of the museum in the primary school in Chupa, Elizaveta Pimenova, introduced me to another man from Keret — Matvei Korguev. I would visit Keret the following week, a village that is now just a few scattered burnt-out shells, covered in purple *Ivan Chai*: Ivan's Tea, or rose-bay willow-herb, or in the United States, fireweed. Elizaveta told me a hagiography of poverty and calling. Matvei was the illiterate eldest son of a poor *Pomor* fisherman. His father died when he was eight years old so Matvei went to work to support his mother and younger siblings. However he had a marvellous gift for storytelling and became famous in all the villages for the wonderful yarns he would spin, and famous across the country too when his tales were written down. Elizaveta showed me photographs of the grand old mansions of Keret, of the Savin family, who were wealthy timber merchants and the patrons of Keret, and still missed, and pictures of Korguev and the tools and clothes he might have worn.

After searching for Korguev's stories in bookshops in Murmansk and St. Petersburg I finally found a slim paperback from 1988 in the British Library: *The Silver boat: Stories of Matvei Korguev, a Literary Retelling by Victor Pulkin*.³⁴ The first story, *Three Czar Girls (Tri Tsar-Devitsy)* opens with the classic folk tale opening, 'zhili-bili starik so

³³ <<http://louhi.blagochin.ru/en/life-of-st-varlaam-keret/>> [accessed 10 April 2016]

³⁴ М. Коргуев, *Серебряный корабль: сказки Матвея Коргуева; литературный пересказ Виктора Пулкина*, Петрозаводск, 1988 (M. Korguev, *Serebrianyi korabl': skazki Matveia Korgueva; literaturnyi pereskaz Viktora Pulkina* (Russia: Petrozavodsk, 1988))

stárushkoy', that lilt and roll you into the world of the tale.³⁵ We don't know if Korguev actually spoke this familiar folk-tale opening sentence or not. Did the writer Pulkin ever hear Korguev speak? Korguev died long before this book was published. The bibliography includes several books of Korguev's stories, 'noted down' by A. Nechaev, published between 1938 and 1940, the most terrifying time. All public, and some private, utterances were subjected to strict censorship. Most of the men living in Keret at that time were shot as 'enemies of the people' in 1937, in Sandermokh, I was told by a woman I met in Keret. Whatever spontaneity the storyteller might draw upon was bound to be squeezed out, sentences pushed through a mould, ensuring a perfect fit with an assigned message. Korguev's text was translated by someone else, even before it was written. And in the later 'literary retelling' of the stories in the British Library the new author might have further altered the voice of Korguev, to suit current concerns.

There are still logs from the defunct sawmill on the seashore in Keret, the sawmill that was started by the now extinct Savin family. Hardwood rots slowly here and the logs lasted more than thirty years. When Dmitri Lajus and the other biologists of the University of St Petersburg were establishing a new base from which to study marine life, they used these logs to build cabins, and they squatted the remaining abandoned houses in Keret while they built the *Srednyaya Stantsia*, Middle Station, on the opposite shore of the inlet. The summer I visited Keret I noticed logs floating by the shore, but I didn't realise why they were there.



fig. 15

The village of Keret lies at the mouth of the river of the same name near the shore of the White Sea about 50 kilometres south-east of Chupa, and 50 kilometres south of the Arctic Circle. The village was the regional centre, a wealthy town throughout the nineteenth century. In 1937, almost the entire male population was purged, *repressirovanny*, Yuri told me:

³⁵ Literal translation: 'There lived an old man and his wife'; equivalent to 'Once upon a time there lived an old man and his wife.'

— They all died at Sandermokh.

Sandermokh is the place where thousands of people disappeared, and in recent years the mass murders have been acknowledged, and researchers have tried to track down all the names. An old woman and her husband came out of their *banya* to talk to the visitors and showed us a photograph of a group of young men and boys they had kept from that time, one of whom was her grandfather.³⁶ The only person to survive was the little boy sat cross-legged on the ground. Yuri has done research in the local archives. During the purges of 1937, every fifteenth person in Chupa was shot, a total of eighty six people. In Keret, it was even worse. A monument to the disappeared of Chupa was installed a couple of years ago, by the people of Chupa. And many people now speak freely about relations who for decades they and their parents had kept quiet about.



fig. 16

The biologist Alexei Sukhotin described with affection how animals age in the White Sea. It isn't that he loves fish, or especially old ones; the affection comes from his attention to them, from studying these communities of animals in a specific piece of sea and observing, measuring and thinking about every little variation. He has spent many years of his life studying the ecosystems of the White Sea in all their variability and constancy. His own ecosystem at the Biological Research Station of Kartesh overlaps with those he studies. He told me that these fish continue to grow as they age, becoming more, not less, fertile.

³⁶ *Banya* is a Russian sauna. This one was in a typical small log hut.

— They become bigger and better fish, and then, if they aren't eaten by predators, they die, and I'm trying to understand why. I have a quite different experience of ageing. If only we could produce nets that would only catch smaller fish, leaving the big ones to have families, wouldn't that help restock the rivers and oceans?

Sukhotin is the director of the White Sea Biological Research Station, Kartesh. It belongs to the Zoological Institute of the Russian Academy of Sciences. It is not attached to a particular university, although many of the scientists who come there regularly to do research, also teach. The premise for the existence of the research station and of the two others on the White Sea, is that it is important to study marine life *in situ*, over a long period of time. The biologist Andrei Naumov, a wiry, spidery man with bristling grey whiskers, and bristling hackles at the stupidities of non-scientific authorities, assisted by younger scientific acolytes, has been measuring the temperature, salinity, and the chemistry of a particular cube of White Sea for twenty eight years, three times a year. He lives at the Research Station for several months of the year. The White Sea is his medium, and the research he has set in motion dictates his yearly migrations.

— There is a problem with Kartesh.

Irina sounded embarrassed. I thought I could guess why.

— What problem?

— The FSB is taking an interest in you. They want to know why you are interested in filming there. What could interest you at Kartesh? Somebody will probably also come to your master class.

— I don't want to get anyone in trouble. I don't have to go to Kartesh this time. However Yuri arranged for his friend, the Kartesh chief engineer, to take me to Kartesh on his skidoo. The FSB was not mentioned again, but I had been warned.



fig. 17



fig. 18

I visited Kartesh in summer and winter, to observe its particular ecosystem at different times of year and to understand the seasons. The scattering of wooden houses, from shacks to substantial two-storey buildings, have sprouted amongst the fir and birch trees. They are linked by paths of wooden planks, above the snow in winter and the mud in summer. In summer the community of scientists, technicians and support staff live communally, sharing meals in the canteen, gossip on the stoops, and lab space for their organisms. The noticeboard by the canteen is the heart of the community, where events and plans and findings are posted. I interviewed scientists at Kartesh, as well as the biologist Dmitri Lajus in St. Petersburg. He was able to give me some historical perspective on Kartesh, and gave me some scans of slides he took in the 1970s and '80s. He confirmed my sense that it was, or at least had been, rather like a secular monastery, with benevolent but powerful fathers, monks and their acolytes, curious visitors, and an otherworldly detachment.

— The Collapse transformed Kartesh. It was like a natural disaster. The idea of long-term study, of a stable environment where the conditions enable the same work to be carried out potentially forever, is hard to sustain with two or three year funding cycles. And the Academy of Sciences does not have much income; it's not a university. I did my doctoral research on herring in the White Sea in the early 1980s. Looking back, I could have expected to spend the rest of my life studying herring in the White Sea, going to Kartesh every year. Some people miss the stability and predictability but others maybe enjoy the possibilities, and even enjoy the pressure to diversify their research interests, to go abroad to international conferences and lectureships.

Dmitri was laconic about his own feelings. Andrei Naumov on the other hand was adamant that Western biologists are not as good as they used to be, and it's all down to short-term thinking.

In the summer, I asked Alexei Sukhotin and Vyacheslav Khalaman, as we sat in Alexei's room drinking Balveny whisky, about climate change and whether they could see any effects in the White Sea. I asked them to tell me how things had changed since they started their studies. They explained the geological conditions.

— We are in a period of the retreat of the last ice age. This means that the land is still rising as the weight of the ice is lifted, said Alexei.

— But isn't the White Sea also rising because of ice melt? I enquired.

— Yes, but not so quickly. The retreat of the sea because of the land rising is more significant. It leaves settlements that used to be on the coast high and dry, stranded from the sea. *Chernaya Rechka* (Black Stream) is now no longer a coastal town. Villages are abandoned because people cannot get about by boat or fish anymore. There are always changes, dramatic changes, on the White Sea. It's too soon and too complicated to tell whether the changes that we observe are due to climatic changes. We can't say. We can't even say if there are any local, specific, anthropogenic changes affecting climate. We just have to keep watch.

Andrei Naumov, on the other hand, was categorical:

— You have nothing to worry about until 2100. The cycles of warming and cooling are nothing new, and the changes will be adapted to, as they always have been. We have time to adapt.

— Have you not noticed any changes in the environment you are studying? My question was leading, but Naumov wasn't to be led:

— I study the animals living on the bottom of the sea where the temperature changes very little.

Dmitri Lajus told me later:

— Most animals live on the top layer of the White Sea. That is really the only place to live, and that *is* changing. Of course there is climate change, not for Naumov's ecosystem, but for everything else, yes.

Khalaman explained his studies of molluscs to me. Mussels need to have somewhere to hold on to. Real estate is more important here than food supplies. There is enough plankton, but not so much good real estate. There was a calamity related to real estate in 1960, when the seagrass *zostera* almost completely died out. This is where herring spawn. The spawn laid on intertidal algae almost all perished. So scientists from Kartesh (and others) developed and tested artificial spawning grounds: a nylon mesh worked, and the eggs spawned. Kartesh scientists have also helped develop mussel

farming. Their studies have shown that there is plenty of food in the White Sea for fish, and that the low stocks are due to ‘unsustainable fishing and other anthropogenic impacts, but not to the level of sea productivity’.³⁷

Although I did not realize it the first time I visited, a few metres away from Kartesh there is a *polygon*. There are *polygons* all around the White Sea: these amphibious beings are more elusive than any other White Sea creatures, and are left alone by scientists. The *polygon* is the name for an area given over to military testing and training, to atomic submarines, and for all covert military activities. Near where we camped on the open White Sea that summer, there is another *polygon*. A scuppered old ship lying off the nature reserve has been left for shooting practice. It lies just off a tidal island where there is a Neolithic stone labyrinth, inaccessible most of the time, and thus still intact.³⁸ Young men practice sinking the ship with artillery fire. The sounds of explosions could be rehearsals for a new era U-boat offensive against NATO, or a rapid slaughter of fish for their supper. Meanwhile a lone fisherman stretches his fine elaborate nets between a boat and the shore, hoping to catch enough herring or white fish to smoke and dry for himself and his family. He doesn’t have a license, but he knows the water and the fish and his nets are loose nets that will let the little fish swim away.

³⁷ I recorded hours of interviews with scientists at Kartesh, Poyakonda BBK and in St Petersburg, of which I recall only fragments here. I have also gleaned more information from the Kartesh Biological Research Station website and the academic abstracts contained on it <http://www.zin.ru/kartesh/default_en.asp> [accessed 22 September 2016] and the website for the *History of Marine Animal Populations* website which has a report, and films on the Solovki salmon project (the latter’s website has since been removed).

³⁸ The origin of these labyrinths is contested. They may well be later than the Neolithic. Kuzmin D.V., ‘The Saami Period in the History of Karelian Pomorie’, from the report of *The Second International Scientific and Practical Conference, Natural and Cultural Heritage of the White Sea: Perspectives for Conservation and Development*, 17th-19th July 2015, (Karelia: Basin Council of the White Sea, 2015), p 60.



fig. 19



fig. 20

Northern winter

Looking out my cabin window this place feels magical, in a literal sense, as if you'll blink a few times and the light will change and you'll be somewhere else. It is a fantastical light, a pale yellow and pale blue glow behind the village piled in a little heap at the edge of the bay. The areas of ice scraped of snow on the sea reflect the pale yellow light and shimmer as if they've been polished. I can see a snowmobile scuttering across the white plain of the sea in the distance, like a slow bug crawling — an earwig maybe.

The silence, even where there are noises of the distant train, or a few crows screeching, or the wolflike *laika* guard dogs, is a smothering where voices and sounds are stopped before they are aired. To go outside I wrap myself in layer upon layer of silk and wool, a down jacket and ski-pants, and light, warm felt boots I last wore in Moscow. I am like a cosmonaut in all my padded gear. When I step outside the hut sometimes I have to cling to the door, so it doesn't slam in the icy wind, and I brace myself against the onslaught. As I crunch along, I enjoy my limbs warming up, relishing

the feeling of my body's warmth and strength against the cold. All except for my nose. Before going back indoors, I wrap my camera in a plastic bag as carefully as I can in the snow and wind, to let it warm up gently to prevent condensation. The return to my wooden capsule is initially stifling, as I feel the cold fresh air sucked out of my lungs, and the cloying cosiness envelop me once more.

Walking in the area of Chupa near the woods on a sunny afternoon, the wooden houses nestle in the deep snow, as in a Russian fairytale, with Baba Yaga and Vassilissa the Beautiful, crooked fences and outhouses half-buried under the white blanket. For the time being I am enjoying an imaginary world of half-remembered tales brought to life in the stillness of a winter afternoon. The stillness is accentuated by my breaking it. *Laikas* bark ferociously at intervals as they sense my approach. The lupine barking announces my trespassing through their territory, as they orally map the space. The dark wooden houses with curtained windows, against humps of dazzling white, keep their secrets.

In winter the image of a weave of land and water has altered. The snow makes the separation of land and water even less clear as each is blotted out. Water beneath, above, against, below — just none in the air as it is too cold for condensation — as ice and snow spread across all available surfaces.

One bright day, as I walk on the frozen sea, I find myself stepping on blood-spattered snow. I taste something warm on my upper lip: a nosebleed. I manage to stop the flow temporarily, but it starts again. The day I visit the diving centre I bleed into the ice hole where the Belukha whales are sounding and leaping out of the water to feed. I bleed so much I feel dizzy in the dazzling snow. A doctor is found who plugs my nose, and laughs: I'm not used to this cold.

Driving along the Tersky Coast of the Kola peninsula, the driving snow hides the view. I try to get a hold of the history of Chupa, to string together the fragments I have been told. Yuri tells me that Chupa was settled in the 16th Century. People settled there to make salt to sell to the Solovetsky Monastery. The monks needed all that salt to preserve the fish that was making them the wealthiest monastery in Russia. Solovetsky was very powerful, and at the time of the *Raskol*, the schism in the Orthodox Church, Solovetsky kept the Old Belief.³⁹ It was a stronghold against the new Church, and as the

³⁹ The *Raskol* is dated to the reforms of Archbishop Nikon and Tsar Alexei I, to 1648. This is the date of the official new translation into Russian of the Greek scriptures, and the demand to vow allegiance to the reformed Russian Orthodox Church. Those who refused to accept the reforms are known as Old Believers. They were persecuted heavily at the time of the *Raskol* and subsequently. Pockets of Old

monastery was so rich and made all its own food and had plenty of supplies inside its great fortress it held out for six years. In hushed, sad tones, I was told several times — by Olga in Chkalovskii, and Yuri, and Masha — that Solovki would have held out if a traitor from within the monastery hadn't let the enemy in through a secret door. The Fifth Column seems to be the column that holds up the Russian Empire throughout its history. The Solovetsky fortress was a Tsarist prison for political prisoners. And from the 1920s, the monastery and the whole island became a Gulag. Since the end of the Soviet Union, the monastery has been taken back by the Church.

— Chupa almost disappears at the time of the *Raskol*, because trade with the monastery fell away, and because of its first ecological disaster: the destruction of the forest, which was cut down to burn and dry out the sea salt. So Chupa more or less disappears until the beginning of the Twentieth Century. It comes back to life because of the mica mines.

Yuri Rybakov filled in some history as we drove north.⁴⁰ As the story gets closer in time it fragments, each person I speak to bringing a detail but no one knowing their sources or any dates. No one could tell me when the mines first operated, whether it was under the Tsar, or only later, under Stalin. They all agree that the mica mines needed workers and that these were provided by the Gulags. Nobody else was willing to work in the harsh conditions, I was told by Yuri, and others. The Gulag was an important factor of the Five Year Plan.⁴¹ People turned into raw labour for the construction of an elaborate fiction of industrial conquest. A utopia built with brute force, reliant on the silence of the dead and the not quite alive, and the amnesia or trauma of the witnesses. Aerograd was to be built.

The strange and disturbing mystery of the camps at Chupa was compounded by the fact that I could not establish their history with any certainty. The camps are talked

Believers, belonging to a plethora of rival sects, survived in Western Siberia, on the White Sea, and in parts of Yugoslavia until the dissolution of that country and the Soviet Union. There may be a handful remaining, although in 1991, when I visited villages in Western Siberia with academics from Cambridge University and Sverdlovsk University and the Academy of Sciences, there were only a few old people still practicing the religion. The famous painting by Surikov, *Boyarina Morozova*, from 1887, depicts an aristocratic follower of Avvakum, the spiritual leader of the Old Faith, after her arrest, being dragged around Moscow before being interned and starved to death in a convent. The painting is in the Tretyakov Gallery in Moscow.

⁴⁰ Yuri dates the foundation of the current settlement of Chupa to the building of the St. Petersburg-Murmansk Railway, which opened in 1916, and the *Gorely Pristan* 'Burnt Pier', which was built to ship construction materials and workers to the railway. Yuri Rybakov, 'To the hundred-year anniversary of the Chupa urban settlement', from the report of *The Second International Scientific and Practical Conference: Natural and Cultural Heritage of the White Sea: Perspectives for conservation and development, 17-19th July, 2015, Russia, Karelia Republic*, p 124-9.

⁴¹ See A. Applebaum, *GULAG*, 2003.

about so casually, as if it were normal to have a slave labour camp whose prisoners built the town and most of the infrastructure of the region, who provided the labour that boosted the economy, and that just as suddenly as it appeared, was closed down when Khrushchev began the process of destalinisation.

— Most people stayed as they had nowhere to go, said Yuri.

He confirmed my suspicion. So who are their descendents? I didn't meet any, or not knowingly. Or perhaps there were none. Perhaps there were very few long-term survivors, and those who did remain after the closure of the camps had little time for reminiscing.

I set off an argument between Marina and Valery, her neighbour, about the camps.

— My apartment building was built by *tseki* (prisoners) in the 60s, Marina explained.

— It can't have been, the camps were closed by then, Valery intervened.

— So when did the camps start? I asked again.

Yuri had thought it was under Stalin in the 1930s, but Valery said it was after the Great Patriotic War. In Chkalovskii, the camps provided workers for the clay quarry for only two years, from 1951-53, I was told by Valentina Nikolaeva, a widow and retired deputy of what used to be a large village. The quarry was very successful. I was treated to tea and *aladi* (buttery griddle cakes) proudly served on an iridescent pink tea service of blue Chkalovskii clay from the Lomonosov factory, outside Leningrad.

— They probably don't know when the camps were built because they come from elsewhere, suggested Dmitri Lajus.

But as I pointed out:

— Many people I've asked are from Chupa, or nearby villages.

— Maybe. But people have the mentality of outsiders, of having come from somewhere else. It's a town feeling, not a village feeling.

Chupa is a 'town settlement' (*gorodskoy posyolok*) rather than a 'village settlement' (*derevenskii posyolok*) despite its small population. It is an administrative centre.

The closing of the camps caused a serious labour shortage for the authorities. There were no more workers for the mines and quarries, because no one was willing to work in them, either the newly released prisoners, or the local people who worked in either the fishery collectives, *kollektivnye*, or for the railway. A decision — whose decision is not recorded — was taken to close down all the small villages nearby — Sonostrov,

Keret, Plotina... One day, the school closed, then the shop, then the clinic. Soon nearly everyone was forced to move to Chupa in search of jobs, which were all jobs down the mines. I heard this story in Keret, Plotina, and Chkalovskii, and in Chupa.

The ceramic factory in Chupa, perhaps due to the influx of workers and investment, was very successful in Soviet times.

— It produced 70% of all lavatories, urinals and basins in the USSR, Yuri told me, grinning.

Chupa prospered during the Khrushchev and Brezhnev years. A fish processing plant, a sawmill, the ceramics factory and the Kolkhozes nearby provided employment for all. The legacy of those years is a White Sea depleted of fish stocks, a forest with spindly trees too young to be of any use for construction, and frequently set on fire by careless campers, and a dwindling population prevented from pursuing their traditional activities of collectively regulated fishing on the White Sea and in rivers. The current economy is subsistence level foraging for a few fish, berries and mushrooms, small government pensions, railway and highway work, and, ill-informed, unregulated tourism, notwithstanding the efforts of a few conscientious people and the Basin Council.

I was discussing ideas for reviving Chupa's economy with Sasha and Yury in the car on our long journey to Varzuga, on the Southern shore of the Kola Peninsula. Sustainable forestry — but that would take another fifty years until the trees matured — solar power in summer, ground heat, wave and tidal power.

— What about reindeer herding? Did that ever happen here? I asked.

Yuri told me how before the Great Patriotic War people used to have reindeer instead of horses:

— All the villages had some. They were all killed during the war for meat at the front, which was 29km away. The front stayed there throughout the war, because you can't fight in forests like these. Sasha, the driver, added:

— My grandfather came from Tiksheozero, the village Syarkineimi. Lönrott came through there when he was collecting his stories.⁴² He was relieved of his horse.

— You mean your ancestors stole Lönrott's horse?

— Yes. He had to continue on foot. But he probably got more stories that way.

During the war, everyone left the village and burned all the houses, except my grandfather's, so that the Germans wouldn't be able to use them.

⁴² Elias Lönrott, author of *The Kalevala*.

Yuri continued:

— Under Khrushchev, in about 1960, people were told to give all their animals to the *kollehozes*: chickens, pigs, goats, reindeer, cows, whatever they had. So everyone killed off their stock rather than see it taken over by the collective farms. Another daft idea of Khrushchev's, like his great idea of planting corn across the whole Soviet Union. After his visit to the United States he decided to plant corn everywhere, from Kazakhstan to Karelia. Neither place is suited to it. It was laughable. It grew so-high.

Yuri held his hands a few inches apart.

— All that grows here is potatoes, he continued. Potato planting time, 15th April, is a key date in everyone's diary.

— Another important date is 5th April, when the seagulls come back, Snezhana the cook told me.

— What is this need to conquer when here we are? We've been driving for 100 kilometres and it's exactly the same — trees, and more trees. Yuri remarked, smiling.

I agreed, somewhat bitterly:

— Yes, and why bother with another little diamond down there on the Black Sea?

— That wasn't spontaneous. Putin had it all planned years ago I'm sure, said Yuri, still smiling.

I continued, musing on recent events:

— The strategic argument is convincing, but it isn't the whole story. Putin isn't only thinking of the Black Sea Fleet. There is that feeling for history, for making it what you want it to be, that goes back a long way.

I remembered Marina's crowing the other day:

— Now we can all go back to Artek!⁴³

Yuri explained without obvious bitterness the meaning of politics here:

— There is no point in politics. Politics here is one person. One person and such a vast country. It is a continent not a country. The one centre of power creates a dangerous magnetic pull. So much is focused on him, from so far away, that it warps everything.

⁴³ Artek is a famous holiday camp for children in Crimea. The fact that so many citizens of the Soviet Union were sent on holiday to Crimea as children seems to be one reason that Russia's invasion of Crimea has been met with excitement and a feeling of ownership for the place of Russia's childhood memories. I wrote an article about this for the BBC <<http://www.bbc.co.uk/news/magazine-26610276>> [accessed 22 September 2016]. For a less rosy view of Artek, see the satirical Gothic novel by Zinovy Zinik, *The Beast of Artek*, (London: Divus, 2016).



fig. 21

The man who rang the bell for us in Kovda, a picturesque village of nine people in winter, Aleksandr Yakovlevich Zyatikov, is a meteorologist. When we visited in winter, the population of Kovda was nine.

— The original Kovda bell was stolen by the British during the Crimean war, which had a (very far) northern front. The British came down from Murmansk to the White Sea.

— There wasn't much fighting up here. However, the British battleship *Miranda* did land at Keret, Yuri explained.

It was more a case of drinking and carousing with the locals. I have been told many stories of sailors drinking together. Yuri shared *samogon* (moonshine) in Shetland when he was a sailor during his military service:

— The Shetlanders are a sober lot.

I heard the Shetlanders' side of the same story on my way to Shetland, from John Cumming.⁴⁴

The Crimean War in the Arctic was far away from the beaches of Crimea and Florence Nightingale: another incident of the Great Game played out on a shifting stage. The Kovda bell was retrieved by Tsar Nicholas II when he visited London in the early 1900s. It was sent to Solovki where it later disappeared.

The Tersky shore, on the Southern edge of the Kola peninsula, is where Russians, mainly from Novogord, first settled on the White Sea. Varzuga is supposed to be the first permanent Pomor settlement, dating from 1466. The annexation of

⁴⁴ I sailed with John Cumming on *Sea Change*, in August 2013, six weeks after first visiting Chupa. John Cumming, an artist from Shetland who now lives in Orkney, told of how when he was young, he and his friends would sail out to meet the Soviet merchant navy ships fishing off Shetland. You can hear the story in my film, *From Time To Time at Sea*, 2016.

Novgorod, in 1478, by Moscow and the sacking of the city in 1570 by the tyrant Ivan the Terrible (Ivan IV) sent Novgorodans fleeing to Karelia.

— The pillaging of Novgorod was the end of democracy in Russia, Yuri explained.

I queried this:

— Democracy? Really?

— Or at least the end of multiple centres of power. There were Loparis on the White Sea before the Pomors settled here.

Yuri prefers to call Saamis by their Russian name, Lopari (or Lapps). Everyone here is a mixture but some people like to say they are Pomor, or Karelian. There are very few Saamis.

Today is sometimes other times. People live in and for different moments. There is only the present, but it needn't be lived in a drastically different way from what came before. People can take from other times to make sense of their place today. All moments matter and can, sometimes, coexist. Just like a child, according to the psychoanalyst D.W. Winnicott, is all his or her ages at once, and, for that matter, perhaps the adult is too.⁴⁵ In Varzuga, children ski along the streets to get around in the snow drifts. Twigs are placed in the snow across the river to show the best way across. In summer there are boats to connect the two sides of the village across the river. And in between, when the ice is melting, people wade and hop from floe to floe to get to work. A woman in the mayor's office reassured me:

— Sometimes people drown, yes, but they're not usually from here, or they're drunk.

⁴⁵ D.W. Winnicott, *The Child, the Family, and the Outside World*, (London: Pelican, 1964).



fig. 22

Invisible ecosystems

I am ready for the tussle between theory and particular circumstances. The invisible spaces of the North created by humans are part of the ecology too: the forgotten camps, the abandoned mines, the shuttered houses with pensioners awaiting death, the military outposts, the submarines, the testing grounds, the *polygons* and the *zona*...⁴⁶ These spaces have ecosystems that change and adapt too. The word ecology implies an intimacy, a domesticity that is missing from the names of other sciences. The word-idea ecology touches on the conditions of existence, of life, at an intimate, experiential level. Greek *Oiko* — household — implies various individuals living together, interdependently, within a community, bound together by either familial, or professional ties (servants, apprentices, scientific colleagues). The household implies a collective — not necessarily chosen, and not always functioning peacefully, nevertheless a collective (Kartesh, the herring spawn on the nylon net, BBK Poyakonda, the rocks that mussels cling to, Varzuga's river community, and the crows who collect on the frozen beach in Chupa).

⁴⁶ *Zona* is the generic name given to areas which are closed off, and for which you need a special permit. There are different degrees of restriction. In Chupa, because of the nearby *polygon*, all visitors (Russian and foreign) must be registered. The village of Umba on the Tersky Shore is more restricted still, because there are submarines in the bay, so foreigners are not allowed to visit without registering first. The bureaucracy involved in registering foreigners is prohibitively disruptive, so people often don't bother.

The *logos* of ecology — knowledge, word, reason, expression of thought — is quite different from the *nomos* or law contained in the word economy. ‘Laws of nature’ belongs to such an understanding. Even the project of ‘rights of ecosystems’, and ‘ecocide’ though powerful as a metaphor and moral imperative, seems conceptually, and especially legally, unworkable.⁴⁷

The ethics lie not in believing or not in the science of climate change, or ecological renewal, or the political rights of one or other party within an ecosystem, but in taking on the responsibility and commitment of accepting that there is no return to an edenic past and deciding what to do in the circumstances. There is no easy next step. This is the ethical demand for everyone, though it is not usually formulated as such. The consequences of this acceptance of no return are manifold.

There is no natural state to return to; there are different, competing, claims by constituents of ecosystems, and within ecosystems. There is a struggle going on between them all. The artist (just like the ecologist, the anthropologist, the geographer, the politician, the fisherman, the oil worker, the black bear, the slug, the goldcrest...) is one constituent among the many, and therefore may want to make his or her case. The struggle for humans is usually called political, but it is not an exclusively human struggle, as it is not only about, or concerned with humans. I am using ‘political’ here in the broad and demanding sense that Bruno Latour defines in *Politics of Nature: How to Bring the Sciences into Democracy*:⁴⁸

— Not everything is political, perhaps, but politics gathers everything together, so long as we agree to redefine politics as the *entire set of tasks* that allow the progressive composition of a common world.

Unravelling the human invention of Nature and Science, as Latour does in this book, does not dissipate the variously imagined and exploited ideas of Nature, which are still very powerful in my experience of the calls of North. *Aerograd* still has a hold, as does *Frost* and *Varlaam*, and the idea of a wilderness in which to camp, drink vodka, and test your manhood. In the fairy tales and *The Kalevala* at least, there are multiple and not only human voices that challenge a simplified overarching view of the word ‘nature’. The biological research stations at Kartesh and BBK are good examples, proof in fact,

⁴⁷ The Ecocide project aims to name a new ‘international crime against peace’ in international law, and for it to be incorporated into national legislation, <http://sas-space.sas.ac.uk/4830/1/Ecocide_research_report_19_July_13.pdf> is a report on findings; <<http://eradicatingecocide.com/the-law/ecocide-act/>> is a campaign website, describing the principles of ecocide [accessed 11 April 2016].

⁴⁸ Bruno Latour, *Politics of Nature: How to Bring the Sciences into Democracy* (Cambridge, MA: Harvard, 2004).

that sciences are founded on values not facts. The importance of the sciences, as represented here within these political ecological communities, is that their values are different from the values of the society in which they exist. Radically, but quietly, the communities of these biological research stations attend to ecologies, ecosystems, communities, lives in and around the White Sea, attending to and reflecting continually on their own behaviour and place within them.

So, in general, in principle, there is no Nature to return to. What we have now is natures, or 'nature-cultures' or ecology, or society (in a new and inclusive sense connecting all living things as well as the chemical, geological, meteorological things within which these living organisms operate).⁴⁹ Like the White Sea scientists, we can accept that we live with constant change. What is done cannot be undone. And together with other beings, we respond in different ways to these constant changes, by adapting our behaviour to try not to make things worse or by intervening to try to make desirable changes (desirable for whom or what?). The latter is what makes ecology a question of ethics, aesthetics, psychology, philosophy, and politics, or rather throws them up in the air and questions the divisions.

The anthropologist and political ecologist Paul Robbins, having described the problem of what he calls the 'Edenic sciences' undeclared allegiance to an idea of return, came up with a new job for them.⁵⁰ Instead of restoration, or conservation, or the eradication of invasive species, he called upon them to accept the impossibility of a return to Nature as a place somewhere in the past, and to embrace the implications and opportunities that this acceptance brings with it. Their new role should, or more tentatively could, be to redesign ecosystems. He thinks they should embrace this new job description, and use it to set out what they want to, and can, achieve.⁵¹

— If there is no return (and there isn't) to an Edenic, prelapsarian, pre-climate change world then there is an extremely strong claim for a role and responsibility and potential for ecology to become something else.

⁴⁹ The combination 'nature-cultures' is used by Donna Haraway in her book, *The Companion Species Manifesto: Dogs, People and Significant Otherness* (Chicago: Prickly Paradigm Press, 2003). It is a term that encompasses the complexity of the relations between humans and other beings, and the impossibility of separating out cultural and natural phenomena.

⁵⁰ Paul Robbins argued for this in a lecture to the Geography department at Cambridge University, on 13 February, 2014.

⁵¹ Several articles set out Robbins' ideas. In particular Robbins and others, 'Global assemblages, resilience, and Earth Stewardship in the Anthropocene', in *Earth Stewardship*, (2013), <www.frontiersinecology.org> p 341.

Robbins calls for ‘ecological design’, whatever that will come to mean.⁵² Perhaps this call could come across Guattari’s *Three Ecologies* and suggest ideas of how art might rise to the ethical and ecological demands of contemporary life.⁵³ In Chupa, the fantasy of return is a desire for a pre-kleptocratic, pre-collapse, pre-Soviet, pre-imperialist, pre-autocratic, or for an idealised *Pomor* world (at least for some). The *Pomor* ideal may not be an origin, and certainly no Eden (as they fled a massacre) but the yearning for it does show how ideas of nature become tied up with feelings of identity, with feelings and stories about what has happened. The invisible spaces, the invisible powers are intractable.

How would Robbins’ and Latour’s calls for ecological design and for new collectives connecting communities, apply in Russia, in Karelia, in Chupa? At the time of my journeys the prospects seemed limited.⁵⁴

I had a hunch, borne out by my encounters and my inability to find the story of the camps, that there is another reason for not knowing, not remembering. The ubiquity of Gulags in Karelia, and in the USSR, and the presence of their legacy in the minds and architecture of the town, and the violence of the purges and the war, and the system that continued afterwards, and the collapse, is just too much. Too much unfinished business. Better to block them out and get on with life than face the horrors again. It isn’t as if the oppression had ended or the ‘system’, *sistema*, been replaced by democracy, or that the rule of law was applied evenly.⁵⁵ The FSB is the KGB is the Cheka, a secret, all-pervasive power: that Fifth Column holding up the System against the people, against the potentialities of everyone and everything, everywhere, even in a small town like Chupa.

One unavoidable response to this for the visitor is sadness, and frustration. But but but... turn your attention to the communities and ecosystems of Kartesh, or BBK

⁵² Paul Robbins, lecture, Cambridge, 13 February, 2014.

⁵³ Felix Guattari, *Les Trois Ecologies* (Paris: Galilée, 1989). English translation by Ian Pindar and Paul Sutton, *The Three Ecologies* (London: Athlone Press, 2000).

⁵⁴ Despite the political obstacles, from the restrictions on foreign NGOs in Russia to the deterioration in international relations since the annexation of Crimea, the Basin Council of the White Sea continues to develop. It now works together with the WWF in Murmansk and Norway; it has successfully run three cross-disciplinary academic conferences alongside the White Noise music Festival, advancing and sharing scientific, historical and social research on the area as well as encouraging and facilitating ecologically aware small-scale economic development, especially in tourism. The title of the annual conference is *The Natural and Cultural Heritage of the White Sea: Perspectives on Conservation and Development*.

⁵⁵ *Sistema* meaning ‘the system’ is more precise and more malign than the English ‘system’ – as in ‘working the system’. *Sistema* refers to the complex ‘system of governance’ that operates in Russia through informal and formal, and often secret networks of power. See Alena Lebedeva, *Can Russia Modernise? Sistema, Power Networks and Informal Governance* (Cambridge: Cambridge University Press, 2013). Also, Peter Pomerantsev, *Nothing is True and Everything Is Possible, The Surreal Heart of the New Russia* (New York: Public Affairs, 2014).

Poyakonda, or the careful management of the salmon river at Varzuga, and the care of its local museum and community, or Maxim's planters, or Irina's plans, or Yuri's enthusiasm and energy, or Ilya's White Noise Festival, or the dried fish, the berries, the mussels, the herring, the crows, the returning seagulls, Snezhanna's blinis, the crooked isbas buried in the snow, the view out my window, the fisherman in the *tonya*, the other fisherman and his nets, the bravery of the Pussy Rioters, the thousands of miles of pine and birch and fir trees, the bears, the White Sea, cleanest of all Russia's seas and full of life, the weave of lake and river and land, the furious growth of endless day, and the long winter night's sleep of the bears and squirrels.⁵⁶

— It is worth looking at villages that are flourishing, to understand what is possible; not concentrating so much on the decline.

The calm, assured voice of Alexander Tsetlin expresses hope, its softness not disguising his huge energy and commitment.

Keep in mind the terrible things, while attending to the good, to the joys and potentialities of the present moment. The confusion in Chupa is at least partly due to the ghosts who won't be silenced and shouldn't be until business as usual is interrupted. Here the terrifying events and suffering of the future seem as if they can't compare with the ones that have already happened. However the traumas of future divisions and change are here already.

— It's very difficult to connect the feelings of individuals about the changes that they experience to objective facts.

This does not stop Tsetlin from attending to feelings and changes and facts.

The Call of North this time is a call to make connections between things, beings, people, moments; not always to demystify, but to reignite potential. Connections are calls between, reaching out, spinning new threads and knitting loose ones, strengthening resilience.

The Call of North is a beginning, an opening up to calls to come. It attempts to evoke a geography — a territory, a topography, a movement — from images, from voices, from the images that are heard in voices. This is a place for hearing images — in

⁵⁶ Although I heard positive stories about the salmon stocks from the museum caretaker in Varzuga, since then I have read that the Varzuga River is being overfished, because of the increase in tourism, the use of quad bikes and snowmobiles to reach formerly inaccessible spawning grounds, and the lack of enforcement of conservation measures by inexperienced rangers. See Golenkevich A.V, of the WWF Department of Barents Sea, Russia, Murmansk, 'Problems of Wild Populations of Atlantic Salmon at the Kola Peninsula and Possible Ways of their Solution' in the report of *The Second International Scientific and Practical Conference*, (see above, footnote 56), p23.

the descriptions of observations, but also in hallucinations, reflections, shadows, demands, dreams and echoes. From voicing images and the experiences that create or reflect them, this call of North might begin to conjure a different, transformed North. To hear the sounds of fracturing of place, of beliefs, of hopes, of settlements, of land, of sea and of species, does not preclude attention to connections and associations, and the collective envisioning of something else.

Part Two: The Call of the Sea

Origins of an unnatural history of the sea

The Seafarer

Mæg ic be me sylfum
 soðgied wrecan,
 siþas secgan,
 hu ic geswincdagum
 earfoðhwile
 oft þrowade,
 bitre breostceare
 gebiden hæbbe,
 gecunnad in ceole
 cearselda fela,
 atol yþa gewealc,
 þær mec oft bigeat
 nearo nihtwaco
 æt nacan stefnan,
 þonne he be clifum cnossað.⁵⁷

‘May I be myself?’ the first line seems to ask. The words hover on a threshold of almost English, stretching towards it, just out of reach. *The Seafarer* is an Anglo-Saxon elegy.

The eponymous hero is confessing to someone, or to the page, his life story, a story of being at sea. The mood is sombre, full of foreboding. The storyteller tells of a sea that is

⁵⁷ There is only one extant version of *The Seafarer* in the *Exeter Book* of the tenth century, written sometime around the eighth or ninth century. There are many English translations. There is a parallel translation by Kevin Crossley-Holland, in Jonathan Raban, ed., *The Oxford Book of the Sea* (Oxford: OUP, 1992), p 37. The following, by Ezra Pound, is alliterative, like the original:

May I for my own self song's truth reckon,
 Journey's jargon, how I in harsh days
 Hardship endured oft.
 Bitter breast-cares have I abided,
 Known on my keel many a care's hold,
 And dire sea-surge, and there I oft spent
 Narrow nightwatch nigh the ship's head
 While she tossed close to cliffs.

Ezra Pound, *The Seafarer*, his version of the poem up to line 99, first published in *The New Age* journal, 1911; published by the Poetry Foundation, at <<https://www.poetryfoundation.org/poems-and-poets/poems/detail/44917>> [accessed 22 September 2016].

a terrifying, alien, destructive force ready to drown fishermen and sailors. The sea is a dreaded condition of life, away from the pleasures of society, and he is to be pitied, and perhaps admired for withstanding such ‘bitter breast-cares’. However he soon tells us that he also yearns for the sea, to feel himself fully.

It isn't surprising that an island, Great Britain, should produce a seafaring literature. This poem introduces many recurring themes, and especially the figure of the seafaring storyteller and his ambivalent feelings towards the sea. For one who wishes to be called by it, the sea can mean many things. You can run away to sea to escape a crime, or to seek your fortune — from fish, whaling, trade, piracy, war, or from finding new lands. The artist Bas Jan Ader's group of works, *In Search of the Miraculous*, tests the meanings associated with the lone Romantic hero, to see if they still have any power.⁵⁸ The experiment ended in tragedy when the artist, an experienced sailor, set sail alone across the Atlantic towards his home in the Netherlands, and disappeared.⁵⁹ This collision of symbolism, of art, with lived, physical, experience, seems characteristic of humans' relations with the sea. The call of the sea is heard again and again in the voyages of Ulysses, Columbus, Drake, Magellan, Franklin, and all the others who populate the histories of sea. A sea journey can become a catalyst for an individual's transformation, exposing the failings of civilization: *Robinson Crusoe*, *Lord Jim*, *The Old Man and the Sea*, *Moby Dick*, *Twenty Thousand Leagues Under the Sea*, and *The Tempest*. The English language I speak is awash with the sea; it flows through the anglophone, whether or not we ever dip our toes into it. Whose toes are dipped is part of this story: it isn't only a man's world, though these tales might suggest it is.

The sea, however, is not just an idea, a calling or the antithesis to land. The sea covers most of the planet, is the medium for most life, though not for humans, and almost all of it is unknown.

— Ninety-five percent of the volume of the biosphere — the part of the planet that supports life — is in the deep.⁶⁰

⁵⁸ Bas Jan Ader, ‘In Search of the Miraculous’, exhibition at the Claire Copley Gallery, Los Angeles, 1975.

⁵⁹ Jan Verwoert, *Bas Jan Ader: In Search of the Miraculous* (London: Afterall Books, 2006); Verwoert argues that this work should not be reduced to the story of Ader's death. He describes how all the elements of the work — the performance of sea shanties and their documentation, photographs of a walk taken by the artist through LA, as well as the artist's sea voyage — are underpinned by conceptual art. ‘The entire cycle of *In Search of the Miraculous* is [thus] characterized by the particular way in which Ader uses the means of conceptual art — the purposeful reduction of art to the staging of a specific idea — to frame a key motif from the culture of Romanticism, that of the wandering tragic hero on a quest for the sublime.’ p. 3.

⁶⁰ Callum Roberts, *The Unnatural History of the Sea* (Washington DC: The Island Press, 2007), p. 296.

And now the seas and oceans themselves are in danger, or rather the lives that they support are under threat. Seas are warming faster than land; they are absorbing carbon dioxide causing acidification that bleaches coral reefs, which support rich ecosystems; sea ice and glaciers are melting, raising sea levels and changing their composition.⁶¹ Warming waters in the North Atlantic mean sand-eels are moving north to follow the zooplankton, so many sea-birds are starving, and numbers are plummeting; industrial fishing is destroying fisheries; pollution is killing coastal waters, and plastic bags are lining the stomachs of whales. Deep-sea oil extraction is leading to spills and the immediate death of almost everything (BP's Deep Sea Horizon explosion), though the sea is sometimes able to recover even from that. Each of these calls for a response.

The Unnatural History of the Sea tells the story of humans' exploitation of the seas' resources. Seafaring Vikings invaded Britain and introduced the inhabitants to sea fish.⁶² The trawl net was invented in the fourteenth century and powered by steam in the late nineteenth. In the twentieth, Soviet factory ships ranged from the North Atlantic down to New Zealand, finding new deep-sea species to replace the depleted stocks of cod and herring. A side-effect of the end of the Cold War is that technologies for mapping the deep sea floor developed by the military on both sides have now become available to fishing companies. Supertrawlers are able to use sonar systems to seek out every last seamount to net the last of the deep-sea fisheries and in the process churn up the bottom of the seabed.



fig. 23

⁶¹ These phenomena are extremely complex, and treated in depth elsewhere. The data is constantly being updated, and models made.

⁶² Callum Roberts, p 295.

— We are losing life in the deep sea before it has even been described by science. [...] Deep-sea fishing is more akin to mining than harvesting, and deep-sea fish, like coal or oil, are being extracted like non-renewable resources.⁶³

There have been many ecological catastrophes but for the seas to recover, humans must stop this mining now, or it may be too late. The sea threatened by humans is an uncanny role reversal, a hubristic absurdity. It is true: human behavior has set in motion dramatic transformations to ecosystems, reductions in biodiversity, on land and in the sea. But we need more than a reversal or a return to an imagined past, we need a change of attitude and behaviour, a new ecology of relations with the sea that doesn't treat the sea as a resource. Thinking in terms of resources atomizes the sea into fish, fuel, power, highways. What if there is no such thing as a resource, but instead a medium for life, a chain of ecosystems, some of which involve humans, some that do not?

My decision to attend to the calls of the sea came out of the same sense of urgency that took me northwards to Chupa in Arctic Russia. The Arctic is warming faster than the rest of the planet, causing environmental, political and economic upheavals — melting sea ice, the opening of new sea routes, and oil and gas exploration. These are causing dramatic changes in the Northern seas and oceans, and may transform the land and lives around them. I wanted to see for myself what was happening, to hear from those experiencing these changes, and understand what relations with the sea have been, are now, and could become. I could have taken a voyage into the unknown, pushed myself to my limits, been an explorer. But maritime exploits are not the focus of my journeys. I am interested in how the sea flows through the lives, and language, of those living by it, and how people continue to draw physical and poetic sustenance from it. The seas around Britain are changing, especially in the far North, as the temperature and acidity of the water increases, and new and old uses for the sea compete. So I chose to go to familiar shores, and islands not so far away, that are implicated in the changes; my research took me to Caithness, the Orkney Islands, to Fair Isle and Shetland.

⁶³ Roberts, pp. 299 and 301.



fig. 24

The sea has become more remote for most people, even to islanders, since industrial fishing, just as industrialized agriculture keeps humans at a distance from the land. Stories of what happens at sea, since the ageing seafarer's confession, are often second-hand, bringing tales of events, remote in time and place, back home: the fisherman returns with his catch and stories of the one that got away, the Ancient Mariner tells of those who were lost, the scientist makes observations of the seabed using remote sensing sonar equipment, and the tourist sends postcards home, or posts updates on social media.⁶⁴ I have recorded conversations with fishermen, crofters, poets, sailors, engineers, anthropologists, archaeologists, teachers, scientists and artists; and brought together poetry, science, songs, and film. Each voice is individual, and opinions and feelings may fluctuate between and within each of them. Together they produce a polyphonic account of what is happening. In *Chaosmose*, Félix Guattari says:

— Subjectivity is plural, and polyphonic, to reuse Mikhail Bakhtin's phrase.⁶⁵

⁶⁴ Samuel Taylor Coleridge, *The Rime of the Ancient Mariner*, in Coleridge and Wordsworth, *Lyrical Ballads with a Few Other Poems* (London, 1798).

⁶⁵ Félix Guattari, *Chaosmose* (Paris: Galilée, 1992), pp. 11-12; my translation. Original French: 'La subjectivité, en fait, est plurielle et polyphonique, pour reprendre une expression de Mikhail Bakhtine.' In Mikhail Bakhtin's *Problems of Dostoevsky's Poetics*, translated by R. Rotsel, (Ann Arbor: University of Michigan Press, 1973), Bakhtin describes Dostoevsky's novels as polyphonic for the way that the characters are independent of their author, and speak for themselves. Their voices are not subsumed into the voice of the narrator or the author, and their opinions and actions belong to them as characters. This principle of independent fully formed characters speaking for themselves without an objectifying voice of a narrator produces the polyphonic structure of Dostoevsky's novels. This polyphony, argues Bakhtin, is what makes the novels original, and keeps the arguments live. Readers argue philosophy with Dostoevsky's Grand Inquisitor as if he were real.

This project is an attempt to articulate a plurality. The sea is pulled in so many directions, treated as a resource, a beautiful view, or a terrifying destructive force. I hope a dialogue between independent voices, a polyphony of calls of the sea, will uncover overlooked experiences of the sea and suggest new ways of thinking future relations with the sea.

Catches, currents, routes: in and around the Pentland Firth

Sitting in his front room, George Carter, a retired fisherman from Lybster on the east coast of Caithness, in the far North of Scotland, and his friend Charlie Mackay, tell me about the fishing. George explains:

— Haddocks move away from here in the spring. Cod move away in the summer. You could get £1 a head of haddock. The quotas are 500lbs of haddock, 500 of cod, but it makes no sense as you can't fish for them at the same time of year. Efficiency is what did for fishing. In the fifties it was the Decca Navigator and the synthetic materials, which meant you could make bigger, stronger nets.⁶⁶

George sketches a diagram of the different kinds of nets used, and explains how they work:

— You pull the seine net towards, through, with or across the tide. It's like a stocking with hinges, about 200 feet long, and conical shaped. It's the same shape as a trawl but has no kites. In the winter you are out in the morning and back at night, and in the summer you fish in the dark because the fish could see the nets in the daytime. It was a hard life before, but at least there were jobs. In 1970 there were 6000 herring boats. Now there are 40 boats in Scotland. Did you hear about the herring trawler racket? They made 43 million by not declaring 10% of their haul and not paying tax on it. And then there were the Cod wars ... The Icelanders were right. It's the same over mackerel at the moment.

— The plaice are dead, Charlie continues, smothered by the mud from the oil platforms. The Moray Firth was famous for plaice a hundred years ago. I don't think the

⁶⁶ The Decca Navigator System is, 'a hyperbolic radio navigation system which was established in the United Kingdom after World War II and later used in many areas of the world. It operated by measuring the phase differences between continuous signals from a master and slave stations. These differences were then related to hyperbolic lines printed on a chart. By plotting the readings from two pairs of hyperbolas at any particular instant, users could plot their position instantly.' From the British Oceanographic Data Centre website <https://www.bodc.ac.uk/data/documents/nodb/pdf/DeccaNavigator_13jul2011.pdf> [accessed 28 June 2016].

heavy white clay used as a lubricant on the platforms is non-toxic as they say. 'Domestos: kills all known germs dead' — and plaice too. The whiting have disappeared too. There are a few Minke whales. There used to be Finn whales, but the Norwegians wiped them out. They still sell whale meat in Bergen.

George reminisces:

— I used to work on survey ships. They carried me to talk to the fishermen. You could say I had a diplomatic role: I was there to persuade them to move out of the way of the cables. They were seismic cables, up to three metres wide. An array of airguns would go off every forty seconds. They blasted through the seabed to 100,000 feet.

— There are four rigs northeast of Lerwick. The Brent is the biggest strip of rigs in the North Sea. Every one pumping out smoke; it could darken the sky, remembers Charlie. In Shetland, when the tanker loading terminal, Brent Spar, was wound up, Greenpeace followed a tanker to stop it from dumping a huge tank of excess oil in the North Atlantic.⁶⁷ Yes, it stopped them.

— There are a dozen one-man boats in Lybster harbour, George explains. There are more fishing officers now than there are policemen. You have to fill in a form every time you land. The fish used to be sold to Wick, or Aberdeen. A lot of haddock went to Manchester, for fish and chips. There are no longer sea lice — these are like fleas and they demolish a bait in twelve hours. Now you can leave a bait in a creel for three days. Salmon always had lice on it. The farmed salmon are meant to give lice to the wild ones, but the wild always had lice anyway. It was the sign of a fresh fish.

— We call it the 'Holy Smoke' — the smokehouse in the harbour, says Charlie.

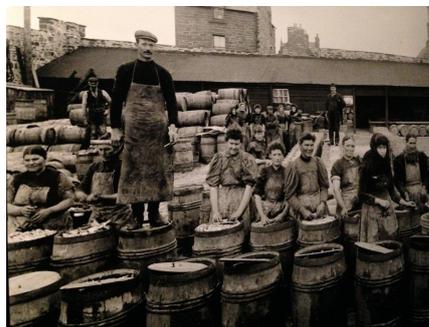


fig. 25

⁶⁷ The story of the Greenpeace campaign to prevent Shell from dumping the oil platform in the Atlantic is reported on the BBC website <http://news.bbc.co.uk/onthisday/hi/dates/stories/june/20/newsid_4509000/4509527.stm>. Brent Spar was to the east of Shetland. A new gas plant owned by Total opened on 8.02.16, in the Laggan and Tormore fields, west of Shetland, where until now only oil was usable. <<http://www.bbc.co.uk/news/uk-scotland-north-east-orkney-shetland-35516144>> [accessed 22 September 1216].



fig. 26

I am facing north as I write of the sea. Looking out the window I can see the high cliffs of the Orkney island of Hoy glowing rust above the edge of the grass, the sea hidden below. This is the far northeastern Highlands of Scotland, near the village of Dunnet, in Caithness.

The Highlands and Northern Isles are connected by sea, history, language and memory to Scandinavia and other countries of the far north. They are linked by the sea and sky-routes between them, the wind and currents that circulate through them; the summer congregation of minke and killer whales in the Arctic; the race of Atlantic salmon returning to the Varzuga river on the Kola peninsula in the White Sea, or to the Forss River in Caithness; the trade-routes of Scottish Fyfie boats selling herring to the Baltic states and Russia in the nineteenth Century, and bringing whale oil from Greenland to Edinburgh and London; the snow-blind British explorers trapped in ice in search of North West passages; the flights of airships over the pole by Norwegians and Russians; Arctic convoys of British merchant ships to Murmansk between 1941 and 1945.⁶⁸ And all kinds of fur traders, oil prospectors, fishermen, reindeer herders and submariners have kept moving back and forth along Northern routes. In 2015, several

⁶⁸ A *fyfie* was a kind of Scottish herring fishing boat of the late nineteenth century, originating in Fyfe.

thousand refugees fled Syria, flew to Moscow, took the train to Murmansk, a taxi to the border and crossed the Norwegian border on bicycles.⁶⁹

The Orkneyinga Saga, tells stories of the Earls of Caithness and Orkney, who sailed between Norway, Denmark, Orkney and Caithness.⁷⁰ This was not the edge of the world, but the heart of a civilization. The name Caithness comes from the Norse, meaning ‘headland of the Catt people’, the Picts, and its Gaelic name, *Gallaibh* means ‘among the strangers’, the Norse. Thurso, the biggest town in the county is named after the Norse god Thor.⁷¹

Inland Caithness is known as the flow country. The miles of peat bog, dug up by hand for centuries, and then by machine, for burning, are now recognized as a trusted carbon sink. Caithness has been a centre for energy production and technology since Dounreay’s Nuclear Research Establishment and Fast Breeder Reactor was established in the 1950s (now being decommissioned), and North Sea oil and gas, shared with Norway, in the 1970s. And more recently, wind farms have become familiar, and contentious sites across the county.⁷²

Now, the coastal waters of Caithness and Orkney are the prime sites for the development of marine renewable energy in Europe. Tidal and wave power promise a golden bullet — safe, carbon free energy. Eventually, with free, renewable, non-polluting power, capitalism would be transformed completely, even perhaps disappear.⁷³ The local implications are often forgotten in the rush to wealth. But in attending to them, I have found that people’s relationships with the sea suggest powerful relations outside, before or after, capitalism.

⁶⁹ About 5,500 refugees crossed into Norway at Storskog, on bicycles, the majority in autumn 2015. Russia doesn’t allow the border to be crossed on foot, and Norway doesn’t let in drivers carrying undocumented passengers, so a loophole was found. By January 2016, the newly appointed Norwegian immigration minister said that he would send them back to Russia. Alec Luhn, ‘Norway tells refugees who use cycling loophole to return to Russia,’ *The Guardian*, 14 January 2016 (consulted online).

⁷⁰ *The Orkneyinga Saga* translated by J. A Hjaltalin and G. Goudie, edited by Joseph Anderson (Edinburgh: Mercat Press, 1981).

⁷¹ Population of Thurso at the 2013 census, 7,933.

<http://www.highland.gov.uk/info/695/council_information_performance_and_statistics/165/highland_profile_-_key_facts_and_figures/2> [accessed 13 September 2016].

⁷² The Causeymire wind farm, consisting of 24 turbines, has been operational since 2004. There are several local groups opposing the building of wind farms, primarily because of their visibility in the landscape. Caithness Wind Farm Information Forum is one <www.caithnesswindfarms.co.uk> [accessed 20 September 2016].

⁷³ Paul Mason suggests this as a factor that may contribute to the end of functioning capitalism, along with the rapid increase in free services on the internet; see Paul Mason, *Post-Capitalism* (London: Penguin, 2015).



fig. 27

James Simpson, from Caithness, is the skipper of a small fishing boat. His father grew up on the island of Stroma and left it when everyone else did, just after the pier was built in 1957 when most of the islanders went to work at the newly opened Dounreay.

In 1963, the Simpson family bought Stroma at auction. The family still farms sheep and keeps a couple of holiday homes, but otherwise the island is uninhabited, though many seabirds nest here.⁷⁴ James ferries scientists and occasional tourists to the island and around the Pentland Firth. Astrid Harendza, a scientist and doctoral researcher in marine biology at the Environmental Research Institute in Thurso invited me to join her.⁷⁵ I want to film underwater to try to capture the power of the sea on camera.⁷⁶

⁷⁴ My short film, *And now we need to tell what happened*, 2013, was filmed on Stroma; and *Fathom*, 2013, was filmed in the Inner Sound of the Pentland Firth, between Stroma and the mainland.

⁷⁵ ERI, part of the University of the Highlands and Islands.

<http://www.eri.ac.uk/eri/eri_aca/default.aspx> [accessed 22 September 2016]

⁷⁶ Harendza's research on the seabed habitat in the Inner Sound is in the article

<<http://www.eri.ac.uk/eri/resources/maree/103.pdf>>. Her research is part of a three year research project at ERI, funded by the European Union into the environmental impacts of wind and marine renewables.



fig. 28

My pole with a little camera attached stretches below the surface of the sea about six feet, a fathom — the average breadth of a man’s outstretched arms. Dipping in and out, the camera glimpses blue sky, then rips the membrane between sea and air, and glides along the upper surface. The bottom of the sea is too far down and the liquid too turbulent to see anything. The North Sea and the Atlantic flow into each other here. The Inner Sound of the Pentland Firth is a narrow channel of water between mainland Caithness and Stroma. Their tides are out of sync and collide with each other, pushing and pulling the seabed, throwing up fish and plant matter to the surface. Shags, fulmars, kittiwakes, guillemots — known locally as tysties — and other seabirds congregate on the rough surface or fly just above it, waiting, then diving down to catch the rich crop at the flood tide.



fig. 29

— The approximate current velocity varies in the Inner Sound, but on a flood tide can reach up to 4.5 metres per second. Current velocities for an ebb tide are in general lower, but still reach up to 3 metres per second.

Nearby the sea is flat but here it is always turbulent. Astrid sends down a remotely operated vehicle (ROV) to film the seabed. She wants to make a map and record the

lives down there, to understand what effects installing tidal turbines might have. What sort of life thrives in an underwater torrent that never dies down? Astrid found something unexpected and previously unknown here: *maerle*, a rare coral-like organism that creates a rich microecology for other plants and fish. The finding is logged, registered, and the *maerle* will be protected, she hopes. The tidal turbines may have to move over.

Only recently has anyone been interested in this overlooked swell. The first contracts and leases of key coastal sea areas around Orkney and Caithness have been awarded to big energy companies.⁷⁷



fig. 30

Journey around the islands: Sea Change

A year later, on 19 August, 2013, I arrive in Stromness, on Mainland Orkney, on the far side of the Pentland Firth, off the *Hammavoe* from Scrabster at 10.15 in the morning. Waking up from a deep sleep in a new place makes my arrival a dream, the distance travelled unmeasurable. It is the last time for two weeks that I will be unaware of the journey itself. Ben Duffin, who builds wooden ships with the long-term unemployed in

⁷⁷ The company MeyGen won the contract for the Inner Sound of the Pentland Firth, and by autumn 2015, working with many different contractors, had completed the first phase of the project, including building pipelines and starting to build the power station on land where the energy will be converted into electricity and fed in to the National Grid <<http://www.meygen.com/>> [accessed 22 September 2016]

Govan, in Glasgow, helps me lug my bag as I sleep-walk ashore. We are here to join the Sea Change expedition, organized by Cape Farewell.⁷⁸

The Sea Change Northern Isles expedition is the last of a series of sailing expeditions to islands off the north of Scotland, taking artists, scientists, writers, musicians, and others, some from the islands, around the Western and Northern Isles, to share knowledge and exchange ideas and research into ‘social and ecological resilience’. The Cape Farewell website describes the project thus:

— The Sea Change project [...] aims to extend the languages, metaphors and methodologies of participating artists, enabling them to find new and affective forms for the stories and experiences of island communities.⁷⁹

I have many motives for joining Sea Change: a sense of adventure, of course, and inevitably a sense of the romance of islands and the idea of North. To bring these together sailing on an old herring drifter is almost too picturesque, even a little suspect. But I have known Orkney and Caithness all my life, and I am not seeking out the exotic. On the contrary, I feel a loyalty to the North of Scotland, a place I grew up in, and a desire to engage more deeply with these places and to understand what changes are happening close to home.

In a practical sense, Sea Change provides an opportunity to continue my research, to listen, to film, to write; I shall spend days and nights at sea, and meet islanders, scientists, sailors and others with knowledge of the sea. Joining Sea Change, I am testing an idea, using improvisation, a method I often use for making films. I set up a situation, bringing together participants (actors or not), sometimes with elements of a script, and watch and record it as it unfolds. This improvisatory method expands the possibilities of a situation beyond what I can anticipate. I record passages of time in a place. Later, I recombine images, sound and rhythms, to produce new meaning, for a future place and audience. The ethical and aesthetic implications of making work like this depend on the circumstances. The need to test my ideas and this method was an important factor in my accepting a place on Sea Change.

I expected the expedition to feel awkward and entered into the situation with trepidation. However, I sense that this unease is beneficial, forcing a continued reflection on what I am doing here. I see the expedition as a vehicle for purposes that I

⁷⁸ Cape Farewell Sea Change <<http://www.capefarewell.com/seachange/about/>> [accessed 22 September 2016]

⁷⁹ <<http://www.capefarewell.com/seachange/about/>>.

cannot know ahead of time. The awkwardness is to be expected from the collision of people with different perspectives, disciplines, and motives. We were brought together, by choice and selection, but we are not researching a single thing — say the thickness of sea-ice, or the temperature, or sea-birds, or archaeological remains. The quest is more open, philosophical, fluid, left up to participants to articulate, or not.

At times I was to savour my own and others' discomfort at the staging of encounters, at the artifice of the expedition, its separateness from day to day life. This separateness freed me and others to make of the situation what we would. The artifice could be liberating, at least at first. Sometimes the tension of feeling out of place would push me to ask questions; or to take charge of my own internal situation and state of mind, to step outside and film; or just have the conversations I wanted to have. At other times, I would be so alive to the moment and engaged in what I was doing, or the story I was hearing, that what brought us here no longer mattered. As I recall and write about *Sea Change*, I am perhaps distorting the expedition, even reducing it, as the text and images become a fixed document of what were amorphous and open-ended experiences. Or it may be that the document is just what is needed to keep the potential and the hopes of the expedition alive and open to new interpretations. It remains to be seen whether an expedition, or the writing of it, could become a model for, or a precursor to new modalities of art practice, or useful for other purposes.⁸⁰

I make my way with others on the *Sea Change* expedition to an old school building on the hill in Stromness. It houses the European Marine Energy Centre, and the International Centre for Island Technology. The poetic-bureaucratic ring of the latter suggests a place for learning to mend nets, to sing sea shanties, or build sea defenses. It suggests flights of fancy and imagination while remaining ostensibly in the realms of science, engineering and social research.

— Welcome. I am Kate Johnson.⁸¹ There is a group of us here from ICIT, the International Centre for Island Technology, part of Heriot Watt University. We have about thirty graduate students doing courses in marine renewables, marine resource

⁸⁰ The art expedition where artists and scientists and others travel somewhere out of the way to do research has become an art form of the late twentieth, early twenty first century. It was pioneered by artists and organizations such as Cape Farewell, the Arts Catalyst, the British Antarctic Survey, the TARA boat in France. The aims of the expeditions have been various, but often include studying and raising awareness of the signs of climate change, or other environmental issues, and sometimes trying to influence behaviour. The words and ideas of 'pioneering' and 'expedition' draw on earlier traditions of exploration, when the darker, colonial, side of pioneering had not been fully acknowledged.

⁸¹ Kate Johnson, director of ICIT. The following passage is from an edited transcript of the presentations made at ICIT to the *Sea Change* expedition, August, 2013.

management or renewable energy development, and a staff of about ten. But we're growing. Orkney has become the world centre for developing marine energy. The European Marine Energy Centre is upstairs. It runs the site, and has six test beds. If a developer is creating a machine which is going to generate electricity from either wave or tide, they can come here, rent space, moor it, plug it into the grid, see how it performs and then go away and do some more work on it. We are doing research, development and testing, and trying to work out what the effects are going to be on communities and the ecosystem, and how valuable it's going to be. Tidal power: the technology is pretty well developed now and you can see it becoming commercial in a few years. Wave power: still very much feeling the way into the technology.

Tidal power is capturing the natural tidal flows, such as those in the Pentland Firth. You stick a turbine in, rather like a wind turbine, and the natural stream generates electricity. With wave power you're trying to capture the waves' up and down movement, and to convert that to electricity. Doing that efficiently is still a problem. 'Pelamis' has been doing it for some time, but it's an enormous machine, quite inefficient, and generating power from it is very expensive. I rather like this one, called the Penguin. It's an asymmetric hull, so when it's in the water it rolls back and forth in every direction and that drives an eccentric counterweight that generates power.

We haven't had that eureka moment yet — that this is the device that's going to do it. Seatricity has a doughnut like structure, which you might see when you're wandering around. The other important one is the Aquamarine Oyster. It's a flap that sits in the water pretty close to the shore and generates high-pressure water, which is piped to shore to generate electricity. One of the issues with these is that they sit close to the shore so there's a big visual impact, and you've got a land-based power station. We don't yet know how people are going to react. Do you really want a land-based power-station at Skaill Bay?⁸²

The presentations continue. Fish fauna is changing with the increase in the sea's temperature. And scientists here, like those in Caithness, are looking at the environmental effects of extracting wave and tidal energy. No one yet knows whether the tidal turbines will adversely affect local ecosystems and have a knock-on effect further afield, either because of the turbines themselves or because of the slowing tidal

⁸² Skaill Bay is overlooked by Skara Brae, one of Orkney's prime tourist attractions. It is a well preserved prehistoric settlement, that use to be buried under the sand.

flows. The energy companies working in tidal power emphasize the machines not the environment in which they sit.



fig. 31

The hunger for a new industry to fuel economic development and generate wealth for shareholders, directors, contractors and the local economy makes other considerations unwelcome. The unchanging regularity and passivity of the environment — simplified to the sea's tides — is assumed. There is a fear of mentioning the micro and macro habitats, of human and other animal and plant interests — that there is a political and environmental ecology at stake.

Renewable energy may well transform economic relations, upset patterns of consumption and production — mess with capitalism.⁸³ If energy becomes free to produce, after the very expensive research and development stage, eventually its price will fall to zero. The costs of producing goods will then go down, potentially to almost nothing thanks to further automation and advanced production technologies. Paul Mason argues in *Post-Capitalism* that the circulation of nearly free goods may undermine capitalism, as it already does with peer-to-peer transactions and people making and sharing for free. However, as Owen Hatherley explains wryly, Mason chooses examples, Wikipedia and Uber, where in the first instance the intellectual labour is done by academics as it was before, and in the second, drivers are exploited and unprotected, as labour has been in the past.⁸⁴

The value of developing renewable energy is not only about economics, obviously, but also about reducing the burning of fossil fuels. Politically, renewables are

⁸³ See Paul Mason, *Post-Capitalism*, (London: Penguin 2015).

⁸⁴ Owen Hatherley, 'One Click at a Time', a review of *Postcapitalism: A Guide to Our Future* by Paul Mason, and *Inventing the Future: Postcapitalism and a World without Work*, by Nick Srnicek and Alex Williams, (London: Verso, 2015), in the London Review of Books, vol 38, number 13, 30 June 2016, p. 3.

useful — for the national and Scottish governments, for local government, for the companies' public relations.⁸⁵ However, the economic argument, and pitch, for renewables, trumps the environmental, as if making money were the only pragmatic perspective to have, the only persuasive reason for investment. But marking out air and tides as untapped resources points to a capitalism over-reaching itself, reducing the complexity of ecosystems to a system of exchange value. Finding ways of using renewable energy sources may be a good thing, but it need not mimic mining. The argument for marine renewables may be lost, if the over-simplified economic arguments are the only ones heeded.

Electricity companies have been doing environmental surveys of the local area. However, I heard at ERI and ICIT, that they do not share their scientific findings with other researchers, or make it publicly available. The capitalist model of proprietary research conflicts with the public interest in knowledge, and in this case, public funds have been used, through EMEC, local authorities and development agencies.

These thoughts do not dampen the enthusiasm at ICIT. The new technologies, and the political support for marine renewables, have enabled ICIT to exist and for research to flourish.⁸⁶ This new gold rush won't last. What happens now will affect the future of politics and ecology in Orkney, Scotland, Britain, and potentially the world.

New radar equipment to measure ocean currents has been installed at North Ronaldsay lighthouse, the island where sheep eat seaweed on the beach. ICIT has been working with volunteer divers to study underwater life. A solitary diving enthusiast looking at the World War I wrecks, found rare fan mussels living in Scapa Flow.

— The unique thing about Scapa Flow is that the wrecks preclude other types of activities. This has influenced the development of these special habitats.⁸⁷

Kate Walker studies brown crabs. This year their migration to the shore to molt then breed is two months behind. Fishermen help tag crabs and get very excited when they

⁸⁵ The Conservative British government and Scottish Nationalist Scottish Executive have reduced investment in marine renewables, since this time. The emphasis has shifted to fracking, despite promises at the United Nations Summit on the environment in Paris, COP21 in December 2015. And on 15 September, 2016, the new Conservative government led by Theresa May, announced that it had approved the building of a nuclear power station at Hinckley Point. For a summary of the decision see John Moylan, BBC News, 'Hinckley Point: What is it and why is it important?' (15 September 2016) <<http://www.bbc.co.uk/news/business-36897180>> [accessed 22 September 2016].

⁸⁶ The political will had dampened by August 2015. Funding for EMEC was cut by half, ICIT was recruiting fewer students, and several companies had gone under. Source: Kate Johnson, director ICIT, and EMEC <www.emec.org.uk> [accessed 22 September 2016]

⁸⁷ The wrecks in Scapa Flow, between Orkney Mainland and Hoy, are of German warships at the end of World War One, when the entire fleet was scuttled after it was captured by the British and American Allies, so that it couldn't end up in either of their hands.

catch them later. One crab walked 125 miles across the ocean floor.⁸⁸ Kate Johnson describes her colleague's research:

— Andrew Want has been looking at species on rocky shores, and has surveyed almost the whole of the west coast of Orkney for the first time. He is establishing baseline monitoring methodologies. If you take energy out of waves, where will that energy end up? Essentially onto a rocky shore. So he has been setting up monitoring tools using animals that he expects might respond to changes in wave energy, sentinel species, in order to index wider ecological changes. He's looking at how ratios of barnacles and marine snails might change in a future of energy extraction.



fig. 32

The ultimate tidal turbine array could, theoretically, capture all the power of the tide, slowing it till it stopped altogether. What would that do? Raise water levels, flood the shoreline, confuse fish, sea mammals and birds ... Is it science fiction? Or the Old Testament God — or Poseidon or Thor — wreaking revenge? In Norn, the old Norse language spoken in Orkney and Shetland, *tide* was analogous with *time*.⁸⁹ These traces

⁸⁸ BBC report, 'Orkney study sheds light on lives of brown crabs', (11 September 2012) <<http://www.bbc.co.uk/news/uk-scotland-north-east-orkney-shetland-19560265>> [accessed 22 September 2016]

⁸⁹ I was alerted to this correspondence in the foreword to *ebban' and flowan*, by Alec Finlay, Laura Watts and Alistair Peebles (Edinburgh: Morning Star, 2015). The book is called a 'primer on marine renewable

remain in the Danish, *tidvand*, and Swedish, *tidvatten* — time-water, and in English, *Yuletide*. Stopping tides is akin to stopping time. And so it is when you measure your days and plan your fishing expeditions according to tides.

— How can one distinguish the effects of energy extraction and the effects due to climate change?

‘Energy extraction’ suppresses all allegories and thoughts of the moon. Details are pieced together to trace a picture, or tell a story, of what is happening.

Distinguishing causes for observable effects is incredibly complicated. Anchovies are showing up in Orkney waters.⁹⁰ Is this an invasive species, or are they economic migrants seeking new shores?

Enclosure; zones

Sandy Kerr, an anthropologist, explains marine spatial management — the equivalent of the enclosure of the commons on land:

— Ownership dictates the use of land. The marine environment is not so exclusive but this is changing with new technologies and new kinds of exploitation. Trading quotas of fish are creating property rights, and with marine renewables this may happen even more. Proprietary access to certain waters moves other users off, and that in turn brings changes to the landscape. Different histories of ownership of the land — absentee landlords on the West Coast of Scotland, for example, versus the small farmers and fishermen of Orkney — lead to different reactions to carving up the sea. Who runs the sea? What happens to the profits? Who pays for investment and the costs?⁹¹

ICIT has hosted public consultations about the developments. These have been well attended in Caithness, where people are angry that most of the licenses have gone to Orkney. They have been poorly attended in Orkney. Sandy sounds exasperated as the commons of the sea slips away and most people don’t notice or seem to care. This question of access to resources and rights to use certain areas of the sea is the subject of

energy in Orkney and the Nordic countries,’ that ‘considers how, through both language and technology, use is inflected with locality’.

⁹⁰ The northeast Atlantic is warming four times faster than other seas. The mean annual temperature has increased by 1.3 degrees Celsius in 30 years. Louis A. Rutterford and others, ‘Future fish distributions constrained by depth in warming seas’, University of Exeter, in *Nature Climate Change*, (13 April 2015) <<http://www.nature.com/nclimate/journal/v5/n6/full/nclimate2607.html>> [accessed 21 July 2016]

⁹¹ <www.issmer-network.org>.

the UN Convention on the Law of the Sea, a document used as the basis for negotiations between countries, and other parties, but that needs to be reinterpreted in each instance.⁹²

In the 1970s, the Islands Council in Shetland successfully negotiated a deal with oil companies to keep a proportion of the oil wealth for Shetland.⁹³ Some people have tentatively been arguing for the same thing for Orkney and Caithness, with revenue from marine renewables, but according to Sandy it isn't likely to happen.

Marine Protected Areas (MPAs) would help fence off some of Orkney's waters; you would have to show that harm will be done to prevent the installation of renewable energy machines. The irony of the tension between conservation and rolling out industrial renewables fizzles.

The idea of zones reduces place to boundaries, access, ownership, control, Free Economic Zones, no-fly-zones, MPAs, areas under surveillance, exclusion zones, and national borders. Shona Illingworth's film *Balnakiel*, made on the North West coast of Scotland in the community where she grew up, explores the impact the NATO exercises on Cape Wrath have had on the inhabitants and landscape.⁹⁴ Pilots practice dropping bombs over the uninhabited island nearby before heading off to real theatres of war. These off-limits zones are accommodated into people's lives, mentally and physically.

The sea continues to be carved up into invisible zones by military powers and commercial interests. But the sea can also be a private zone, a place to delve into, a projection screen for individuals' and communities' desires. This aspect of the sea is deeply felt in Orkney.

Walking the cliff: views of land and sea

The next day, 20th August, we visit Morag MacInnes, a poet who lives in a farmhouse on the coast north of Stromness near Skail Bay. We hover in Morag's garden, holding onto our hats against the gale. A lopsided bull with a crumpled horn stares idly at the

⁹² The scope and limitations of the UN Convention on the Law of the Sea became apparent to me when reading the testimonials to the House of Lord's Arctic Committee that informed the House of Lords Report on the Arctic (2015). The UNCLOS is useful in terms of the principles it lays out but it remains broad and vague, necessarily, otherwise it wouldn't have been ratified

<http://www.un.org/depts/los/convention_agreements/texts/unclos/unclos_e.pdf>

⁹³ Douglas Fraser, 'The Shetland Dividend', BBC Radio Scotland, (24 April 2014)

<<http://www.bbc.co.uk/news/uk-scotland-27138927>>. [accessed 22 September 2016].

⁹⁴ Shona Illingworth, *Balnakiel*, co-commissioned by John Hansard Gallery and FVU, 2009.

disturbance. A murmuration of starlings scatters across the sky landing in a neat line of ink-blot on a telephone cable. Black silage bales brewing winter fodder are stacked against the barn wall. Over Cullen skink and orange Orkney cheese in her kitchen, Morag tells us about the plans to roll out marine renewables nearby:⁹⁵

— My neighbor has been visited by various people and they have given him maps and shown him plans and said, ‘we’ll pay you agricultural rates’ for your land. These are the same people who are going to pay £90 million for the cable that’s going to come ... if it’s going to come. It might be too expensive, they might decide this has been a trial place, and what they’ve learned from the trials they’ll now put into practice somewhere else, Cornwall maybe. Or somewhere closer to a main centre, which is cheaper. So part of Orkney’s history has always been incursion, and then people bugger off, leaving the core here. It’s the history of islands. Look at the Galapagos. If islands ever have anything that’s worthwhile, people come, take a look at it, see if they can use it, and leave their detritus. Orkney is full of Second World War stuff. The Napoleonic soldiers came and built the dykes: we still have them. We have the Martello Towers: they’re a tourist attraction. But a Napoleonic soldier left a poem about being in Orkney and what a bloody awful place it was. As did Hamish Blair who was posted to Scapa Flow in the Second World War:

Best bloody place is bloody bed,
With bloody ice on bloody head,
You might as well be bloody dead,
In bloody Orkney.

So right from the sagas we’ve had a culture of people coming and going and moving and changing our landscape — whatever that is.

Whatever that landscape is? Orkney is nearly treeless with acclimatized sheep and rabbits. There are no predators besides humans. A tiny oasis bursts out of this green desert at ‘Happy Valley’, a little wood planted along a landscaped burn, with stone bridges and benches, a cacophony of songbirds and the wind stilled by the branches of rustling beech and birch, alder and oak. It was a private garden, created by a vision of what Orkney might have been or could be, left to the community in the owner’s will.⁹⁶

⁹⁵ Cullen skink is a soup made with smoked haddock, potatoes, onions and milk or cream.

⁹⁶ Happy Valley was created by Edwin Harrold, in Stenness, Orkney. It was designated a nature reserve in 2011.

Highland landscapes have come to signify wild.⁹⁷ During the Highland Clearances beginning in the late eighteenth century, tenant farmers were moved off their crofts in order to graze sheep. They ended up in coastal villages, where they sometimes joined in the herring boom, and many of them emigrated to Canada and Australia, or died in the attempt. The sheep, together with large hunting estates of deer and grouse, on top of earlier deforestation, mean that most of the North Highlands is treeless like Orkney.⁹⁸ George Monbiot, in his book *Feral*, calls sheep the ‘white plague’ that has destroyed Britain’s forests. Without predators — the bears, wolves, wildcats, that roamed the Scottish Highlands, and eagles — the grazers destroy all growth except for grass and gorse.⁹⁹ Sea-eagles were reintroduced on the Isle of Rum in the Inner Hebrides, and now form a ‘self-sustaining population’ of seventy-nine pairs on the West coast and Outer Hebrides.¹⁰⁰ They are legally protected but some farmers and estate managers secretly poison them as they kill grouse and occasionally attack lambs.

Reading Monbiot, I am beginning to see the gorse and heather as evidence of a scarred landscape, an idea of wild snared in a time-warp. Many people cling to it as the epitome of wildness, actively preventing reforestation. But I can’t quite let go of the image of the wild moor that I longed for looking out from a classroom at bricks and pigeons. And close-up, walking along the cliff I see that the wildflowers support what looks like a rich and vibrant ecosystem. For George Monbiot however:

— We live in a shadowland, a dim, flattened relic of what there once was, of what there could be again.¹⁰¹

Monbiot has many reasons for wanting to rewild: to restore biodiversity and to prevent erosion from flooding, and to feel some hope in the face of general inaction on climate change. But he admits that his real incentive is a passionate desire for wildness, for feeling the terror of wolves, a need to bring back the deep brain-stem fears of fairy-

⁹⁷ The idea of the Highland landscape was reinforced by nineteenth century romantic painters such as Edwin Landseer, famously a favourite of Queen Victoria, who painted *The Monarch of the Glen* (1851).

⁹⁸ The Highland Clearances are the subject of continued debate by historians and those living in the places most affected by them. In Helmsdale, Sutherland, regular visits to the ruins of cleared villages attract many descendants of those who sailed to Canada and Australia. A monument to the Clearances was raised in the village, paid for by small donations. The historical novel by Neil M. Gunn, *The Silver Darlings* (London: Faber, 1941), is set in the time of the Clearances and the herring boom. Much of the book is set in a village called ‘Dunster’ — a composite of the real villages of Lybster and Dunbeath.

⁹⁹ George Monbiot, *Feral: Searching for Enchantment on the Frontiers of Rewilding* (London: Penguin 2013).

¹⁰⁰ I have heard about this in many conversations, in particular with Dr. Lucy Webster, who analyses dead raptors for the Scottish Executive, to find out how these protected species died. The statistics, from 2013, are from Scottish Natural Heritage’s website <<http://www.snh.gov.uk/about-scotlands-nature/species/recent-species-projects/sea-eagle/>> [accessed 22 September 2016]

¹⁰¹ Monbiot, p 89.

tales. Rewilding — allowing plants and trees to grow through careful neglect and the reintroduction of large herbivores and predators — excites for many reasons. Rewilding looks to the future and the distant past, not to a recent historical past, or the near future of competing human interests and narratives. Rewilding speaks of the innate potential of living things to grow and spread, to mend themselves and the soil. It proposes a benign and creative role for humans in revivifying ecosystems, but according to criteria other than productivity or resources. Above all, rewilding is against management — of space, of time, of lives. In rewilding, I also see the beginnings of a method for pursuing Paul Robbins' idea of redesigning broken ecosystems.¹⁰²

In Caithness, where people farm, Monbiot's longing for the wild might seem a luxury to some. My neighbor and sheep farmer Leslie's love of the land is no less passionate, but he lives through and from working the land, and fishes lochs, rivers, and at sea. He watches the changes daily, weekly, over many years. He notices seagulls flying further inland, waiting on a fence for a heavily pregnant ewe to flop down, only to snatch the lamb as it is born. The warming sea and a shortage of food has made gulls hunt inland. He catches sight of the factory-trawler that sneaks illegally into Dunnet Bay at daybreak to scrape the seafloor, getting away with it, again and again. The European subsidies for sheep farmers, and grants for 'rural stewardship' (for planting hedgerows, building footpaths), may be misguided, but are a matter of survival for small and medium-sized farms.¹⁰³

Back on Orkney, across the Pentland Firth where I too have cast a spinner for codling and mackerel, I return to Morag's stories.

— Robert Louis Stevenson wrote some wonderful things about Orkney. His grandfather built the lighthouses. The Stevensons were engineers. Robert noticed with interest that not everybody was delighted at the prospect of having the lighthouses that his family loved so much. Islanders in Orkney needed wrecks, because wrecks give you timber. Wrecks give you everything. There's an amazing account of islanders on one of the far out islands, who have no trees — remember Orkney is treeless — watching as

¹⁰² In *Call of North*, I discuss Robbins' argument in favour of ecological design instead of chasing after the irretrievable edenic moment when nature was untouched by humans.

¹⁰³ If the British government triggers Article 50 and Britain leaves the European Union as a result of the referendum to decide whether or not to stay in the EU, on 23 June, 2016, EU farming subsidies will be discontinued. Farmers received £2.4 billion from the EU in 2015. The National Farmers' Union has drawn up a list of demands to a post-Brexit government, including farming subsidies. Among many news articles on the subject, this one is most detailed, by Emily Gosden, 'Farmers' Leader seeks Government Subsidy Equal to Support Given by the European Union,' in the Daily Telegraph, (26 June, 2016) <<http://www.telegraph.co.uk/business/2016/06/26/farmers-leader-seeks-government-subsidy-equal-to-support-given-b/>> [accessed 4 July 2016].

the shipwreck happens and not doing anything. So interconnectedness is not always about everything being wonderful. It's about things being bloody, and tough. I love the idea of renewables. I love the idea of being able to make things come back to the world. I hate the idea of capitalism, and rampant destruction, and waving cheque-books and making structures that are not in tune with the landscape they're in. So I get emotional about it. You feel ... Ibsen had a play about it called *An Enemy of the People*.¹⁰⁴ It raises the same question: for the sake of a great project it doesn't matter if a couple of farms go by the way. It doesn't matter if Margaret has a son who was just going to build his house and carry on the farm. It doesn't matter that John doesn't know what to plan for the next six years for his cattle stock. Because, hey, it's just three or four people, it's a boring bit of coastline in a dip. Nobody'll see it. We've done a little survey, we've sent some people along the coast.

There's a seaweed here called *Fucus Disticus*. Andrew Want, who knows about seaweed, loves this seaweed and comes regularly to look for it. It's tiny, but it's rare, and it acts as a monitor of environmental change, like seaweeds do. There are terns here. There are puffins. There's a Viking set of dykes up behind that I'll show you, just where the substation is going to be built. We went to see the plans of the substation. Nobody's been to see me, because I don't own any land. The fact that there will be big things coming up and down here is a separate matter. They're going to build this great big green thing that looks a bit like a camouflage army tank, but square, in the dip where the mushrooms are and where the puffins come to the stack. But it's a boring bit of landscape, you know, unless you're me and you walk up and down it all the time.

So maybe this is good for making you think about edges of land, edges of sea, edges of technology. Technology is right on its edge with ICIT: all those excited shiny people. They're lovely people, and they've got a big toy and they're playing with it, here. But there are all of us as well. John is trying to negotiate with the Council to lease his land so the Council can then negotiate with the big players because he doesn't feel able to. The other farmers I think will maybe not do that. Everybody's being talked to individually.

— Why can't they get together? asks Teresa, one of the Sea Change crew.

— There are all kinds of difficulties. No, is the answer to that. They could, but they've all got different interests, different outlooks. John would be characterized by Margaret's family as a crazy hippie. Stanley would be characterized by Margaret's family

¹⁰⁴ Henrik Ibsen, *An Enemy of the People*, 1882

as a guy who is too handy with a shotgun, who won't sell his land or his houses, and lets them fall down. There are all kinds of little community things that go on that make that very hard. If there was somebody who pulled them all together that might happen, but because the development has been so piecemeal and the negotiations by the company so private, that's not happened. And the Council is in a very difficult position, because, hey, it's big money. It's good stuff for Orkney. It's complicated.

— And have you talked to the shiny people up at the ICIT? Teresa continues. What do they...?

— They agree, Morag interrupts.

— With you?

— That it's difficult. And they don't want bad stuff to happen. I know the farmer up there has been in tears because he thinks he will be compulsorily purchased, which he would be... Come in! Here's the very farmer I was talking about. This is John. You're just in time to do the walk. Have you got time?

— Yes I've got time, says John.

— You can show them where the substation is going to be built.



fig. 33

The conversation continues on the cliff walk, fighting the whipping wind and crash of waves against the stacks, on which dark blue shags perch upright. Suzanna Baston is a scientist at ICIT who measures the tides and currents of the Pentland Firth,

to figure out their impact on the production of tidal power. She picks up the argument about the place of humans in the landscape:

— I understand your point of view, obviously, and I agree with many things that you say. However, when you talk about things that don't belong to this landscape, I am always thinking, who or what made that decision? For me, that wall, separating two pieces of land, doesn't belong to the landscape...

— It's used, says Morag.

— ...Because it's made by man, continues Suzanna. We are part of the wall and we have the ability to change the landscape. It's tricky.

— I agree with you, but to make buildings in a landscape be useful you have to have a part in putting them there. Now there are wind turbines here that are owned and made together with people. This is not owned and made by people together. It feels like it's being imposed. We were shown the plan, and they said, 'You can comment on it but it's a bit late now.' You're right, landscape changes all the time. And probably this too will become part and parcel of our history, even if it rusts, which it well may. I'm just interested in the sense of disempowerment that I have and I didn't think I would have. As a poet you suddenly discover it is totally pointless doing nice poems about the weather. What you then have to do is say, right, let's try and do poems about what's happening that is really serious. And you discover how powerful art isn't sometimes, in these circumstances.

Landscape should be owned by people. The landscape here is changed, because fishermen no longer work. You don't see much fishing tackle about. You do see it in museums. You can get angry at fishermen, because they are so efficient and use computers. We use technology because it's quick and...

— Useful, adds Suzanna.

— Yes. But, you have to bring people along, make them discuss. Does it have to be a big square box? I said to the guy, 'Are you going to have a sign saying what it is?' He said, 'No, we hadn't thought of that.' And the other guy said, 'Well that might be a good idea: a sign.' And I said, 'well you could maybe explain what it is.'

— So are you saying that dialogue and being treated like you are part of this place would make you feel better about the development? Asks Suzanna.

— Yes, sure. At the moment what is slightly uncomfortable is that it's about money. And money is very important to farmers; they're not rich like they used to be, certainly not here. The fleeces of the sheep that John runs are worth nothing. His

organic are worth a bit, but he has a lot of problems with supply to big supermarkets. You know the stories about big supermarkets. And there's no abattoir in Orkney anymore.

— Where does he have to take them? I ask.

— Inverness.

Our footsteps on the uneven path, the calls of fulmars and screeching oystercatchers, the numbing wind and storm-whipped waves each follow their own rhythms. The coast unfurls its stories, knotted and frayed, as we beat our way along it. I catch bits of conversation intermittently. Laura Watts, an anthropologist who used to live here points north along the coast:

— If you nip up a bit on whatever transport you've got, north of Stromness, you can see the seasnake, Pelamis.

John points to a stack below us in the sea:

— There was a fishing boat lodged on those slabs of rock there, and it got stuck and we put a rope and cat's cradle around it and pulled all the fish — two tonnes of fish and about £10,000 worth of electrics, radios, radar, ship's wheel, bells, all that. Great fun it was, very exciting. All the neighbors, there were about thirty or forty people, got involved.

— They're talking about having to have a kilometre runway, going right to the main road, Morag explains. They say they have to check all the welds before they insert them down the hole and to do that they have to build a temporary welding station going in a straight line, in line with the hole. Then they shove it in. You actually just walked over where the builders have been and churned everything up. They drilled down to see what was going to happen. And it filled with water because of course it's very porous sandstone here.

— They went forty metres deep, says John. They had to cool the drill with water. And several times they lost all the water. There are places on this shore when it's rough weather the caves fill up with water and sometimes you'll feel a boom under your feet.

— And other places the water comes up through the holes under pressure, it hisses out. When you're talking about force and elemental stuff you couldn't be closer to it than here. The coastline sand moves. You look out one day and then the next day the sand is gone.

— Whenever there's a sliding rock, the sea will throw them up — a tractor can't lift some of them. I expect to see an Oyster coming up too.

— Well there'll be a few of them floating along and we'll cannibalize them, won't we? Suggests Morag. The mushrooms are always in the same places, if you want to get them. They are found in a certain earth. They tried to establish *Primula Scotica* — the rare plant that grows here — and it wouldn't grow. But there are places where it grows and you know where they are. The land resists interference in lots of ways. The other thing I like about the landscape is that it's undemonstrative unless you see it every day. It's like what we were saying about being part of something, when you work it and change it. Like I've been trying to get the garden to work and I've taken stones from here. I still feel a bit weird about having shifted them around, and yet they become yours. Yes, to a certain extent, this is just the same. If a big green thing gets put here it will be part of the landscape too and maybe they'll grow stuff over it or maybe the land will resist it. You can see the Viking remains were here. And look, that's Canada over there, that's your next stop.

A mind, perhaps, like land, is not made up, but shifting, adapting to new stories and visions. Morag pauses. John looks across the sea, due west:

— My sister stays in Nova Scotia.

— Put a message in a bottle, suggests Laura.

— The current rarely goes that way.

Morag knows the current and the coast, though she knows she doesn't know it as well as those who came before and made a living from it.

— You're talking about life on the edge. One of the sad things that happened, that you could make loads of poems about, is that an old fisherman used to live up here, and he did a map, telling the names of every single geo. The inlets here are called geos. And every fisherman would have known every geo because it was safe; if you got wrecked you could say to your wife, I'm going to Erno Geo, I'm going to the geo that's got the eagles in it. The man died, the map was lost. We know some of the names but not all. Naming is all about property and ownership, but before that it was about use, it was about being part of what helped you to live in what was a very brutal sort of a place. There's a lot of stuff that goes on when you think about change, which is about

how you relate to what you call things: Pelamis, Oyster, it sounds...¹⁰⁵ It doesn't sound like *Primula Scotica*.

Robert Rendell wrote dialect poetry and was an expert on shells and eggs and geology, like many late Victorian men, explains Morag. He believed in History, prophecy and God, but he was worried about fossils. He named all the shells that he found with their proper Latin names but he also kept a list of the names the local children used, that the Vikings used when their children played with the shells and made them into farms: Catty Buckies and Gimmer shells and Nebby shells — the names of cows and sheep, of cats and dogs — dog whelks ... so that carried on down.

Ruth Little, the curator of Sea Change, joins in:

— I've forgotten who it was who said coherence of language produces coherence of habitat. If you lose the coherence of one you lose the integrity of the other.

Making a language and a habitat your own are related activities, interdependent and fundamental.¹⁰⁶ The coherence and integrity they produce are provisional, subjective, in the eyes of the beholder, the hands and voice of the user. Living beings are often forced to adapt to all sorts of catastrophe, making sense of new ruins, getting by and making homes in man-made deserts. In this understanding, language is a tool for finding a way of adapting to a place, for feeling at home within an ecosystem.

Morag steps back from the edge of the cliff.

— You're somewhere where you could fall off. You were making a joke, I know. But people do fall off here. People bring their dogs and their dogs don't know. Look at Billy, he's safe. We've lost dogs, young dogs. It's dangerous here. John sits on a tuft of grass looking out.

¹⁰⁵ 'Aegir Dynamo, Anaconda, Blue motion, Electric Buoy, Green Cat, Limpet, Manchester Bobber, Ocean Treader, Oceanus, Osprey, Pelamis, Powerbuoy, Sarah's Pump, Salter's Ducks, Seadog, Swell Fuel, Thor, Tidal Sails, Trident Energy, Trondheim Point, Waveberg, Wave Dragon, Wave Piston,' from a list of names for wave and tide energy devices, in the book by Alec Finlay, Laura Watts, Alistair Peebles, *Ebban and Flowan*, Morning Star, 2015, p 28.

¹⁰⁶ Robert MacFarlane, in *Landmarks* (Penguin, UK, 2015), goes in search of glossaries of words used to describe the specific qualities of particular landscapes around Britain. On the isle of Lewis he is presented with a Peat Glossary. 'The existence of a moorland lexis of such scope and exactitude is testimony to the long relationship of labour between the Hebrideans and their land: this is, dominantly, a use-language — its development a function of the need to name that which is being done, and done to.' He calls the glossary a prose-poem. 'The glossary reveals the moor to be a terrain of immense intricacy. A slow capillary creep of knowledge has occurred on Lewis, up out of landscape's details and into language's. The result is a lexis so supplely suited to the place being described that it fits it like a skin.' pp. 18-19. This echoes Morag's comments about the naming of Orkney's geos.



fig. 34

— I've fallen off here.

— He's also swum to the stack, says Morag.

— I didn't, no!

— Oh, that's a whole other story. It's the Vikings again — feats of strength.

Orkney departures and landings

Indoors out of the wind, I hear more stories of how Orkney has long been connected by the sea to other places. Morag's friend and neighbor Sarah Jane Gibbon sings an Orcadian version of the Greenland Whale Fisheries song.

T'was in the month of April, the 22nd day,
 We weighed our anchors to our moor and
 For Greenland bore away, brave boys.
 For Greenland bore away.
 Oh Greenland is a cold country, no Christian lives therein
 Where the hail, frost and snow and stormy winds do blow
 And the daylight's never done, brave boys,
 And the daylight's never done.

Oh when we came to Greenland our goodly ship to moor,
 T'was then that I wished myself back again
 With my friends on the shore, brave boys,
 With my friends on the shore,
 For the captain in the crow's nest did stand, a spyglass in his hand:
 A whale, a whale, a whale-fish he cried,
 And she blows at every span, brave boys
 And she blows at every span.

Then our bo'sun on the quarterdeck did stand,
 And a clever little man was he,
 Over hull overhawl let your daddy tackles fall
 Launch down the boats to sea, brave boys
 Launch down the boats to sea.

So we launched the boats and away she went
 with a splashing of her tail,
 She uptipped the boat, we lost five men
 Though we did not catch that whale, brave boys
 No we did not catch that whale.
 She uptipped the boat, we lost five men
 Though we did not catch that whale, brave boys
 No we did not catch that whale.¹⁰⁷

I imagine the song being sung by whaler's wives, waiting for their men on Nantucket, or in Greenland, or in a steaming kitchen in Orkney like this one.



fig. 35

¹⁰⁷ There is an article on the Big Orkney Song Project, in *The Orcadian*, 12th April, 2012, by Sarah Jane Gibbon, <http://www.orkneycommunities.co.uk/ORKNEYSINGERS/documents/Book%20-%20Voices%20in%20Chorus/Review,%20The%20Orcadian%2012.04.12.jpg>.

— The Greenland Whale Fishery song is kent right across Scandinavia, right across Britain through to Canada and America, explains Sarah Jane. The earlier versions mourn the loss of the whale more than the loss of the crew. And then, as the song moves through time and place, by the late eighteenth century in Canada they're mourning the loss of the crew more than the whale. But the four Orkney versions all mourn the loss of the whale rather than the crew. We don't have actual dates when they arrived here. You've got whaling ships coming into Orkney from the 1750s. They come into Deer Sound on the east side of Orkney and they recruit the last of their men here and then they go off and whale. The Hudson's Bay Company hired men in Orkney who were cheaper because they didn't have to pay for extra travel. So there's an absolute context for the song. This version is one from Sanday that was recorded in 1967 by the School of Scottish Studies. A man called James Fotheringham sang it and he learned it from his grandmother. He was eighty when he sang it, so that takes you back a bit.



fig. 36

Nineteenth century Europe was lit up by whale oil until kerosene lamps and then electricity came along. Hunting whales on the scale needed to keep the lamps burning, and to keep fashionable ladies in whalebone corsets was dangerous work, on an industrial scale. Whales, fish, the elusive North West Passage, and the promise of untold riches, provided financial incentives to the sponsors of Arctic exploration in the eighteenth and nineteenth centuries. The economic pull of the Arctic isn't new.¹⁰⁸

¹⁰⁸ Barry Lopez's *Arctic Dreams: Imagination and Desire in a Northern Landscape*, Charles Scribner's Sons, 1986, among many other books (including Spufford, Francis, *I May be Some Time: Ice and the English Imagination*; et al), describes the history of Arctic exploration and economic interests in the Arctic. Callum Roberts' *The Unnatural History of the Sea* charts the economic exploitation of the oceans including the Arctic and North Atlantic. Both discuss the role of the Hudson's Bay Company. See bibliography.

— The songs would have been sung in dialect, but when folk were asked to write the words down they wrote them in the written language, which was English. And then somebody picks up that piece of paper and sings the song in English because that's the way it's written. So we've lost a lot of the dialect songs through the art of writing. And I lose the timbre of *her* voice as I write down the words. Elias Lönnrot wrote down the lyrics of the villagers he interviewed in eastern Karelia (which was and is part of Russia) in Karelian, which is close to Finnish, and re-used them to compose the *Kalevala*, which became the Finnish national epic. The words lost their original song, but Sibelius gave them new musical forms.¹⁰⁹ How many languages are lost for want of a poet, for want of a determination to claim language and land, to make the association inevitable, something to live for? Morag writes in Orkney dialect. She asks her friend to sing another song:

— Sing the song of the selkie — it's the one everyone associates with Orkney. And it's such a strong myth.

— It did appear in other parts of Scotland but Alan Bruford claimed it originated in Orkney.¹¹⁰ So being Orcadian I'll just agree with him. It's from the 1600s. So really quite early for Orkney, bearing in mind that at the time Orkney was speaking more Norn than Scots.¹¹¹

In our wee lands there lived a maid
 Hush baloo-lily this maid began I know not where
 ... Whether by land or sea does travelling
 It happened on a certain day when this fair lady lay fast asleep
 That in cam a good grey selkie and sat him doon at her bed feet.
 I am a man upon the land and I'm a selkie in the sea,
 And when I'm far fae in these strand my hame it is on so skerry.¹¹²

Falling under the spell of a selkie is perhaps an excusable slip in a village where everyone knows your business. The tragedies ensue when the selkie leaves its human lover behind to return to the sea. There is a little tomb of a selkie woman in Dunnet,

¹⁰⁹ Many of Sibelius's works were inspired by *The Kalevala*. The first was *Kullervo* (1892), and later came his *Lemminkäinen Suite* (1896) <<http://csosoundsandstories.org/what-sibelius-achieved-under-the-spell-of-the-kalevala/>> [accessed 18 September 2016].

¹¹⁰ Dr. Alan Bruford, 1937-1995, folklorist and Celtic scholar, School of Scottish Studies, Edinburgh University; obituary, Glasgow Herald, 22 May 1995 <http://www.heraldscotland.com/news/12106050.Folklorist_Dr_Alان_Bruford> [accessed 1 July 2016]

¹¹¹ Norn was a language derived from Old Norse that was spoken in Shetland, Orkney and Caithness. It was last spoken in Shetland at the end of the eighteenth Century. Lise Sinclair from Fair Isle used to sing a Norn song, which Karine Polwart sang to us on the *Swan*, see my film, *From Time to Time at Sea*.

¹¹² *Skerry* is the word for a very small rocky island, or a low stack. It comes from the Norse *sker*, meaning rock in the sea. The sea off Caithness and Orkney is strewn with them, making it very treacherous.

which fills with water, or tears, it is said. Seals live all along these Northern shores, the grey seal being most common.



fig. 37

Laura Watts loves Orkney. There can be a romance connected with hardship that is irresistible in memory if not in the experience.¹¹³

— People think about futures differently here than in London, says Laura. The electricity went out on some of the Northern Isles because the cable went down, and there was a wedding, so they were ferrying in generators. People know where electricity comes from here. And everybody you talk to on the street knows about the cable they're putting in to mainland Scotland and the fact they can't put up a wind turbine on the house or the farm because the whole network, the infrastructure, is full.

Morag returns to the poets and writers and their mixed feelings for Orkney:

— George MacKay Brown was a mythic writer of great simplicity. Rackwick, on Hoy, was a deserted valley when he came to see it, and he created a lot of writing about it. *Greenvoe* is about the attempt to mine uranium at Yesnaby.¹¹⁴ There have been various attempts. They also found lead in Hoy. The uranium came to nothing, but there was a great campaign which various people including my dad were prominent in. They had a big banner that read: 'Keep Orkney Green and Attractive, not White and Radioactive!' *Greenvoe* was George's attempt to come into the modern world. It's the history of our islands, they've always had people coming here. Sir Walter Scott came here: he found the streets very dirty. But he got the story of the pirate from Shetland and from Kirkwall. He famously used a witch story, about a witch called Bessie Miller who used

¹¹³ Laura was discussing her project to invite speculations on Orkney's future, collected in Laura Watts and Alistair Peebles, eds., *Orkney Futures – A Handbook* (Orkney: Brae Editions, 2009).

¹¹⁴ George MacKay Brown, *Greenvoe*, Hogarth Press, UK, 1972; reprinted by Polygon, 2007.

to sit on the top of a hill and drop eggshells into her pot and the sailors would give her money — or, I would have thought, often drink — in order to placate the winds.

There's a thing called the *swellkie*, it's supposed to be the swirl of the tide here. One of the reasons people made up for why the sea was burling about so much and why it was so salty was that there were two witches under the water endlessly grinding salt under Hoy and they were spewing out salt all over the Pentland Firth.

Setting sail on the *Swan*

After storms delayed the *Swan* in Shetland, we finally climb aboard. And now I'm lying stiffly in my bunk trying to write. There is about a foot of space above my head.

Turning on to my belly to let the ink flow I bang my head again. On board, it feels a little damp, but then it is a boat. At least we're better off than the herring that ended up here between 1900 and 1937. Apparently herring die the instant they are caught, so have to be chilled at sea, and salted or smoked quickly. Small, stone fish sheds can be found in nearly every geo up and down the east coast of Caithness, for smoking and storing the catch. The lifting of the heavy tax on salt in 1817, and the dispossessed crofters moving to the coast after the Clearances, helped the herring industry flourish.

An interesting event took place at Freefield docks on Thursday, when a fine new boat was launched for the yard of Messrs. Hay & Co. The boat has been built to the order of Messrs. Hay & Co., and Mr. Thos. Isbister, and is acknowledged by competent judges, both local and Scotch, to be one of the finest fishing boats afloat in the North of Scotland, as regards to model, strength or workmanship.¹¹⁵

In 1936 the *Swan* was given a motor and soon stopped catching herring and was commissioned for war work. She was returned after the war, and sold off Shetland in the 1950s. She disappeared for some time, until Keith Parkes saw a bit of her poking out of the harbour in Hartlepool.

— She had been sitting there submerged for at least a couple of years. I paid £1000 for her. The crane lifted her just out of the water. The water poured out of her, like a colander. A man who had been watching came up to me and asked me how much I'd paid. He offered me an extra £1000 to walk away. But I said no. He hadn't taken the risk had he? She was mine. Sometimes I wish I had accepted his offer. It was such a lot of work. She had a huge hole in the side, you could drive a car through it. The hold was

¹¹⁵ Shetland News, 5 May 1900 <<http://www.swantrust.com/history>> [accessed 2 July 2016].

full of concrete, because they charged you by the size of your hold, and they couldn't catch enough fish to fill her, so to make it smaller, they just poured in concrete. So I cleared out all the concrete through the hole in her side. I replaced all the rotten boards, made her watertight, and put a new motor in her. She is a beautiful herring drifter. Not quite a Zulu but still a beautiful boat.¹¹⁶

I ran into Keith Parkes in his shop in Brough in Caithness, where he sells hand-made wooden furniture and lamps he makes out of driftwood. He told me how someone from Shetland recognized the boat as the *Swan*, and raised the money from locals to buy it for the community.¹¹⁷

21 August: to the island of Hoy

The skipper, Richard Pattison, invites me to take the wheel. I listen and learn the principles of navigation and references for some of our language's favourite metaphors — to stay the course, for example. He points to a buoy in the distance and a lighthouse on the shore, and says to steer the *Swan* steadily between the two. My course also shows up on the little flickering screen next to the wheel, but as soon as I look at it I'm in the map not in the sea and lose control of the boat. As I approach the buoy, I seek new pointers to steer between. Looking ahead, I am concentrating hard on keeping the direction. I sense that the sea, though an alien element, is part of our human condition. Floating on this liquid medium that can easily drown me, I am aware of my liquid body sloshing to a rhythm I have yet to be attuned to, but sensing a rhythmic connection through the sea to other bodies.¹¹⁸

¹¹⁶ A *Zulu* was a Scottish design of herring boat of the late 19th Century that was able to be faster and bigger than its predecessors the *Scaffie* and the *Fifie*. It has a long sloping stern at a forty degree angle. The *Swan*'s stern doesn't have such a long shallow slope, the Swan Trust website calls her a *Fifie*, but her stern is not vertical, and Keith Parkes says she is between a *Zulu* and a *Fifie*. The name *Zulu* was apparently given in admiration of the Zulus who were being fought by the British in the Zulu Wars of 1879, in which Scottish regiments served. See Kate Newland, *The Zulu Herring Drifter, a case study of historic vessel preservation at the Scottish Fisheries Museum*

<<http://www.museumstavanger.no/Portals/48/Biblioteket/Aarbokartikler%201990-1999/1998%20The%20Zulu%20Herring%20Drifter.pdf>> [accessed 22 September 2016]

¹¹⁷The *Swan* is now owned and run by the Swan Trust <<http://www.swantrust.com/>>.

¹¹⁸ There is a contested theory that humans evolved from fish, and that we are more closely related to fish than just evolving as all life did, it is thought, from thermophilic organisms in the deep oceans. See Mosley, Michael, BBC News, 'Anatomical clues to human evolution from fish', (5 May, 2011) <<http://www.bbc.co.uk/news/health-13278255>>. Mosley argues that the development of the human embryo in the womb shows the early stages of the face resembling a fish and the remnants of gills. This is different from the 'aquatic ape' theory, also unproven and contested, which says that human ancestors followed rivers to estuaries, and learned to stand upright and eat shellfish, which are rich in DHA which is key to the growth of humans' characteristically large brains. The new evidence used to support this

Even far away from the sea, the sea is a metaphor with which to explain the human condition, as if we were navigating our lives like a boat, all at sea in the world. On land you can be still if you stop moving. Navigating on the *Swan*, I steer between rocks, buoys, houses on the horizon, avoiding but sometimes irresistibly zigzagging after unreliable things such as clouds and other boats.

Adapting to this new rhythm demands an openness to change. We have all to accept changes of plans. We have reduced our needs and supplies to a minimum — all that fits into a duffle bag — in order to squeeze into the cabin.

We are sailing to Hoy. Its hills loom dark grey against the watery sky. We land at Lyness and are met by a minibus driven by Terry Thomson. He strings us some tales all the way to Rackwick Bay, a village repopulated with holiday homes with green roofs and a wind turbine.

— There are graves down the bottom there, of German soldiers from the First World War when they scuttled the fleet. The British sailors ordered them to go back down and shut the seacocks they'd just opened but of course the ships were sinking and they couldn't get back down; so they shot a few of them to let them see who was boss. The population now is about 480. It was down to about 320 five or six years ago. It's mostly people coming in to the island. When they put up the big camps and things prior to the war, it was all sectional buildings, and they built them on top of little stilts. All the wood they used was Canadian redwood. It was a seriously busy place. There are no photographs because if you were caught with a camera it was confiscated. Naval base, you see.



fig. 38

That big red building, there, was the biggest cinema in Europe, now it's a farmer's shed. We were going to have a big wind farm over there, on Farra, where that single turbine is. But with the grid being at saturation point the guys have held back for the moment.

Terry points out where young girls found bits of German pilot strewn in a field while looking for relics from the plane. And tells us about the German pilot who came back to find out where the tunnel was that fed oil to the ships which he'd tried to bomb during the war.



fig. 39

We hike up to the stack, The Old Man of Hoy, and dream of buying a cottage in Rackwick, with a green roof and wind turbine, and coming back to live here. On the return journey, we huddle in the Dwarfie Stane, a large squat stone chamber of unknown origin and use, with a magical acoustic. Some of us lose all inhibitions and yelp and whoop. I want to sit still and hear the silence.

Hoy seems wilder than Mainland or Orkney's smaller southern islands. All of them are moulded by the presence of humans and their animals, their needs and demands. It is hard to imagine the Earls of Orkney and Caithness from *The Orkneyinga Saga*. The tales are of unremitting violence between families, marauding parties and revenge, but the winds, weather and tides also play their part.

— Earl Rognvald and his men said they would wait until the tidal currents were met by an east wind, for then it is hardly possible to go from Westrey to Hrossey, but

with east wind one can sail from Hjaltland to Westrey ... When the man tried to light the beacon himself, it was so wet that it would not burn.¹¹⁹



fig. 40

The warring tribes of recent centuries are easier to conjure. Orkney's islands and inlets and the seas that surround them are scarred by the battles of WWI and WWII, and the Cold War and even the Napoleonic Wars. Rusted hulls poke out of the bay in Scapa Flow and between St. Margaret's Hope and Mainland, glimpsed as you race across the causeway and lumps of grassed over concrete stand out along the cliffs. Nissen huts are reused as farm buildings, and even a chapel; guns are laid to rest in museum yards, while portable relics sit on the mantelpieces of fishermen's cottages.¹²⁰

The bumps and scars scattered across the Orkney archipelago can be one hundred or five thousand years old, a recent structure, a Neolithic settlement or a Viking farm. Trained eyes — of the satellite infrared camera, the geophysicist, the chemist's radiocarbon dating, and the experienced archaeologist — read the landscape, and sometimes a little way out to sea, summoning up the lives who came here to live or die.

22 August: sailing under full sail

We never take the route we first planned. The *Swellkie* kept us away from the Pentland Firth. The spring tide is at its height and the flow can reach over ten knots. The *Swan* can motor at a maximum of eight knots so we'd have been going backwards even when

¹¹⁹ *The Orkneyinga Saga*, translated by J. A Hjaltalin and G. Goudie, edited by Joseph Anderson (Edinburgh: Mercat Press, 1981), p. 102. Hrossey is the old name for Orkney's Mainland island.

¹²⁰ The Italian Chapel on Lamb Holm was built by Italian prisoners of war during World War II, inside a Nissen hut. Karine Polwart sang Hamish Henderson's *Freedom Come All Ye* in the Italian Chapel; a film of it edited by Andy Crabb is here: <<https://vimeo.com/73406037>> [accessed 22 September 2016].

we went forwards. The inner harbour on Stroma is also too shallow for the *Swan's* deep hull.

Instead, today we are sailing north in sunshine with all four sails. It felt like a real achievement to haul them all up. A motley crew of extras led by experienced Shetland teenagers, having a go, imagining through our limbs the swashbuckling adventures of buccaneers.

Looking at the LCD screen on my camera, standing on the starboard side of the boat looking east, the islands move from left to right in an endless wavy strip of green against the dark blue of the water and the pale watery sky. The camera unfurls a ribbon of land with tiny dwellings, military defences and sheep scattered across it. Keeping the ribbon steady within the rectangle eventually makes me feel sick. I abandon filming and find practical tasks. There is a tension in being an observer as well as a participant.



fig. 41

The *Swan* is perfectly proportioned, dark green with a stripe down the sides with ‘The Swan’ painted on the bow. The sails are rust-coloured and rot-proof. The crocheted ropes lying everywhere are beginning to make sense. Each is essential, logically and carefully coiled or stretched, ‘Oxo’d’ to a cleat. The boat is like a spider’s web, held in place by expertly spun threads in their necessary positions. They can move with the wind until fixed by the crew, or ‘sweated’ into position. Each crew-member is a leg of the spider, the skipper the head. The web is held up by the wind, the tide, the sea.

What does this spider catch? There is no catch, although Ian Nicholson, the Shetland engineer whose smile delights and soothes, has been catching mackerel with his spinner. But perhaps this spider is in a new phase of its life. We are sleeping in the herring hold, bumpily stowed in our bunks, or hatches, like legs folding into the spider as she waits.

Living on the boat suggests a way of life from another time and place, reducing our needs and living on top of each other. Phones don't work, cameras and computers are discreetly used and stored away in the bunks. Humans learned to live in close-knit, small groups of fifteen or so; independent thoughts and expressions of them evolved at close quarters. The thriving of the group depends on shared and individual skills, sociability, understanding, trust, and reserve. You need to know when to leave someone alone and how to be alone even within a confined space. A room of one's own was for hermits and monks, for others it took a long time to achieve.

Out on the sea driven by the wind, sprayed by the waves, I am touching all the seas. I am literally in the flow, my stomach churning to the unfamiliar rhythm. I have to hold on, keep my sea legs, not go overboard and become part of all the seas. Is this the Atlantic or the North Sea? The artist Tania Kovats asked people to send her water from all the seas of the world and brought the samples together in her installation *All the Seas*.¹²¹ Different sized clear glass bottles stand in rows on transparent shelves within a wooden grid. The urge to impose order on the watery world is gently absurd, idealistic, and there is pleasure in the alchemy, and anarchy, undoing political divisions. Later, I hear about the problems of ships dumping their ballast water in Orkney seas, potentially releasing foreign organisms, bacteria, disease, pollutants; and about the PCBs, banned since the 1970s, that are killing dolphins and killer whales, as the chemicals pass through fish and accumulate in the higher predators.¹²² It is illegal to dump ballast from foreign waters in coastal areas, but very hard to prevent.

The *Swan* is a relic and our experiences of course have little to do with those of the men who fished from her a hundred years ago, or who work on factory ships today. The Sea Change expedition is not an attempt to relive the past; it is an experiment, a catalyst for thinking about the present and future, for reflecting on experiences of living and working on these islands today.

¹²¹ Tania Kovats, *All the Seas*, (2012-14), solo exhibition, 'Oceans', 2014, Fruitmarket Gallery, Edinburgh.

¹²² BBC news story, 14 January 2016, referring to the article, P. Jepson, R Deaville, Robin J Law, 'PCB pollution continues to impact populations of orcas and other dolphins in European waters' in *Nature Scientific Reports* <<http://www.nature.com/articles/strep18573>>. Despite the fact that orcas are the second most prevalent species of mammal after humans, they may well become extinct in Europe.

24 August: Westray

We sailed before dawn from Kirkwall to the small northern island of Westray to visit a Neolithic site and think about the earlier economies of these islands. In a foggy, rainy fug, we tramp from the village of Pierowall, where we moored, towards the archaeological dig at Noltland, led by the lead archaeologist, Hazel Moore. She and Sandy Kerr, an anthropologist from ICIT, discuss kelp harvesting in the eighteenth and nineteenth century. Kelp was burned to make iodine for fixing soap and dyes, and in bottling, Hazel explains:

— At certain times of the year tenants would all be sent out to collect seaweed, even in the middle of the night, and I think they really weren't too keen because it had an effect on their farming.

— There were quite a lot of posh houses built in Kirkwall and landowners moved in, continues Sandy. And then it collapsed. It's a typical island boom-bust where the factors that create the boom are not in your control: geo-politics. Wars with France and America cut off alkali supplies from South America, so there was a boom and an influx of population because it was a safe place. And then the end of the wars and advances in technology meant there were other alkali supplies and the kelp market collapsed. So it was pretty tough because crofts were so small. That's when a lot of Orcadians ended up in Canada, in the 1830s, 40s. But you'll see it, on islands round the world, whether it's tourism, or kelp, oil industry, fishing. They're not places with stable economies. People think of islands as quiet places, they're not! They have these violent changes.

Caroline Wickham-Jones, an archaeologist sailing with *Sea Change* who brought us here, is always thinking about how people use the materials that surround them.¹²³

— It tends to be when the population grows beyond what the islands can support. You also had in the nineteenth century a short-lived linen industry and also the straw-work industry, and that tended to give work to women. The men would be away on the whaling ships or with the Hudson's Bay Company. It didn't make people rich, but it gave a low-level income. Interesting too that they're looking at kelp again as a source of fuel...

¹²³ Caroline Wikham-Jones is the author of many books about the archaeology and history of Orkney and other places in Scotland, including, *Between the Wind and the Water: World Heritage Orkney*, Windgather Press, UK, 2006.

Moving beyond the margins of sustainability is happening now across the planet. Islands show this as if they were a miniturised and speeded up microcosm of what is happening everywhere: the Pacific islands that are likely to disappear into the ocean as sea levels rise. There is nowhere to hide on an island: buried histories, and garbage, have a way of resurfacing, or washing up on the beach. What remains is what we throw away, not what we mean to keep.

Here on Orkney, islanders are always on the lookout for new uses for readily available stuff: kelp for fertilizer for football pitches, or for food; lime-rich sand for construction and spreading on fields. Caroline tells us how once, to follow a hunch, she asked a sceptical butcher to carve up a sheep with a stone-age knife that she had found. It was perfect for the job, still sharp enough after thousands of years.



fig. 42

We walk along a white sandy beach, with a seal bobbing in the surf. Rows of tractor tyres are stacked against the sand dunes to prevent them from collapsing. The sand buried a Neolithic village and later Bronze Age dwellings. Hazel shows us the site: it's like Skara Brae only smaller. Its middens reveal so much of life. How long will a plastic cup retain the ghost of its experience as a cup? I have heard it said they will last four hundred years. They will know us by our plastic. Meanwhile the kittiwake, dreamy seabird, fleet of flight, songstress, no longer lays viable eggs.¹²⁴ Kittiwakes live a long time. The aged parents are still here to call out their misery at the lost generation. Perhaps they remember what it was like before. But soon they'll be gone and there won't be any more kittiwakes. And we'll be gone too, and soon there won't be anybody left who remembers the call of the kittiwake. The cup will survive, joined by billions

¹²⁴ I heard this said by a ranger on Fair Isle, and also by John Cumming.

more. Future archaeologists will know what they were for. But kittiwakes were for nothing so they may be forgotten.



fig. 43

The dig at Noltland has turned up figurines, including the ‘Westray Wife’ — the earliest human face ever found in Scotland. The archaeologists call them art, but don’t know what they were for. We hand around a striated grenade-sized carved stone object. It is oddly moving, in this windswept, deserted place to hold an object in my hand that was made so carefully and skillfully by another hand a long time ago, before hands were used to write down what they were doing. The mist over the open excavation raises the ghosts of those who built the stone walls, making homes together on a small, cold, northern island. Caroline tells me later that when the archaeologists find art, carvings for example, they call it art because it seems to be a place where people would have paused. Art then is that which makes people pause, stop in their tracks, and leaves a trace of that interruption, as well as being a trace.



fig. 44

I walk slowly back to the boat along the jelly-fish and seaweed-strewn beach. A lone Canada goose stands by, watching. And three small sail-boats are anchored in the bay against a dusty pink sky.



fig. 45

For supper, Ian Nicholson brings forth a Shetland delicacy, *crappen* — fish liver from cod or haddock with oats, flour, salt and pepper, steamed in a fish head.

25 August: Rousay

We motored to a nearby island, Rousay, and spent the night moored at the pier. Now I am sitting on deck, my back to the hatch with a bright sun overhead, facing east. The occasional shag flies just above the surface of the still water. Or a fulmar with its knobby head and dark wing tops, and I think I saw a guillemot too. This morning as I came up on deck, John pointed out a kittiwake. They're still here! But rare, as are Arctic terns and Arctic skuas because their only food, the sand eel, is fleeing northward, coldward.

26 August: night sailing

We return to Kirkwall to wash clothes and to pick up a couple of new passengers for the long journey north to Fair Isle. Sixteen men and women on a boat, sailing, puttering, motoring on the sea. The skipper shoots the sun, with a sextant. The bo'sun shoots the moon, with his deck of cards. Aft forward, forward, aft. Focsul, beak, sweat, hoist. Boom, bowsprit, keel...

We set off at about 4 pm to motor-sail to Fair Isle through the night, because there isn't enough wind for sails alone. I stay up for the early shift, from 7 to 10 pm to help raise the mainsail — halyards, peak and float together, topping lift, staywire. The adrenalin rush from heaving ropes, mixed with the smell of boat fuel, the juddering of the motor and the swish from side to side of the waves, mean I no longer feel cradled by the boat as my stomach hits my oesophagus in a burst of burning nausea. Lying on my back on deck, wearing all my clothes, still as I can, I stare up at the mast stirring the stars overhead.

I recall another island journey, to *The Edge of the World*.¹²⁵ I am going to fall. I feel sick, hanging off the cliff, fingers clawing at the rock. Herta is an island stranded in the middle of the Atlantic Ocean. The people living on it are stranded too, blown like grass seed, clinging to the rock. A woman's face is exposed against a swirl of waves across the screen. The sea is a state of mind as well as the backdrop to island life. Silhouettes of lone figures on the cliff tops stand against the sky, or scamper deftly over rocks right up to the edge like the sheep they sometimes have to rescue. Only I seem to feel any vertigo. The camera looks up from below at faces peering down, or from above, over the cliff, after a face suddenly disappeared over the edge. Cutaways leave a gap for me to imagine the worst happening where I was looking only a moment ago.

On the *Swan*, sick, but safe, I breathe slowly, steadying myself, imagining the island we are sailing towards. Are we like the visitors to the island at the beginning of Powell's film, visitors from the future, tourists to a past way of life on another remote island? I go downstairs and slip into my bunk and try to forget I'm at sea.

¹²⁵ Michael Powell, *The Edge of the World* (UK: British Independent Producers' Distributors, 1937). It was Powell's first, personal, feature film (i.e. not funded by a studio). Herta is the fictional name of the island in the film. Foula is the real name of the island.



fig. 46

27 August: arriving on Fair Isle

I wake up, gently rocked by the *Swan* tied to the jetty on Fair Isle. The night left a feeling of residual gloom or foreboding, which I don't try to explain to myself or shake off. I have a slice of bread and jam and walk up alone to the Bird Observatory. It is a grey, two-storey building, austere and pleasingly functional. The path goes along a strip of land which separates two bays, one with the pier, the other a pebbly beach, where two sheep are munching intently on seaweed. So they do that here too, not just on North Ronaldsay. Small island — all food is good. Later I walk up in the rain to Sheep's Rock with a ranger. Until fifty years ago they used to climb up to the top of Sheep's Rock and haul sheep up with ropes to graze the small, steep, skerry. They didn't fall off. I imagine the scene in *The Edge of the World*, where Peter Manson ties a lamb to his back and hauls them both up the cliff.

We visit the musician Inge Thomson's grandfather, who makes and repairs spinning wheels, and are given a lesson in spinning, with wool, alpaca, and also milk protein. In the afternoon we visit Hollie Shaw to see her hand-framed knitting and Fair Isle patterned scarves and sweaters.

In the evening, I meet some fishermen in the Bird Observatory. The catch is mostly crabs and lobsters now; the trawlers scrape up everything else. You see them every day going back and forth, enormous, even against the wide horizon. A young man, visiting his parents, says he has no intention of coming back to Fair Isle. Shetland is home now. There is nothing to do here, and nothing to catch even if he had wanted to be a fisherman like his father.

The island is small but varied with steep cliffs, coves, stacks and arches as well as beaches to swim off. The National Trust for Scotland owns the island and leases out crofts on the southern half. The northern half is highland, Mount Ward, and is a bird sanctuary. It houses the RSPB Bird Observatory. Bird traps are laid to ring birds, and trees and bushes planted to give the birds shelter. The number of sea birds is plummeting and the rangers are trying to find out why. Only the bonxies and the fulmars seem to be thriving.¹²⁶ Fair Isle is a stopping off point in the autumn and spring migrations.



fig. 47

— Ladies and gentlemen, welcome to Log for today. Everyone ready to go? Lovely stuff. This is the daily adding up of the bird sightings. OK. The island is divided into three sections. I was in the south west today, Richard was in the south east and Kieran was in the north just to give you an idea where the sightings are being called

¹²⁶ Bonxies are Great Skuas. They are now at risk too, I was told when I returned to Orkney in August, 2015.

from. If you have anything to add feel free to do so once you've heard the warden and team's counts. All clear, all ready? Let's go! Greylag goose?

— Three.

— Same three been present for nearly a week now ... Pink-footed goose? ... Hanging around for its sixth day. Any other geese? Any widgeon? Any teal? I had a pair of teal but they didn't hang around very long. OK ... Mallards and eiders are present. Any long-tailed duck? Male present for his fourth day. Common scoter? Seen one there, OK. And any other ducks? Any quail...any divers? Fulmars are present. Any shearwaters or petrels? Gannets and shags are present. Any cormorant? Sparrowhawk? Kestrel? ...Was yours a female on the south coast? Any other birds of prey? 145 in total just 8 less than yesterday ... Ringed plover? 27. Two down on yesterday's count. Golden plover? No golden plover. First blank day this month. Lapwing? Not one ... 'Winter plumage type bird', yes? Sanderling? Purple sandpiper? Dunlin? Ok. Three as well. Snipe?

— Six.

— Any whimbrel? OK. Thank you. Curlew? Just the breeding birds present I guess. Common sandpiper? Greenshank? Redshank?

— One.

— One.

— And Turnstone? OK. Seventeen in total. Any other waders? Arctic Skuas and Bonxies are present, so are Kittiwakes. Any Black-headed gulls? Common gull? Lesser black-backed?

— Three.

— Kumlien's gull? Still going strong? Still going at least. Herring gull and Great black-backed gull still present. Any other gull? ... Arctic Tern?

— Six.

If the birds stop coming, so will the bird-watchers, and the island's main industry will dry up. Humans observe, produce taxonomies, knowledge based on our observations, and now we are observing, but hoping we aren't, the Sixth Mass Extinction.¹²⁷ Detailed observations, and a long historical record, are the only way of

¹²⁷ 'The Sixth Mass Extinction' is the name used to describe the extinction of animals and plants caused by humans — by hunting, agriculture, pollution and destruction of habitats. There is some disagreement and uncertainty about the start date, as extinctions began as soon as humans spread across the planet. However the last 30 years has seen a rapid acceleration of the process, which will be exacerbated by climate change, and some scientists think this new phase should therefore be called the Sixth Mass

resisting ‘shifting baseline syndrome’, as we become used to fewer and fewer bird-calls, smaller and smaller cod.

I shall learn from this log, sit in a city hide and wait, watching and identifying the passing humans by their colours and their gait: the banker, the secretary, the road painter, street sweeper, tourist, child, beggar, flâneur.

After the Bird Log, Inge plays the accordion with her friends. Everyone from the island, all sixty-seven householders, seems to be here. And then we listen to a lecture on the Fair Isle MPA proposal.¹²⁸ Just as I am about to go to sleep someone announces the Northern Lights so we troop outside to feed the midges.

28 August: views from Fair Isle

It is strange to wake up in the Observatory and sit upright, still, in a bed. I walk slowly south: clotheslines stretch taut against the horizon; a gentle walk uphill and suddenly round a bend, a cliff drops sheer into the sea; stone cottages huddle in shallow dips, and a tiny white kirk stands out against the green like a seagull. An overfed fulmar chick is stranded by the side of the road, too fat to fly or waddle to the shore; a black lamb approaches to inspect the strange creature, and the chick butts its head and squawks. The sea is always there, a couple of breaths away. Is Fair Isle a sustainable community? There isn’t much fishing, and only a few dozen sheep. Flashbacks to that other island, to the view from then, from *The Edge of the World*.

The Edge of the World

As the boat approaches the island, the skipper warns:

— I wouldn’t advise more than a temporary visit.

It is a dangerous, alluring place: but no one is planning to stay. The camera is tilted. The old grannie sits still, mute, but listening.

— Robbie, you’ve gone over to the other side.

Extinction, or the Anthropocene extinction, as opposed to the Holocene Extinction. See Adam Vaughan, ‘Humans creating sixth great extinction of animal species, say scientists’, *The Guardian*, 19 June 2015.

<<http://www.theguardian.com/environment/2015/jun/19/humans-creating-sixth-great-extinction-of-animal-species-say-scientists>> [accessed 22 September 2016]

¹²⁸ See Fair Isle’s proposal for MPA status here:

<http://www.fairisle.org.uk/FIMETI/Reports/MPA/FAIR_ISLE_MPA_Proposal_Parts%20I&2_small%20er.pdf> [accessed 22 September 2016]. For updates on the MPA application

<<http://www.fimeti.org.uk/news.asp?intent=viewstory&newsid=74069>>. [accessed 1 September 2016]

— But the world's changed. It's bigger. It's easier to get out. Before we were no worse off than anyone else. Now we're living in an old world.

Island life in the North Atlantic was always a struggle and is no longer tenable now that 'times have changed'. Herta (the real island of Foula twenty miles west of Shetland) is on the edge, far away, out of sight, out of mind, out of touch. But the island itself is its own world. Its edges are steep and treacherous: a stage for tragedy.

The trawlers that destroy the fishing for the islanders are not mythical monsters, but a real threat to the islanders' livelihoods, and to the fish.

— Ruining the spawn with their damned overboards.

The trawler, symbol of modernity in this film, has been replaced by much bigger factory ships today. But that's another film.¹²⁹

The Edge of the World is an elegy to the island. The sense of impending loss is physical, visual, not just about plot. The film is also a mystery play, a ritual reenactment of a defining tragedy in which the whole island takes part. The northern light is dramatic, setting the scene, the sun going in and out of the clouds or rays streaming through clouds as in a Renaissance painting. I half expect the Presbyterian god who looms so large to bellow over the wind to his flock. Weather is an actor: wind and storms make the landscape, people and animals move; dogs huddle by a stone dyke; hair, grass and waves sway in the wind. The sun shines peacefully only when the lovers meet on stable ground, in a valley by the loch. At the end of the film storm clouds roll in from the sea across the frame and black out the picture. Rain is a drum; wind provides background percussion to the sounds of violins, and later to the horn. The horn is then drowned out by the fog-horn of the steam ship come to take the islanders off 'to Scotland'. I heard that in Orkney too, 'I'm going to Scotland'.

The world imagined by the film, on this island at the edge of the world, is addressed to a viewer, to me, to now. The technology of moving images implicates the act of viewing in the destruction of what is seen, thereby implicating the viewer in the dilemma. The film recalls real events — the evacuation of St Kilda in 1930 — but also evokes the threat to all small islands, including Foula where the film was shot. But perhaps there is a wider sense that life itself is at times experienced as on an edge, on the edge of disappearance. There are moments when something happens and there is a

¹²⁹ *Leviathan*, Véréna Paravel, Lucien Castaing-Taylor, released UK, 2013. The film, made with the Harvard Sensory Ethnography Lab, was shot using dozens of Go-Pro cameras fixed all over a small fishing trawler out of New Bedford, Massachusetts.

slip from one state of existence to another. The edge is a threshold, in place and time. It reminds me of Morag MacInnes's talk of edges. The plot casts it as a struggle between a past we think we know and a future we can't know, with a present that demands a decision, which will transform our world. The story of Herta is introduced in a flashback — a picaresque device. The character Andrew is the link to the past: he longs for the lost island and the life he lost with it.

We humans are on an edge now, and the Sea Change expedition is an experiment in navigating this edge, making it visible and tangible, noticing what is happening, what is disappearing, and changing; connecting lines of past, present and possible futures.

Powell's aim with the film was to make 'accessible from a distance' the true story of the depopulation of the Scottish islands, emphasized in his book, *Edge of the World: The Making of a Film*.¹³⁰ The real island of Foula, west of Shetland, and the imagined island of Herta, become confused. The views of landscape and sea, and the details of the islanders' lives (cutting peats, herding sheep, dancing, listening to the preacher, climbing up and down cliffs...) document real lives of that time.¹³¹ In a short film *The Return to The Edge of the World*, made in 1978, one of the islanders confirms that people do confuse the story of the film with the real life on Foula. He complains that the local authority have been reluctant to provide public services to the island, saying the islanders will all be leaving in a few years.

Inhabitants of Foula acted in Powell's film, acting out a story that they too were implicated in. John Cumming, a Shetland artist on board the *Swan*, has since been to the island:

— Foula is a sad little community. Not really a community at all. There are twenty-seven people on the island, all incomers, and none of them really wants to come together as a community.

The Sea Change expedition is a way into stories of islands now, a picaresque device too. We, the *Swan*'s crew, are the visitors. I am implicated in this story. I can't leave it behind. What happens here affects everyone. Being ignored and forgotten won't protect an island or its community. In the intervening time since *The Edge of the World*,

¹³⁰ Michael Powell, *Edge of the World: The Making of a Film* (London: Faber and Faber, 1990).

¹³¹ A collection of short documentary films on DVD about Scottish islands from this period reinforces this theory, *Rugged Islands* (Edinburgh: The National Library of Scotland, 2008); it includes the film *The Rugged Island: A Shetland Lyric*, directed by Jenny Brown, 1934.

hundreds of islands have been abandoned — like Stroma. A few have managed to reinvent themselves.

Fair Isle has a strong sense of community. There is a shop, a museum, an airstrip, a ferry *The Good Shepherd IV*, and sheep graze communally on the hill; the Bird Observatory is the community hub and bar. There seems to be a self-confidence about the island and a belief in itself as a community. All sixty-seven islanders have voted in favour of an application for the island to become a Marine Protected Area, for Research.¹³² The island has been populated for 2000 years or more, so why now that it's easier to live here, with the aeroplane, the ferry, wind-turbines, tinned food and satellite TV and Broadband, should they all leave?

I walk to the South Lighthouse, visibly pummeled by the storm, the same one that kept the *Swan* on Shetland a week ago. Tommy Hyndman, an American painter from upstate New York, calls out to me as he's heard there are artists on the *Swan*.¹³³ Like all the children, his 12 year-old son has gone off to Shetland to board at secondary school. They look forward to it. Most never come back to live on Fair Isle.

I come across a birdwatcher with a mighty pair of binoculars, a tripod and a camera. He helps name a bird I have been filming. Later I come across a pen of a dozen or so Shetland sheep, and three women joyfully shearing them by hand with clippers. The ewes seem unperturbed lying on their sides having their fleeces clipped. This is the way to shear seven sheep, but not seven hundred, or seven thousand. People are playing at being old-style farmers. Then again, crofting is just one of the many jobs in the patchwork of jobs that contribute to a livelihood, and they're having fun to boot.

They used to grow black oats on the island to feed the sheep and the straw was woven into strong rope and chair backs. Stewart in the museum told me it was too labour-intensive so no one grows it anymore.

¹³² There are Conservation MPAs and Research MPAs. Fair Isle had its Conservation MPA application rejected. One of the main arguments in support of becoming a Research MPA is that there are long records of observations for the island. The Fair Isle MPA proposal is now open for public consultation, as of 1st March, 2016. I have contributed to it.

¹³³ He has a blog about Fair Isle, <<http://fair-isle.blogspot.co.uk/>> [accessed 1 June 2016]



fig. 48

What is the relation, if any, between the size of community and survival? The oil revenues on Shetland subsidize air and sea travel to Fair Isle. When oil revenues dry up some other source of funding will have to be found.¹³⁴ Why should remote areas become depopulated in an era of good communications and transport? Fair Isle shows the sorts of adaptation that are happening, and others that could happen that would ensure survival. Another optimistic, resourceful island is Eigg, in the Western Isles, which was bought by the community and is run entirely on renewable energy.¹³⁵

Islanders are useful as sentinels of change. But these islands are also places that sustain life, and are adapting in order to survive.

29 August: leaving Fair Isle

A wet early morning walk in heavy fog. Bonxies screech and dive-bomb me. I follow a path with only a vague sense of a northerly direction. I come upon a windsock and realize I am at the airfield. Abandoned concrete buildings litter the edge of the field. A foghorn rusts, silent, on the top of a tall stack across a flimsy metal footbridge, the edge of the cliff ready to crumble and send the bridge crashing into the sea.

¹³⁴ Not just for Fair Islanders, for everyone. 20% of the FTSE companies are oil related. Pension funds are heavily invested in oil and gas. A statistic reported on BBC Newshour Extra, *The End of Oil*, 9 January 2016, in a debate about the future after oil, by Tom Burke, the Chairman of E3G <www.e3g.org> <<http://www.bbc.co.uk/programmes/p03ddznd>>. [accessed 22 September 2016]

¹³⁵ <<http://www.isleofeigg.net/>> [accessed 22 September 2016]



fig. 49

We set sail for Shetland, without fanfare, but sad to leave, promising ourselves to return. Fair Isle is an island community, conscious of its own precariousness, but strong. Enjoying the limits and constraints of a small island, everyone relies on each other. Most have five part-time jobs that need doing — postman, fireman, shopkeeper, crofter, coastguard. The island is at the centre of its own world, reaching out along lines of connection to other parts of the world: following migrating birds, welcoming adventurous tourists, twitchers, artists and ships, and sending musicians, spinning wheels and sweaters abroad, and children to school; campaigning in Edinburgh, London and Brussels for its right to change in ways that will guarantee the survival of its marine habitats and the bird and human lives that depend on them.



fig. 50

As we watch Fair Isle fall behind us, the mist and fulmars swoop against the high cliff wall. Then the mist burns away, the land recedes and it becomes a vision of an island, an arabesque floating in the sea.

When we reach 59°46'23"N, the latitude of Cape Farewell at the Southernmost tip of Greenland, we have a party for Cape Farewell, the organization that brought us together on the *Swan*. We drink a toast to the idea, to each other, to hope, to holding the moment, linking this coast to the coast of Greenland, to all the land and sea along this parallel.

Later when we dock in Scalloway, our group suddenly begins to un-form itself, each of us going back inside him or herself, getting ready to leave. The new crew is here, waiting to embark on their journey on the *Swan* around Shetland and Foula. None of us wants to say much, we are too full of our own thoughts, already trying not to forget the weight and lightness of our sea legs, and the sea conversations that buoyed us.

Thoughts from here: *The Three Ecologies*

I am on the train from Aberdeen to Inverness. It's a clear, bright day. For the first time in two weeks I can't see the sea. The movement of the train is too regular. I feel tethered and my eyes flit about trying to reach beyond the green fields to rest on a blue horizon, the sea I can't see.¹³⁶

Sea Change began as an idea, and set in motion a succession of encounters, a search for the right questions. The questions came from the sea, the missing fish, the dying birds, the islands rising and sinking into the sea, the shifting sands, the stones, the powerful tides and waves, the wrecks, the new machines, as well as all the people I met. Everyone involved in Sea Change was an actor, observer, performer, listener, and respondent in turn. Sea Change has taken many forms and directions since the

¹³⁶ In Rebecca Solnit's book, *A Field Guide to Getting Lost* (Edinburgh: Canongate, 2007) the author writes of the blue of distant horizons – the optical effect of seeing from afar, its metaphorical power, and its representation and exaggeration in Renaissance painting. The blue of the horizon at sea can have a different effect on the body. When you are on a boat and there is nothing between you and the horizon but the sea you feel as if you can go anywhere and you are free, part of the continual flow of water. It isn't necessarily a comforting feeling, more a sense of powerlessness that the water is allowing you that freedom, but it could also destroy you.

expedition itself.¹³⁷ Ideas, images, sounds, of a place can have uses very far away from the source material.

People tell two kinds of stories about places, ‘place fixing stories’ and, ‘personal, family stories’, says Barry Lopez in *Arctic Dreams*.¹³⁸ He is referring to the stories of indigenous people of the Arctic, whose harsh, nomadic, hunting lives are changing as global capitalism reaches north. On *Sea Change* I heard place-fixing stories and adjustments to old stories to try to take account of changes to the old places. New kinds of hybrid place, and new understandings of place, are emerging. The personal stories that make sense of where you are in a place are changing too. There is a break with the past: both kinds of story are needed, and maybe new kinds of reflection and improvisation. The overwhelming scale of the problems of global warming and the destruction of the seas, are bringing people together as well as making them scatter.

I can see *Sea Change* as a practical enactment of Félix Guattari’s call to arms in *The Three Ecologies*.¹³⁹ Guattari calls for a transformation of what he calls the three ecologies — environmental, social and mental ecology — to halt the destruction set in motion by what he calls Integrated World Capitalism. The three ecologies are distinct but interconnected lenses through which to perceive and grasp the world.

It is difficult, and horrifying, to imagine habitat and species loss on the scale it is happening today. At the same time, along with species reduction there is a threat to the diversity of human social formations, of human capacities and potentialities. Guattari connects this to the influence of capitalism on the formation of institutions and the formation of subjects — through the passive consumption of television in particular, and consumer culture. The subtle relations between people and their specific places can become over-simplified, reduced to relations of consumption, or fields of conflict, to experiences of extreme emotions — reactions to sublime scenery, feats of physical prowess. The same logic can reduce the natural world — the stuff we are in and of — to the simple ‘pragmatic’ idea of resources, or the equally simplistic notion of natural beauty. Both estrange humans, separating us from our surroundings and other living beings, and reduce the potential and agency of all.

¹³⁷ An exhibition *Sea Change* was held at Edinburgh Botanical Gardens in November 2013; several publications (see bibliography) were supported by Cape Farewell, or facilitated by CF. The individual crew members have used the expedition in their own work in a multitude of ways.

¹³⁸ Barry Lopez, *Arctic Dreams: Imagination and Desire in a Northern Landscape* (New York: Charles Scribner’s Sons, 1986), p 197.

¹³⁹ Félix Guattari, *Les Trois Ecologies* (Paris: Galilée, 1989), translated by Ian Pindar and Paul Sutton, *The Three Ecologies*, (Athlone, 2000), republished by Bloomsbury, 2014.

Sea Change performed an experiment in social ecology, by bringing together people with diverse professional backgrounds, skills, languages, experiences, to work out ways of living, solving problems, and thinking together. Sea Change supported and developed networks of interdependence and connection with islanders we met and travelled with. It set up a situation, emphasizing means, and helping along ends where possible.

As for environmental ecology, Sea Change set out to learn about island life, to understand their ecosystems, their responses to climate change and resource development; and this too is the remit of the International Centre for Island Technology. This is at least a part of the environmental ecology that Guattari calls for, rethinking nature as always culture, and reimagining institutions. I am more uncomfortable making any grand claims for Sea Change transforming mental ecology except perhaps for myself, although it did dissipate certain boundaries and demands that seem so important on land. Changes in mental ecology are bound to be less obvious, more individual, possibly private, and hard to attribute to any single cause. I cannot even really speak definitively for my own mental states, and their relations to others', as these shift as rapidly as the sands in Skail Bay.

Orkney is still moving Northward, and like Karelia, lifting upward, on the rebound from the last Ice Age. But in other ways too these places are not fixed in snow-domes but connected to each other, to other places in the North, changing, losing people, developing new strategies for survival. We need to attend to what is threatened with extinction, whether it be ways of life, ways of telling stories, languages, songs, ways of handling nets and sails, new and old machines and technologies, as well as sea currents, rocks, kittiwakes, herring, sand-eels. Undemonstrative landscapes, as Morag MacInnes says, reveal themselves over time.

Globalization might tend towards homogenization but we can tune in to specific situations and ways of doing things, listen to the polyphony of voices, murmuring, speaking, calling. This can mean making art for an audience that isn't yet here, for future, imagined, publics who are ready to take on the implications of our, and their, actions.

What will a reader think, looking back on this moment? Which little incident, or nearly overlooked detail, holds the secret of what is to come? What did I miss? What happens to relationships between people and a place when the place changes dramatically? Does the relation still hold? I think it can. It is in the feelings for a place,

in the attention paid to those feelings, to the experiences they belong to, that it is possible to imagine wildly diverse futures.

Imagine for a moment that Orcadians decide to rewild Mainland, to remove the sheep and allow Happy Valley to spread across the fields and reforest the island. The Orcadian forest shields from the wind and is home to wild cats, red squirrels, beavers, caipercaillies, songbirds and insects. Smallholders have become experts in permaculture, growing fruit and old forms of pest-resistant grain beneath the trees. Children spend all day in the forest building dens, making tools, and inventing new myths and experiments in astronomy and crop rotation. Sea levels have risen and some islands have disappeared, but most of the inhabitants have long since decamped. Meanwhile tidal, wave and wind power have been rolled out, and Orkney has become the world capital for marine renewable energy production.¹⁴⁰ Vast areas of coastal waters around the machines have been cordoned off, enabling the fisheries to recover. Solar-powered cruise ships bring tourists in summer from China and Russia to Orkney along the ice-free Northern Sea Route. North Sea oil is finished, and the rigs have been repurposed as wind power stations and an observatory for the study of Aurora Borealis, using electromagnetic telescopes fueled by wind. What do the inhabitants, future Orcadians, feel about all this?

¹⁴⁰ The boom has stalled, at least temporarily, as of July 2015. The new governments of the UK and Scotland are reducing investment in marine renewables. EMEC, the European Marine Energy Centre, housed in the same building as ICIT, has announced restructuring, and redundancies, because of the 'changed climate'. I was alerted to this by Kate Johnson of ICIT. The Conservative UK government is focusing on fracking. The Scottish Nationalist Scottish Executive is not interested in job opportunities in the Northern Isles, spoke the voice of disappointment if not doom.

Conclusion

The Arctic is warming twice as fast as the rest of the planet.¹⁴¹ New ecosystems are evolving along Arctic coastlines where once there was only ice; and the retreating ice is opening up new spaces for exploitation. Russia has just launched a new military icebreaker, *Ilya Muromets*, the first in forty-five years. The United States is responding by worrying that it hasn't got enough icebreakers of its own and needs to build more. The restoration and expansion of military bases in the Arctic as well as the building of more icebreakers are all part of Russia's strategy to assert its dominance in the Arctic, and its position as a superpower. Russia's actions in Eastern Ukraine, the annexation of Crimea, and the proxy war in Syria all belong to this reading of events. NATO has responded by running huge military exercises along its eastern 'flank', along its border with Russia, and also increasing its influence in the Arctic.¹⁴² Wargames and brinkmanship are familiar from the Cold War. Some say that the Arctic will be the next theatre of war. The ice doesn't even need to melt with *Ilya Muromets* able to crash through a metre of ice, leading ships bearing cruise missiles in its wake.¹⁴³

Reducing the future to climate change, or to the kind of international politics delineated above, removes or constrains most individuals' agency.¹⁴⁴ Not everyone has the power to decide whether to build an icebreaker or a military base. But the icebreakers and oil platforms, and tidal and wind turbines, will be part of the ecology of

¹⁴¹ The Arctic is warming at varying rates, but recently each year has seen the sea ice retreat. The temperature in the winter of 2015-16 was the highest on record. <http://earthobservatory.nasa.gov/Features/ArcticIce/arctic_ice3.php> [accessed 8 July 2016].

¹⁴² Several articles report on NATO's new interest in the Arctic, in particular, one by Alexander Shaparov, 'NATO and a new agenda for the Arctic,' in *European Dialogue* <<http://eurodialogue.eu/energy-security/NATO-and-a-New-Agenda-for-the-Arctic>> [accessed 6 July 2016].

¹⁴³ Several articles, each with a particular political slant, either Russian or American, report on the launch of the icebreaker. This one is the most detailed, by Franz-Stefan Gady, 'Russia Launches First New Military Icebreaker in 45 Years,' in *The Diplomat* <<http://thediplomat.com/2016/06/russia-launches-first-new-military-icebreaker-in-45-years/>> [accessed 22 September 2016].

¹⁴⁴ Mike Hulme, 'Reducing the Future to Climate' in *The Future of Nature*, edited by Libby Robin, Sverker Sörlin, Paul Warde (New Haven: Yale, 2013), p. 515. Hulme, professor of Geography at Kings' College, University of London, argues that the history of climate change modeling since the 1980s has led to a tendency, dominant at the IPCC, to predict the future according to climate change models, without sufficient consideration for how societies might change too. He calls for new theories of the interaction between societies and climate change.

the far north, and affect the ways people imagine and live their lives. Russians and Norwegians near the border cross all the time to go shopping and visit friends; they share a physical environment and the sense of being on a northern edge.¹⁴⁵

I filmed and recorded sounds in Chupa and a few weeks later around the northern isles of Orkney and Shetland in order to experience and study the idea of the northern edge, and the changing ecologies of the far north. I set out with a desire to find out what was happening and to see whether it was possible to sense the impacts and experiences of climate change, but also to complicate the messages about what climate change means for the future. I was also trying to work out, through my films and writing, alternatives to the bleak futures suggested by news of climate change. My encounters with people from all walks of life, in places with very different cultural, political, economic and geographical situations, show the complexity of feelings and responses. Listening to a polyphony of voices, and spending time in small, remote communities offers a close-up view, a different way of understanding and imagining possible futures, drawing on the experiences and speculations of those living where changes are most visibly happening.

I am thankful that I was able to be there, then, with a camera, that I turned my head at that moment, that we met, that the light fell just so, that I stayed an extra hour even though I was tired, that the rippling reflections on the sea and the grind of outboard motors were mesmerizing, that you were willing to talk, or be silent for me. I might not have seen the crows draw the black and white space through caw and swoop; I would have missed the spatial arrangements of living and dying forms. The camera turned a floating bottle or scrap of seaweed into ocean architecture. My senses were sharpened by the prosthetic eyes and ears of camera and sound recorder. Perhaps you needed them too, as props, to help you rise to the occasion, to articulate your feelings.

The words of the marine biologist, Alexander Tsetlin, in Karelia continue to resonate:

— It is very difficult to connect the feelings of individuals about the changes they experience to objective facts.

¹⁴⁵ The Arctic Council is an intergovernmental forum that brings together the countries of the circumpolar regions to discuss questions of importance to the region, and to tribal and other groups, and to resolve disputes. It doesn't have any legal power but it has been successful in advocacy and in articulating the competing needs and interests of people in the region <<http://www.arctic-council.org/index.php/en/about-us>>. There are strong cultural links between the cities and areas near the border between Norway and Russia, with a Norwegian film Festival in Murmansk, exhibitions and conferences, and academic exchanges. For instance the Dark Ecology project, <<http://www.darkecology.net/journey-2016>> [accessed 8 July 2016].

There are too many feelings and too many facts. Facts, especially about climate change, are often best estimates, or at an ungraspable scale, expressed as complex tables and models. Tsetlin, a scientist, is concerned with observable, provable facts. Yet he gives an equivocal answer to my question about whether climate change is being felt on the White Sea. His remark recognizes a value in attending to people's feelings about the shorter winters, the disappearance of birds, the strange weather.

I used my camera to uncover and suggest feelings for a place, as well as to record different perspectives on the lives, matter and elements that make up the ecology of a place. Polyphony came to include not just human voices, but also non-human entities, groups of things, forces such as weather, technologies, materials, living organisms or objects, things that are outside human control (not that humans are always in control). These too can be thought of as having the equivalent of a voice, their expression translated into words for the page, or images or sounds, adapted to the limits of human perception.

Inevitably on these journeys I was sometimes documenting the disappearance of plants and animals, ecosystems and the lives and social formations they supported, or hoping, at least, to preserve them in memory. One of the attractions of the idea of rewilding is that it suggests something to do in the face of threatened desolation: to restore health, or at least biodiversity to an area.¹⁴⁶ Rewilding responds to the potential for ecosystems to mend themselves, if left alone. Rewilding unsettles our experiences of time, disregards chronological time, management and discipline. Time is the time it takes for a sapling to become a tree, to spread to become a forest, for birds to nest and animals to hunt. Space is whatever is available to the burgeoning life that spreads into it. Cyclical rhythms of seasons and weather, of growth and rest, can rewild the humans who live with them. Perhaps too, this rewilding of time and space can rewild ecologies understood in the newer, wider, sense of ecologies that encompass all the changing relations between humans and everything else in the contemporary environment of mass computerization and mediatization.¹⁴⁷ What would it mean to rewild the systems – technological, political, economic, media — that dominate contemporary lives?

¹⁴⁶ I discuss rewilding and George Monbiot's book, *Feral*, in *The Call of the Sea*, in relation to the landscapes of Orkney and Caithness.

¹⁴⁷ 'Contrary to all of the ecological preconceptions that bind ecology and nature together, ecology is increasingly proving to epitomize the un- or non-natural configuration that has been established over more than half a century by the extensive cyberneticization and computerization of life'. Erich Hörl, 'A Thousand Ecologies: The Process of Cyberneticization and General Ecology', translated from the German by Jeffrey Kirkwood, James Burton and Maria Vlotides, in *The Whole Earth. California and the Disappearance of the Outside*, eds. Diedrich Diedrichsen and Anselm Franke (Berlin: Sternberg, 2013) p. 122.

Rewilding makes the most of and enjoys the potential that can lie dormant until the circumstances are right and something happens to bring about change.

The filmmaker and anthropologist Brit Kramvig told me about a project she worked on that began in Tromsø which persuaded a Nordic cruise company to power their ships in port with electricity, generated by solar power, and now the idea spreads to every port they visit. A small change can be made in an isolated place and then gradually join up with other places until an entire coastline is linked by a shared understanding. The way this northern edge is changing, and the sense of a place being on the edge, about to change, is something I wish to research further, making films in Norway and Northern Russia. The 'Call of North' and the 'Call of the Sea' suggest new trajectories: to follow the sea routes between the White Sea and the North Sea, and along the Northern Sea Route; to listen to what is happening in the places *en route*, along the Barents Sea coast, along the borders between states. The idea of north may change as the far north becomes a regular focus of attention, a more familiar and accessible place. It may become hard to remember cold. The place of the sea in human lives and imagination may shift too, to become not just a site to protect, fight over, or manage, but its rewilding a condition for continued life.

The 'call' in the call of the sea and of north expresses a desire to be called, a need to make a move, to listen, to listen out for the sounds that are disappearing, but also, in the hope of hearing something new. Listening to the sounds I recorded, I am drawn to the dull moment just before the dawn chorus is unleashed, to an oar dunked into the smooth sea, to the hesitant tones and pauses in conversation, to the spaces between thoughts, the noises that are not fully formed words but expressive mutterings or surges of emotion, but also to the almost audible vibration of thoughts gathering in the breath before an utterance.

Bibliography

Books, articles, films, radio

- Applebaum, Anne, *GULAG: a History* (New York: Doubleday, 2003)
- Arendt, H. *The Human Condition*, (Chicago, London: University of Chicago, 1958)
second ed., 1998
- Bravo, Michael and Nicola Triscott, eds. *Arctic Geopolitics and Autonomy* (London: Arts Catalyst, 2010)
- Brown, A., *Art and Ecology Now* (London: Thames and Hudson, 2014)
- Coleridge, Samuel Taylor, *The Rime of the Ancient Mariner*, in Coleridge and Wordsworth, *Lyrical Ballads with a Few Other Poems* (London, 1798)
- Cumming, John, Fiona Cumming, Morag MacInnes, eds., *Working the Map*, (Stromness Orkney: Hansel Cooperative Press, and Cape Farewell, 2015)
- Bakhtin, Mikhail, *Problems of Dostoevsky's Poetics*, translated by R. Rotsel (Ann Arbor: University of Michigan Press, 1973)
- Banerjee, Subhankar, ed., *Arctic Voices: Resistance at the Tipping Point* (New York: Seven Stories Press, 2012)
- Banerji, Robin, editor, *The End of Oil*, BBC Newshour Extra, presented by Owen Bennett-Jones, (9 January 2016)
<<http://www.bbc.co.uk/programmes/p03ddznd>>
- Brown, Jenny, *The Rugged Island: A Shetland Lyric*, film directed by Jenny Brown, 1934, included on DVD *Rugged Islands* (Edinburgh: The National Library of Scotland, 2008)
- Castaing-Taylor, Lucien, and V erena Paravel, *Leviathan*, film, co-produced by Harvard Sensory Ethnography Lab, released UK, 2013
- Chaplin, Charlie, *The Gold Rush*, (USA: first distributed by United Artists, 1925)
- Critchley, Simon, *Infinitely Demanding: Ethics of Commitment, Politics of Resistance* (New York: Verso, 2013)
- Davidson, Peter, *The Idea of North* (London: Reaktion, 2004)
- Dovzhenko, Alexander, *Aerograd*, film (USSR: Mosfilm, 1935), available online at
<<https://archive.org/details/aerograd>>
- Dujmovic, Jurica, 'Russia to dominate Arctic Ocean with world's largest nuclear-powered icebreaker', in *Marketwatch*, 23 June 2016,
<<http://www.marketwatch.com/story/russia-to-dominate-arctic-ocean-with-worlds-largest-nuclear-powered-icebreaker-2016-06-23>>

- Emmerson, Charles, *The Future History of the Arctic* (Oxford: Bodley Head, 2010)
- Finlay, Alec, Alistair Peebles and Laura Watts, *ebban' and flowan* (Edinburgh: Morning Star, 2015)
- Flaherty, Robert, *Nanook of the North* (USA:1922), available online at
<<https://www.youtube.com/watch?v=m4kOIZMqso0>>
- Flannery, Tim, *Atmosphere of Hope: Solutions to the Climate Crisis* (London: Penguin, 2015)
- Fraser, Douglas, 'The Shetland Dividend', BBC Radio Scotland programme, 24 April 2014 <<http://www.bbc.co.uk/news/uk-scotland-27138927>>
- Gessen, Masha, *be Man Without a Face: The Unlikely Rise of Vladimir Putin* (London: Granta, 2012)
- Golenkevich A.V, of the WWF Department of Barents Sea, Russia, Murmansk, 'Problems of Wild Populations of Atlantic Salmon at the Kola Peninsula and Possible Ways of their Solution', from the report of *The Second International Scientific and Practical Conference, Natural and Cultural Heritage of the White Sea: Perspectives for conservation and development*, 17th-19th July 2015 (Karelia, Russia: Basin Council of the North Karelian Coast, 2015).
- Kuzmin, D.V., 'The Saami Period in the History of Karelian Pomorie', p 60, and Rybakov, Y., 'To the Hundred-year Anniversary of the Chupa Urban Settlement', *ibid*, p 124-9 (same report as above)
- Glen Gould, *Solitude Trilogy: The Idea of North*, a "contrapuntal radio documentary" made for CBC, Canada, (1967); extract available at
<<http://www.cbc.ca/player/play/1784396815>>
- Guattari, F., *Chaosmose* (Paris: Galilée, 1992)
- Guattari, Félix, *Les Trois Ecologies* (Paris: Galilée, 1989). English translation by Ian Pindar and Paul Sutton, *The Three Ecologies* (London: Athlone Press, 2000)
- Guattari, F., *Qu'est-ce que l'écophilosophie?* (Paris: Editions Lignes, 2014)
- Gunn, Neil M., *The Silver Darlings* (London: Faber, 1941)
- Haraway, Donna, *The Companion Species Manifesto: Dogs, People and Significant Otherness* (Chicago: Prickly Paradigm Press, 2003)
- Hatherley, Owen, 'One Click at a Time', review of Paul Mason, *Postcapitalism: A Guide to Our Future* (London: Penguin, 2015) and Nick Srnicek and Alex Williams, *Inventing the Future: Postcapitalism and a World without Work* (London: Verso, 2015), in the London Review of Books, vol 38, number 13, 30 June 2016, p. 3
- Horensma, Pier, *The Soviet Arctic* (London: Routledge, 1991)

- Hörl, Erich, 'A Thousand Ecologies: The Process of Cyberneticization and General Ecology', translated from the German by Jeffrey Kirkwood, James Burton and Maria Vlotides, in *The Whole Earth. California and the Disappearance of the Outside*, edited by Diedrich Diedrichsen and Anselm Franke (Berlin: Sternberg, 2013), p. 122
- House of Lords Arctic Committee Report, *Responding to a Changing Arctic* (February, 2015)
- Hulme, Mike 'Reducing the Future to Climate' in *The Future of Nature*, edited by Libby Robin, Sverker Sörlin, Paul Warde (New Haven: Yale, 2013), p. 515
- Hulme, M. and others, 'Who speaks for the future of Earth? How critical social science can extend the conversation on the Anthropocene,' online article, accepted for publication in *Global Environmental Change*, (April 2015)
<<http://www.mikehulme.org/wp-content/uploads/2014/03/L%C3%B6vbrand-et-al-for-GEC.pdf>>
- Illingworth, Shona, and others, *The Watch Man: Balnakiel*, artist's monograph (London: FVU, 2011)
- Jepson, P., R Deaville, Robin J Law, 'PCB pollution continues to impact populations of orcas and other dolphins in European waters' in *Scientific Reports*, published online in *Nature Scientific Reports*, (23 November 2015)
<<http://www.nature.com/articles/srep18573>>
- Jackson, Tim, *Prosperity without Growth: Economics for a Finite Planet* (London: Routledge, 2009)
- Jørgensen, Dolly and Sverker Sörlin, eds., *Northscapes: History, Technology, and the Making of Northern Environments* (Vancouver: University of British Columbia, 2013)
- Korguev, M., М. Коргуев, *Серебряный корабль: сказки Матвея Коргуева; литературный пересказ Виктора Пуликина*, (*The Silver Boat: Tales by Matvey Korguev in a Literary Retelling by Viktor Pulkin*) (Russia: Petrozavodsk, 1988)
- Kovats, Tania, *All the Seas*, in the solo exhibition, 'Oceans', The Fruitmarket Gallery, Edinburgh, 15 March-25 May 2014
- Lajus, Julia, 'In Search of Instructive Models', in *New Natures: Joining Environmental History with Science and Technology Studies*, edited by Dolly Jørgensen, Finn Arne Jørgensen, and Sara B. Pritchard (Pittsburgh: University of Pittsburgh Press, 2013), pp. 110-133

- Latour, Bruno, *Politics of Nature: How to Bring the Sciences into Democracy* (Cambridge, MA: Harvard, 2004)
- Lebedeva, Alena, *Can Russia Modernise? Sistema, Power Networks and Informal Governance* (Cambridge: Cambridge University Press, 2013)
- Lomax, Yve, *Pure Means: Writing, Photographs and an Insurrection of Being* (London: Corgypress, 2013)
- Lönrott, Elias, *The Kalevala*, 1835, second edition 1849, translation by Keith Bosley, (Oxford: Oxford University Press, 1989)
- Barry Lopez, *Arctic Dreams: Imagination and Desire in a Northern Landscape* (New York: Charles Scribner's Sons, 1986),
- Luhn, Alec, 'Norway tells refugees who use cycling loophole to return to Russia,' *The Guardian*, 14 January 2016 (consulted online)
- Mack, John, *The Sea: a Cultural History* (London: Reaktion, 2011)
- McKibben, Bill, *Deep Economy* (London: Times Books, 2007)
- Maclennan, Ruth, 'The Crimea of Russia's Imagination', BBC magazine, (18 March, 2014) <<http://www.bbc.co.uk/news/magazine-26610276>>
- Mannoni, Octave, translated by G. M. Goshgarian, 'I know well, but all the same...', in *Jacques Lacan: Critical Evaluations in Cultural Theory*, ed. Slavoj Žižek, vol. I: Psychoanalytic Theory and Practice (London: Routledge, 2003), pp 126-144
- Mason, Paul, *Post-Capitalism* (London: Penguin, 2015)
- Monbiot, George, *Feral: Searching for Enchantment on the Frontiers of Rewilding* (London: Penguin, 2013)
- Moylan, John, 'Hinckley Point: What is it and why is it important?' BBC News, (15 September 2016) <<http://www.bbc.co.uk/news/business-36897180>>
- Newland, Kate, *The Zulu Herring Drifter, a case study of historic vessel preservation at the Scottish Fisheries Museum*, online article published on the museum website, <<http://www.museumstavanger.no/Portals/48/Biblioteket/Aarbokartikler%201990-1999/1998%20The%20Zulu%20Herring%20Drifter.pdf>>
- Pendakis, Andrew 'This is Not a Pipeline: Ursula Biemann and the Politico-Aesthetics of Oil', *Imaginations: Journal of Cross-Cultural Image Studies*, September 6 2012 <<http://imagination.csj.ualberta.ca/?p=3657>>
- Pinto, Ana Teixeira, 'The Whole Earth: In Conversation with Diedrich Diedrichsen and Anselm Franke', e-flux Journal #45, (May 2013), <<http://www.e->

flux.com/journal/the-whole-earth-in-conversation-with-diedrich-diederichsen-and-anselm-franke/>

- Pomerantsev, Peter, *Nothing is True and Everything Is Possible, The Surreal Heart of the New Russia* (New York: Public Affairs, 2014)
- Powell, Michael, *The Edge of the World* (UK: British Independent Producers' Distributors, 1937)
- Powell, Michael, *The Edge of the World*, film directed and written by Michael Powell, (UK: British Independent Producers' Distributors, 1937) available on Bluray and DVD from the BFI
- Powell, Michael, *Edge of the World: The Making of a Film* (London: Faber and Faber, 1990)
- Pushkin, Alexander, Медный Всадник: Петербургская Повесть, (The Bronze Horseman: A Petersburg Tale), *written 1833, (St. Petersburg: Sovremennik, 1837); English translation by John Dewey, A. S. Pushkin and John Dewey, Translation and Literature Vol. 7, No. 1 (Edinburgh: Edinburgh University Press: 1998), pp. 59-71*
- Roberts, Callum *The Unnatural History of the Sea* (Washington DC: The Island Press, 2007)
- The Orkneyinga Saga*, (unknown author) translated by J. A Hjaltalin and G. Goudie, edited by Joseph Anderson (Edinburgh: Mercat Press, 1981)
- Robbins and others, 'Global assemblages, resilience, and Earth Stewardship in the Anthropocene', in *Earth Stewardship*, (2013) <www.frontiersinecology.org>
- Robbins, Paul, 'Talking Through Objects: Multidisciplinary Dialogues with "Things"', in *Ground|Water: The Art and Science of a Dry River*, eds. E. McMahon, A. Monson, B. Weinstein (USA: University of Arizona Press, 2013), pp. 59-63
- Robbins, P., L. Ogden, N. Heynen, U. Oslender, P. West and K-A Kassam, 'Global Assemblages, Resilience, And Earth Stewardship In The Anthropocene', in *Earth Stewardship*, (September 2013), in *Frontiers in Ecology* <www.frontiersinecology.org>
- Robbins, Paul and Sarah A. Moore, 'Ecological anxiety disorder: diagnosing the politics of the Anthropocene', in *Cultural Geographies*, vol. 20:3, (2013) <<http://cgj.sagepub.com/content/20/1/3>>
- Rutterford, Louis A. and others, 'Future fish distributions constrained by depth in warming seas', University of Exeter, published online in *Nature Climate Change*,

(13 April 2015)

<<http://www.nature.com/nclimate/journal/v5/n6/full/nclimate2607.html>>

The Seafarer, (unknown author) in the *Exeter Book* of the tenth century, written around eighth or ninth century. There are many English translations, including a parallel translation by Kevin Crossley-Holland, in Jonathan Raban, ed., *The Oxford Book of the Sea* (Oxford: OUP, 1992) p. 37

Serres, Michel, *Biogée* (Paris: Editions Dialogues, 2013)

Shostakovich, Dmitri, Symphony No.7 in C major, Opus 60, (Leningrad: 1941)

Smith, Laurence C., *The New North: the World in 2050* (London: Profile Books, 2011)

Spufford, Francis, *I May be Some Time: Ice and the English Imagination* (London: Faber and Faber, 1996)

Solnit, Rebecca, *A Field Guide to Getting Lost* (Edinburgh: Canongate, 2007)

Vaughan, Adam, 'Humans creating sixth great extinction of animal species, say scientists', *The Guardian*, (19 June 2015)

<<http://www.theguardian.com/environment/2015/jun/19/humans-creating-sixth-great-extinction-of-animal-species-say-scientists>>

Verwoert, Jan, *Bas Jan Ader: In Search of the Miraculous* (London: Afterall Books, 2006)

Watts, Laura and Alistair Peebles, eds., *Orkney Futures – A Handbook* (Orkney: Brae Editions, 2009)

Wilk, Mariusz, *The Journeys of a White Sea Wolf* (London: Random House, 2003)

Winnicott, D.W., *The Child, the Family, and the Outside World*, (London: Pelican, 1964)

Zinik, Zinovy, *The Beast of Artek* (London: Divus, 2016)

International and local organisations, research centres, museums, collections

The Arctic Council, <<http://www.arctic-council.org/index.php/en/about-us>>

The Arctic Perspective Initiative (API) <www.arcticperspective.org>

The Art Catalyst, the polar projects with API,

<<http://www.artscatalyst.org/search/site/arctic>>

Cape Farewell Sea Change, <<http://www.capefarewell.com/seachange/>>

'Ecocide Project', Human Rights Consortium, School of Advanced Study, University of London, campaign website: <<http://eradicatingecocide.com/the-law/ecocide-act/>> report by Gauger, Anja and others, on findings, (2012) <http://sas-space.sas.ac.uk/4830/1/Ecocide_research_report_19_July_13.pdf>

International Network for Social Studies of Marine Energy <www.issmer-network.org>

Environmental Research Institute, University of the Highlands and Islands, Thurso

<http://www.eri.ac.uk/eri/eri_aca/default.aspx>

European Marine Energy Centre, EMEC <www.emec.org.uk>

Fair Isle's proposal for Marine Protected Area (Demonstration and Research MPA)
proposal

<<http://www.fimeti.org.uk/news.asp?intent=viewstory&newsid=74069>>

Johnston Collection of photographs, Wick Heritage Centre,

<<https://wickheritage.org/johnston-collection/>>

Kartesh Zoological Institute of the Russian Academy of Sciences,

<http://www.zin.ru/kartesh/default_en.asp>

Greenpeace, the Arctic 30

<<http://www.greenpeace.org/international/en/campaigns/climate-change/arctic-impacts/Peace-Dove/Arctic-30/>>

The Lighthouse Foundation, with information on The Basin Council of the North

Karelian Coast <<http://www.lighthouse-foundation.org/>>

Nikolai Pertsov White Sea Biological Station, Moscow State University

<<http://en.wsbs-msu.ru/>>

Russian State Museum of the Arctic and Antarctica, Saint Petersburg

<<http://www.polarmuseum.ru/>>

Scott Polar Research Institute, University of Cambridge <<http://www.spri.cam.ac.uk/>>

South Tyrol Museum of Archaeology, with exhibit of 'Ötzi the Iceman',

<<http://www.iceman.it/en/oetzi-the-iceman>>

Stromness Museum, Stromness, Orkney

<<http://www.orkneycommunities.co.uk/stromnessmuseum/>>

Scottish Natural Heritage, project on sea eagles <<http://www.snh.gov.uk/about-scotlands-nature/species/recent-species-projects/sea-eagle/>>

Swan Trust <<http://www.swantrust.com/history>>

The United States Geological Survey, introduction to mica

<<http://minerals.usgs.gov/minerals/pubs/commodity/mica/>>

UNCLOS, United Nations Convention on the Law of the Sea

<http://www.un.org/depts/los/convention_agreements/texts/unclos/unclos_e.pdf>

[Note: links checked 21 September 2016]

Appendix

Technical specifications

Recording equipment:

Call of North, *From Time to Time at Sea* and *Hero City* were all filmed on a Canon 5D Mark II, DSLR camera (purchased 2011). Additional footage in *From Time to Time at Sea* was recorded in 2012, using a Sony HDV camera Sony PAL/HRV1P Camcorder (purchased 2007).

The sound was recorded on camera with additional sound recorded using a Zoom H4N Pro Handheld recorder (purchased 2009). The voice-over in *Hero City* was recorded at the RCA in the Moving Image Studio.

One channel of *Fathom* was filmed by Astrid Harendza using a Remotely Operated Vehicle. She provided the footage. The other channel was filmed using a Sanyo Xacti CA100 Outdoor/Waterproof Dual Camera. The sound was recorded on both cameras.

And Now We Need to Tell What Happened was filmed using the Sony HDV camera cited above.

Editing Software:

All films were edited using the editing software Final Cut Pro 7, on an Apple MacBook Pro (2010), with additional editing at the RCA Moving Image Studio also using FCP 7.

The 5.1 surround sound for *From Time to Time at Sea* was edited using Logic Pro X software at the RCA Moving Image Studio.

File Formats:

The films were mastered as Apple ProRes 422 quicktime files, except for *Fathom* which is a standard definition quicktime file.